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Monograph

A revision of the *Bracon* Fabricius species in Wesmael's collection deposited in Brussels (Hymenoptera: Braconidae: Braconinae)

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Abstract. An account of the taxonomic position of the genus *Bracon* Fabricius, 1804 is presented. In his monograph Wesmael (1838: 7-58) made a survey of 48 nominal species of *Bracon* occurring in Belgium. Out of the 48 species thirty-seven were described by Wesmael himself as new species, eleven more species had previously been described by Fabricius (three species), Nees (seven species) and Spinola (one species). The *Bracon* material studied by Wesmael is deposited in the Royal Belgian Institute of Natural Sciences, Brussels. Type (holo-, lecto-, paralectotype) designations are made for Wesmael's species and neotype designations for Nees *sensu* Wesmael's species. Redescriptions, comments on distributions and their taxonomic positions are presented. *Palpibracon* subgen. nov. is established (type species *Bracon delibator* Haliday, 1833) for five *Bracon* species with long maxillary palpi in the Holarctic (four species) and Ethiopian Region (one species). The following fifteen *Bracon* species names proved to be junior synonyms (valid names in italics): *B. dichromus* Wesmael, 1838 = *B. carpaticus* Niezabitowski, 1910 syn. nov.; *B. erraticus* Wesmael, 1838 = *B. bellicosus* Papp, 1971 syn. nov., = *B. exarator* Marshall, 1885 syn. nov., = *B. praetermissus* Marshall, 1885 syn. nov., *B. vectensis* Marshall, 1885 syn. nov.; *B. fuscicornis* Wesmael, 1838 = *B. levicarinatus* Niezabitowski, 1910 syn. nov.; *B. immutator* Nees, 1834 = *B. brevisculus* Wesmael, 1838 syn. nov.; *B. intercessor* Nees, 1834 = *B. laetus* Wesmael, 1838 syn. nov.; *B. larvicida* Wesmael, 1838 = *B. crassiusculus* Szépliget, 1901 syn. nov.; *B. longicollis* Wesmael, 1838 = *B. subcylindricus* Wesmael, 1838 syn. nov.; *B. megapterus* Wesmael, 1838 = *B. biimpressus* Telenga, 1936 syn. nov.; *B. nigratus* Wesmael, 1838 = *B. orbicularis* Niezabitowski, 1910 syn. nov.; *B. osculator* Nees, 1811 = *B. coniferarum* Fahringer, 1927 (Schmiedeknecht in litt.) syn. nov.; *B. picticornis* Wesmael, 1838 = *B. vitripennis* Ratzeburg, 1852 syn. nov.; *B. titubatus* Wesmael, 1838 = *B. fuscipennis* Wesmael, 1838 syn. nov. The species *Bracon* (*Lucobracon*) *turolus* Papp, 1984 is revalidated (suppressed under the name *B. (Glabrobracon) nigriventris* Wesmael, 1838 by Tobias & Belokobylskij 2000: 162). A historic discussion of the subgeneric division of the *Bracon* species is given.

Keywords. *Bracon*, subgeneric division, type designation, redescription, host range.

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Introduction

Wesmael's monograph

In his monograph of the braconid wasps of Belgium the well-known Belgian naturalist Constantin Wesmael (1798-1872) reported a total of 48 species assigned to the genus *Bracon* Fabricius, 1804 (in Wesmael's original denotation "*Braco*"; Wesmael 1838: 7-58). This material was taken by him mainly in the regions of Brussels and Liège. Of these 48 nominal species, 37 were described by Wesmael himself as new to science. The rest of the nominal species had already been described by earlier authors: three species by Fabricius, seven species by Nees ab Esenbeck and one species by Spinola. Wesmael's braconid collection is deposited in the Royal Belgian Institute of Natural Sciences, Brussels, and the results of my study of *Bracon* species therein are presented here.

Reflections on the subgeneric system of the genus *Bracon* Fabricius, 1804

Fahringer (1925-1928) was the first to arrange the Palaearctic *Bracon* species in subgenera and sections: he created three subgenera: *Bracon s. str.*, *Braconella* Szépligeti, 1901 and *Kulczynskia* Niezabitowski, 1910, and within the subgenus *Bracon s. str.* four sections: *Glabrobracon* Fahringer, 1927, *Lucobracon* Fahringer, 1927, *Orthobracon* Fahringer, 1927 and *Striobracon* Fahringer, 1927 (Fahringer 1926: 224-232). Tobias (1958, 1959, 1961b, 1986) rearranged the subgeneric system of *Bracon* by raising the four sections to subgeneric rank (*Braconella* and *Kulczynskia* received generic status). The four subgenera were supplemented with three new subgenera: *Asiabracon* Tobias, 1957, *Cyanopteroobracon* Tobias, 1957 and *Rostrobracon* Tobias, 1957 (Tobias, 1958, 1959). Two years later he added further three new subgenera: *Foveobracon* Tobias, 1961, *Pilibracon* Tobias, 1961 and *Sculptobracon* Tobias, 1961 (Tobias, 1961b). Tobias (1986: 114-149) arranged the *Bracon* species of the former USSR in 11 subgenera. The number of subgenera was increased to 13 by the addition of *Punctobracon* Papp, 1996 and *Uncobracon* Papp, 1996 (Tobias & Belokobylskij 2000: 113-164). The fourteenth subgenus is *Pigeria* van Achterberg, 1985, described originally as a full genus (van Achterberg 1985). My two new subgenera *Osculobracon* Papp, 2008 (p. 1749) and *Palpibracon* subgen. nov. bring the total of the subgenera to 16.

In the present paper Wesmael's as well as Nees *sensu* Wesmael's *Bracon* species are assigned to seven subgenera: *Bracon s. str.*, *Foveobracon*, *Glabrobracon*, *Lucobracon*, *Osculobracon*, *Palpibracon* and *Pigeria*. The following critical statements on subgenera are relevant: *Habrobracon* is considered a valid genus; subgenus *Ophthalmobracon* Tobias, 1957 is subsumed into the genus *Bracon*; *Rostrobracon* and *Orthobracon* are identical with *Cyanopteroobracon* and *Glabrobracon*, respectively. Altogether fourteen valid subgenera are recognized by me: *Asiabracon*, *Bracon s. str.*, *Cyanopteroobracon*, *Foveobracon*, *Glabrobracon*, *Lucobracon*, *Ophthalmobracon*, *Osculobracon*, *Palpibracon* subgen. nov., *Pigeria*, *Pilibracon*, *Punctobracon*, *Sculptobracon* and *Uncobracon*.

The subgeneric division of the *Bracon* species serves a practical use as it arranges them in main groups to make identification easier. The valid species of *Bracon* in the Palaearctic region number about three hundred, and this high species quantity compelled authors towards the subgeneric groupings. However, Quicke and Belshaw et al. made two important critical notes: the subgenera "[...] are of very limited use for classifying the many tropical members of this genus. Further, the boundaries of the current subgeneric divisions are far from clearly defined and numerous species have been shuffled from one subgenus to another by various authors." (Quicke 1987: 104). "We have presented evidence that the genus *Bracon* is paraphyletic with respect to other genera in the *Braconini* Nees, 1811, but with such a huge genus there is no foreseeable prospect of a phylogeny-based revision." (Belshaw et al. 2001: 423). The subgeneric division of the *Bracon* species by Fahringer and Tobias does not define phylogenetic clades; indeed, the subgeneric features are restricted mainly to the surface sculpture qualities of the tergites and somewhat to the alar venation to form the main groupings of the *Bracon* species.

Material and methods

Type designations

In Wesmael's Collection the type specimens of the *Bracon* species were uniformly designated with reddish-brown small printed "Type" labels. Following the nomenclatural rule in force I have designated with four categories: holotype, lectotype, paralectotype and neotype.

1) Holotype was applied if the species in question was described unambiguously on the basis of one single specimen. This was always confirmed by Wesmael's relevant statements: "J'ai pris une seule femelle de cette espèce..."; "Le seul individu..."; "Je ne possède qu'un seul individu de cette espèce..."; "La seule femelle...".

2) Lectotype was applied if it was ambiguous whether the species was described on the basis of one single specimen. Lectotype designations were usually accompanied by paralectotype(s) designations because, in these cases, Wesmael described his new *Bracon* species on the basis of more than one, often several, specimens and these were normally in Wesmael's collection.

3) In order to secure the nomenclatural stability, neotype designations were necessary for five Nees *sensu* Wesmael's *Bracon* species since the original type material no longer exists. These subjective designations were made in line with the concepts of the respective Nees *sensu* Wesmael's *Bracon* species held by subsequent authors. The neotypes clearly distinguish Nees *sensu* Wesmael's *Bracon* species from the nearest other species.

Abbreviations

The following abbreviations are applied in the redescrptions of the species (after van Achterberg 1993: 4-5):

Forewing veins

<i>m-cu</i>	= transverse medio-cubital vein
<i>r</i>	= first section of the radial vein
<i>1-M</i>	= basal vein
<i>1-R1</i>	= first section of the metacarpal vein
<i>1-SR-M</i>	= first section of the cubital vein
<i>2-SR</i>	= first transverse cubital vein
<i>3-SR</i>	= second section of the radial vein
<i>SRI</i>	= third section of the radial vein

Eye

OOL	= ocellar-ocular line (shortest distance between ocellus and compound eye)
POL	= postocellar line (shortest distance between hind two ocelli)

Host

COL.	= Coleoptera
LEP.	= Lepidoptera
HYM.	= Hymenoptera
DIPT.	= Diptera
HOM.	= Homeoptera
!	= confirmed host datum (before host's name)
?	= doubtful host datum (before host's name)

Surface sculpture terminology after Eady (1968) and Harris (1979).

Structure terminologies after Gauld & Bolton (1988: 58-74).

Results

Classis Insecta Linnaeus, 1758
Ordo Hymenoptera Linnaeus, 1758
Familia Braconidae Nees, 1811
Subfamilia Braconinae Nees, 1811
Tribus Braconini Nees, 1811
Genus *Bracon* Fabricius, 1804

Part 1. *Bracon* species described by Wesmael in 1838

1) Alphabetic list of the thirty-seven new *Bracon* species by Wesmael (the respective page numbers in the monograph are in brackets):

Bracon bipartitus (51), *B. bisignatus* (56), *B. brevicornis* (23), *B. brevisculus* (21), *B. colpophorus* (46), *B. dichromus* (49), *B. discoideus* (45), *B. erraticus* (35), *B. fortipes* (18), *B. fuscicoxis* (18), *B. fuscipennis* (40), *B. guttiger* (19), *B. laetus* (13), *B. larvicida* (41), *B. longicollis* (28), *B. maculiger* (50), *B. megapterus* (22), *B. nigratus* (34), *B. nigricollis* (19), *B. nigriventris* (36), *B. oostmaeli* (57), *B. parvulus* (55), *B. pectoralis* (12), *B. peroculatus* (46), *B. picticornis* (42), *B. piger* (48), *B. praecox* (52), *B. regularis* (44), *B. roberti* (37), *B. satanas* (30), *B. scutellaris* (14), *B. stabilis* (25), *B. subcylindricus* (30), *B. superciliosus* (38), *B. tenuicornis* (42), *B. terebella* (57) and *B. titubans* (43).

Remarks

- a) *Bracon brevicornis* is a junior synonym of *Habrobracon hebetor* (Say, 1836); *B. stabilis* is valid as *Habrobracon stabilis* (Wesmael, 1838).
- b) Eleven *Bracon* species names are junior synonyms. In this respect see the checklist of the *Bracon* species of Wesmael's monograph at the end of the present monograph. Twenty-four valid *Bracon* species described by Wesmael are revised: type designations, redescrptions and comments on the taxonomic positions are presented.

2) Three *Bracon* species by Fabricius are included in Wesmael's monograph (the respective page numbers in the monograph are in brackets):

Bracon minutator (15), *B. nominator* (10) and *B. urinator* (48).

Remark

B. nominator (Fabricius, 1793 nec 1787) (junior nomen homonym) was transferred into the genus *Vipio* Latreille, 1804 as synonym of *V. longicauda* (Boheman, 1853). The two other species, *B. minutator* (Fabricius, 1798) and *B. urinator* (Fabricius, 1793), are valid. *B. (Glabrobracon) minutator* was redescrbed recently (Papp 2008: 1766); *B. (Cyanopteroobracon) urinator* is not redescrbed here.

3) Seven *Bracon* species by Nees are included in Wesmael's monograph (the respective page numbers in the monograph are in brackets):

Bracon anthracinus (54), *B. caudiger* (47), *B. fulvipes* (26), *B. immutator* (16), *B. mediator* (39), *B. obscurator* (55) and *B. variator* (52).

Remarks

- a) *Bracon anthracinus* Nees, 1834 is a jun. syn. of *B. delibator* Haliday, 1833 sen. syn. (van Achterberg 1997: 31). A new subgenus, *Palpibracon* subgen. nov., is set up for four Holarctic (*B. atrator* Nees, 1834, *B. delibator* Haliday, 1833, *B. mongolicus* Telenga, 1936 and *B. tenuiceps* Muesebeck, 1925) and one Ethiopian species (*B. megapalpus* Quicke et Jervis, 2005). These species are distinguished by their common feature: the long maxillary palpi.

b) Except for *B. mediator* Nees, 1834 and *B. obscurator* Nees, 1811 five species by Nees *sensu* Wesmael are revised (neotype designations, redescrptions, taxonomic positions).

4) One *Bracon* species by Spinola is included in Wesmael's monograph (the corresponding page number in the monograph is in brackets): *Bracon variegator* Spinola, 1808 (33), valid species, not revised in the present survey.

5) Fifteen *Bracon* species names proved to be new junior synonyms; they are listed according to the alphabetic sequence of the valid (senior) species names (valid names in italics):

<i>B. (Glabrobracon) dichromus</i> Wesmael, 1838	= <i>B. carpaticus</i> Niezabitowski, 1910 syn. nov.
<i>B. (Lucobracon) erraticus</i> Wesmael, 1838	= <i>B. bellicosus</i> Papp, 1971 syn. nov.
	= <i>B. exarator</i> Marshall, 1885 syn. nov.
	= <i>B. praetermissus</i> Marshall, 1885 syn. nov.
	= <i>B. vectensis</i> Marshall, 1885 syn. nov.
<i>B. (Glabrobracon) fuscicoxis</i> Wesmael, 1838	= <i>B. levicarinatus</i> Niezabitowski, 1910 syn. nov.
<i>B. (Glabrobracon) immutator</i> Nees, 1834	= <i>B. brevisculus</i> Wesmael, 1838 syn. nov.
<i>B. (Bracon) intercessor</i> Nees, 1834	= <i>B. laetus</i> Wesmael, 1838 syn. nov.
<i>B. (Lucobracon) larvicida</i> Wesmael, 1838	= <i>B. crassiusculus</i> Szépligeti, 1901 syn. nov.
<i>B. (Bracon) longicollis</i> Wesmael, 1838	= <i>B. subcylindricus</i> Wesmael, 1838 syn. nov.
<i>B. (Foveobracon) megapterus</i> Wesmael, 1838	= <i>B. biimpressus</i> Telenga, 1936 syn. nov.
<i>B. (Bracon) nigratus</i> Wesmael, 1838	= <i>B. orbicularis</i> Niezabitowski, 1910 syn. nov.
<i>B. (Osculobracon) osculator</i> Nees, 1811	= <i>B. coniferarum</i> Fahringer & Schmiedeknecht, 1927 syn. nov.
<i>B. (Glabrobracon) picticornis</i> Wesmael, 1838	= <i>B. vitripennis</i> Ratzeburg, 1852 syn. nov.
<i>B. (Glabrobracon) titubans</i> Wesmael, 1838	= <i>B. fuscipennis</i> Wesmael, 1838 syn. nov.

6) In the present survey a total of twenty-four valid *Bracon* species by Wesmael and five valid *Bracon* species by Nees *sensu* Wesmael are revised: redescription, distribution, taxonomic position and list of the host species are presented. Although Wesmael gave fairly detailed descriptions of the species in his monograph, their redescrptions are needed owing to the predominant colour differentations. The redescrptions of the *Bracon* species are justified by the following consideration. Wesmael did not draw attention to characteristics that have become recognised as important by modern authors, and, accordingly, more detailed redescrptions of the type and other material are provided here, giving due emphasis to several features that best separate species from their nearest allies in this very species-rich genus. Since Wesmael's activity a long series of new *Bracon* species has been described from Europe and temperate Asia as well as from the Nearctic Region.

***Bracon (Glabrobracon) colpophorus* Wesmael, 1838**

Figs 1A-K, 2A-D

Braco colpophorus Wesmael, 1838: 46 ♀ (type material: 1 ♀), type locality: "près de Bruxelles" (Belgium), ♀ holotype ("J'ai pris une seule femelle de cette espèce...", Wesmael l.c.) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon mokrzeckii Niezabitowski, 1927: 166 ♀♂ (number of type material?), type locality: "Poznania (Polonia)", syntype series in Zakład Ekologii i Ochrony Środowiska WSP, Kielce; not examined, synonymized by Papp l.c.

Bracon colpophorus – Szépligeti 1901: 267 (in key, in Hungarian); 1904 (1901): 185 (in key, in German) ♀♂.

Bracon (Glabrobracon) colpophorus – Fahringer 1927: 290 (♀), 304 (♂) (in key) and 447 (redescription), assigned to “Section Glabrobracon”. — Telenga 1936: 145 (♀), 157 (♂) (in key), 191 (redescription) (in Russian) and 347 (♀), 359 (♂) (in key and in German). — Shenefelt 1978: 1563 (literature up to 1972). — Papp 1997: 115 (synonyms, redescription, type designation).

Bracon mokrzeckii – Ruszkowski 1927: 167-171 (life history). — (Fahringer 1928: 317 (as uncertain species). — Shenefelt 1978: 1514 (as valid species, literature up to 1953).

Designation of the ♀ holotype of *Bracon colpophorus*

(After Papp l.c.) (first label, handwriting) “5.11.”, (second label, printed) “Coll. Wesmael”, (third label, printed) “2059”, (fourth label) “Braco ♀ colpophorus mihi” (handwriting) “dét. C. Wesmael” (printed), (fifth label with my handwriting) “Belgique / Bruxelles / leg. Wesmael” (above on label) “teste J. Papp 1987” (reverse on label), sixth label is the holotype card. Holotype is in fairly good condition: (1) pinned by mesosoma (posterior half of notaulix invisible); (2) both antennae deficient, right flagellum missing, left middle leg (except coxa + trochanter) missing.

Material examined

10 ♀♀ + 3 ♂♂ from seven countries: GERMANY: 1 ♀. SWITZERLAND: 1 ♀. POLAND: 1 ♀ + 2 ♂♂ from two localities. HUNGARY: 3 ♀♀ from three localities. SPAIN: 1 ♀ + 1 ♂ from one locality. SERBIA: 1 ♀. BULGARIA: 2 ♀♀ from two localities.

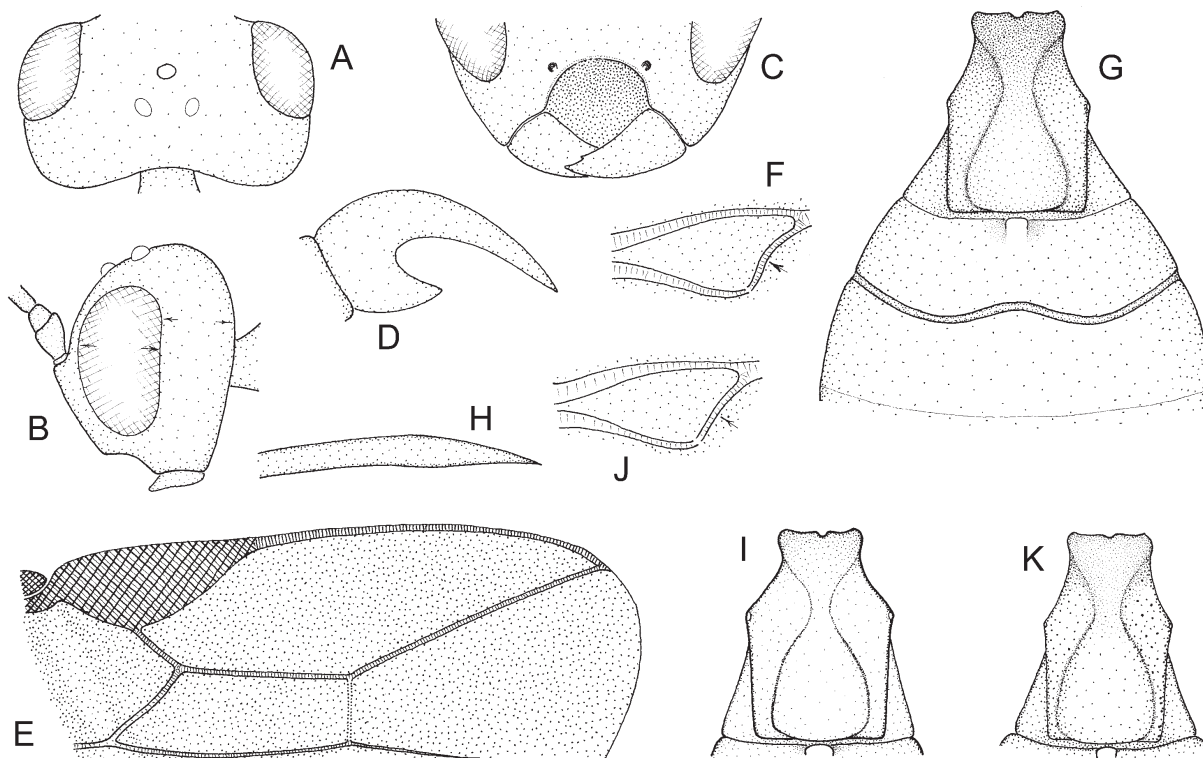


Fig. 1. *Bracon (Glabrobracon) colpophorus* Wesmael, 1838 (A-H: ♀ holotype). **A.** Head in dorsal view. **B.** Head in lateral view. **C.** Head in frontal view. **D.** Claw. **E.** Distal part of right forewing. **F.** *cu-a* of hindwing. **G.** Tergites 1-3. **H.** Hind end of ovipositor. **I.** First tergite of ♀. **J.** *cu-a* of hindwing of ♀ + ♂. **K.** First tergite of ♂.

Redescription of the ♀ holotype of *Bracon colpophorus* (Figs 1A-H; 2A)

(after Papp l.c., text and figures somewhat modified).

BODY. 3 mm long.

ANTENNAE. Damaged: right antenna with scape and pedicel (flagellum missing), left antenna with 16 antennomeres. First flagellomere 1.9 times and 14th flagellomere 1.3 times as long as broad.

HEAD. In dorsal view it is less transverse (Fig. 1A), 1.7 times as broad as long, eye one-third longer than temple, temple clearly rounded, occiput moderately excavated. Ocelli middle sized and almost round, OOL twice length of POL. Eye in lateral view 1.8 times as high as wide and somewhat wider than temple, temple ventrally slightly narrowing (Fig. 1B, see arrows). Oral opening large, its horizontal diameter almost twice as long as shortest distance between opening and compound eye (Fig. 1C). Head polished.

MESOSOMA. In lateral view stout, 1.2 times as long as high. Notaulix almost indistinct. Meso-soma polished.

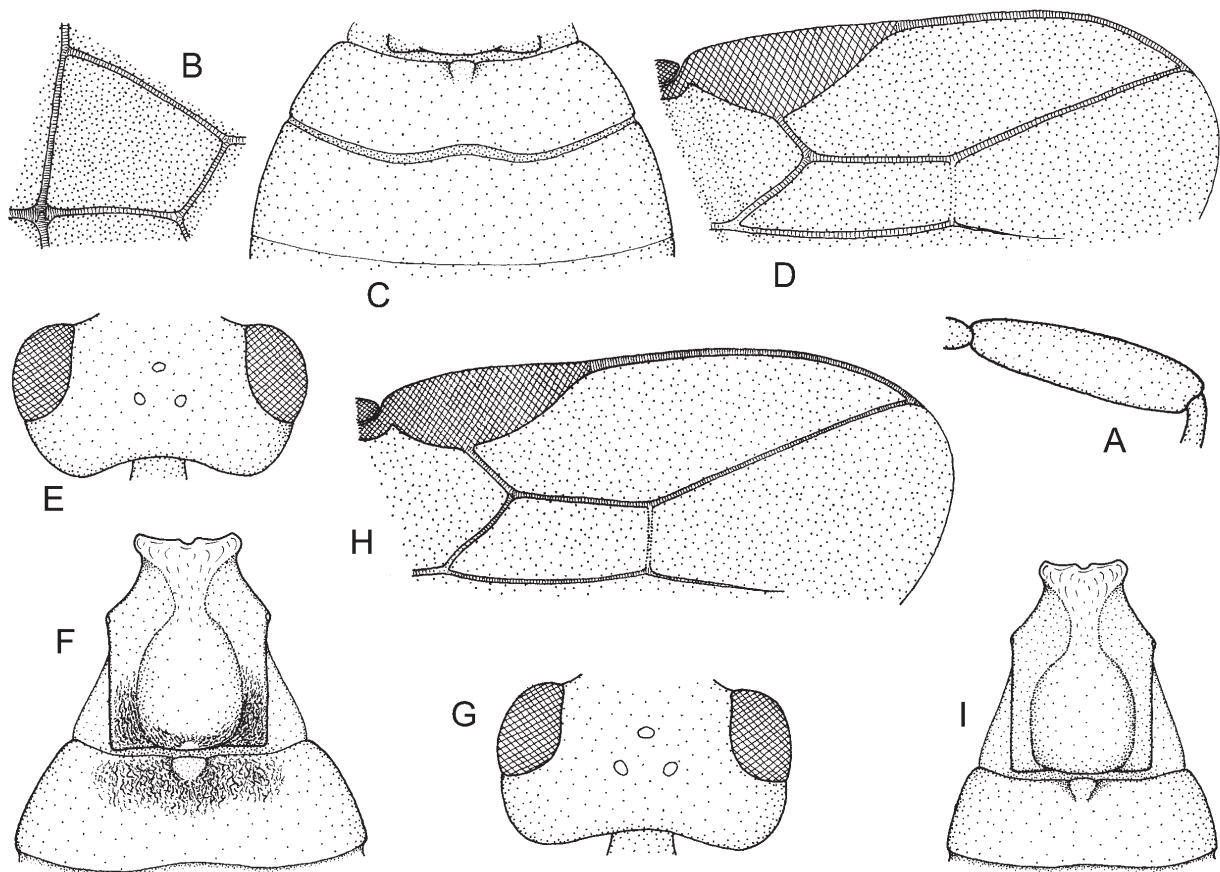


Fig. 2. — **A-D.** *Bracon (Glabrobracon) colpophorus* Wesmael, 1838. **A.** Hind femur of ♀ + ♂. **B.** First discal cell of forewing of ♀. **C.** Tergites 2-3 of ♀ + ♂. **D.** Distal part of right forewing of ♂. — **E-F.** *Bracon (Glabrobracon) instabilis* Marshall, 1885 ♀. **E.** Head in dorsal view. **F.** tergites 1-2. — **G-I.** *Bracon (Glabrobracon) obscurator* Nees, 1811, ♀. **G.** Head in dorsal view. **H.** Distal part of right forewing. **I.** Tergites 1-2.

LEGS. Hind femur four times as long as broad distally (Fig. 2A). Claw moderately downcurved as in Fig. 1D.

WINGS. Forewing somewhat longer than body. Pterostigma (Fig. 1E) 2.5 times as long as wide and issuing *r* proximally from its middle, *r* already shorter than width of pterostigma, second submarginal cell long, 3-*SR* nearly twice as long as 2-*SR*, *SRI* 1.6 times as long as 3-*SR* and reaching tip of wing. 1-*RI* nearly twice as long as pterostigma. First discal cell subquadrate, 1-*M* 1.8 times as long as *m-cu*, 1-*SR-M* almost straight and 1.2 times as long as 1-*M* (Fig. 2B). Hindwing. *cu-a* clearly incurved (Fig. 1F, see arrow).

TERGITES (Fig 1G). First tergite 1.2 times longer than broad behind, pair of spiracles before middle of tergite, beyond spiracles tergite parallel-sided, smooth and shiny. Tergites 2-3 (Fig. 1G) distinctly transverse, second tergite 3.3 times as broad behind as long laterally, suture between tergites 2-3 bisinuate, deep and smooth. Every tergite polished. Ovipositor sheath in lateral view as long as hind tibia + half basitarsus combined. Posterior part of ovipositor as in Fig. 1H.

COLOUR. Ground colour of body black. Palpi yellow. Tegula black. Sternites brownish black. Fore femur distally and fore tibia entirely, femora 2-3 apically and tibiae 2-3 basally yellow. Tarsi brownish fumous. Wings brownish fumous, pterostigma and veins opaque light brownish.

Variable features of the ♀ (8 ♀♀) (Figs 1I-J; 2A-C)

Similar to the ♀ holotype. Body 2.8-3.2 mm long. Antenna about as long as body and with 24-25 antennomeres. First flagellomere 1.7-1.9 times and penultimate flagellomere 1.6-1.5 times as long as broad. Head in dorsal view 1.7-1.8 times as broad as long. Hind femur (3.2-)3.8-4.1 times as long as broad (Fig. 2A). First discal cell as in Fig. 2B. First tergite 1.2-1.3 times as long as broad behind and more narrowing posteriorly (Fig. 1I). First discal cell as in Fig. 2B. Third tergite somewhat longer than second tergite and suture between them less bisinuate (Fig. 2C). Ovipositor sheath long, in lateral view as long as hind tibia + tarsus combined. Hindwing: *cu-a* less incurved (Fig. 1J, see arrow).

Description of the ♂ (3 ♂♂) (Figs 1K; 2A, C-D)

Similar to the ♀, body less strong. Body 2-2.5 mm long. Antenna with 23 antennomeres (2 ♂♂). Hind femur (almost) four times as long as broad just distally (Fig. 2A). Second submarginal cell short, 3-*SR* 1.6 times as long as 2-*SR*, *SRI* 1.8 times as long as 3-*SR* (Fig. 2D). First tergite twice as long as broad behind, beyond pair of spiracles with feebly converging sides (Fig. 1K). Third tergite somewhat longer than second tergite and suture between them less bisinuate (Fig. 2C).

Hosts

HYM. Tenthredinidae (Selandriinae): !*Hoplocampa minutae* (Christ) (= *H. fulvicornis* Fabricius). — COL. Bruchidae: *Bruchidius villosus* Fabricius, *Bruchus pubescens* Germar, *B. sparthii* Erichson; Apionidae: *Apion genistae* Kirby, *Exapion difficile* Herbst, *Oxystoma craccae* (Linnaeus). — NOTE: The bruchid, apionid and curculionid hosts are in need of confirmation.

Distribution

England, Belgium, The Netherlands, France, Germany, Austria, Hungary, Poland, Romania, Italy and former Yugoslavia (Shenefelt 1978: 1563; Yu et al. 2005); Russia (European part, Kuznetzk) (Telenga 1936: 191).

Taxonomic position

The general appearance of *B. (Gl.) colpophorus* relegates it to the relationship of *B. (Gl.) instabilis* Marshall (England, Germany, Bohemia, Bulgaria) and *B. (Gl.) obscurator* Nees (Palearctic Region). The distinction of the three species is restricted to a few features; however, of solid specific value as shown (after Papp 1997: 128-129):

- 1 (2) Temple in dorsal view (Fig. 2E) strongly rounded or fairly constricted. Antenna usually as long as body and with 28-30 antennomeres. Second tergite rather longitudinally rugulose with some striolate elements (Fig. 2F). Ovipositor sheath in lateral view about as long as hind tibia. ♀: 2.2-3 mm
.....*B. (Gl.) instabilis* Marshall, 1897
- 2 (1) Temple in dorsal view rounded (i.e. never constricted, Figs 1A; 2G). Antenna usually more or less shorter than body and with 20-25 antennomeres. Second tergite polished, at most exceptionally and rarely with weak to very weak sculpture medially.
- 3 (4) Fore wing: *CU2* long, *3-SR* nearly twice as long as *2-SR*, *SRI* about one-third to one-and-a-half times as long as *3-SR* (Figs 1E; 2D). Suture between tergites 2-3 bisinuate (Figs 1G; 2C). Ovipositor sheath in lateral view about as long as hind tibia + half basitarsus combined. Legs black, fore femur and tibia almost entirely and tibiae 2-3 basally yellow, reddish yellow. ♀: 2.8-3.2 mm, ♂: 2-2.5 mm
.....*B. (Gl.) colpophorus* Wesmael, 1838
- 4 (3) Fore wing: *CU2* less long, *3-SR* somewhat to 1.5 times longer than *2-SR*, *SRI* about twice as long as *3-SR* (Fig. 2H). Suture between tergites 2-3 almost straight (Fig. 2I). Ovipositor sheath in lateral view about twice and at least 1.5-1.6 times as long as hind tibia. ♀♂: 1.7-3 mm, usually 2-2.8 mm
.....*B. (Gl.) obscurator* Nees, 1834

Bracon (Glabrobracon) dichromus Wesmael, 1838

Figs 3A-J, 4A, 5A

Bracon dichromus Wesmael, 1838: 49 ♀ (type material: 1 ♀), type locality: "environs de Liège" (Belgium), ♀ holotype ("Le seul individu..." Wesmael l.c., present designation) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon breviventris Szépligeti, 1901: 268 (in key); 282 (description) (in Hungarian); 1904 (1901): 188 (in key) and 194 (description) (in German), type locality: Pápa (Hungary), ♀ lectotype (and two ♀ paralectotypes) in Magyar Természettudományi Múzeum, Budapest; examined.

Bracon carpaticus Niezabitowski, 1910: 9 (53) enumeration and 13 (57) description (type material: one or more ♀♀), type locality: "Rytro" (Poland) and 13 description, (supposed) depository of the type material in Zakład Ekologii i Ochrony Srobowaska WSP, Kielce (Poland); not examined, **syn. nov.**

Bracon collaris Telenga, 1936: 149 (♀, in key), 209 (description), assigned to "Section *Glabrobracon*" (in Russian) and 351 (♀, in key), 390 (description) (in German), type locality: "Turkmenien: Merv".

Bracon (Glabrobracon) discretus Szépligeti, 1901: 268 (in key) and 281 (description) (in Hungarian); 1904 (1901): 188 (in key) and 193 (description) (in German) ♀, type locality: Fonyód (Hungary), ♀ lectotype in Magyar Természettudományi Múzeum, Budapest; examined.

Bracon maculiger Wesmael, 1838: 50 ♀ (type material: 1 ♀), type locality: "environs de Bruxelles" (Belgique), ♀ holotype (present designation) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon ornatulus Telenga, 1936: 150 (♀), 155 (♂) (in key), 210 (description), assigned to "Section *Glabrobracon*" (in Russian) and 352 (♀), 357 (♂) (in key), 391 (description) (in German), type locality: "Mongolien, Gashun-Gobi, Tsatshau".

Bracon velbingeri Fahringer, 1951: 67 ♀♂, type locality: "Pasardschik, Südbulgarien".

Bracon (Glabrobracon) dichromus – Szépligeti 1901: 268 (in key, in Hungarian); 1904 (1901): 188, 190 (in key, in German) ♀♂. — Fahringer 1927: 291 (♀ in key) and 1928: 453 (redescription), assigned to "Section *Glabrobracon*". — Telenga 1936: 149 (♀) and 154 (♂) (in key), 208 (redescription) (in Russian) and 351 (♀), 357 (♂) (in key, in German). — Shenefelt 1978: 1565 (literature up to 1974). — Tobias 1986: 134 (as synonym of *B. variator* Nees with a question mark).

Bracon (Glabrobracon) breviventris – Fahringer 1927: 292 (♀ in key) and 1928: 440 (redescription), as valid species and assigned to "Section *Glabrobracon*". — Telenga 1936: as valid species 150 (♀, in key), 211 (redescription) (in Russian) and 352 (in key, in German). — Tobias 1961: 164 (as synonym of *B. maculiger* Wesmael) and 1986: 134 (as synonym of *B. variator* Nees). — Shenefelt 1978: 1572 (as synonym of *B. maculiger* Wesmael after Tobias l.c.). — Papp 2004: 172 (♀ lectotype as synonym of *B. dichromus* and two ♀ paralectotypes as synonym of *B. variator* var. *maculiger* Wesmael).

Bracon carpaticus – Fahringer 1928: as valid species 284 (in key) and 441 (redescription) ♀. — Telenga 1936: as valid species 175 (in key) and redescription (redescription) in Russian) and 378 (in key, in German) ♀. — Shenefelt 1978: 1560 (as valid species, literature up to 1936).

Bracon collaris – Tobias 1958: 98 (as valid species in key, in Russian). — Shenefelt 1978: 1563 (as valid species, literature up to 1958). — Tobias 1986: 134 (synonymization in key as *B. variator* var. *collinus* Telenga).

Bracon (Glabrobracon) discretus – Fahringer 1927: 292 (♀ in key) and 1928: 457 (redescription), as valid species and assigned to "Section *Glabrobracon*". — Telenga 1936: as valid species 148 (in key), 203 (redescription) (in Russian) and 350 (in key, in German) ♀. — Shenefelt 1978: 1566 (as synonym of *B. dichromus* Wesmael after Papp 1966: 382). — Papp 2004: 174 (type designation, as synonym of *B. dichromus*); 2008: 1785 (synonymy).

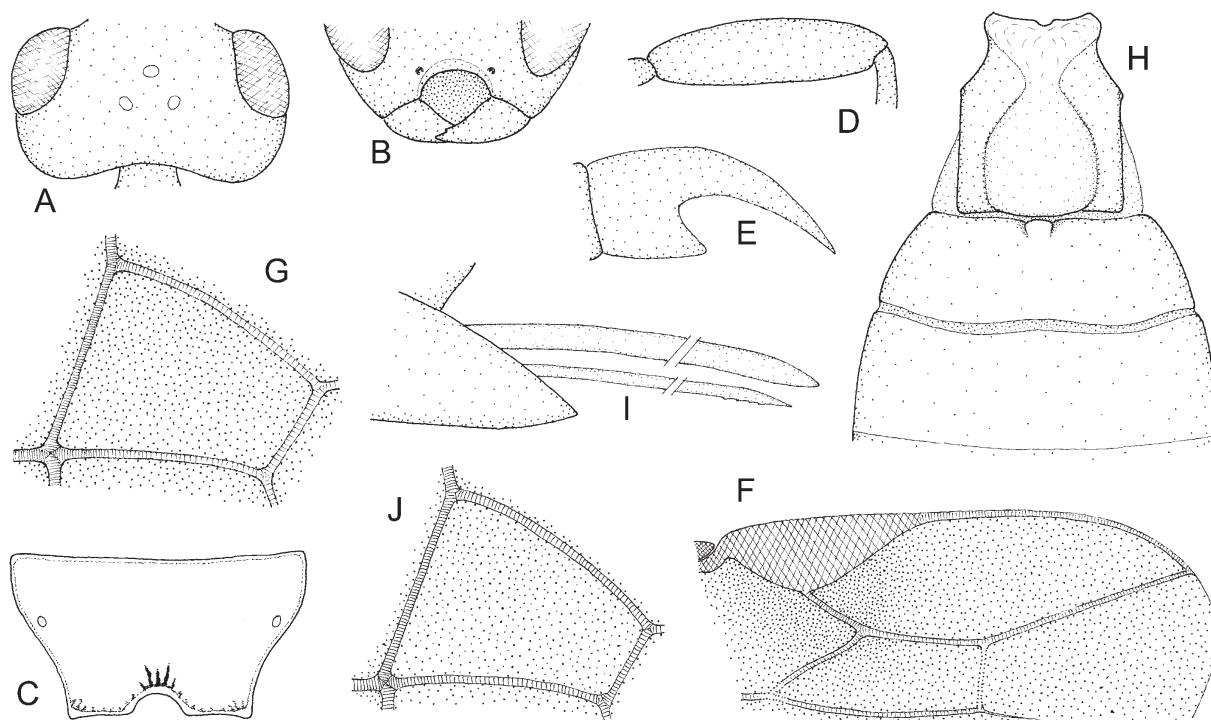


Fig. 3. *Bracon (Glabrobracon) dichromus* Wesmael, 1838 (A-I: ♀ holotype). A. Head in dorsal view. B. Head in frontal view. C. Propodeum. D. Hind femur. E. Claw. F. Distal part of right forewing. G. First discal cell of right forewing. H. Tergites 1-3. I. Hypopygium and ovipositor apparatus. J. First discal cell of right forewing (♀).

Bracon maculiger - Szépligeti 1901: as valid species 269 (in key, in Hungarian), 1904 (1901): 188 (in key, in German). — Fahringer 1927: as valid species 293 (♀), 306 (♂) (in key) and 469 (redescription), assigned to "Section *Glabrobracon*". — Telenga 1936: as valid species 150 (♀), 155 (♂) (in key), 212 (redescription) (in Russian) and 352 (♀), 357 (♂) (in key, in German). — Tobias 1961: 164 (as valid species, redescription). — Papp 1966: as valid species 379 (in key) and 386 (redescription). Shenefelt 1978: 1572 (as valid species, literature up to 1974). — Tobias 1986: 134 (as synonym under the name of *B. variator* "f." *maculiger*).

Bracon ornatulus - Tobias 1958: 99 and 1959: 895 (synonymization). — Tobias & Belokobylskij 2000: 143 (synonymization, designation of the ♀ lectotype and one ♀ paralectotype in Zoological Institut, Sankt Petersburg); not examined.

Bracon velbingeri - Papp 1971: 280 (designation of the ♀ lectotype and one ♀ + one ♂ paralectotypes, types in Senckenberg Deutsches Entomologisches Institut, Müncheberg, synonymized with *B. dichromus*). — Shenefelt 1978: 1566 (as synonym of *B. dichromus* after Papp l.c., literature up to 1971); examined.

Designation of the ♀ holotype of *Bracon dichromus*

(First label, handwritten) "18", (second label, printed) "Coll. Wesmael", (third label) "B. Dichrous mihi" (sic!, lapsus calami) "dét. C. Wesmael" (printed), (fourth label, printed) "R. Mus. Hist. Nat. Belg. I. G. 3.317", (fifth label, my handwriting) "Belgique / Liège/ leg. M. Robert" (the locality label adapted after Wesmael l.c.), sixth label is the holotype card. Holotype is in poor condition: (1) pinned by mesosoma; (2) head together with antennae missing; (3) missing: right pair of wings, right fore leg (except coxa), left fore tarsus, middle pair of legs, tarsomeres 4-5 of left hind leg.

Besides the holotype specimen there is a second ♀ of *B. dichromus* in Wesmael's Collection; however, it does not belong to the syntype series (see Wesmael's indication before). The ♀ is representing a melanic form: head almost entirely brown to dark brown, mesosoma dark to blackish brown, metasoma testaceous except dark brown first tergite, leg testaceous. The specimen is in fairly poor condition: legs deficient, right fore wing apically damaged.

Material examined

140 ♀♀ + 31 ♂♂ from fifteen countries: SLOVAKIA: 6 ♀♀ + 1 ♂ from five localities. HUNGARY: 97 ♀♀ + 19 ♂♂ from 87 localities. ROMANIA: 6 ♀♀ from six localities. SERBIA: 2 ♀♀ from two localities. CROATIA: 3 ♀♀ + 1 ♂ from four localities. BULGARIA: 7 ♀♀ from four localities. GREECE: 1 ♀. ITALY: 3 ♀♀ from three localities. ALGERIA: 1 ♀. CYPRUS: 1 ♀ + 3 ♂♂ from four localities. SYRIA: 1 ♂. ISRAEL: 3 ♀♀ + 1 ♂ from four localities. JORDAN: 1 ♀. TURKEY: 6 ♀♀ from six localities. UKRAINE: 2 ♀♀ from one locality. GEORGIA: 1 ♀.

Redescription of the ♀ holotype of *Bracon dichromus* (Fig. 3C-J)

HEAD. Missing.

LENGTH. Body, i.e. meso- and metasoma combined, 4 mm long.

MESOSOMA. In lateral view stout, 1.25 times as long as high, polished. Notaulix hardly distinct. Propodeum polished, close above lunule with short weak rugae (Fig. 3C).

LEGS. Hind femur 3.6 times as long as broad medially (Fig. 3D). Claw weakly curved, its basal lobe fairly large and pointed (Fig. 3E).

WINGS. Forewing slightly longer than meso- and metasoma combined. Pterostigma (Fig. 3F) fairly wide, 2.5 times as long as wide, issuing *r* proximally from its middle, *r* somewhat shorter than width of

pterostigma. Submarginal cell less long, 3-SR a bit longer than 2-SR, SRI straight, 1.9 times as long as 3-SR and reaching tip of wing (Fig. 3F). First discal cell high, 1-M twice as long as *m-cu*, 1-SR-M curved and 1.25 times as long as 1-M (Fig. 3G).

TERGITES (Fig. 3H). First tergite somewhat longer than broad behind, pair of spiracles before middle of tergite, beyond spiracles parallel-sided, margin of scutum very finely crenulated, otherwise together with further tergites polished. Second tergite 3.1 times as broad behind as long, suture between tergites 2-3 bisinuate, smooth. Third tergite a bit longer than second tergite (Fig. 3H). Ovipositor sheath long, as long as hind tarsus + tibia + half femur combined. Hypopygium pointed, posterior end of ovipositor sheath as in Fig. 3I.

COLOUR. Ground colour of body testaceous. Black to blackish: prosternum, mesosternum, propodeum (latero-posteriorly reddish), hind coxae. Blackish to brown: fore coxa, trochanters, hind femur proximally, tibiae apically and tarsi entirely. Wings brownish fumous, pterostigma and veins brownish.

Description of the head (Fig. 3A-B)

The description of the head is based on a ♀ specimen quite identical to the ♀ holotype (taken in Hungary, Budapest: Svábhegy, 2 Aug. 1897, ex coll. Magyar Rovartani Állomás = Hungarian Entomological Service). Antenna somewhat shorter than body and with 27 antennomeres. First flagellomere 1.75 times, further flagellomeres shortening so that penultimate flagellomere 1.4 times as long as broad. Head in dorsal view transverse (Fig. 3A), almost 1.9 times as broad as long, eye almost 1.3 times length of temple, temple strongly rounded, occiput excavated. Oral opening usual in size, its horizontal diameter

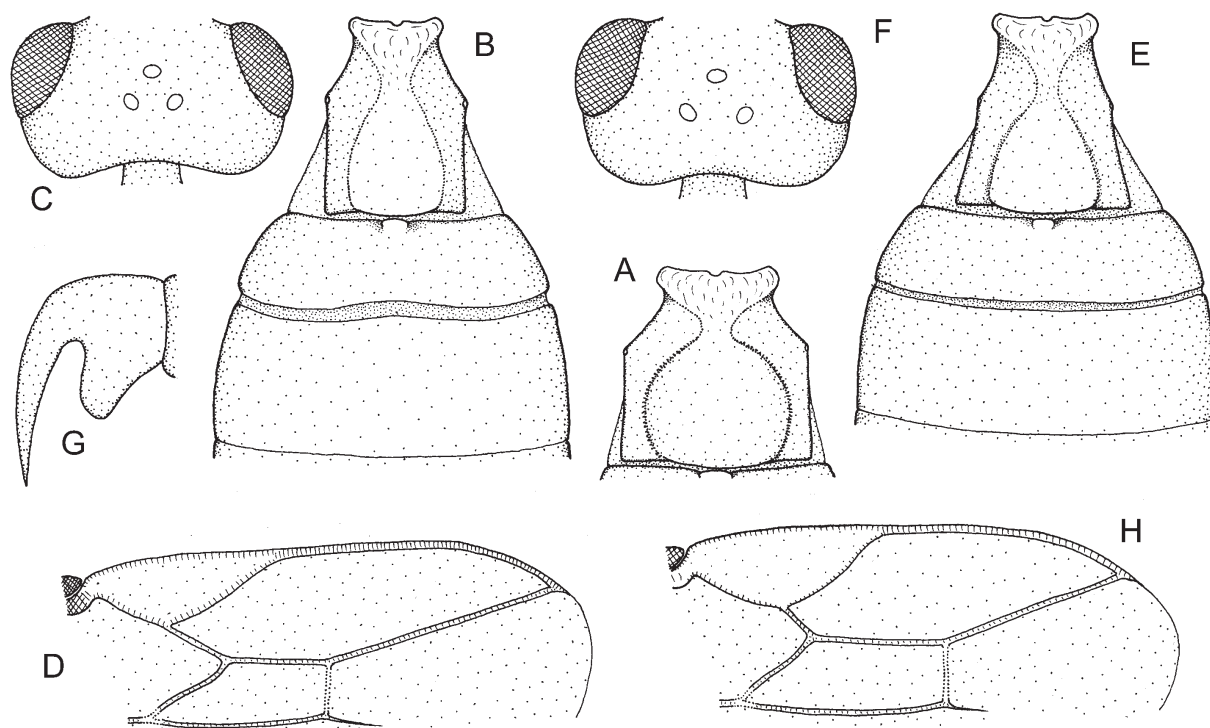


Fig. 4. — A. *Bracon (Glabrobracon) dichromus* Wesmael, 1838, first tergite of ♀. — B-D. *Bracon (Glabrobracon) helleni* Telenga, 1936, ♀. B. Tergites 1-3. C. Head in dorsal view. D. Distal part of right forewing. — E-H. *Bracon (Glabrobracon) popovi* Telenga, 1936, ♀. E. Tergites 1-3. F. Head in dorsal view. G. Claw. H. Distal part of right forewing.

somewhat longer than shortest distance between opening and compound eye (Fig. 3B). Head polished. Scape blackish brown, flagellum dark brown. Head testaceous, occiput brownish black, palpi and rostrum brown.

Deviating features of the ♀♀ and ♂♂ (Figs 1D; 3J; 4A-C; 5A)

Body 3-5 mm long. Antenna of ♀♀ with (25-)27-32(-33) and of ♂♂ with 27-32(-39) antennomeres. Temple in dorsal view somewhat receded (3 ♀♀, cf. Fig. 4C). Basal lobe of claw slightly more pointed (5 ♀♀, cf. Fig. 1D). First discal cell apparently slightly higher, i.e. *l-m* more than twice as long as *m-cu* (4 ♀♀, Fig. 3J). First tergite broad, as long as broad behind, its scutum fairly wide (4 ♀♀, Fig. 4A). Second tergite antero-medially finely striate-substrate (2 ♀♀ + 1 ♂, Fig. 5A). Ovipositor sheath long, as long as hind leg or metasoma + half mesosoma (1 ♀). Pterostigma yellow (3 ♀♀).

Several varieties and aberrations of *B. dichromus* have been described by Fahringer 1928: 453; Telenga 1936: 208; Papp 1966 and Shenefelt 1978: 1565. From these, two varieties are recognized as extreme colour deviations from the nominate form:

1) *Bracon (Glabrobracon) dichromus* var. *maculiger* (Wesmael) (= *B. carpaticus* Niezabitowski, 1910, = *B. variator* ab. *bicolor* Papp, 1966)

Material examined

144 ♀♀ + 32 ♂♂ from twenty countries: ENGLAND: 1 ♀. FRANCE: 5 ♀♀ + 1 ♂ from six localities. GERMANY: 3 ♀♀ from three localities. BOHEMIA: 2 ♀♀ from two localities. SLOVAKIA: 1 ♀.

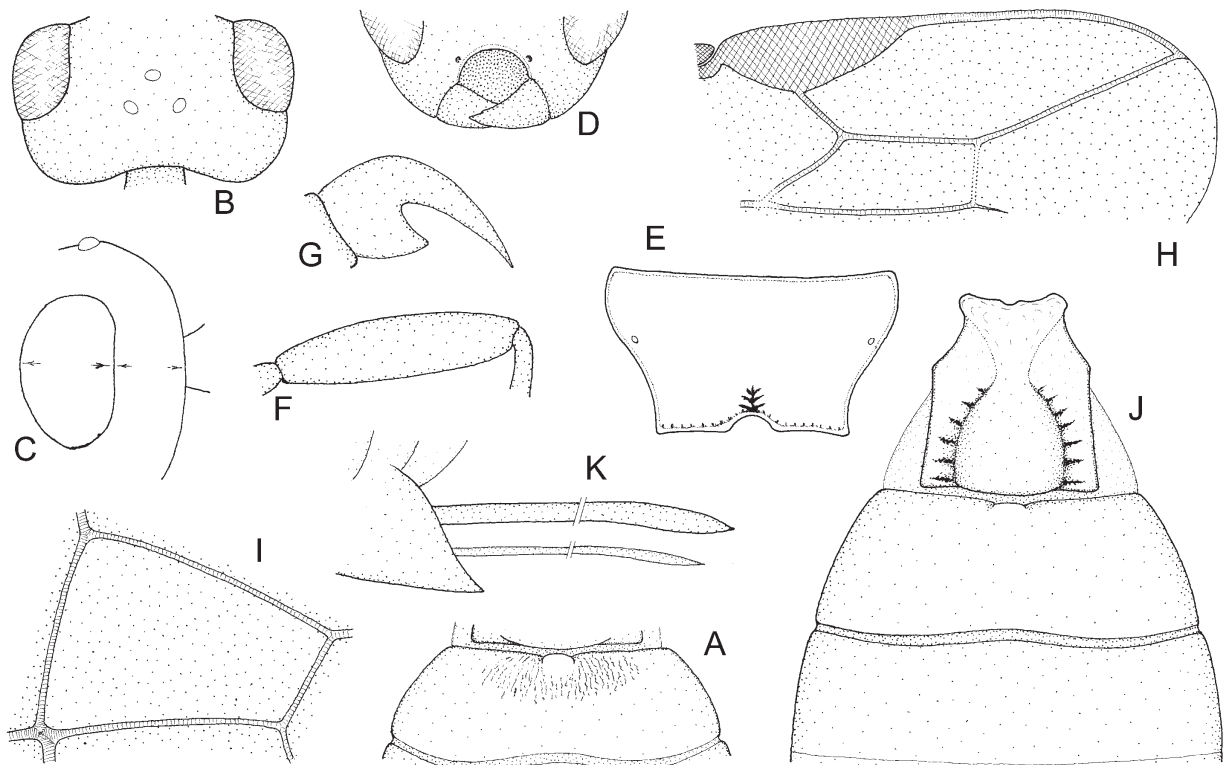


Fig. 5. — A. *Bracon (Glabrobracon) dichromus* Wesmael, 1838, ♀, second tergite. — B-K. *Bracon (Glabrobracon) discoideus* Wesmael, 1838, ♀ lectotype. B. Head in dorsal view. C. Head in lateral view. D. Head in frontal view. E. Propodeum. F. Hind femur. G. Claw. H. Distal part of right forewing. I. First discal cell of right forewing. J. Tergites 1-3. K. Hypopygium and ovipositor apparatus.

HUNGARY: 72 ♀♀ + 15 ♂♂ from 68 localities. ROMANIA: 12 ♀♀ + 2 ♂♂ from twelve localities. CROATIA: 3 ♀♀ + 1 ♂ from three localities. MACEDONIA 1 ♀. BULGARIA: 3 ♀♀ + 1 ♂ from three localities. GREECE: 2 ♀♀ from two localities. TURKEY: 5 ♀♀ + 1 ♂ from five localities. SPAIN: 6 ♀♀ + 1 ♂ from six localities. ITALY: 7 ♀♀ + 3 ♂♂ from four localities. CYPRUS: 1 ♀ + 2 ♂♂ from two localities. ISRAEL: 1 ♀. JORDAN: 1 ♀ + 1 ♂ from two localities. TUNISIA: 6 ♀♀ + 3 ♂♂ from four localities. ARMENIA: 3 ♀♀ + 1 ♂ from three localities. TURKMENISTAN: 9 ♀♀ from three localities.

The var. *maculiger* represents the *melanic form* of the species. The head and mesosoma are almost entirely dark coloured: head and mesoscutum partly reddish yellow or entirely black and femora 2-3 blackish to black, frequently scutum of first tergite also black(ish), i.e. metasoma usually reddish yellow, testaceous or rusty, dark coloured streak on tergites 2-4(-6) sometimes present. Antenna with (22-)25-29(-32) antennomeres (♀) and with (23-)27-32 antennomeres (♂).

2) *Bracon (Glabrobracon) dichromus* var. *discretus* (Szépligeti, 1901)

Material examined

29 ♀♀ + 5 ♂♂ from eight countries: BOHEMIA: 1 ♂. HUNGARY: 21 ♀♀ + 2 ♂♂ from eighteen localities. ROMANIA: 1 ♀ + 1 ♂ from two localities. CROATIA: 2 ♀♀ from two localities. BULGARIA: 2 ♀♀ + 1 ♂ from two localities. MACEDONIA: 1 ♀. PORTUGAL: 1 ♀. TURKMENISTAN: 1 ♀.

The var. *discretus* represents the albanic form of the species: at most mesosternum, hind femur partly (and hind tergites medially) with blackish to black pattern, frequently body and legs entirely reddish yellow or testaceous.

Hosts

COL. Curculionidae: *Gymnetron asellus* Gravenhorst, *Larinus flavescens* Germar, *L. turbinatus* Gyllenhal. — LEP. Gelechiidae: *Platyedra subcinerea* Haworth. Tortricidae: *Grapholitha funebrana* Treitschke. Phycitidae: *Myelois cribrella* Hübner. — DIPT. Tephritidae: *Euribia stylata* Fabricius, *Tephritis cometa* Loew, *Terellia serratulae* Linnaeus, *Xiphosia miliaria* Schrank.

Distribution

Western Palaearctic Region, mainly in its steppe and forest-steppe zone; in southern half of Europe fairly frequent)

Taxonomic position

Within the subgenus *Glabrobracon* the species *B. dichromus* is nearest to *B. helleni* Telenga (European Russia, Kazakhstan: Uralsk) and *B. popovi* Telenga (Hungary, Ukraine, Azerbaijan, Armenia, Uzbekistan) considering their reddish yellow or testaceous corporal colour; the three species are separated by the following key features:

- 1 (2) Third tergite only a bit longer than second tergite; first tergite broad (Figs 3H; 4A). Temple in dorsal view strongly rounded (Fig. 3A). Claw weakly downcurved (Fig. 3E). Ground colour of body testaceous, mesosoma ventrally and propodeum black to blackish (*nominata form*); varieties: head, mesosoma with much blackish to black pattern (var. *maculiger*), body almost entirely reddish yellow (var. *discretus*) ♀♂: (2.5-)3-4.5(-5) mm
*B. (Gl.) dichromus* Wesmael, 1838
- 2 (1) Third tergite clearly longer than second tergite (Figs.4B, E); first tergite less broadening (Fig. 4B) or evenly broadening posteriorly (Fig. 4E). Temple in dorsal view receded (Fig. 4C) or less receded (Fig. 4E). Claw strongly downcurved (Fig 4G).

- 3 (4) Temple in dorsal view receded (Fig. 4C). Claw less downcurved. Forewing: *SRI* reaching tip of wing, pterostigma issuing *r* proximally from its middle, *SRI* one-third longer than 3-*SR* (Fig. 4D). First tergite 1.3 times as long as broad behind, suture between 2-3 bisinuate (Fig. 4B). ♀: 2.5-3.5 mm *B. (Gl.) helleni* Telenga, 1936
- 4 (3) Temple in dorsal view less receded (Fig. 4E). Claw less downcurved (Fig. 4G). Forewing: *SRI* approaching tip of wing, pterostigma issuing *r* from its middle, *SRI* clearly twice longer than 3-*SR* (Fig. 4H). First tergite slightly longer than broad behind, evenly broadening posteriorly, suture between tergites 2-3 straight (Fig. 4E). ♀: 2.5-3.5 mm *B. (Gl.) popovi* Telenga, 1936

***Bracon (Glabrobracon) discoideus* Wesmael, 1838**
Figs 5B-K, 6A-C

Bracon discoideus Wesmael, 1838: 45 ♀ (type material: four ♀♀), type locality: “environs de Bruxelles” (Belgium), ♀ lectotype (and three ♀ paralectotypes, present designations) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon discoideus – Szépligeti 1901: 267 (in key, in Hungarian); 1904 (1901): 177 (in key, in German). *Bracon (Glabrobracon) discoideus* - Fahringer 1927: 261 (♀), 290 (♀), 304 (♂) (in key) and 1928: 455 (redescription), assigned to “Section *Glabrobracon*”. — Telenga 1936: 151 (♀) 155 (♂) (in key), 219 (redescription) (in Russian) and 354 (♀), 358 (♂) (in key, in German). — Shenefelt 1978: 1567 (literature up to 1974). — Tobias 1986: 134 (supposed synonymy with *B. variator* Nees, in footnote).

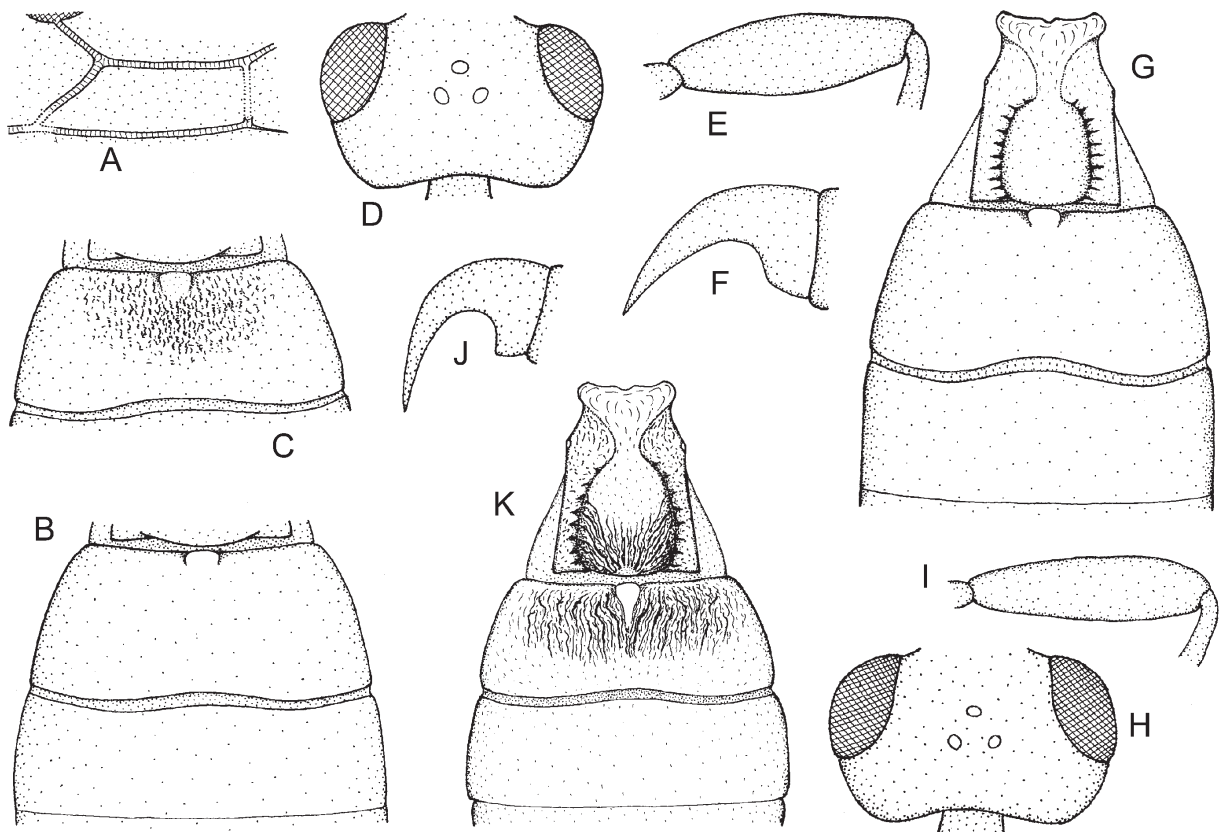


Fig. 6. — A-C. *Bracon (Glabrobracon) discoideus* Wesmael, 1838, ♀. A. Second submarginal cell of forewing. B. Tergites 2-3. C. Second tergite. — D-G. *Bracon (Glabrobracon) batis* Papp, 1981, ♀ holotype. D. Head in dorsal view. E. Hind femur. F. Claw. G. Tergites 1-3. — H-K. *Bracon (Glabrobracon) epitriptus* Marshall, 1885, ♀ paralectotype. H. Head in dorsal view. I. Hind femur. J. Claw. K. Tergites 1-3.

Designation of the ♀ lectotype of *Bracon discoideus*

(First label, printed) "Coll. Wesmael", (second label, printed) "2058", (third label) "Braco discoideus mihi ♀" (handwritten) "dét. C. Wesmael" (printed), (fourth label, printed red) "Type", fifth label is with the inventory number "3.317", sixth label is the locality card "Belgique / Bruxelles" attached by me, seventh label is the lectotype card. Lectotype is in poor condition: (1) head with antenna missing, (2) costal / subcostal vein of right fore wing medially damaged.

Designations of the three paralectotypes of *Bracon discoideus*

All three specimens with similar labels to those of the lectotype. First paralectotype is in poor condition: (1) metasoma missing; (2) both antennae damaged, right flagellum with 13 and left flagellum with 15 flagellomeres; (3) hind right leg entirely and distal two-thirds of fore left wing missing. Second paralectotype is in less poor condition, missing: left antenna (right antenna not damaged, with 23 flagellomeres), tarsus of right middle leg and left hind leg (except coxa + trochanters). Third paralectotype is in very poor condition: (1) head and metasoma missing; (2) left fore wing missing; (3) left hind leg, left middle leg (except coxa) and tarsomeres 2-5 of left fore leg missing (i.e. present are only the three right legs).

Material examined

39 ♀♀ + 5 ♂♂ from eleven countries: SCOTLAND: 7 ♀♀ from four localities. ENGLAND: 9 ♀♀ + 1 ♂ from nine localities. THE NETHERLANDS: 1 ♀. FRANCE: 1 ♂. GERMANY: 8 ♀♀ + 1 ♂ from nine localities. AUSTRIA: 1 ♀. BOHEMIA: 1 ♀ + 1 ♂ from two localities. SLOVAKIA: 1 ♂. HUNGARY: 7 ♀♀ from seven localities. ITALY: 3 ♀♀ from three localities. BULGARIA: 2 ♀♀ from two localities.

Redescription of the ♀ lectotype of *Bracon discoideus*

HEAD. Missing

LENGTH. Body, or meso- and metasoma combined, 2.3 mm long.

The following description is based on one ♀ specimen identical to the ♀ lectotype (taken in Italy, Riva s. Garda, 150 m, G / 10 Sep. 67, leg. Haeselbarth; specimen in the Budapest Museum).

LENGTH. Body length is 2.5 mm.

ANTENNAE. Somewhat shorter than body, right antenna with 23 and left antenna with 22 antennomeres. First flagellomere 2.3 times, further flagellomeres gradually shortening so that penultimate flagellomere 1.8 times as long as broad.

HEAD. In dorsal view transverse (Fig. 5B), 1.75 times as broad as long, eye 1.4 times as long as temple, temple rounded, occiput excavated. Eye in lateral view one-fourth wider than width of temple beyond eye (Fig. 5C, see arrows). Oral opening usual in size, its horizontal diameter 1.4 longer than shortest distance between opening and compound eye (Fig. 5D). Head polished. Antenna and head black, oral opening and oral organs yellow.

MESOSOMA. In lateral view 1.4 times as long as high, polished. Notaulix weakly distinct. Propodeum polished, close above lunule with short crenulae (Fig. 5E).

LEGS. Hind femur 3.8 times as long as broad (Fig. 5F). Claw downcurved, its basal lobe pointed (Fig. 5G).

WINGS. Forewing about one-third longer than meso- and metasoma combined. Pterostigma (Fig. 5H) wide, 2.75 times as long as wide, issuing *r* proximally from its middle, *r* somewhat shorter than width of pterostigma; submarginal cell fairly long, 3-SR 1.45 times as long as 2-SR, SR1 straight, 1.6 times as long as 3-SR and reaching tip of wing (Fig. 5H). First discal cell fairly high, 1-M 1.9 times as long as *m-cu*, 1-SR-M almost straight and 1.35 times as long as 1-M (Fig. 5I).

TERGITES (Fig. 5J). First tergite somewhat longer than broad behind, pair of spiracles before middle of tergite, beyond spiracles tergite slightly broadening; tergite laterally from scutum crenulate. Scutum together with further tergites polished. Second tergite 2.7 times as broad behind as long, suture between tergites 2-3 weakly bisinuate. Second tergite somewhat longer than third tergite. Hypopygium pointed, end of ovipositor as in Fig. 5K.

COLOUR. Mesosoma brownish black, tegula yellow. First tergite brownish, ground colour of tergites testaceous, medially with faint brownish streak. Sternites pale yellow. Legs yellow, hind coxa faintly brownish. Wings brownish subfumous, pterostigma brownish, veins light brownish.

Variable features of the ♀ (39 ♀♀)

Body (2-)2.5-2.8(-3.2) mm long. Antenna with 21-31, usually 24-26, antennomeres. Penultimate flagellomere (1.6-)1.7-1.8 times as long as broad. Head in dorsal view (1.7-)1.8-1.9 times as broad as long, temple somewhat receded (2 ♀♀, cf. Fig. 64D). Pterostigma wide, 2.4 times as long as wide (5 ♀♀, cf. Fig. 42D); second submarginal cell long, 3-SR 1.7-1.8 times longer than 2-SR (3 ♀♀, Fig. 6A). Metasoma somewhat less broad, second tergite 1.3 times longer medially than third tergite also medially (7 ♀♀, Fig. 6B); second tergite antero-medially longitudinally rugulose (4 ♀♀, Fig. 6C, cf. Figs 12H; 64H). Ovipositor sheath long, as long as hind tibia + tarsus combined (2 ♀♀).

Description of the ♂ (5 ♂♂)

Body 2.6-3.2(-3.8) mm long. Antenna about as long as to somewhat longer than body and with 27-29 antennomeres. Flagellomeres long, 1.7-2 times longer than broad. Head in dorsal view 1.75-1.8 times as broad as long; temple either rounded (Fig. 5B) or slightly receded (cf. Fig. 12I). Fore wing: 3-SR 1.35-1.45 times as long as 2-SR. First tergite 1.2 (cf. Fig. 42F) to 1.3 times (cf. Fig. 38H) as long as broad behind.

Hosts

COL. Cerambycidae: ?*Saperda populnea* Linnaeus. Curculionidae: *Anthonomus pomorum* Linnaeus, *Balanobius pyrrhoceras* Marsham, *Ceutorhynchus quadridens* Panzer, *Curculio crux* Fabricius, *C. nucum* Linnaeus, *C. salicivorus* Paykul, *Pissodes notatus* Fabricius, *Rhynchites pauxillus* Germar. Attelabidae: *Byctiscus betulae* Linnaeus, *B. flavipes* Ratzeburg, *B. populi* Linnaeus. — LEP. Heliozelidae: *Heliozela sericella* Haworth. Lithocolletidae: *Phyllono-rycter rajella* Linnaeus. Tortricidae: *Adoxophyes orana* Fischer von Röslerstamm, *Eulia ministrana* Linnaeus, *Rhyacionia buoliana* Denis et Schiffermüller. — DIPT. Agromyzidae: ?*Agromyza lateralis* Fallén. Chloropidae: ?*Chlorops pumilions* Bjerk. — HYM. Tenthredinidae: *Nematus salicis* Linnaeus, *N. viminalis* Linnaeus, !*Pontania bridgmanni* Cameron, !*P. foetidae* Kopelke, !*P. pedunculi* Hartig, !*P. proxima* Lepeletier, !*P. varia* Kopelke. Cynipidae: *Biorrhiza pallida* Olivier.

Distribution

Western Palearctic Region.

Taxonomic position

Within the subgenus *Glabrobracon* the following species form the *Bracon discoideus* species-group characterized by the long second tergite (i.e. second tergite longer than third tergite): *B. batis* Papp (Hungary), *B. discoideus* Wesmael (western Palaearctic Region), *B. epitriptus* Marshall (Palaearctic Region), *B. pulcher* Bengtsson (Sweden, Denmark, Germany, Austria, Poland, Hungary) and *B. subsinuatus* Szépligeti (Europe). The five species are distinguished by the following key features:

- 1 (4) Head in dorsal view less transverse, 1.6-1.7(-1.75) times as broad as long, temple usually strongly rounded (Fig. 6H) to receded (Fig. 6D).
- 2 (3) Hind femur 2.9-3 times as long as broad medially (Fig. 6E). Claw less downcurved (Fig. 6F). Second tergite clearly, 1.3 times longer laterally than third tergite medially, smooth (Fig. 6G). Pterostigma yellow. ♀: 3.7 mm *B. (Gl.) batis* Papp, 1981
- 3 (2) Hind femur 3.5-4 times as long as broad more or less distally (Fig. 6I). Claw downcurved (Fig. 6J). Second tergite slightly longer than third tergite, anteriorly more or less rugulose(-rugose) (Fig. 6K). Pterostigma brown to light brown. ♀♂: 2.6-4.5 mm *B. (Gl.) epitriptus* Marshall, 1885
- 4 (1) Head in dorsal view transverse, (1.7-)1.8-1.9 times as broad as long, temple either rounded or receded (Figs 5B; 7B, D).
- 5 (6) Scutum of first tergite broad, i.e. rim of first tergite narrow and densely crenulated (Fig. 7C). Ovipositor sheath long, twice longer than hind tibia + basitarsus combined. Pronotum and mesoscutum blackish with yellow or reddish yellow pattern. ♀♂: 2.5-3.5 mm *B. (Gl.) pulcher* Bengtsson, 1924
- 6 (5) Scutum of first tergite less broad, i.e. rim of first tergite less narrow and less densely crenulated (Figs 5J; 7E). Ovipositor sheath less long, at most as long as hind tibia + basitarsus combined. Mesosoma entirely black.

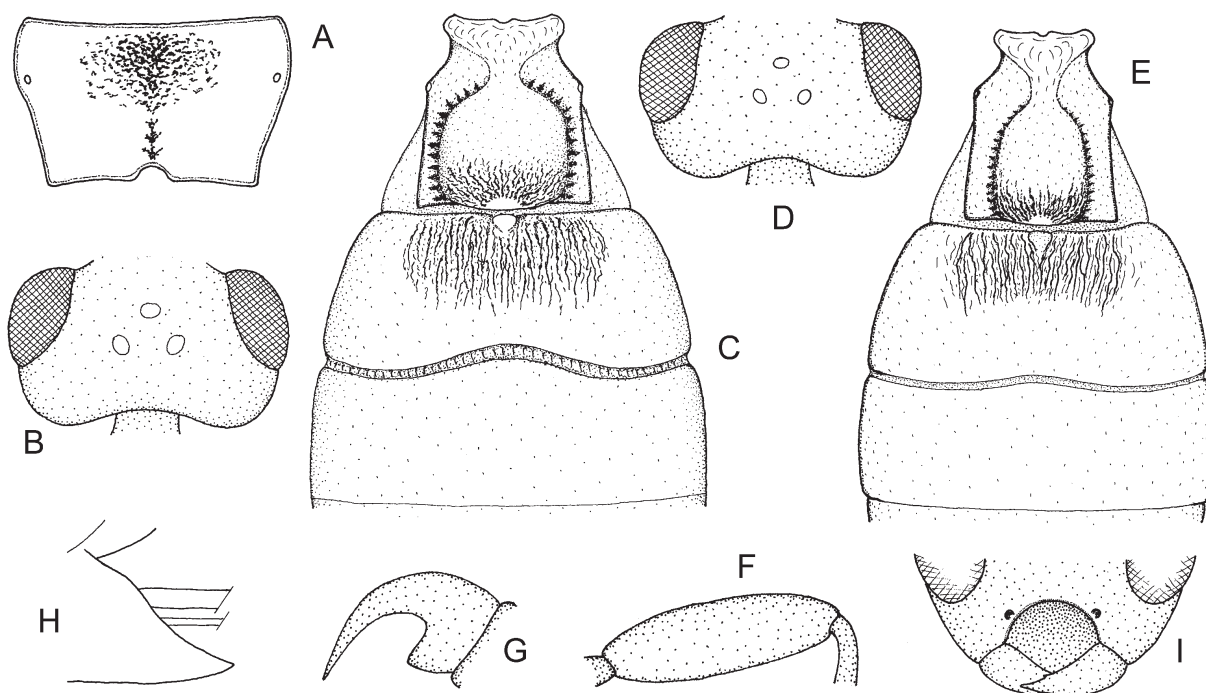


Fig. 7. — **A.** *Bracon (Lucobracon) guttiger* Wesmael, 1838, ♀, propodeum. — **B-C.** *Bracon (Glabrobracon) pulcher* Bengtsson, 1924 (♀ paralectotype). **B.** Head in dorsal view. **C.** Tergites 1-3. — **D-G.** *Bracon (Glabrobracon) subsinuatus* Szépligeti, 1901, ♀. **D.** Head in dorsal view. **E.** Tergites 1-3. **F.** Hind femur. **G.** Claw. — **H.** *Bracon (Lucobracon) larvicida* Wesmael, 1838, ♀, hypopygium and ovipositor apparatus. — **I.** *Bracon (Lucobracon) sphaerocephalus* Szépligeti, 1901, ♀, head in frontal view.

- 7 (8) Second tergite somewhat (1.1-1.2 times) longer than third tergite, usually polished (Fig. 5J), at most finely sculptured anteriorly (Fig. 6C). Temple in dorsal view rounded (Fig. 5B). Hind femur 3.6-3.8 times as long as broad (Fig. 5F). Claw somewhat more downcurved (Fig. 5G). ♀♂: (2-)2.5-3.2 mm
..... *B. (Gl.) discoideus* Wesmael, 1838
- 8 (7) Second tergite clearly (1.3-1.4 times) longer than third tergite; second tergite anteriorly sculptured (Fig. 7E). Temple in dorsal view rather receded (Fig. 7D). Hind femur 3-3.1 times as long as broad (Fig. 7F). Claw somewhat less downcurved (Fig. 7G). ♀♂: 2.5-3.5 mm
..... *B. (Gl.) subsinuatus* Szépligeti, 1901

***Bracon (Lucobracon) erraticus* Wesmael, 1838**

Figs 8A-L, 9A-G

Bracon erraticus Wesmael, 1838: 35 ♀♂ (type material: three ♀♀ + two ♂♂), type locality: “environs de Bruxelles” (Belgium), ♀ lectotype (and two ♀ + two ♂ paralectotypes, present designations) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon (Lucobracon) bellicosus Papp, 1971a: 339 (description) ♀, type locality: “Uvs aimak: on eastern slope of Ulaan davaa pass, between Lake Örög nuur and town Ulaangom” (Mongolia), ♀ holotype and two ♀ paratypes in Magyar Természettudományi Múzeum, Budapest; examined, **syn. nov.**

Bracon (Bracon) confinis Szépligeti, 1901: 261 (in key), 276 (description) (in Hungarian) and 1904 (1901): 161 (in key), 169 (description) (in German) ♀ (type material: 1 ♀), type locality: “Pilismarót” (Hungary), ♀ lectotype in Magyar Természettudományi Múzeum, Budapest; examined.

Bracon congruus Szépligeti, 1901: 261 (♀), 263 (♂) (in key), 276 (description) (in Hungarian); 1904 (1901): 161 (♀), 164 (♂) (in key), 165 (description) (in German) ♀♂ (syntype series 2 ♀♀ + 2 ♂♂), type locality: “Budapest” (Hungary), ♀ lectotype (and one ♀ and two ♂ paralectotypes, present designation) in Magyar Természettudományi Múzeum, Budapest; examined.

Bracon erythrostickus Marshall, 1885: 14 (in key) and 17 (description) ♀♂ (type material: several ♀♀ and ♂♂), type locality: “Milford haven” (Pembrokeshire, England), syntypes in The Natural History Museum, London; not examined.

Bracon exarator Marshall, 1885: 14 (in key) and 26 (description) ♀ (type material 1 ♀), type locality: “at Brundall, Norfolk” (England), ♀ holotype (present designation) in Castle Museum, Norwich; examined, **syn. nov.**

Bracon foveola Thomson, 1894: 1819 ♀, type locality: “Ringjön...Skåne” (Sweden), ♀ lectotype (and one ♀ paralectotype, designated by Papp in 1969) in Zoological Museum, Lund; synonymized by Papp 1969: 197.

Bracon hades Papp, 1965: 409 (description) ♀, type locality: “Somlóvásárhely, Com. Veszprém, Hungary”, ♀ holotype (and one ♀ paratype) in Magyar Természettudományi Múzeum, Budapest; examined.

Bracon praetermissus Marshall, 1885: 15 (in key) and 37 (description) ♀♂ (type material 5 ♀♀ + 1 ♂, seen 3 ♀♀), type locality: “Nunton Wilts.”[hire] (England), ♀ lectotype (and two ♀ paralectotypes, present designations) in The Natural History Museum, London; examined, **syn. nov.**

Bracon superciliosus Wesmael, 1838: 38 ♀ (type material: one ♀), type locality: “environs de Bruxelles” (Belgium), ♀ holotype (“J’ai pris un seul individu de cette espèce”, present designation) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon vectensis Marshall, 1885: 15 (in key) and 31 (description) ♂ (type material 1 ♂), type locality: “Niton, Isle of Wight” (England), ♂ holotype (present designation) in The Natural History Museum, London; examined, **syn. nov.**

Further synonyms of *B. erraticus* Wesmael (see also Papp 2005a: 199 and Tobias 1986: 149): *aestivalis* Szépligeti, 1901, *confinis* Szépligeti, 1901, *congruus* Szépligeti, 1901, *idrianus* Fahringer, 1934, *lagodechianus* Telenga, 1936, *planiceps* Telenga, 1936, *secernendus* Schulz, 1906, *segregatus* Telenga,

1936, *similis* Szépligeti, 1901, *talitzkii* Telenga, 1936, *transcaspicus* Telenga, 1936, *ventricosus* Szépligeti, 1901).

Bracon erraticus – Szépligeti 1901: 261, 263, 266 (in key, in Hungarian); 1904 (1901): 180 (in key).

Bracon (Orthobracon) erraticus – Fahringer 1927: 270 (♀), 278 (♂) (in key) and 381 (redescription), assigned to “Section *Orthobracon*”. — Telenga 1936: 164 (♀), 169 (♂) (in key), 257 (redescription) (in Russian) and 367 (♀), 371 (♂) (in key, in German). — Shenefelt 1978: 1630 (literature up to 1975).

Bracon (Lucobracon) erraticus – Tobias 1986: 145 and 149 (in key, in Russian). — Tobias & Belokobylskij 2000: 162 and 164 (in key, in Russian).

Bracon (Lucobracon) bellicosus – Shenefelt 1978: 1616 (as valid species, literature up to 1974). — Tobias & Belokobylskij 2000: 164 (synonymized with question mark with *B. erraticus*).

Bracon (Bracon) confinis – Fahringer 1927: as valid species 242 (♀ in key) and 313 (redescription), assigned to “Section *Striobracon*”. — Telenga 1936: 165 (♀, in key), 259 (as valid species, redescription, in Russian) and 367 (♀, in key, in German). — Shenefelt 1978: 1628 (as valid species, literature up to 1968). — Tobias 1986: 149 (as new synonym of *B. erraticus*). — Papp 2004: 173 (as synonym of *B. erraticus*, type depository).

Bracon congruus – Fahringer 1927: 242 (♀ in key) and 338 (redescription), as synonym of *B. secernendus* Schulz, 1906 and assigned to “Section *Striobracon*”. — Telenga 1936: 258 (as synonym of *B. secernendus* Schulz). — Shenefelt 1978: 1629 (as synonym of *B. confinis* Szépligeti after Papp 1968: 197, literature up to 1968). — Papp 2004: 173 (type depository).

Bracon erythrostickus – Fahringer 1927: 237 (♀ in key), 316 (redescription) and 425: ♂ identical with *B. tenuicornis* Wesmael, ♀ as valid species and assigned to “Section *Striobracon*”. — Telenga 1936: 162 (♀), 167 (♂) (in key), 249 (redescription) (in Russian) and 364 (♀), 369 (♂) (in key, in German). — Shenefelt 1978: 1481 (as valid species, literature up to 1974) and 1649 (as synonym of *B. tenuicornis* Wesmael after Dalla Torre 1898: 291). — Tobias 1986: 125 (in key, as synonym of *B. intercessor* Nees).

Bracon exarator – Fahringer 1927: as valid species 253 (♀), 257 (♂) (in key) and 350 (redescription), assigned to “Section *Lucobracon*”. — Telenga 1936: as valid species 164 (♀), 169 (♂) (in key), 257 (redescription) and 367 (♀), 371 (♂) (in key, in German), assigned to subgenus *Bracon* s. str.. Shenefelt 1978: 1618 (as valid species, literature up to 1945).

Bracon foveola – Fahringer 1927: as valid species 273 (♀ in key) and 388 (redescription), assigned to “Section *Orthobracon*”. — Telenga 1936: as valid species 170 (♀, in key), 270 (redescription) (in Russian) and 373 (♀ in key, in German), assigned to subgenus *Orthobracon*. — Shenefelt 1978: 1631 (as *B. erraticus* var. *foveola* after Papp l.c., literature up to 1969).

Bracon hades – Papp 1969: 197 (synonymization). — Shenefelt 1978: 1631 (as synonym of *B. erraticus* var. *superciliosus* Wesmael after Papp l.c.).

Bracon praetermissus – Fahringer 1927: (♀, identical with “?erraticus Wesm. var.”), 278 (♂ in key) and 412 (redescription), ♂ as valid species and assigned to “Section *Orthobracon*”. — Telenga 1936: as valid species 177 (♀), 178 (♂) (in key), 300 (redescription) and 379 (♀), 381 (♂) (in key, in German). — Shenefelt 1978: 1645 (as valid species, literature up to 1974). Tobias 1986: as valid species 137 (in key, in Russian). — Tobias & Belokobylskij 2000: as valid species 150 (in key, in Russian).

Bracon superciliosus – Schmiedeknecht 1897: 559 (15) (synonymization). — Fahringer 1927: 381 (as synonym of *B. erraticus*). — Telenga 1936: 257 (as synonym of *B. erraticus*). — Shenefelt 1978: 1631 (as *B. erraticus* var. *superciliosus* Wesmael after Fischer 1965: 130, literature up to 1974).

Bracon vectensis – Fahringer 1927: as valid species 278 (♀ in key) and 430 (redescription), assigned to “Section *Orthobracon*”. — Telenga 1936: as valid species 178 (♂, in key), 301 (redescription) (in Russian) and 381 (♂, in key, in German). — Shenefelt 1978: 1650 (as valid species, literature up to 1936).

Designation of the types

Designation of the ♀ lectotype of *Bracon erraticus* (first label, printed) “Coll. Wesmael”, (second label, printed) “2040”, (third label) “Braco erraticus mihi ♀” (handwritten) “dét. C. Wesmael” (printed), (fourth label, printed) “Type”, (fifth label with my handwriting) “Belgique / Bruxelles / leg. Wesmael” (above) “teste J. Papp 1987” (reverse), sixth label is the lectotype card. - Lectotype is in good condition: (1) micropinned by mesosoma, (2) right antenna deficient: with 17 antennomeres, (3) left fore wing close beyond pterostigma slightly torn.

Designations of the three paralectotypes (1 ♀ + 2 ♂♂) of *B. erraticus*: with similar labels to that of the lectotype. One ♀ paralectotype is in good condition: flagelli deficient, tarsomeres 3-5 of right fore leg missing. One ♂ paralectotype is in very poor condition: head, right fore and left hind wings missing, mesosoma cracked at prosoma. One ♂ paralectotype is in poor condition: left antenna, left fore wing and metasoma entirely as well as legs partly missing. All three paralectotypes micropinned by mesosoma.

Designation of the ♀ paralectotype of *B. erraticus* var. 1. Wesmael with two labels similar to the first and fifth labels of the lectotype. Paralectotype is in fairly poor condition: (1) micropinned by mesosoma, (2) right flagellum missing, left flagellum apically deficient, (3) legs more or less damaged.

Designation of the ♀ holotype of *B. exarator* Marshall: (first label, handwritten) “Brundall 15.9.81” (reverse on first label, above on label the wasp itself is glued), (second label, handwritten) “exarator”, third label is the holotype card, fourth label is with the actual name *B. erraticus* var. *superciliosus* (Wesmael) given by me. Holotype is in good condition.

Designation of the ♀ lectotype of *B. praetermissus* Marshall: (first label, handwritten) “N [=Nunton, England] 1.IX.84” (reverse on label, above on label the wasp itself is glued), (second label, handwritten) “27 jts”, (third round label with red frame) “♀ Type CM.” (♀ and CM with handwriting, Type printed), (third label) “B.M. Type Hym.” (printed) “*Bracon praetermissus* Marshall, 1885” (handscdript), (fourth label, ?Marshall’s handwriting) “*praetermissus* Marsh.”, (fifth label, printed) “Marshall coll. 1904-120.”, sixth label is with the full locality (England, Wilts., Nunton, 1.IX.1884, leg. Marshall) added by me, seventh label is the lectotype card and the eighth label is with the actual name (*B. erraticus*) given by me. Lectotype is in good condition: specimen glued ventrally and nicely mounted on a card.

Designation of the two ♀ paralectotypes of *B. praetermissus*: with similar labels to that of the lectotype; the specimens are representing a variety: *B. erraticus* var. *superciliosus* (Wesmael). Paralectotypes are in good condition similar to the lectotype.

Remark

One ♀ paralectotype of *B. praetermissus* is housed in the Hungarian Natural History Museum, the specimen is representing the species *B. romani* Fahringer, 1927.

Designation of the ♀ holotype of *B. superciliosus*: (first label, printed) “Coll. Wesmael”, (second label, printed) “2052”, (third label) “Braco superciliosus mihi ♀” (handwritten) “dét. C. Wesmael”, (fourth label, printed red) “Type”, (fifth label with my handwriting) “Belgique / Bruxelles / VI, leg. Wesmael” (after Wesmael l.c.), sixth label is the holotype card, seventh label is with the actual name *B. erraticus* var. *superciliosus* (Wesmael) given by me. Holotype is in fairly good condition: (1) micropinned by mesosoma; (2) left forewing missing; (3) left flagellum apically deficient.

Designation of the ♂ holotype of *B. vectensis*: (first label, handwritten) “Niton” (reverse on label, above it the wasp itself is glued), (second label with red frame, printed) “Type”, (third label) “B.M. Type Hym.” (printed) “3.C.2.” (handwritten), (fourth label) “B.M. Hym. Type” (printed) “*Bracon vectensis* Marshall 1885” (handwritten), (fifth label, ?Marshall’s handwriting) “*vectensis* Marsh.”, (sixth label,

printed) "Marshall coll. 1904-120." seventh label is the holotype card and eighth label is with the actual name, *B. erraticus*, given by me. Holotype is glued by its ventral side on a card.

Material examined

201 ♀♀ + 211 ♂♂ from 38 countries. The localities are grouped according to the nominate form and the three varieties of the species.

1) *Bracon erraticus* Wesmael, nominate form (62 ♀♀ + 65 ♂♂ from thirty countries): ENGLAND: 6 ♀♀ + 3 ♂♂ from seven localities. SWEDEN: 4 ♀♀ + 2 ♂♂ from six localities. DENMARK: 1 ♀ + 2 ♂ from three localities. FRANCE: 2 ♀♀ + 4 ♂♂ from four localities. THE NETHERLANDS: 2 ♀♀ from two localities. GERMANY: 5 ♀♀ + 3 ♂♂ from eight localities. SWITZERLAND: 1 ♂. AUSTRIA: 3 ♀♀ + 2 ♂♂ from five localities. BOHEMIA: 2 ♀♀ + 1 ♂ from three localities. SLOVAKIA: 8 ♀♀ + 7 ♂♂ from 13 localities. HUNGARY: 55 ♀♀ + 81 ♂♂ from 124 localities. ROMANIA: 3 ♀♀ + 6 ♂♂ from seven localities. PORTUGAL: 1 ♂. SPAIN: 5 ♀♀ + 3 ♂♂ from one locality. ITALY: 3 ♀♀ + 2 ♂♂ from five localities. SERBIA: 6 ♀♀ from five localities. ALBANIA: 2 ♂♂ from two localities. MACEDONIA: 3 ♀♀ + 4 ♂♂ from seven localities. CROATIA: 2 ♀♀ + 6 ♂♂ from eight localities. BULGARIA: 3 ♀♀ + 8 ♂♂ from ten localities. GREECE: 1 ♀ + 2 ♂♂ from three localities. TURKEY: 4 ♀♀ + 4 ♂♂ from eight localities. ALGERIA: 1 ♂. SYRIA: 1 ♂. CYPRUS: 1 ♂. ARMENIA: 1 ♂. GEORGIA: 1 ♂. ASIATIC RUSSIA: 2 ♀♀ from two localities. MONGOLIA: 4 ♀♀ + 2 ♂♂ from six localities. NORTH CHINA: 1 ♀ + 2 ♂♂ from one locality.

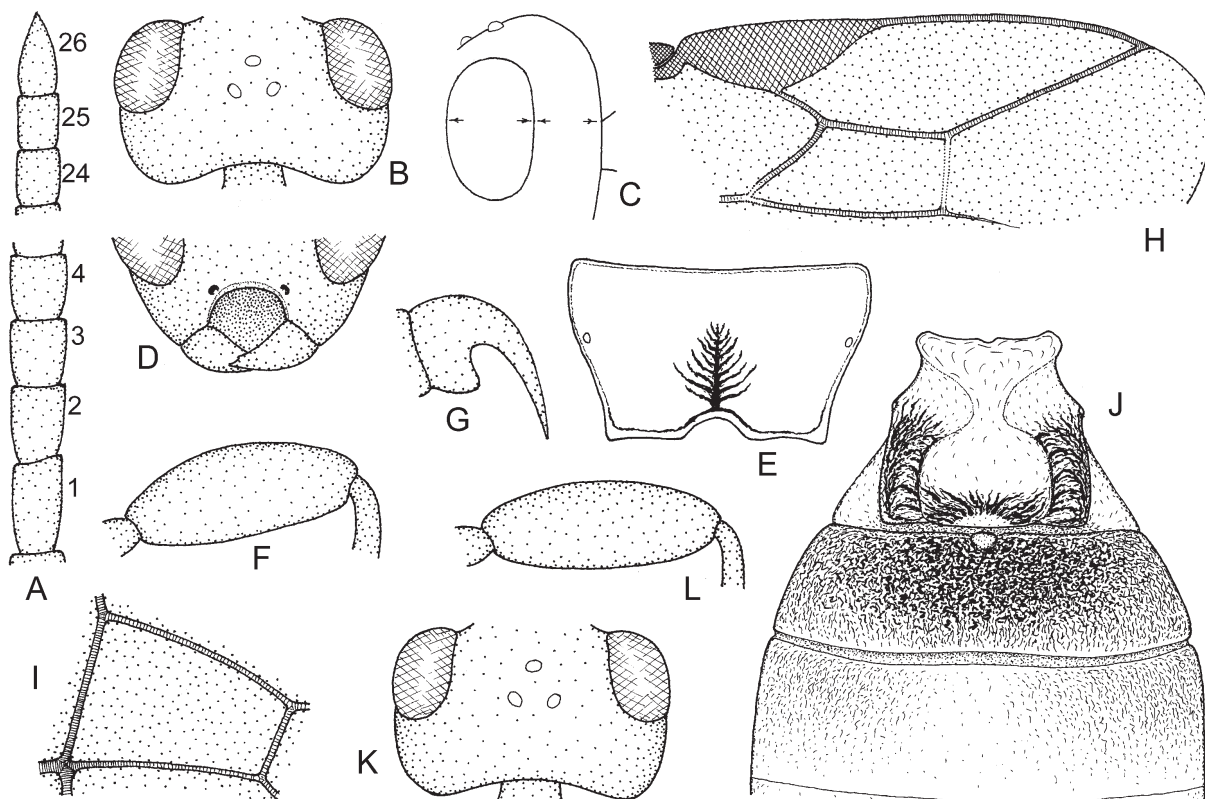


Fig. 8. *Bracon (Lucobracon) erraticus* Wesmael, 1838 (A-J: ♀ lectotype, K: ♀ paralectotype, L: ♀). A. Flagellomeres 1-5 and 24-26. B. Head in dorsal view. C. Head in lateral view. D. Head in frontal view. E. Propodeum. F. Hind femur. G. Claw. H. Distal part of right forewing. I. First discal cell of right forewing. J. Tergites 1-3. K. Head in dorsal view. L. Hind femur (of var. *superciliosus* Wesmael, 1838).

2) *Bracon erraticus* var. *aestivalis* (Szépligeti) (1 ♀ + 8 ♂♂ from three countries): SLOVAKIA: 1 ♀ + 1 ♂ from two localities. HUNGARY: 6 ♂♂ from five localities. ROMANIA (Transsylvania): 1 ♂.

3) *Bracon erraticus* var. *confinis* (Szépligeti) (70 ♀♀ + 45 ♂♂ from 26 countries): ENGLAND: 1 ♀. SWEDEN: 1 ♀. FRANCE: 2 ♀♀ + 5 ♂♂ from five localities. GERMANY: 1 ♀. BOHEMIA: 1 ♀ + 1 ♂ from two localities. SLOVAKIA: 2 ♀♀ from two localities. HUNGARY: 30 ♀♀ + 16 ♂♂ from 43 localities. SLOVENIA: 1 ♀. ROMANIA: 4 ♀♀ + 2 ♂♂ from six localities. SPAIN: 1 ♂. ITALY: 2 ♀♀ + 1 ♂ from three localities. CROATIA: 2 ♀♀ + 5 ♂♂ from four localities. BULGARIA: 4 ♀♀ + 3 ♂♂ from seven localities. ALBANIA: 1 ♀. MACEDONIA: 2 ♀♀ + 1 ♂ from three localities. KOSOVO: 2 ♂♂ from one locality. MONTENEGRO: 1 ♂. BOSNIA-HERZEGOVINA: 1 ♀. GREECE: 3 ♀♀ + 3 ♂♂ from four localities. CYPRUS: 2 ♀♀ from one locality. TURKEY: 2 ♂♂ from two localities. UKRAINE: 2 ♀♀ from one locality. ARMENIA: 1 ♀ + 1 ♂ from two localities. GEORGIA: 5 ♀♀ from two localities. IRAN: 2 ♀♀ from two localities. NORTH CHINA: 1 ♂.

4) *Bracon erraticus* var. *superciliosus* (Wesmael) (68 ♀♀ + 93 ♂♂ from 18 countries): ENGLAND: 8 ♀♀ + 6 ♂♂ from nine localities. SWEDEN: 1 ♂. DENMARK: 2 ♂♂ from two localities. GERMANY: 3 ♀♀ + 3 ♂♂ from six localities. AUSTRIA: 2 ♀♀ + 1 ♂ from three localities. SWITZERLAND: 1 ♂. SLOVAKIA: 3 ♀♀ + 2 ♂♂ from four localities. HUNGARY: 30 ♀♀ + 49 ♂♂ from 59 localities. ROMANIA: 6 ♀♀ + 11 ♂♂ from sixteen localities. SERBIA: 2 ♂♂ from two localities. KOSOVO: 2 ♀♀ + 2 ♂♂ from one locality. MACEDONIA: 4 ♀♀ + 2 ♂♂ from six localities. MONTENEGRO: 1 ♀. BULGARIA: 4 ♀♀ + 2 ♂♂ from six localities. TURKEY: 2 ♀♀ from two localities. ARMENIA: 1 ♀. IRAN: 1 ♂. MONGOLIA: 1 ♀ + 3 ♂♂ from four localities.

Redescription of the ♀ lectotype of *B. erraticus* (Fig. 8A-J)

LENGTH. Body length 3.5 mm.

ANTENNAE. (right flagellum apically deficient) Somewhat shorter than body and with 28 antennomeres (left antenna). First flagellomere 1.8 times, second flagellomere 1.25 times, flagellomeres 3-19 subcubic

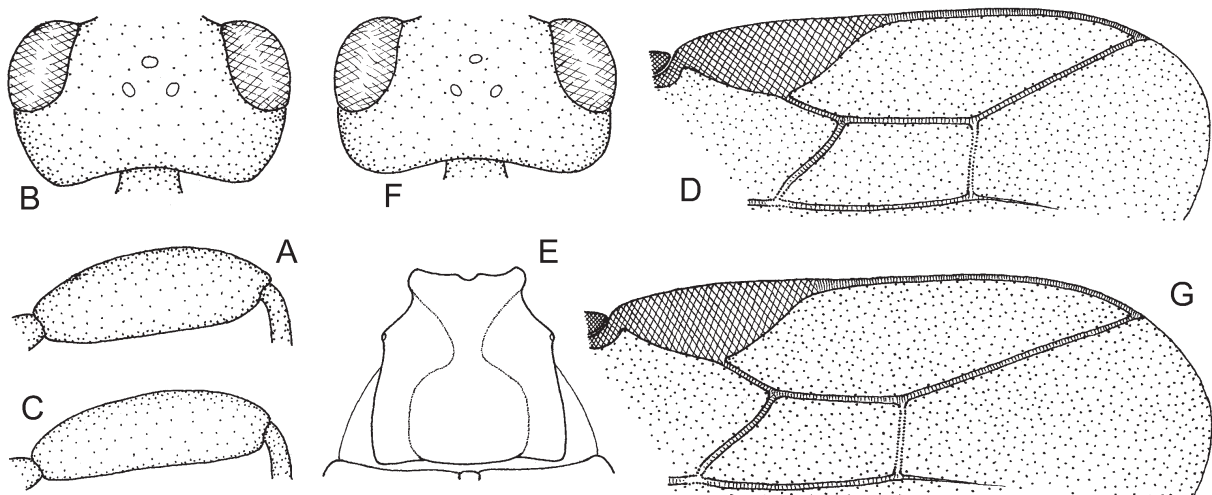


Fig. 9. *Bracon (Lucobracon) erraticus* Wesmael, 1838 (A: ♀ paralectotype, B-E: var. 1, ♀ paralectotype, F-G: var. *superciliosus* (Wesmael, 1838), ♀ holotype). A. Hind femur. B. Head in dorsal view. C. Hind femur. D. Distal part of right forewing. E. First tergite. F. Head in dorsal view. G. Distal part of right forewing.

(i.e. slightly longer than broad), flagellomeres 20-24 attenuating so that penultimate (or 25th) flagellomere 1.2 times as long as broad (Fig. 8A).

HEAD. In dorsal view transverse (Fig. 8B), 1.7 times as broad as long, eye one-fourth longer than temple, temple rounded, occiput excavated. Eye in lateral view nearly 1.6 times as high as wide, temple beyond eye somewhat less wide than eye (Fig. 8C, see arrows). OOL twice as long as POL. Oral opening fairly large: its horizontal diameter 1.4 times as long as shortest distance between opening and compound eye (Fig. 8D). Head polished, face finely granulose, medially polished.

MESOSOMA. In lateral view 1.5 times as long as high, polished. Notaulix distinct, evenly deep, smooth. Propodeum polished, above lunule with oblique striae extending up to middle of propodeum (Fig. 8E).

LEGS. Hind femur thick, 2.5 times as long as broad medially (Fig. 8F). Claw clearly downcurved and its basal lobe fairly large (Fig. 8G).

WINGS. Forewing about as long as body. Pterostigma (Fig. 8H) 2.8 times as long as wide and issuing *r* from its middle; *r* 0.7 times as long as width of pterostigma, second submarginal cell less long, 3-SR 1.25 times as long as 2-SR, SRI straight, clearly 1.7 times as long as 3-SR and ending near to tip of wing. First discal cell less high, 1-M 1.75 times as long as *m-cu*, 1-SR-M 1.7 times as long as 1-M (Fig. 8I).

TERGITES. First tergite (Fig. 8J) quadrate in form, somewhat broader behind than long, beyond pair of spiracles weakly broadening, scutum apically and tergite laterally from scutum strongly sculptured. Second tergite 3.4 times as broad behind as long, medially rugose, laterally rugulose. Third tergite somewhat longer than second tergite, rugulose-subrugulose, medially almost smooth. Suture between tergites 2-3 slightly bisinuate, deep, smooth. Further tergites polished. Ovipositor sheath long, as long as hind tibia + basitarsus combined.

COLOUR. Ground colour of body black with light colour pattern. Scape black, flagellum blackish. Margin of eye, cheek and mandible yellow, palpi brown. Tegula brownish. Tergites 2-4 laterally reddish, sternites brownish. Legs dark brown to brown, fore femur apically and fore tibia entirely yellow, tibiae 2-3 basally yellowish. Wings faintly brownish fumous, pterostigma and veins opaque brown.

Redescription of the ♀ paralectotype of *B. erraticus*

Similar to the ♀ lectotype. Body 3.4 mm long. Both antennae deficient, right antenna with 22 and left antenna with 20 antennomeres. Head in dorsal view 1.6 times as broad as long (Fig. 8K). Hind femur 2.8 times as long as broad medially (Fig. 9A). Second tergite nearly entirely yellow, i.e. only medially blackish.

Redescription of the ♀ paralectotype of *B. erraticus* var. 1

Similar to the ♀ lectotype. Body 3.9 mm long. Left antenna with 28 antennomeres, i.e. flagellum apically deficient. Head in dorsal view (Fig. 9B) 1.7 times as broad as long, temple somewhat receded. Hind femur less thick, 3.1 times as long as broad distally (Fig. 9C). Pterostigma (Fig. 9D) 2.6 times as long as wide, *r* 0.7 times as long as width of pterostigma, second submarginal cell wide, 3-SR 1.3 times length of 2-SR, SRI 1.4 times as long as 3-SR. First tergite as long as broad behind (Fig. 9E). Tergites 2-6 laterally and tergites 7-8 entirely yellow.

Redescription of the two ♂ paralectotypes is disregarded owing to their very poor condition.

Redescription of the ♀ holotype of *B. superciliosus*

Similar to the ♀ holotype of *B. erraticus*. Body 4 mm long. Right antenna just shorter than body and with 30 antennomeres. First flagellomere 1.6 times as long as broad, middle flagellomeres subcubic to cubic, penultimate flagellomere 1.3 times as long as broad. Head in dorsal view (Fig. 9F) 1.8 times as broad as long, eye 1.35 times as long as temple, temple rounded. Hind femur 2.6 times as long as broad medially (Fig. 8L). Second submarginal cell short (as usually), 3-SR just longer than 2-SR, SRI twice length of 3-SR (Fig. 9G). Body almost entirely black, legs more dark coloured. This form is a melanic variety of the nominate form named *B. erraticus* var. *superciliosus* (Wesmael).

Hosts

COL. Chrysomelidae: *Gastroidea viridula* DeGeer. Curculionidae: *Larinus turbinatus* Gyllenhal, *Rhinocyllus conicus* Frölich. Scolytidae: *Hylesinus toranio* Danthoine et Bernard. — LEP. Aegeriidae: *Pennisetia hylaeiformis* Laspeyres. Gelechiidae: *Metzneria lapella* Linnaeus. Tortricidae: *Acleris rhombana* Denis et Schiffermüller, *Lobesia littoralis* Humphrey et Westwood, *Rhyacionia duplana* Hübner. Cochyliidae: *Aethes williana* Brahm, *Falseuncaria ruficiliana* Haworth, *Phalonia posterana* Zeller, *Stenodes straminea* Haworth. — DIPT. Agromyzidae: *Melanagromyza lappae* Loew. Tephritidae: *Chaetorella jaceae* Robineau-Desvoidy, *Orellia ruficauda* Fabricius, *Sitarea lurida* (Loew), *Sitarea scorzonera* Robineau-Desvoidy, *Tephritis bardanae* Schrank, *Terellia serratulae* Linnaeus, *Urophora eriolepidis* Loew, *U. stylata* Fabricius, *Xyphosia miliaria* Schrank. — HYM. Tenthredinidae: *Pontania joergenseni* Enslin.

Distribution

Palearctic Region, in Europe frequent to common.

Colour variabilities

- (1) The ground colour of the nominate form (*erraticus*) is black to blackish with rusty to testaceous pattern on head and tergites 2-3(-4), eventually the line of notaulix is also rusty.
- (2) The ground colour of var. *confinis* (Szépligeti) is yellow to testaceous with a few dark (light brown to blackish) pattern on vertex, mesoscutum, propodeum and tergites 1-4.
- (3) The ground colour of var. *superciliosus* (Wesmael) is almost entirely to entirely black with (very) few rusty pattern on fore tergites.

Sculpture variabilities

- (1) Nominate form (*erraticus*): second tergite rugose to rugulose, third tergite rugulose to (almost) smooth.
- (2) Var. *aestivalis* (Szépligeti): tergites 2-4(-5) rugose, rugosity slightly weakening posteriorly.

Morphological variabilities

- (1) Body 2.5-5.5 mm, usually 3.5-5 mm, long.
- (2) Antenna somewhat shorter to somewhat longer than body, the ♀ with (25-)28-33(-40) and the ♂ with (21-)29-35(-40) antennomeres. Flagellomeres cubic to 1.5 times (♀♀) or 1.2-1.3 times to twice longer than broad. Head in dorsal view 1.6-1.85 times as broad as long, eye usually one-fourth, rarely one-fifth to one-third, longer than temple.
- (3) Oblique striation of propodeum (Fig. 8E) variable in extent restricting to fine rugulosity close above lunule. Hind femur 2.4-2.8(-3.2) times as long as broad medially (Figs 8L; 9C).
- (4) SRI of fore wing clearly approaching, exceptionally rather reaching, tip of wing; second submarginal cell always relatively wide, 3-SR just to 1.3 times longer than 2-SR.

- (5) Tergites 1-3 sculptured as in Fig. 8J, sometimes sculpture (very) weak or relatively rough. Ovipositor sheath short to long, i.e. as long as tarsomeres 1-3(-4) to hind tibia + basitarsus to hind tibia + tarsus combined respectively.
- (6) Second tergite rarely as long as, exceptionally just longer than, third tergite (cf. Fig. 28G).
- (7) First discal cell rarely less high, *I-M* 1.5-1.6 times as long as *m-cu* (cf. Fig. 10G; 16G).
- (8) Male: first tergite sometimes 1.3 times longer than broad behind, beyond pair of spiracles either parallel-sided (cf. Fig. 20I) or somewhat broadening posteriorly (cf. Fig. 20J).
- (9) Male: second submarginal cell of forewing rarely long, *3-SR* 1.3 times longer than *2-SR* (cf. Fig. 17B).
- (10) Female: first tergite rarely somewhat broader behind than long (cf. Fig. 20K).
- The colour pattern and the morphological (eidonomic) features may vary in a highly wide spectrum.

Taxonomic position

The following three species, *B. (Gl.) nigriventris* (Wesmael) (Europe), *B. (Gl.) perocolatus* (Wesmael) (in Europe sporadic) and *B. (Lu.) roberti* (Wesmael) (in Europe sporadic), are near to *B. erraticus*, the four species are distinguished by the following key features:

- 1 (4) Temple in dorsal view receded, eye somewhat protruding (Figs 36A; 44A).
- 2 (3) *SRI* reaching tip of forewing, second submarginal cell less wide (Fig. 36E). Second tergites smooth except (sub-)rugulosity close around small areola (subgeneric features of *Glabrobracon*), tergite one-sixth longer than third tergite (Fig. 36G). First discal cell high, *I-M* a bit more than twice as long as *m-cu* (Fig. 36F). ♀: 4.5-5 mm*B. (Gl.) perocolatus* Wesmael, 1838
- 3 (2) *SRI* approaching tip of forewing, second submarginal cell wide (Fig. 44F). Second tergite rugo-rugulose (subgeneric features of *Lucobracon*), just longer than third tergite. (Fig. 44H). First discal cell less high, *I-M* 1.8 times as long as *m-cu* (Fig. 44G). ♀: 4.5-5.1 mm
.....*B. (Lu.) roberti* Wesmael, 1838
- 4 (1) Temple in dorsal view rounded, eye not protruding (Figs 8B, K; 9B, F; 28A).
- 5 (6) *SRI* approaching tip of forewing, second submarginal cell wide (Fig. 8H; 9D). Second tergite rugo-rugulose, third tergite either rugulose-subrugulose (Fig. 8J) or (almost) smooth (subgeneric features of *Lucobracon*). First discal cell less high, *I-M* less than twice as long as *m-cu* (Fig. 8I). Hind femur usually thick, 2.5-2.8 times as long as broad medially (Fig. 8F, L). ♀♂: 2.5-4.5 mm
.....*B. (Lu.) erraticus* Wesmael, 1838
- 6 (5) *SRI* reaching tip of forewing, second submarginal cell less wide (Figs 28F; 29B-C). Second tergite antero-medially striolate, otherwise together with third tergite smooth and shiny (subgeneric features of *Glabrobracon*, Figs 28H; 29F). First discal cell high *I-M* clearly twice as long as *m-cu* (Fig. 28C) or less high (Fig. 29D-E). Hind femur usually 2.8-3 times as long as broad medially (Fig. 28D, I). ♀: 3-3.4 mm
.....*B. (Gl.) nigriventris* Wesmael, 1838

Bracon erraticus is also near to *Bracon fortipes* Wesmael; their distinction is given at the latter species.

Bracon (Lucobracon) fortipes Wesmael, 1838

Figs 10A-J, 11A-I

Bracon fortipes Wesmael, 1838: 18 ♀ (type material: one ♀), type locality: "environs de Liège" (Belgium), ♀ holotype ("La seule femelle..." Wesmael l.c., present designation) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon crocatus Schmiedeknecht, 1897: 540 ♀♂ (type material: at least one ♀ + one ♂), type locality: "Provinz Oran in Algerien", ♀ lectotype in Museum für Naturkunde, Berlin.; examined.

Further synonyms of *B. fortipes* (see also Papp 2004: 173, 2005: 203): *curiosus* Szépligeti, 1901, *indubius* var. 2. Szépligeti, 1901, *lautus* Szépligeti, 1901 and *semirugosus* Szépligeti, 1901.

Bracon fortipes – Szépligeti 1901: 184 (in key, in Hungarian); 1904 (1901): 163 (in key, in German).

Bracon (Bracon) fortipes – Telenga 1936: 164 (♀), 169 (♂) (in key), 257 (redescription) (in Russian) and 367 (♀), 371 (♂) (in key, in German), assigned to “Section *Striobracon*” (= *Bracon* s. str.).

Bracon (Lucobracon) fortipes – Fahringer 1927: as valid species 251 (♀), 257 (♂) (in key) and 352 (redescription), assigned to “Section *Lucobracon*”. — Papp 1969: 319 (in key) and 324 (taxonomic remark). — Shenefelt 1978: 1618 (literature up to 1971). — Tobias & Belokobylskij 2000: 164 (as synonym with question-mark of *B. erraticus*).

Bracon crocatus – Szépligeti 1901: 264 (in key, in Hungarian); 1904 (1901): 176 (in key, in German) ♀♂. — Fahringer 1927: as valid species 259 (♀), 274 (♂) (in key) and 377 (redescription), assigned to “Section *Orthobracon*”. — Telenga 1936: as valid species 173 (♀), 177 (♂) (in key), 282 (redescription) (in Russian) and 375 (♀), 379 (♂) (in key in German). — Shenefelt 1978: 1477 (as valid species, literature up to 1968). — Papp 1999: 297 (synonymization).

Designation of the ♀ holotype of *Bracon fortipes*

(First label, handwritten) “II/1.”, (second label, printed) “Coll. Wesmael”, (third label, printed) “2028”, (fourth label) “Braco fortipes mihi ♀” (handwritten) “dét. C. Wesmael” (printed), (fifth label, printed red) “Type”, (sixth label with my handwriting) “Belgique / Liège / leg. M. Robert” (above on label, locality after Wesmael l.c.), “teste J. Papp 1987” (reverse on label), seventh label is the holotype card. The ♀ holotype is in poor condition: (1) head together with antenna missing, (2) hind pair of tarsi damaged: hind right leg with tarsomeres 1-2 and hind left leg with only basitarsus.

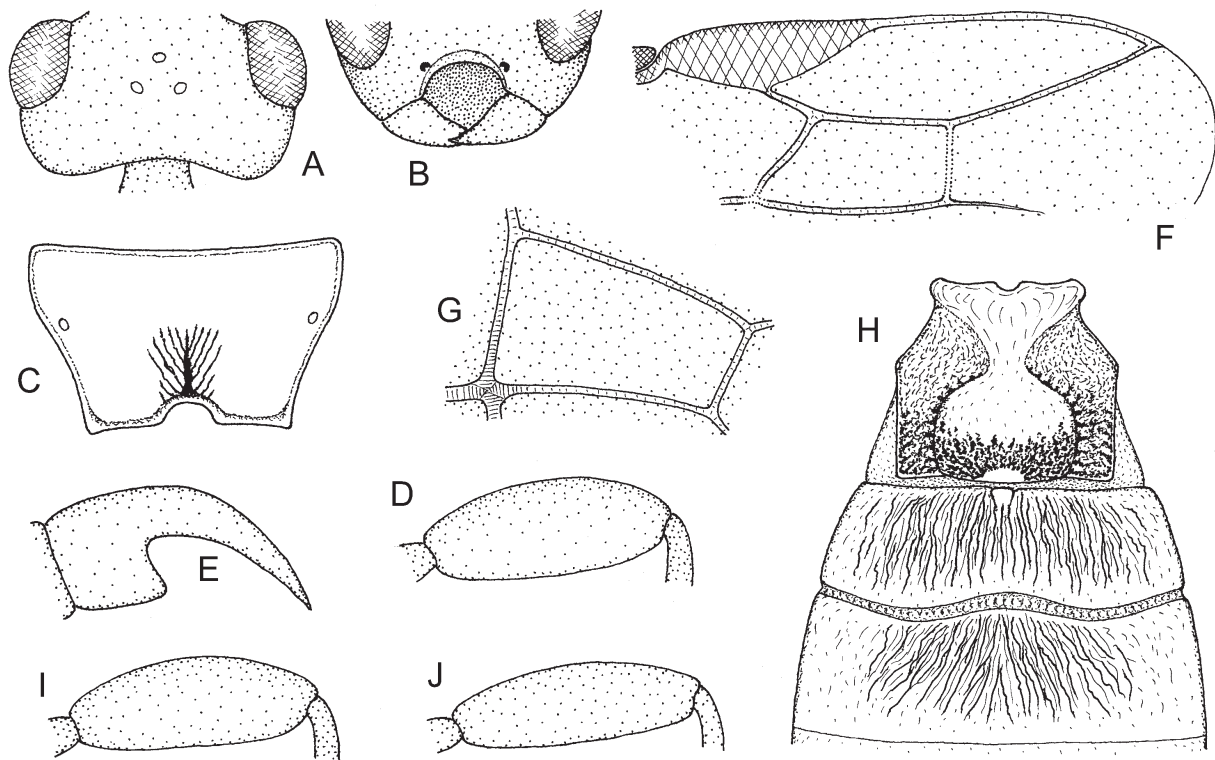


Fig. 10. *Bracon (Lucobracon) fortipes* Wesmael, 1838 (A-H: ♀ holotype, I-J: ♀ / ♂). A. Head in dorsal view. B. Head in frontal view. C. Propodeum. D. Hind femur. E. Claw. F. Distal part of right forewing. G. First discal cell of right forewing. H. Tergites 1-3. I-J. Hind femur.

Material examined

(32 ♀♀ + 47 ♂♂ from 19 countries): PORTUGAL: 1 ♀. SPAIN: 1 ♂. FRANCE: 1 ♀. ITALY: 1 ♀ + 2 ♂♂ from three localities. GERMANY: 1 ♀. SWEDEN: 1 ♂. AUSTRIA: 1 ♂. HUNGARY: 13 ♀♀ + 23 ♂♂ from thirty-one localities. SERBIA: 1 ♂. CROATIA: 4 ♀♀ + 4 ♂♂ from seven localities. BULGARIA: 3 ♀♀ + 1 ♂ from four localities. GREECE: 4 ♀♀ + 5 ♂♂ from seven localities. TUNISIA: 1 ♀. TURKEY: 3 ♀♀ + 1 ♂ from four localities. CYPRUS: 1 ♂. IRAN: 3 ♂♂ from two localities. KAZAKHSTAN: 1 ♂. MONGOLIA: 1 ♂. KOREA: 1 ♂.

Redescription of the ♀ holotype of *B. fortipes* (Fig. 10A-H)

HEAD. Missing.

LENGTH. Length of body, or meso- and metasoma combined: 3.5mm.

MESOSOMA. In lateral view 1.6 times as long as high, polished. Notaulix anteriorly faintly distinct. Propodeum above lunule with oblique rugae, otherwise polished (Fig. 10C).

LEGS. Hind femur thick, 2.5 times as long as broad medially (Fig. 10D). Middle claw moderately downcurved, its basal lobe middle sized and pointed (Fig. 10E).

WINGS. Forewing about as long as meso- and metasoma combined. Pterostigma (Fig. 10F) three times as long as wide, issuing *r* from its middle, *r* somewhat shorter (i.e. 0.7 times) than width of pterostigma; submarginal cell short and wide, 3-*SR* 1.4 times as long as 2-*SR*, *SRI* just not straight, 1.5 times as long as 3-*SR* and reaching tip of wing (Fig. 10F). First discal cell less high and fairly long, *I-M* 1.6 times length of *m-cu*, *I-SR-M* straight and 1.6 times as long as *I-M* (Fig. 10G).

TERGITES. First tergite broad (Fig. 10H), slightly broader behind than long, pair of spiracles near before middle of tergite, beyond spiracles tergite parallel-sided, hind half of scutum rugose, margin of scutum crenulate, lateral rim of tergite rugo-rugulose. Tergites 2-3 transverse, suture between them bisinuate and just subcrenulate; third tergite medially a bit longer than second tergite, second tergite 3.3 times as broad behind as long laterally. Tergites 2-3 longitudinally striate, third tergite laterally smooth (Fig. 10H), further tergites polished. Ovipositor sheath as long as hind tibia + tarsomeres 1-2 combined (right leg!).

COLOUR. Ground colour of body reddish yellow. Prosternum, propodeum and scutum behind (first tergite) dark to blackish brown. Tegula yellowish. Legs reddish yellow, hind coxa anteriorly dark to blackish brown. Hind tibia apically and all tarsi brownish fumous. Wings faintly fumous, pterostigma and veins light brownish.

Description of the head

The description is based on a ♀ quite identical to the ♀ lectotype (taken in Hungary, Makó, 12 July 1950, ex larva *Dypessa ulula* Borkhausen, Lep. Cossidae, leg. et educ. Dr. B. Nagy).

Antenna short, as long as head + mesosoma + tergites 1-2 combined and with 32 antennomeres. First flagellomere 1.4 times and penultimate flagellomere 1.2 times as long as broad, middle flagellomeres cubic and last 7-8 flagellomeres somewhat longer than broad. Head in dorsal view (Fig. 10A) transverse, almost 1.9 times as broad as long, eye somewhat protruding and almost 1.3 times length of temple, temple moderately rounded, occiput excavated. Oral opening fairly large, its horizontal diameter one-third longer than shortest distance between opening and compound eye (Fig. 10B). Head polished.

Variable features of the ♀ (32 ♀♀) (Figs 10I-J; 11A-E)

Body 3-4.3, usually 3.5-4, mm long. Antenna with 26-33 antennomeres. Head in dorsal view less transverse, 1.7-1.85 times as broad as long, eye 1.2 to 1.4 times length of temple (Fig. 11A). Hind femur usually 2.5 times, less usually 2.8-2.9 times, as long as broad medially (Fig. 10I-J). Pterostigma 2.7-3 times as long as wide, 3-SR 1.25-1.4 times as long as 2-SR (Fig. 11B). First discal cell more low to low, *l-M* 1.4-1.6 times length of *m-cu* (Fig. 11C). First tergite beyond spiracles sometimes just broadening (Fig. 11D). Tergites 2-3 usually rather longitudinally rugose to rugulose (var. *curiosus* Szépligeti; Fig. 11E), third tergite sometimes almost smooth (var. *lautus* Szépligeti) or sculpture varying to nearly smooth tergites 2-3, i.e. rugo-rugulosity restricting around medio-basal field of second tergite. Vertex, mesoscutum, propodeum and first tergite with black pattern of variable extent. Tergites 2-3(4) rarely blackish to black medially.

Description of the ♂ (47 ♂♂) (Figs 10I-J; 11F-I)

Similar to the ♀. Body 2.8-3.5 mm long. Antenna about as long as body or somewhat shorter and with 30-35 antennomeres. Flagellomeres distally clearly longer than broad. Head in dorsal view (Fig. 11F) 1.6-1.7 times as broad as long. Hind femur 2.6-2.9 times as long as broad medially (Fig. 10I-J). Second submarginal cell less short, 3-SR 1.4 to 1.5 times as long as 2-SR (Fig. 11G); *SR1* rarely only approaching tip of wing. First discal cell sometimes less low, *l-M* 1.9 times as long as *m-cu* (Fig. 11H). First tergite as long as broad (Fig. 11I) or slightly broader behind, tergites 2-3 usually less broad, 2.2-2.4 times as broad as long (Fig. 11I); second tergite rugose, third tergite rugose-rugulose, sculpture varying like that of ♀. Ground colour reddish yellow to testaceous with rich blackish to black pattern on head (vertex), mesoscutum, propodeum, mesopleuron, mesosternum and tergites 1-7.

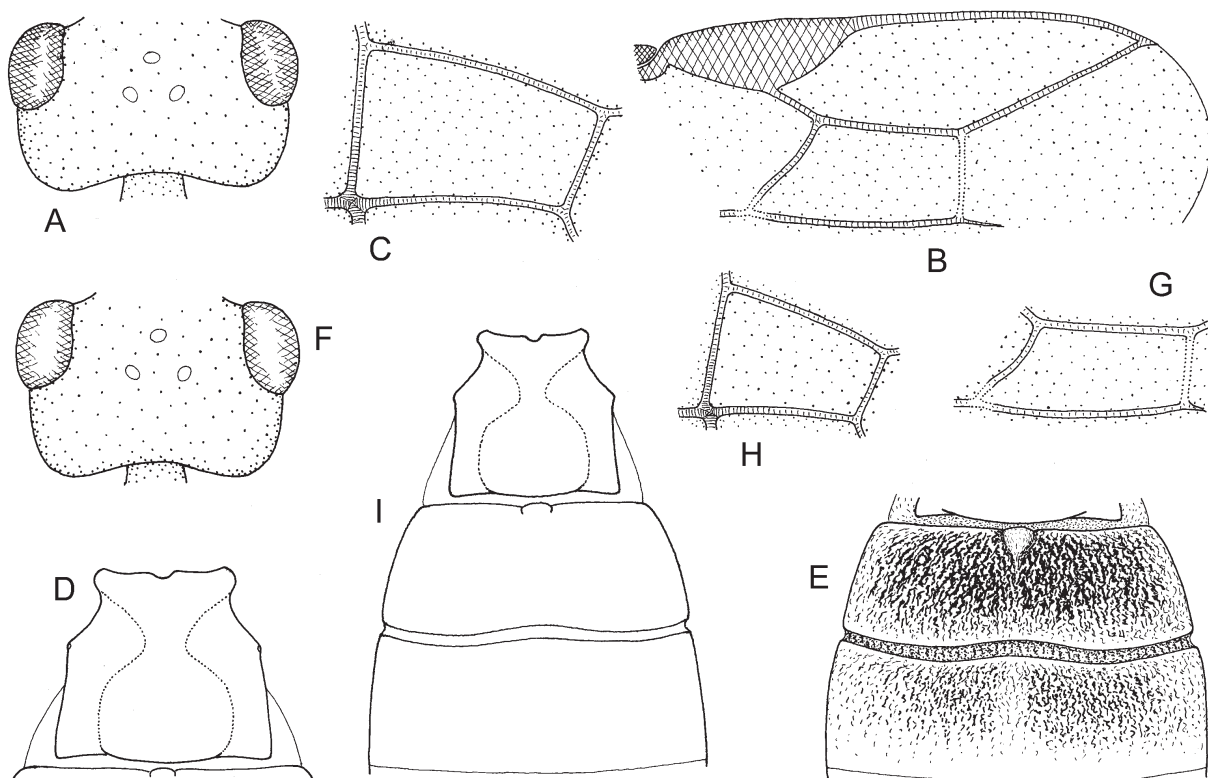


Fig. 11. *Bracon (Lucobracon) fortipes* Wesmael, 1838 (A-D: ♀, E-I: ♀ / ♂). **A.** Head in dorsal view. **B.** Distal part of right forewing. **C.** First discal cell of right forewing. **D.** First tergite. **E.** Tergites 2-3. **F.** Head in dorsal view. **G.** Second submarginal cell. **H.** First discal cell of right forewing. **I.** Tergites 1-3.

Distribution

Palearctic Region, Korea; in Europe widely distributed.

Hosts

COL. Buprestidae: *Sphaeroptera jugoslavica* Obenberger. Curculionidae: *Lixus anguinus* Linnaeus. Cerambycidae: *Plagionotus floralis* Linnaeus. — LEP. Cossidae: *Dyspessa ulula* Borkhausen, new host. Sesiidae: *Bembecia scopigera* Scopoli. Noctuidae: *Gortyna xanthenes* Germar.

Taxonomic position

Within the subgenus *Lucobracon* the species *Bracon fortipes* is nearest to *B. erraticus* Wesmael (Palearctic Region) viewing their wide first tergite and thick hind femur, the two species are separated by the following key features:

- 1 (2) Second tergite rugose, third tergite rugulose-subrugulose (Fig. 8J). Claw clearly downcurved (Fig. 8G). Forewing: second submarginal cell relatively less wide (as usually), 3-SR at most 1.3 times length of 2-SR (Figs 8H; 9D, G). Pterostigma brown (Figs 8H; 9D, G), ground colour of body black with more or less reddish yellow to yellow pattern. ♀♂: 2.5-4.5 mm*B. (Lu.) erraticus* Wesmael, 1838
- 2 (1) Tergites 2-3 longitudinally striated (Fig. 10H) or longitudinally rugose-rugulose (Fig. 11E). Claw less downcurved (Fig. 10E). Forewing: second submarginal cell relatively wide, 3-SR (1.25-)1.4 times length of 2-SR (Fig. 10F). Pterostigma light brownish (Fig. 10F), ground colour of body reddish yellow with less dark pattern. ♀: (3-)3.5-4.3 mm, ♂: 2.8-3.5 mm*B. (Lu.) fortipes* Wesmael, 1838

By its yellowish reddish ground colour *B. erraticus* var. *confinis* (Szépligeti) superficially resembling *B. fortipes*; however, they are distinguished by the following key features:

- 1 (2) Claw less downcurved (Fig. 10E). Tergites 2-3 longitudinally striate (Fig. 10H). Pterostigma yellow. ♀♂: 2.8m-4.3 mm*B. (Lu.) fortipes* Wesmael, 1838
- 2 (1) Claw more downcurved (Fig. 8G). Tergites 2-3 rugose-rugulose (Fig. 8J). Pterostigma opaque brown, exceptionally yellow. ♀♂: 2.5-5.5 mm *B. (Lu) erraticus* var. *confinis* (Szépligeti, 1901)

Bracon (Glabrobracon) fuscicoxis Wesmael, 1838

Fig. 12A-K

Bracon fuscicoxis Wesmael, 1838: 32 ♀♂ (type material: one ♀ + two ♂♂), type locality: “environs de Liège” (Belgium), ♀ lectotype (and two ♂ paralectotypes, present designations) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon levicarinatus Niezabitowski, 1910: 59 (15) ♀ (type material: several ♀♀), type locality: Poland, ?Rytko, syntype series in Zakład Ekologii i Ochrony Środowiska WSP, Kielce, not examined; one ♀ paralectotype in Magyar Természettudományi Múzeum, Budapest (by exchange), examined, **syn. nov.**

Bracon fuscicoxis – Szépligeti 1901: 264 (in key, in Hungarian); 1904 (1901): 177 (in key, in German).

Bracon (Orthobracon) fuscicoxis – Fahringer 1927: 265 (♀, in key) and 392 (redescription), assigned to “Section *Orthobracon*”. — Telenga 1936: 172 (♀), 178 (♂) (in key), 277 (redescription) (in Russian) and 374 (♀), 380 (♂) (in key, in German). — Shenefelt 1978: 1633 (literature up to 1974).

Bracon (Bracon) fuscicoxis – Tobias 1986: 127 (in key, in Russian).

Bracon levicarinatus – Telenga 1936: as valid species 174 (♀, in key), 287 (redescription) (in Russian) and 376 (♀, in key in German). — Shenefelt 1978: 1639 (as valid species, literature up to 1974).

Designation of the ♀ lectotype of *Bracon fuscicoxis*

(First label, printed) “Coll. Wesmael”, (second label, printed) “2049”, (third label) “Braco ♂♀ / fuscicoxis mihi” (handwritten) “dét. C. Wesmael” (printed), (fourth label, printed red) “Type”, (fifth label with my handwriting) “Belgique / Liège / leg. M. Robert” (above on label) “teste J. Papp / 1987” (reverse on label), sixth label is the lectotype card. - Lectotype is in fairly good condition: (1) micropinned by mesosoma, (2) left antenna apically deficient, i.e. with 23 flagellomeres, (3) left hind wing missing.

Designation of the two ♂ paralectotypes of *Bracon fuscicoxis* with similar label data to that of the lectotype; first label of one ♂: “13. Juin B 719: 2” (handwritten). One ♂ paralectotype is in fairly good condition: (1) micropinned by mesosoma; (2) flagelli apically deficient; (3) tarsomeres 4-5 of right hind leg missing; (4) right hind wing basally and left hind wing apically damaged. One ♂ paralectotype is in fairly poor condition: (1) micropinned by mesosoma; (2) right flagellum apically deficient; (3) fore pair of legs and right middle leg (except coxae + trochanters) missing.

Material examined

19 ♀♀ + 14 ♂♂ from twelve countries: HUNGARY: 6 ♀♀ + 3 ♂♂ from seven localities. ROMANIA (Transylvania): 4 ♀♀ + 3 ♂♂ from five localities. AUSTRIA: 1 ♂. GERMANY: 2 ♀♀ from two localities. THE NETHERLANDS: 2 ♀♀ from two localities. DENMARK: 3 ♀♀ from three localities. ENGLAND: 2 ♀♀ + 2 ♂♂ from three localities. TURKEY, CROATIA, NORTH ITALY, SCOTLAND and IRELAND: 1 ♂ each from one locality.

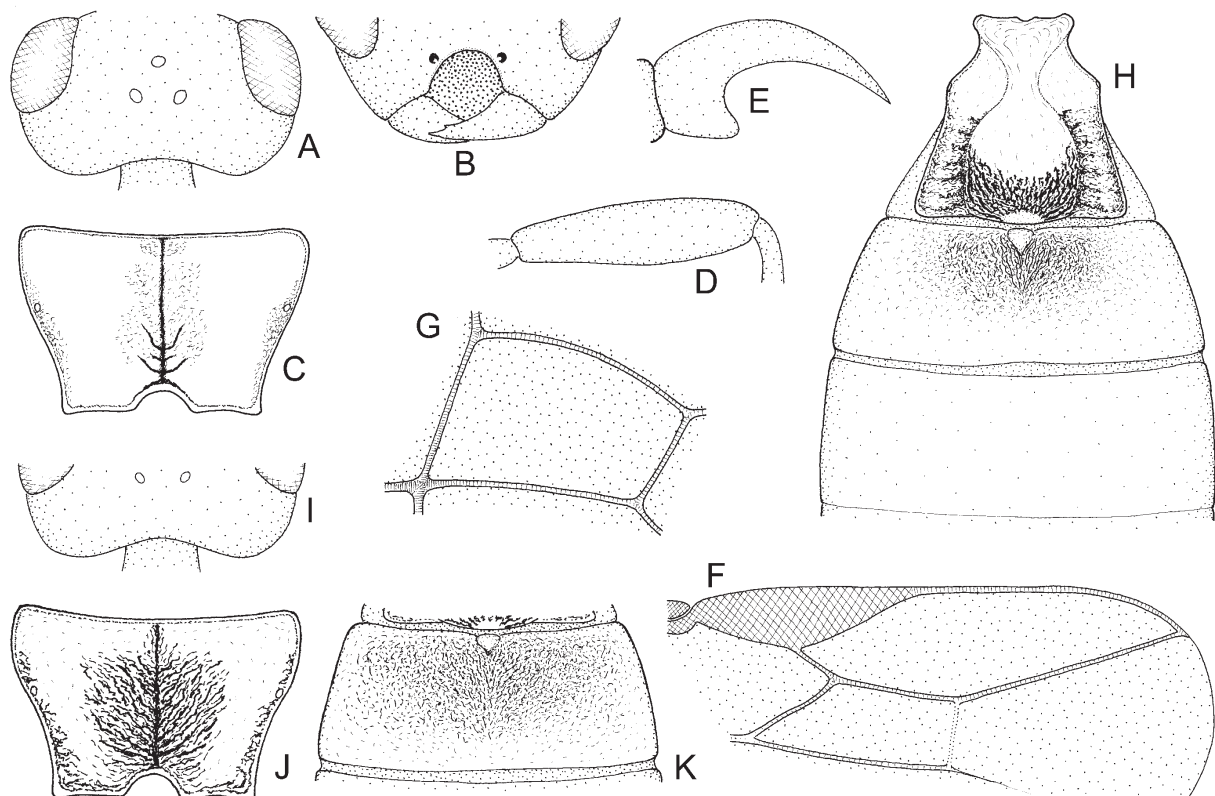


Fig. 12. *Bracon (Glabrobracon) fuscicoxis* Wesmael, 1838 (A-H: ♀ lectotype, I, K: ♂ paralectotype, J: ♂ paralectotype + ♀). **A.** Head in dorsal view. **B.** Head in frontal view. **C.** Propodeum. **D.** Hind femur. **E.** Claw. **F.** Distal part of right forewing. **G.** First discal cell of right forewing. **H.** Tergites 1-3. **I.** Temple in dorsal view. **J.** Propodeum. **K.** Second tergite.

Redescription of the ♀ lectotype of *Bracon fuscicoxis* (Fig. 12A-H)

LENGTH. Body is 3.6 mm long.

ANTENNAE. About as long as body and (right antenna) with 29 antennomeres, left antenna apically deficient and with 25 antennomeres. First flagellomere three times and penultimate flagellomere 1.6 times as long as broad.

HEAD. In dorsal view (Fig. 12A) transverse, 1.85 times as broad as long, eye 1.75 times as long as temple, temple rather receded, occiput weakly excavated. Oral opening usual in size, its horizontal diameter as long as shortest distance between opening and compound eye (Fig. 12B). Head polished, face laterally just coriaceous.

MESOSOMA. In lateral view 1.2 times as long as high. Propodeum polished with a medio-longitudinal carina, laterally from carina subrugulose (Fig. 12C).

LEGS. Hind femur 3.8 times as long as broad somewhat distally (Fig. 12D). Claw of hind tarsus downcurved, basal lobe small (Fig. 12E).

WINGS. Forewing as long as body. Pterostigma (Fig. 12F) 3.3 times as long as wide and issuing *r* from its middle, *r* 0.75 times as long as width of pterostigma. Second submarginal cell less long, 3-*SR* 1.25 times as long as 2-*SR*, *SR1* 1.8 times length of 3-*SR*, straight and reaching tip of wing and 1-*RI* 1.5 times as long as pterostigma. First discal cell subquadrate, 1-*M* 1.5 times as long as *m-cu*, 1-*SR-M* bent and 1.4 times as long as 1-*M* (Fig. 12G).

TERGITES. First tergite (Fig. 12H) a bit broader behind than long, evenly broadening posteriorly, pair of spiracles clearly before middle of tergite; scutum posteriorly rugose, its margin crenulated. Tergites 2-3 equal in length, second tergite 2.8 times as broad behind as long, medially rugulose, otherwise together with further tergites polished. Suture between tergites 2-3 straight and smooth. Ovipositor sheath long, as long as hind tibia + tarsomeres 1-2 combined.

COLOUR. Antenna, head and mesosoma black. Palpi pale yellow, tegula with faint brownish suffusion. Metasoma reddish yellow; first tergite entirely, median three-sided macula of second tergite and tergites 4-5 medially with posteriorly widening black maculae, further tergites almost entirely black. Legs yellow, coxae black apically yellow; tarsi just darkening fumous. Wings faintly fumous, pterostigma and veins light brown.

Redescription of the two ♂ paralectotypes (Fig. 12I-K)

Similar to the ♀ lectotype. Body 3.1-3.2 mm long. Antenna somewhat longer than body and with 31 antennomeres. First flagellomere twice and penultimate flagellomere 1.8 times as long as broad (1 ♂). Temple in dorsal view slightly less receded (Fig. 12I). Face nearly entirely and finely coriaceous. Propodeum medially rugo-rugulose (Fig. 12J). First tergite long, 1.2 times as long as broad behind, beyond pair of spiracles parallel-sided; second tergite almost entirely rugulose (Fig. 12K), third tergite antero-medially subrugulose-uneven. Ground colour of metasoma yellow (1 ♀).

Variable features of both sexes (Figs 12J; 16G)

Body 3-3.6 mm long. Antenna with 28-36 antennomeres; flagellomeres rarely long, penultimate flagellomere twice as long as broad. Propodeum medially rugo-rugulose (Fig. 12J). First discal cell long as in Fig. 16G. Pterostigma wide, 2.7-2.9 times as long as wide. Ovipositor sheath somewhat shorter than hind tibia. Tegula yellow. Metasoma nearly entirely yellow. Male: tergites 2-3(-4) yellow; hind coxa + trochanters + base of femur brownish to brown.

Hosts

COL. Chrysomelidae: *Prasocuris phellandri* Linnaeus (first record): England, Sussex, Hailsham, coll. 1 Aug. 1949 and em. 1 May 1950, R.L.E. Ford.

Distribution

Europe, Asiatic Russia (Irkutsk), Korea.

Taxonomic position

Within the subgenus *Glabrobracon* the species *Bracon fuscicoxis* is nearest to *B. nigriventris* Wesmael (Palearctic Region, in Europe frequent to less frequent), the two species are distinguished by the following key features:

- 1 (2) Temple in dorsal view rather receded (Fig. 12A). First tergite evenly broadening posteriorly (Fig. 12H). Propodeum with a medio-longitudinal carina (Figs 12C, J). Hind femur 3.8 times as long as broad medially (Fig. 12D). Tergites 2-3 reddish yellow, second tergite antero-medially with black macula, legs yellow. ♀: 3-3.6 mm, ♂: 3.1-3.2 mm *B. (Gl.) fuscicoxis* Wesmael, 1838
- 2 (1) Temple in dorsal view rounded (Fig. 28A). First tergite beyond pair of spiracles subparallel-sided (Fig. 28H). Propodeum polished, only above lunule with short rugae (Fig. 28C). Hind femur 2.8-3 times as long as broad distally (Figs 28D, I). Tergites 1-2 vivid brownish yellow, legs brownish yellow. ♀♂: 3-3.4 mm *B. (Gl.) nigriventris* Wesmael, 1838

Bracon (Lucobracon) guttiger Wesmael, 1838

Figs 13A-H, 15A-D

Braco guttiger Wesmael, 1838: 19 ♀♂ (type material: three ♀♀ + one ♂, ♂ specimen lost?, not seen), type locality: “environs de Bruxelles” (Belgium), ♀ lectotype (and two ♀ paralectotypes, present designations) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon guttiger – Szépligeti 1901: 265 (in key, in Hungarian); 1904 (1901): 177 (in key, in German).

Bracon (Orthobracon) guttiger – Telenga 1936: 170 (♀), 177 (♂) (in key), 271 (redescription) (in Russian) and 373 (♀), 380 (♂) (in key, in German). — Shenefelt 1978: 1634 (literature up to 1974).

Bracon (Lucobracon) guttiger – Fahringer 1927: 252 (♀), 256 (♂) (in key) and 355 (redescription), assigned to “Section *Lucobracon*”. — Tobias 1986: 145 and 2000: 159 (in keys, in Russian). — Tobias & Belokobylskij 2000: 159 (in key, in Russian).

Designation of the ♀ lectotype of *Bracon guttiger*

(First label with hardly legible handwriting) ? “e.7. mai Icheut 2”; (second label, printed) “Coll. Wesmael”; (third label, printed) “2045”; (fourth label) “Braco guttiger mihi ♂♀” (handwritten), “dét. C. Wesmael” (printed); (fifth label printed red) “Type”; (sixth label attached by me) “Belgique / Bruxelles / leg. Wesmael”; seventh label is my lectotype card. Lectotype is in fairly good condition (compared to the two ♀ paralectotypes): (1) specimen micropinned; (2) both flagelli distally deficient; (3) left pair of wings missing; (4) left hind leg glued separately on the poliporus stage.

Designation of the two ♀ paralectotypes of *Bracon guttiger*

Labels identical to those of the lectotype except first label. The two paralectotypes are in poor condition, both are micropinned: 1 ♀ paralectotype: (1) left flagellum missing, right flagellum deficient and with ten flagellomeres, (2) left middle + hind legs (except coxae) and right hind tarsus missing; 1 ♀ paralectotype: (1) left flagellum deficient and with nine flagellomeres, (2) missing: right flagellum, left fore wing, right middle and left hind legs, metasoma.

Material examined

14 ♀♀ + 11 ♂♂ from ten countries): ENGLAND: 1 ♀ + 3 ♂♂ from three localities. DENMARK: 1 ♀. FINLAND: 1 ♀ + 1 ♂ from one locality. THE NETHERLANDS: 2 ♀♀ from one locality. GERMANY: 2 ♀♀ + 2 ♂♂ from four localities. BOHEMIA: 2 ♀♀ + 1 ♂ from three localities. HUNGARY: 3 ♀♀ + 3 ♂♂ from six localities. ITALY: 1 ♀. TURKEY: 1 ♂. ARMENIA: 1 ♀.

Redescription of the ♀ lectotype (Fig. 13A-H)

LENGTH. Body length is 3 mm.

ANTENNAE. Deficient, right flagellum with 15 and left flagellum with 14 flagellomeres. First flagellomere 2.5 times, second flagellomere twice and 15th flagellomere 1.5 times as long as broad (Fig. 13A).

HEAD. In dorsal view less transverse (Fig. 13B), nearly 1.7 times as broad as long, eye a bit longer than temple, temple rounded, occiput less excavated. Oral opening large, its horizontal diameter 2.5 times longer than shortest distance between opening and compound eye (Fig. 13C). Head polished, face finely granulose (Fig. 13C).

MESOSOMA. In lateral view 1.4 times as long as high, polished. Notaulix faintly distinct. Propodeum above lunule with an anteriorly weakening striolae-substriolae, otherwise polished (Fig. 15A).

LEGS. Hind femur 3.8 times as long as broad slightly distally (Fig. 13D). Hind claw strongly downcurved, its basal lobe large (Fig. 13E).

WINGS. Forewing as long as body. Pterostigma (Fig. 13F) less wide, 3.3 times as long as wide, issuing *r* from its middle, *r* 0.8 times as long as width of pterostigma; second submarginal cell short, 3-*SR* and 2-*SR* equal in length, *SR1* 2.7 times length of 3-*SR*, straight and reaching tip of wing. First discal cell fairly high, *1-M* 1.75 times length of *m-cu*, *1-SR-M* bent and almost 1.3 times longer than *1-M* (Fig. 13G).

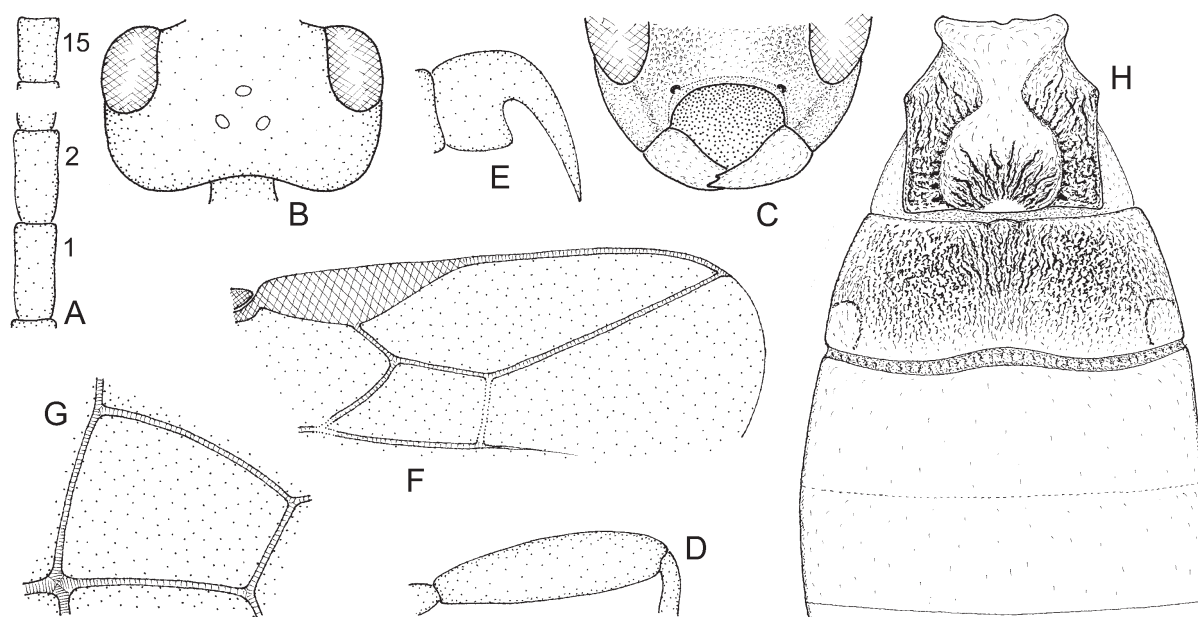


Fig. 13. *Bracon (Lucobracon) guttiger* Wesmael, 1838, ♀ lectotype. A. Flagellomeres 1-2 and 15. B. Head in dorsal view. C. Head in frontal view. D. Hind femur. E. Claw. F. Distal part of right forewing. G. First discal cell of right forewing. H. Tergites 1-4.

TERGITES. First tergite (Fig. 13H) broad, a bit broader behind than long, beyond pair of spiracles parallel-sided, scutum rugo-striate, margin of scutum crenulate, rim of tergite rugose. Second tergite one-third longer than third tergite, suture between them bisinuate, deep and subcrenulate. Tergites 3-4 fused, i.e. border between them hardly distinct and 1.6 times longer than second tergite (Fig. 13H). Second tergite longitudinally rugo-rugulose, further tergites polished. Ovipositor sheath short, as long as hind tarsomeres 1-2 combined.

COLOUR. Head and tergites dark brown, mesosoma blackish. Scape brown with rusty tint, flagellum brown. Labrum (or oral opening) and clypeus yellow, palpi pale yellow. Orbit rusty. Tegula light brown. Tergites 2-4 rusty brown, second tergite latero-posteriorly with a pair of light yellow maculae. Legs yellow, hind coxa and hind femur (except apically) brown to brownish. Wings subhyaline, pterostigma and veins yellowish brown.

Redescription of the two ♀ paralectotypes (one ♀ missing metasoma) (Figs 13D; 15B-D)

Similar to the ♀ lectotype. Body 3.1 mm long (1 ♀). Head in dorsal view 1.7-1.8 times as broad as long. Propodeum above lunule with a weak short keel, along it rugulose (Fig. 15C). Hind femur 3.3 times (Fig. 15D) and 3.8 times (Fig. 13D) as long as broad distally. Pterostigma (Fig. 15B) wide, 2.7 times as long as wide, second submarginal cell less short, 3-SR one-sixth longer than than 2-SR (1 ♀). Head and mesosoma blackish, hind coxa also blackish.

Variable features of the ♀ (14 ♀♀) (Figs 1C; 5B; 7A; 9D; 11C; 44F; 48I)

Body 3-3.3 mm long. Antenna about as long as body and with 23-27 antennomeres (23: 1 ♀, 25: 6 ♀♀, 26: 4 ♀♀, 27: 1 ♀). Middle flagellomeres 1.6-1.7 times as long as broad (3 ♀♀). Head in dorsal view transverse, 1.7 (to 1.8) times as broad as long (3 ♀♀), temple somewhat receded (cf. Fig. 5B). Oral

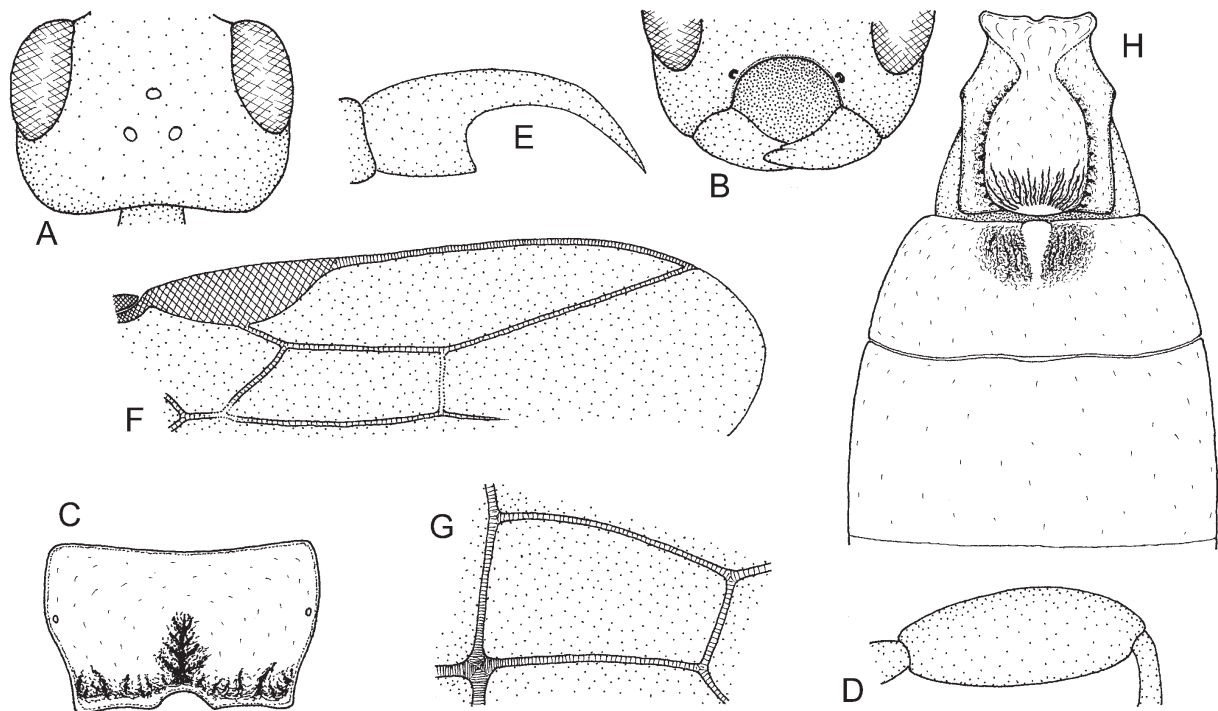


Fig. 14. *Bracon (Lucobracon) grandiceps* Thomson, 1894, ♀ lectotype. **A.** Head in dorsal view, **B.** Head in frontal view. **C.** Propodeum. **D.** Hind femur. **E.** Claw. **F.** Distal part of right forewing. **G.** First discal cell of right forewing. **H.** Tergites 1-3.

opening round, its horizontal diameter twice longer than shortest distance between opening and eye (cf. Fig. 1C). Propodeum on its upper part rugose (4 ♀♀, Fig. 7A). Pterostigma issuing *r* proximally from its middle, second submarginal cell fairly long: 3-*SR* slightly longer than 2-*SR* (cf. Fig. 44F). Pterostigma wide, 2.7 times longer than wide (cf. Fig. 9D); *DI* less high, *1-M* 1.4 times as long as *m-cu* (1 ♀, cf. Fig. 11C). First tergite less broad and somewhat broadening posteriorly (3 ♀♀, cf. Fig. 48I). Metasoma ochre yellow (2 ♀♀).

Variable features of the ♂ (11 ♂♂) (Figs 1A; 38H; 49D-E)

Body 2.8-3.1 mm long. Antenna somewhat longer than body and with 29-32 antennomeres. Middle flagellomeres 1.6-1.8 times as long as broad. Head in dorsal view 1.8 times as broad as long (2 ♂♂, cf. Fig. 1A). Propodeum, pterostigma, second submarginal cell and first discal cell with similar variabilities to those of the ♀♀. First tergite broadening (cf. Fig. 49D-E) or narrow, 1.3 times longer than broad behind (1 ♂, cf. Fig. 38H).

Hosts

COL. Chrysomelidae: *Gastroidea viridula* DeGeer, *Hydrothassa marginella* Linnaeus, *Phaedon cochleariae* Fabricius, *Phyllotreta nemorum* Linnaeus. — LEP. Coleophoridae: *Coleophora laricella* Hübner, *C. lutipennella* Zeller.

Distribution

In Europe widely distributed.

Taxonomic position

Within the subgenus *Lucobracon* the species *Bracon guttiger* is nearest to *B. grandiceps* Thomson (Europe) considering their large oral opening and the less transverse to subcubic head; the two species are distinguished by the following key features:

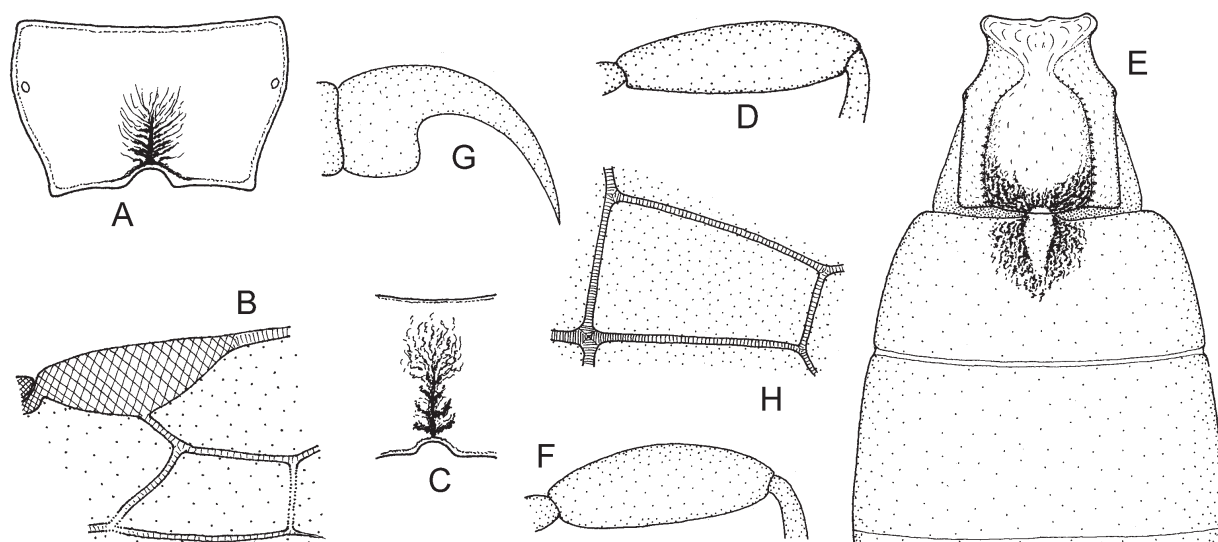


Fig. 15. — A-D. *Bracon (Lucobracon) guttiger* Wesmael, 1838 (A: ♀ lectotype, B-D: ♀ paralectotype). A. Propodeum. B. Middle part of forewing: pterostigma and second submarginal cell. C. Middle part of propodeum. D. Hind femur. — E-H. *Bracon (Lucobracon) sphaerocephalus* Szépligeti, 1901, ♀. E. Tergites 1-3. F. Hind femur. G. Claw. H. First discal cell of right forewing.

- 1 (2) First tergite 1.25-1.3 times longer than broad behind; suture between tergites 2-3 less distinct; tergites 1-2 less sculptured (Fig. 14H). Second submarginal cell long, 3-SR 1.9 times as long as 2-SR, SR1 approaching tip of forewing (Fig. 14F). First discal cell less high, I-SR-M 1.8 times as long as I-M (Fig. 14G). Hind femur thick, 2.5 times as long as broad (Fig. 14D). Second tergite without yellow macula latero-posteriorly. ♀: 3-4 mm*B. (Lu.) grandiceps* Thomson, 1894
- 2 (1) First tergite a bit broader behind than long; suture between tergites 2-3 distinct; tergites 1-2 sculptured (Fig. 13H). Second submarginal cell short, 3-SR at most somewhat longer than 2-SR, SR1 reaching tip of forewing (Fig. 13F). First discal cell high, I-SR-M 1.3 times as long as I-M (Fig. 13G). Hind femur less thick, 3.3-3.5 times as long as broad (Fig. 13D). Second tergite with a pair of light yellow maculae latero-posteriorly. ♀: 3-3.1 mm *B. (Lu.) guttiger* Wesmael, 1838

Bracon guttiger is near to *B. sphaerocephalus* Szépligeti viewing their subcubic head and dark coloured body; the two species are separated by the following features:

- 1 (2) First tergite a bit broader behind than long, suture between tergites 2-3 distinct, bisinuate, tergites 2-3 sculptured (Fig. 13H). Hind femur not thick, 3.3-3.8 times as long as broad (Fig. 13D). Hind claw downcurved (Fig. 13E). First discal cell high, I-SR-M 1.3 times as long as I-M (Fig. 13G). Oral opening large, its horizontal diameter 2.5 times shortest distance between opening and eye (Fig. 13C) or less large (Fig. 1C). Second tergite with a pair of light yellow maculae latero-posteriorly (Fig. 13H). ♀: 3-3.1 mm*B. (Lu.) guttiger* Wesmael, 1838
- 2 (1) First tergite somewhat longer than broad behind, suture between tergites 2-3 less distinct, faintly bent, tergites 1-2 less sculptured (Fig. 15E). Hind femur thick, 2.8-3 times as long as broad (Fig. 15F). Hind claw less downcurved (Fig. 15G). First discal cell less high, I-SR-M 1.6 times as long as I-M (Fig. 15H). Oral opening less large, its horizontal diameter 1.6 times shortest distance between opening and eye (Fig. 7I). Second tergite without a pair of yellow maculae (Fig. 15E). ♀: 3-4.5 mm*B. (Lu.) sphaerocephalus* Szépligeti, 1901

***Bracon (Lucobracon) larvicida* Wesmael, 1838**

Fig. 16A-K

Bracon larvicida Wesmael, 1838: 41 ♀ (type material: 7 ♀♀, seen 4 ♀♀), type locality: “environs de Bruxelles” (Belgium), ♀ lectotype (and three ♀ paralectotypes, present designations) in the Royal Belgian Institute of Natural Sciences, Brussels; examined. - Szépligeti 1901: 265 (in key, in Hungarian); 1904 (1901): 177 (in key, in German).

Bracon crassiusculus Szépligeti, 1901: 265 (in key) and 272 (description) (in Hungarian); 1904 (1901): 178 (in key) and 182 (description) (in German), ♀, type locality: “Pápa” (Hungary), ♀ lectotype in Magyar Természettudományi Múzeum, Budapest; **syn. nov.** examined.

Bracon larvicida – Szépligeti 1901: 265 (in key, in Hungarian); 1904 (1901): 177 (in key, in German).

Bracon (Orthobracon) larvicida – Telenga 1936: 175 (♀), 179 (♂) (in key), 291 (redescription) (in Russian) and 377 (♀), 382 (♂) (in key, in German). — Shenefelt 1978: 1638 (literature up to 1974).

Bracon (Glabrobracon) larvicida – Tobias 1986: 136 (in key, in Russian). — Tobias & Belokobylskij 2000: 149 as *B. plugarui* Tobias, 1986 “(*larvicida sensu* Tobias)”.

Bracon (Lucobracon) larvicida – Papp 1969: 322 (in key) and 327 (taxonomy, distribution); 2008: 1787 (taxonomy, synonymy).

Bracon crassiusculus – Telenga 1936: as valid species assigned to section *Orthobracon*, 172 (in key), 278 (redescription) (in Russian) and 374 (in key, in German). — Shenefelt 1978: 1619 (as synonym of *B. grandiceps* Thomson after Papp 1969a: 325, literature up to 1974). — Papp 2004: 173 (lectotype designation, jun. syn. of *B. larvicida*); 2008: 1787 (synonymization).

Designation of the ♀ lectotype of *Bracon larvicida*

(First label, handwritten) “9. Juin Linth.”, (second label, printed) “Coll. Wesmael”, (third label, printed) “2054”, (fourth label) “Braco ♀ / larvicida mihi” (handwritten) “dét. C. Wesmael” (printed), (fifth label, printed red) “Type”, (sixth label with my handwriting) “Belgique / Bruxelles / leg. Wesmael”, seventh label is the lectotype card. Lectotype is in good condition: (1) specimen micropinned, (2) flagelli deficient, right flagellum with four and left flagellum with 21 flagellomeres.

Designation of the three ♀ paralectotypes of *Bracon larvicida*: their labels 2-6 are identical to those of the lectotype, seventh labels are the paralectotype cards. Two ♀ paralectotype are in poor condition: (1) micropinned; (2) flagelli deficient, left hind leg (except coxa) of one ♀ missing. One ♀ paralectotype is in very poor condition: (1) micropinned; (2) flagelli damaged; (3) legs partly to almost entirely deficient; (4) left pair of wings missing.

Remarks

1) Wesmael (l.c.) described his species *B. larvicida* on the basis of seven ♀ specimens of which I studied four ♀ specimens serving for the present designations of the lectotype and paralectotypes.

2) The two ♂ paralectotypes of *B. indubius* var. 1. Szépligeti, 1901 are identical with *B. larvicida*.

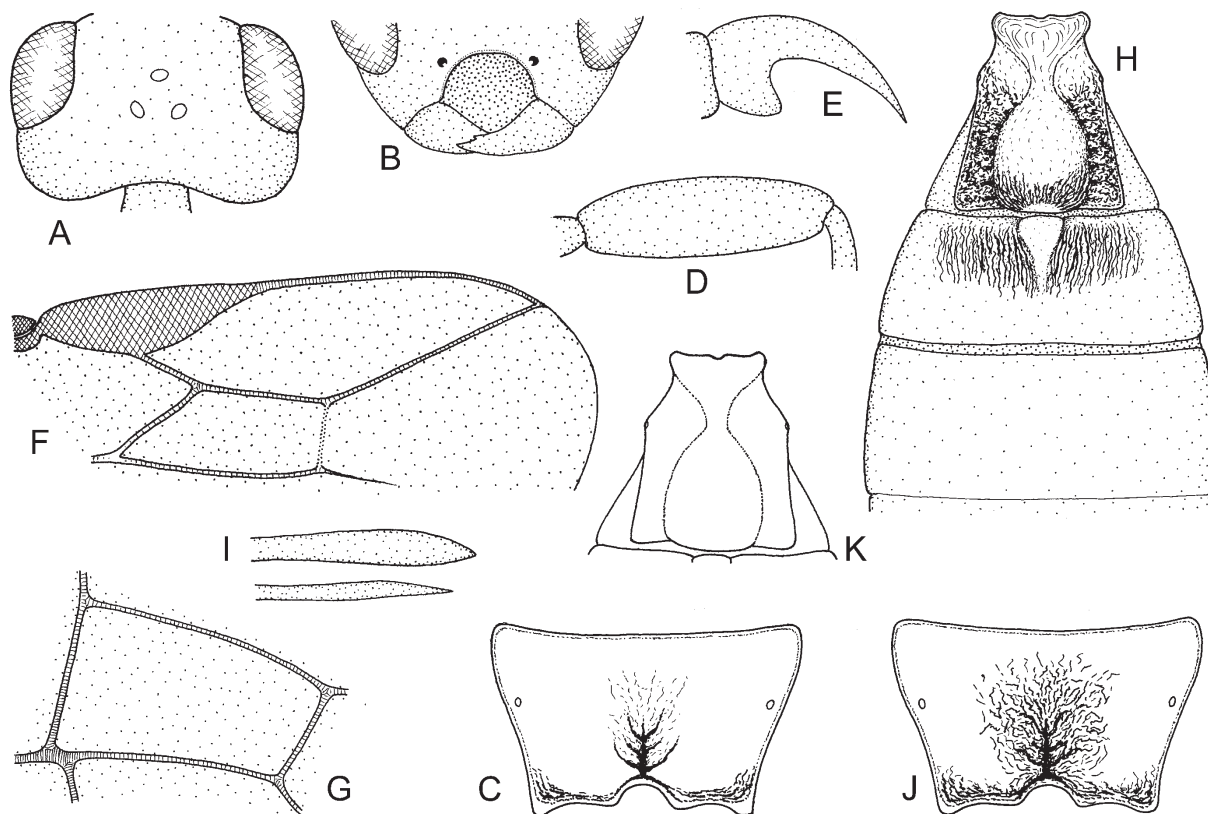


Fig. 16. *Bracon (Lucobracon) larvicida* Wesmael, 1838 (A-I: ♀ lectotype, J: ♀, K: ♀ / ♂). **A.** Head in dorsal view. **B.** Head in frontal view. **C.** Propodeum. **D.** Hind femur. **E.** Claw. **F.** Distal part of right forewing. **G.** First discal cell of right forewing. **H.** Tergites 1-3. **I.** Hind end of ovipositor apparatus. **J.** propodeum. **K.** First tergite.

Designation of the ♀ lectotype of *Bracon crassiusculus*: (first label, printed) “Pápa / Wachsmann”; second label is the lectotype card; third label is with the inventory number “1399”; fourth label is with the actula name *B. larvicida* given by me. Lectotype is in good condition: flagelli apically deficient.

Material examined

13 ♀♀ + 11 ♂♂ from nine countries: GERMANY: 1 ♀. SWEDEN: 1 ♀. HUNGARY: 5 ♀♀ + 7 ♂♂ from ten localities. ROMANIA (Transsylvania): 1 ♀. SERBIA: 1 ♀ + 1 ♂ from two localities. CROATIA: 1 ♀ + 1 ♂ from one locality. BULGARIA: 1 ♀ + 1 ♂ from two localities. GREECE: 1 ♂. NORTH ITALY: 2 ♀♀ from one locality.

Redescription of the ♀ lectotype of *Bracon larvicida* (Fig. 16A-I)

LENGTH. Body 3.2 mm long.

ANTENNAE. (according to the original description) As long as three-quarters of body and with 20-25 antennomeres of the seven syntypes. First flagellomere 1.7 times and 21st flagellomere 1.5 times as long as broad.

HEAD. In dorsal view less transverse (Fig. 16A), 1.7 times as broad as long, eye 1.5 times longer than temple, temple rounded, occiput excavated. Oral opening fairly large (a feature of subgenus *Lucobracon*), its horizontal diameter 1.7 times as long as shortest distance between opening and compound eye (Fig. 16B). Head polished, face above and laterally with very fine granulation.

MESOSOMA. In lateral view 1.6 times as long as high. Propodeum polished, around lunule with rugulae, medially uneven (Figs 16C).

LEGS. Hind femur 3.2 times as long as broad medially (Fig. 16D). Claw moderately downcurved, basal lobe distinct (Fig. 16E).

WINGS. Forewing about as long as body. Pterostigma (Fig. 16F) three times as long as wide and issuing *r* from its middle, *r* 0.9 times as long as width of pterostigma; second submarginal cell less long, 3-*SR* 1.3 times as long as 2-*SR*, *SRI* 1.8 times as long as 3-*SR*, straight and reaching tip of wing; 1-*RI* 1.5 times as long as pterostigma. First discal cell elongate, 1-*M* 1.5 times as long as *m-cu*, 1-*SR-M* just bent and 1.7 times as long as 1-*M* (Fig. 16G).

TERGITES. First tergite (Fig. 16H) somewhat longer than broad behind, almost evenly broadening posteriorly, hind half of scutum with longitudinal rugosity, margin of scutum with crenulae, lateral part of tergite rugulose. Third tergite one-sixth longer than second tergite, suture between them straight and smooth. Second tergite 2.6 times as broad behind as long, antero-medially with longitudinal striae-striolae (Fig. 16H), otherwise together with further tergites polished. Ovipositor sheath long, as long as hind tibia + tarsomeres 1-4 combined; posterior end ovipositor as in Fig. 16I.

COLOUR. Antenna distally darkening rusty brown. Head dark rusty, ocellar field black. Mandible brownish yellow, palpi yellow. Mesosoma black, propodeum + prosternum rusty. Tegula brownish yellow. First tergite blackish, further tergites rusty and tergites 3-6 with darkening suffusion. Legs yellow, coxae 2-3 blackish, femora 2-3 brownish yellow. Wings subhyaline, pterostigma brownish, veins light brown.

Redescription of the three ♀ paralectotypes of *B. larvicida*

Identical with the ♀ lectotype. Antenna with 23 antennomeres (1 ♀). Propodeum medially rugose (1 ♀).

Variable features of the ♀♀ (13 ♀♀) (Fig. 16J-K)

Body (2.8-)3-4 mm, usually 3-3.4 mm. Antenna with (20-)23-25 antennomeres. Head in dorsal view usually 1.7 times, exceptionally 1.75-1.8 times, as broad as long. Propodeum medially rugulose (var. *crassiusculus*, Fig. 16J). Hind femur (2.8-)3-3.4 times, usually 3-3.2 times as long as broad medially. First tergite beyond pair of spiracles less broadening (Fig. 16K). Ovipositor sheath as long as hind tibia, somewhat longer or very long: as long as hind tibia + tarsus combined. Body more or less black (melanic form), i.e. with reduced rusty colour.

Variable features of the ♂♂ (11 ♂♂) (Fig. 16K)

Similar to the ♀♀. Body (2-)2.5-3.8 mm, usually 2.8-3.3 mm, long. Black colour more extended (melanic form) or light colour more extended and more vivid (albanic form). Hind femur 2.8-3.2 times as long as broad. First tergite beyond pair of spiracles usually subparallel-sided (cf. Fig. 16K).

Host

Unknown.

Distribution

Europe, Kazakhstan, Mongolia.

Taxonomic position

Within the subgenus *Lucobracon* the species *B. larvicida* is nearest to *B. fumigidus* Szépligeti (western Palearctic Region, Mongolia), the separation of the two species is as follows (after Papp 2005a: 210):

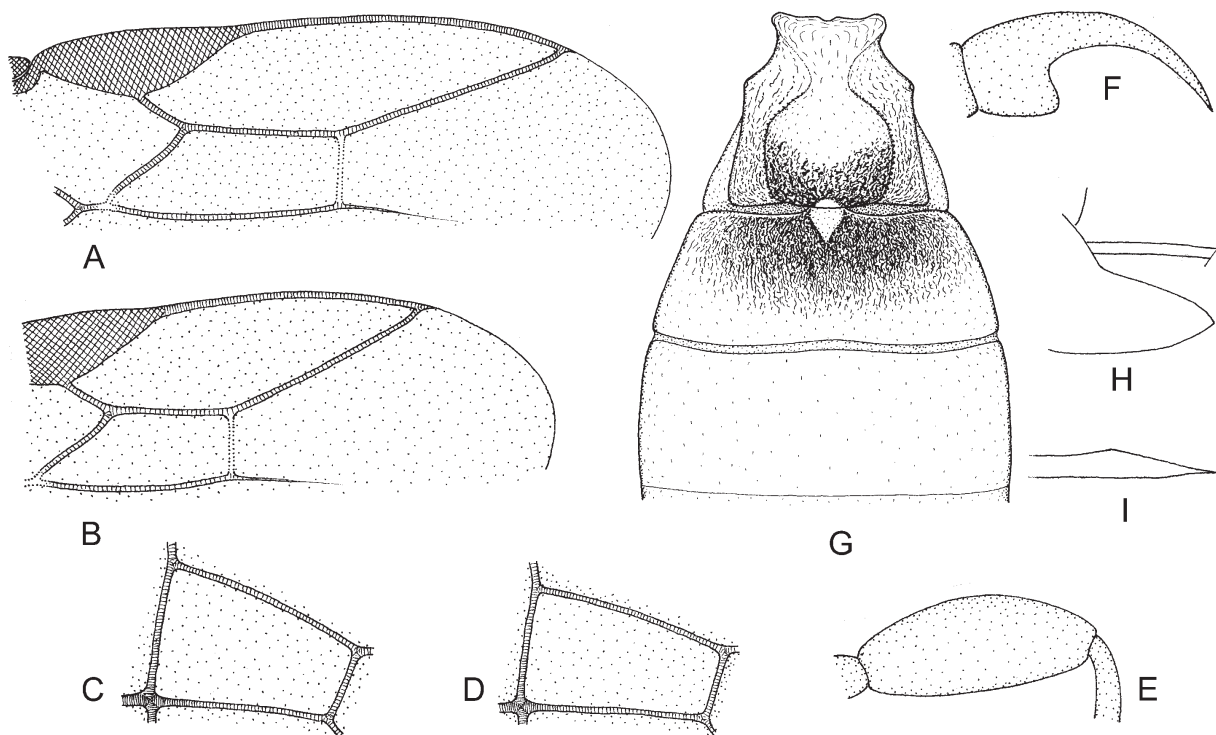


Fig. 17. *Bracon (Lucobracon) fumigidus* Szépligeti, 1901 (A, C: ♀ lectotype, B, D-F: ♀ / ♂, H-I: ♀). A-B. Distal part of right forewing. C-D. First discal cell of right forewing. E. Hind femur. F. Claw. G. Tergites 1-3. H. Hypopygium. I. End of ovipositor.

- 1 (2) Marginal cell of fore wing approaching tip of wing (Fig. 17A-B); first discal cell relatively high, *I-M* 1.8-1.9 times length of *m-cu* (Fig. 17C-D). Hind femur thick, 2.5-2.6 times as long as broad medially (Fig. 17E). First tergite slightly shorter than (Fig. 17G) to as long as broad behind, beyond spiracles less broadening. Upper margin of hypopygium concave (Fig. 17H); end of ovipositor as in Fig. 17I. ♀: mesosoma reddish yellow with dark (light brown to blackish) pattern; ♂: body black with less light colour pattern. ♀♂: 3.6-3.8 mm.....*B. (Lu.) fumigidus* Szépligeti, 1901
- 2 (1) Marginal cell of fore wing reaching (Fig. 16F), rarely just approaching, tip of wing; first discal cell relatively low, *I-M* 1.5 times length of *m-cu* (Fig. 16G). Hind femur 2.8-3.4 times as long as broad medially (Figs 16D). First tergite somewhat longer than broad behind, beyond spiracles more broadening (Fig. 16H). Upper margin of hypopygium bisinuate (Fig. 7H) ♀♂: mesosoma black with rusty suffusion. ♀♂: (2-) 2.5-4 mm.....*B. (Lu.) larvicida* Wesmael, 1838

Taxonomic remark

Albeit *B. larvicida* is assigned to the subgenus *Lucobracon*, it is near to two species, *B. titubans* Wesmael and *B. nigriventris* Wesmael, assigned to the subgenus *Glabrobracon*. The distinction of the three species is presented at *B. titubans*.

Bracon (Bracon) longicollis Wesmael, 1838 Figs 18A-J, 19A-D, 20A-J

Bracon longicollis Wesmael, 1838: 28 ♀♂ (type material: 9 ♀♀ + 2 ♂♂), type locality: “environs de Liège” (Belgium), ♀ lectotype (and eight ♀ + two ♂ paralectotypes, present designations) deposited in the Institute royal des Sciences naturelles de Belgique, Brussels; examined.

Bracon brevicauda Thomson, 1894: 1831 ♀ (type material: one ♀), type locality: “Vestergötland” (Sweden), ♀ lectotype (designated by Papp l.c.) in Zoological Museum, Lund; examined.

Bracon crassicauda Thomson, 1894: 1835 ♀ (type material: one ♀), type locality: “Örtofta nära Lund” (Sweden), ♀ lectotype (designated by Papp l.c.) in Zoological Museum, Lund; examined.

Bracon fraudator Marshall, 1885: 34 ♀ (type material: one ♀), type locality: “Clober, Scotland”, depository of the series (or the holotype) unknown (Barcelona, Genova, London, Norwich, Plymouth); synonymized on the basis of the description and specimens (2 ♀♀) identified by Nixon as *B. fraudator*, seen in Museum London.

Bracon subcylindricus Wesmael, 1838: 30 ♀ (type material: one ♀), type locality “environs de Bruxelles” (Belgium), ♀ holotype (present designation) deposited in the Royal Belgian Institute of Natural Sciences, Brussels; examined, **syn. nov.**

Bracon subcylindricus Szépligeti 1901: as valid species 184 (in key, in Hungarian) and 1904 (1901): 163 (in key, in German).

Bracon longicollis – Szépligeti 1901: 262 (♀♂) (in key, in Hungarian); 1904 (1901): 162 (♀), 164 (♂) (in key, in German).

Bracon (Orthobracon) longicollis – Fahringer 1927: 265 (♀), 276 (♂) (in key) and 400 (redescription), assigned to “Sektion *Orthobracon*”. — Telenga 1936: 160 (♀), 168 (♂) (in key), 241 (redescription) (in Russian); 363 ((♀), 371 (♂) (in key, in German), assigned to Section *Striobracon*. — Shenefelt 1978: 1639 (assigned to subgenus *Orthobracon*, literature up to 1974). — Tobias 1986: 129 (in key, in Russian, assigned to subgenus *Bracon*). — Tobias & Belokobylskij 2000: 136-137 (in key, in Russian). — Papp 2008: 1777 (distinction from *B. rugulosus* Szépligeti).

Bracon brevicauda – Szépligeti 1901 and 1904 (1901): not mentioned). Fahringer 1927: as valid species 264 (in key) and 375 (redescription), assigned to “Section *Orthobracon*”. — Telenga 1936: 161 (in key), 243 (redescription) (in Russian) and 363 (in key, in German) as valid species under the name “*B. brevicaudis*”. — Papp 1969b: 200 (synonymization, formal lectotype designation). — Shenefelt 1978: 1639 (as synonym of *B. longicollis* after Papp l.c., literature up to 1969).

Bracon crassicauda – Fahringer 1927: as valid species 265 (in key) and 375 (redescription), assigned to “Section *Orthobracon*”. — Telenga 1936: as valid species 176 (in key), 299 (redescription) (in Russian) and 379 (in key, in German). — Papp 1969b: 202 (synonymization, formal lectotype designation). — Shenefelt 1978: 1639 (as synonym of *B. longicollis* after Papp l.c., literature up to 1969).

Bracon subcylindricus – Fahringer 1927: as valid species 266 (in key) and 466 (redescription), assigned to “Sektion *Orthobracon*”. — Telenga 1936: as valid species 160 (in key), 242 (redescription) and 363 (in key, in German). — Tobias 1958: as valid species 103 (in key, in Russian); 1986: 129 (as synonym of *B. longicollis* with question-mark). — Shenefelt 1978: as valid species 1648 (literature up to 1971).

Designation of the ♀ lectotype of *Bracon longicollis*

(First label, printed) “Coll. Wesmael”; (second label, printed) “2033”; (third label) “Braco longicollis mihi ♀ (handwritten) “dét. C. Wesmael” (printed); (fourth label, printed red) “Type”; fifth label is with the locality “Belgique / Liège / M. Robert” and the sixth label is the lectotype card (fifth and sixth labels were attached by me). Lectotype is in good condition: (1) micropinned on a fairly thick pin, pin itself in polyporus stage; (2) right flagellum missing; (3) hind half of mesoscutum invisible because here pierced.

Designation of the eight ♀ and two ♂ paralectotypes of *Bracon longicollis*

The labels are similar to those of the lectotype except the third Wesmael's det.-label of five ♀♀ and two ♂♂, they are with the name “Braco longicollis mihi ♀ var. 1.” Female paralectotypes are in fairly good condition: (1) micropinned like the lectotype; (2) three ♀ paralectotypes named by Wesmael as *Braco longicollis*: flagelli missing of two ♀♀, left fore wing missing of one ♀, left flagellum intact of one ♀ (with 32 antennomeres); (3) three ♀ and one ♂ paralectotypes named by Wesmael as *Braco longicollis* var. 1. (however, not representing the variety: propodeal carina present, i.e. not true varieties): left flagellum of one ♀ missing, right flagellum deficient; two ♀♀ and one ♂: one flagellum each intact (two ♀♀ with 26 and 27, one ♂ with 30 antennomeres, respectively), one flagellum each either missing or deficient; left hind leg of one ♀ missing; (4) two ♀ and one ♂ named by Wesmael as *Braco longicollis* var. 1. (true varieties): one ♀ with intact pair of flagelli (28 antennomeres), one ♂ with intact left flagellum (29 antennomeres) and right fore (except coxa + first trochanters) and left hind legs (except coxa + first trochanter) missing, one ♀ with missing (left) and deficient (right) flagelli, right fore leg (except coxa) missing. Male paralectotypes are in good (one ♂) and fairly poor (one ♂) condition: micropinned like the ♀ types, one ♂ with intact flagelli (30 antennomeres), one ♂ (true “var. 1.”, in poor condition) with left flagellum intact (29 antennomeres), right flagellum deficient, right fore and left hind legs (except coxa and first trochanter) missing, wings also missing.

Designation of the ♀ lectotype of *Bracon brevicauda*

(First label, printed) “V.G.”; (second label attached by me) “Sweden” (printed) “Vestergötland” (my handwriting); (third label with red frame, handwritten) “brevicauda”; fourth label is my lectotype card, fifth label is with the actual name *B. longicollis* Wesmael given by me. The lectotype is in very poor condition: (1) pinned by mesoscutum; (2) missing: head, metasoma, wings (except left hind wing), right three legs (except middle coxa).

Taxonomic remark

The lectotype specimen is identifiable (or recognisable) by the smooth propodeum with a medio-longitudinal carina characteristic to *B. longicollis*.

Designation of the ♀ lectotype of *Bracon crassicauda*

(First label, handwritten) “Ört.”; (second label attached by me) “Sweden” (printed) “Örtofta nära Lund” (my handwriting); (third label with red frame, handwritten) “crassicauda”; fourth label is my lectotype card; fifth label is with the actual name *B. longicollis* Wesmael given by me. -- Lectotype is in fairly

good condition: (1) glued on a small pointed card by coxa 2-3 and ventral side of metasoma; (2) head glued on the first label; (3) right flagellum missing, left flagellum damaged (i.e. with five flagellomeres).

Taxonomic remark

Lectotype is similar to *B. longicollis* Wesmael, medio-longitudinal carina of propodeum indistinct.

Designation of the ♀ lectotype of *Bracon subcylindricus*

(First label, printed) “Coll. Wesmael”; (second label, printed) “2035”; (third label) *Braco subcylindricus* mhi ♀ (handwritten) “dét. C. Wesmael” (printed); (fourth label, printed red) “Type”; fifth label is with the locality “Belgique / Bruxelles / leg. Wesmael”; sixth label is the holotype card, seventh label is with the actual name *B. longicollis* Wesmael (labels 5-7 were attached by me). -- Holotype is in very poor condition: (1) micropinned by mesosoma, pin fairly thick; (2) head and metasoma glued on the elderrpith stage; (3) both antennae deficient, right flagellum with 16 and left flagellum with 23 flagellomeres; (4) ovipositor sheath broken in two parts glued also on the stage.

The following species-names are also junior synonyms of *B. longicollis* (details see in Papp 2008: 1774, Shenefelt 1978: 1639, Telenga 1936: 242): *B. depressiusculus* Szépligeti, 1904, *B. firmus* Ruthe in litt., (?)*B. ramosus* Niezabitowski, 1910, *B. neglectus* Szépligeti, 1904, *B. rugulosus* Szépligeti, 1901, *B. spurnensis* Hincks, 1951 and *Baryproctus niger* Voinovskaja-Krieger, 1930. *B. rugulosus* Szépligeti was treated (Papp l.c.) as valid species. Repeatedly examined the long series of *B. longicollis* I admit that the synonymization of *B. rugulosus* with Wesmael’s senior name *B. longicollis* is the reasonable taxonomic point of view (as I did it previously Papp 1969b: 200). This species is highly variable considering the measurements of its head (in dorsal view), alar venation, tergites 1-3, the size and strength of the sculpture of tergites 1-4(-5) and the colour pattern of body. The designations, depositories etc. of the types of *B. depressiusculus*, *B. neglectus*, *B. rugulosus* and *B. spurnensis* are mentioned in Papp 2008: 1774.

Material examined

203 ♀♀ + 89 ♂♂ from 23 countries: SCOTLAND: 7 ♀♀ + 4 ♂♂ from seven localities. ENGLAND: 8 ♀♀ + 3 ♂♂ from eleven localities. THE NETHERLANDS: 2 ♀♀ + 2 ♂♂ from four localities. FRANCE: 1 ♂. SWEDEN: 8 ♀♀ + 3 ♂♂ from eight localities. DENMARK: 2 ♀♀ + 2 ♂♂ from four localities. GERMANY: 17 ♀♀ + 2 ♂♂ from fifteen localities. AUSTRIA: 2 ♀♀ from two localities. BOHEMIA: 9 ♀♀ + 1 ♂ from eight localities. HUNGARY: 102 ♀♀ + 51 ♂♂ from 139 localities. SLOVAKIA: 8 ♀♀ + 3 ♂♂ from nine localities. ROMANIA: 13 ♀♀ + 2 ♂♂ from ten localities. ITALY: 3 ♀♀ from three localities. CROATIA: 1 ♀ + 1 ♂ from two localities. MONTENEGRO (=Crna Gora): 1 ♂. SERBIA: 1 ♀. BULGARIA: 3 ♀♀ + 3 ♂♂ from five localities. TURKEY: 2 ♀♀ from two localities. Iran: 1 ♀. AFGHANISTAN: 2 ♀♀ from one locality. EUROPEAN RUSSIA: 1 ♂. TURKMENISTAN: 1 ♂. MONGOLIA: 3 ♀♀ + 2 ♂♂ from five localities. KOREA: 9 ♀♀ + 10 ♂ from fifteen localities.

Redescription of the ♀ lectotype of *Bracon longicollis* (Fig. 18A-J)

LENGTH. Body length is 3.9 mm.

ANTENNAE. As long as body and with 33 antennomeres. First flagellomere twice and penultimate flagellomere 1.75 times as long as broad. Flagellum attenuating.

HEAD. In dorsal view transverse (Fig. 18A), almost 1.9 times as broad as long, eye almost twice longer than temple and just protruding, temple receded, occiput weakly excavated. Ocelli fairly large, OOL twice as long as POL. Eye in lateral view almost 1.5 times as high as wide and almost twice wider than temple, temple ventrally widening (Fig. 18B). Horizontal diameter of oral opening 1.2 times longer than shortest distance between opening and eye; cheek weakly converging (Fig. 18C). Head polished.

MESOSOMA. In lateral view 1.6 times as long as high, polished. Notaulix distinct, fairly and evenly deep, smooth. Propodeum with a medio-longitudinal carina, along it rugulose-subrugulose, otherwise propodeum polished (Fig. 18D).

LEGS. Hind femur somewhat thick, 2.6 times as long as broad medially (Fig. 18E). Claw strongly downcurved and with a somewhat pointed basal lobe (Fig. 18F).

WINGS. Forewing as long as body. Pterostigma (Fig. 18G) three times as long as wide, issuing *r* just proximally from its middle; *r* just shorter, i.e. 0.9 times as long as width of pterostigma; second submarginal cell long, 3-*SR* 1.25 times longer than 2-*SR*, *SR*1 1.76 times longer than 3-*SR* and reaching tip of wing. First discal cell less high: *I-M* 1.6 times as long as *m-cu*, *I-SR-M* bent and 1.5 times as long as *I-M* (Fig. 18H).

TERGITES. First tergite (Fig. 18I) slightly longer than broad behind, rugo-scrobiculate, margin of scutum crenulate. Second tergite three times broader behind than long laterally, suture between tergites 2-3 bisinuate and uneven; third tergite medially as long as second tergite laterally. Second tergite medially rugose, laterally rugo-rugulose, third tergite rugulose to uneven, further tergites smooth and shiny (Fig. 18I). Hypopygium pointed, ovipositor sheath less long, in lateral view as long as hind tibia (Fig. 18J).

COLOUR. Antenna, head and mesosoma black; ground colour of metasoma yellow, first tergite entirely and wide median streak on further tergites black. Mandible yellow, palpi faint brownish yellow. Tegula yellow. Legs yellow, middle and hind coxae black, femora 2-3 basally brownish to brown, fifth tarsomeres brownish. Wings subhyaline (or faintly fumous), pterostigma and veins light brownish.

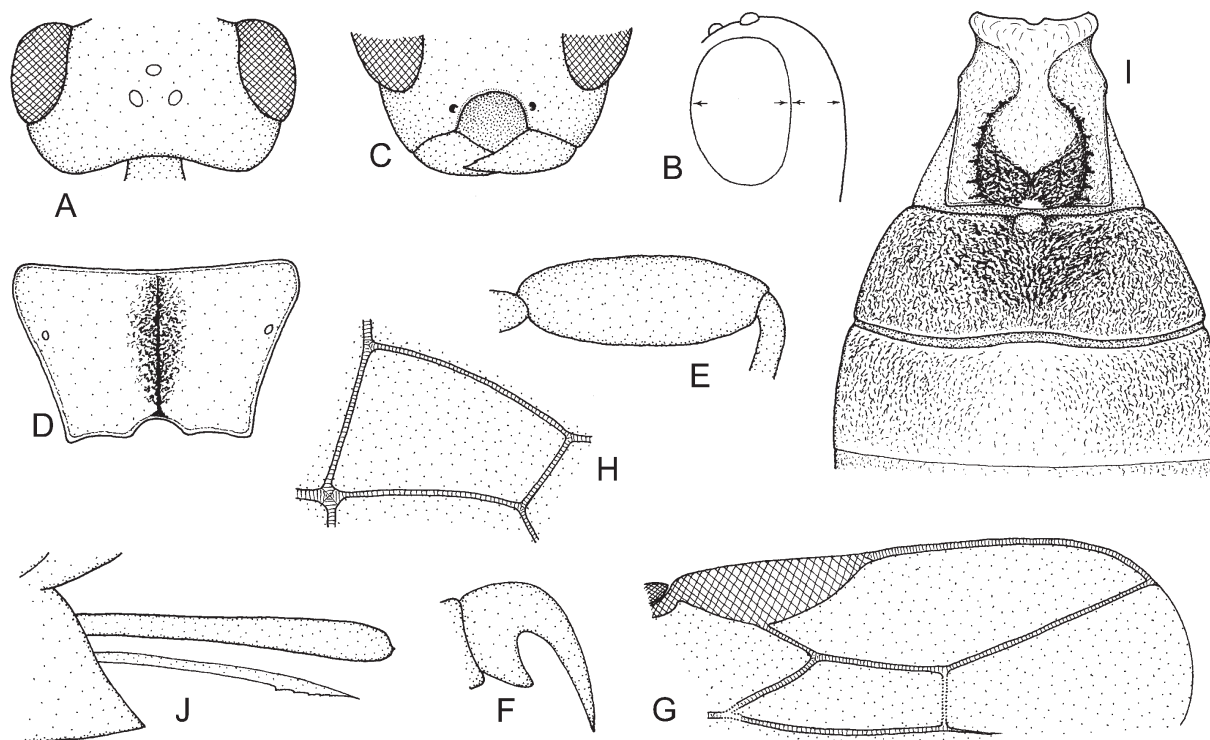


Fig. 18. *Bracon (Bracon) longicollis* Wesmael, 1838, ♀ lectotype. **A.** Head in dorsal view. **B.** Head in lateral view. **C.** Head in frontal view. **D.** Propodeum. **E.** Hind femur. **F.** Claw. **G.** Distal part of right forewing. **H.** First discal cell of right forewing. **I.** Tergites 1-3. **J.** Hypopygium and ovipositor apparatus.

Redescription of the ♀ paralectotypes (8 ♀♀) (Fig. 19A-B)

Similar to the ♀ lectotype. Body 2.8-3.8 mm long (2.8: 1 ♀, 3: 2 ♀♀, 3.6: 1 ♀, 3.7: 1 ♀, 3.8: 3 ♀♀). Antenna with 26-32 antennomeres (4 ♀♀). Head in dorsal view transverse, 1.7 to almost 1.9 times as broad as long (1.71: 1 ♀, 1.76: 3 ♀♀, 1.8: 1 ♀, 1.87: 3 ♀♀). Propodeum medially rugulose to rugose, carina missing (2 ♀♀ “var. 1.” by Wesmael, Fig. 19A). Hind femur variably thick, 2.3 to 3.1 (Fig. 19B) times as long as broad (2.27: 1 ♀, 2.6: 2 ♀♀, 2.77: 3 ♀♀, 2.94: 1 ♀, 3.1: 1 ♀). Pterostigma 3.3 times (2 ♀♀) as long as wide, *r* issuing from its middle (2 ♀♀). First tergite somewhat (1.05 times) broader behind than long (2 ♀♀) or as long as broad behind (3 ♀♀). Hind femur nearly entirely black (2 ♀♀) to almost entirely yellow (3 ♀♀).

Redescription of the ♂ paralectotypes (1 ♂ nominate form and 1 ♂ var. 1. *sensu* Wesmael) (Figs 19C-D; 20A)

Similar to the ♀ types. Body 2.5 (1 ♂) and 3 mm (1 ♂) long. Antenna somewhat longer than body and with 30 (1 ♂) and 29 (var. 1.) antennomeres. Head in dorsal view 1.7 times as broad as long (Fig. 19C). Propodeum polished, i.e. without carina and sculpture (var. 1.), or carina hardly distinct (1 ♂). Hind femur less thick, 3.3 times as long as broad somewhat distally (Fig. 19D). First tergite 1.3 times (1 ♂) and just longer (var. 1.) than broad behind. Second tergite somewhat longer than third tergite (Fig. 20A). Femora entirely yellow.

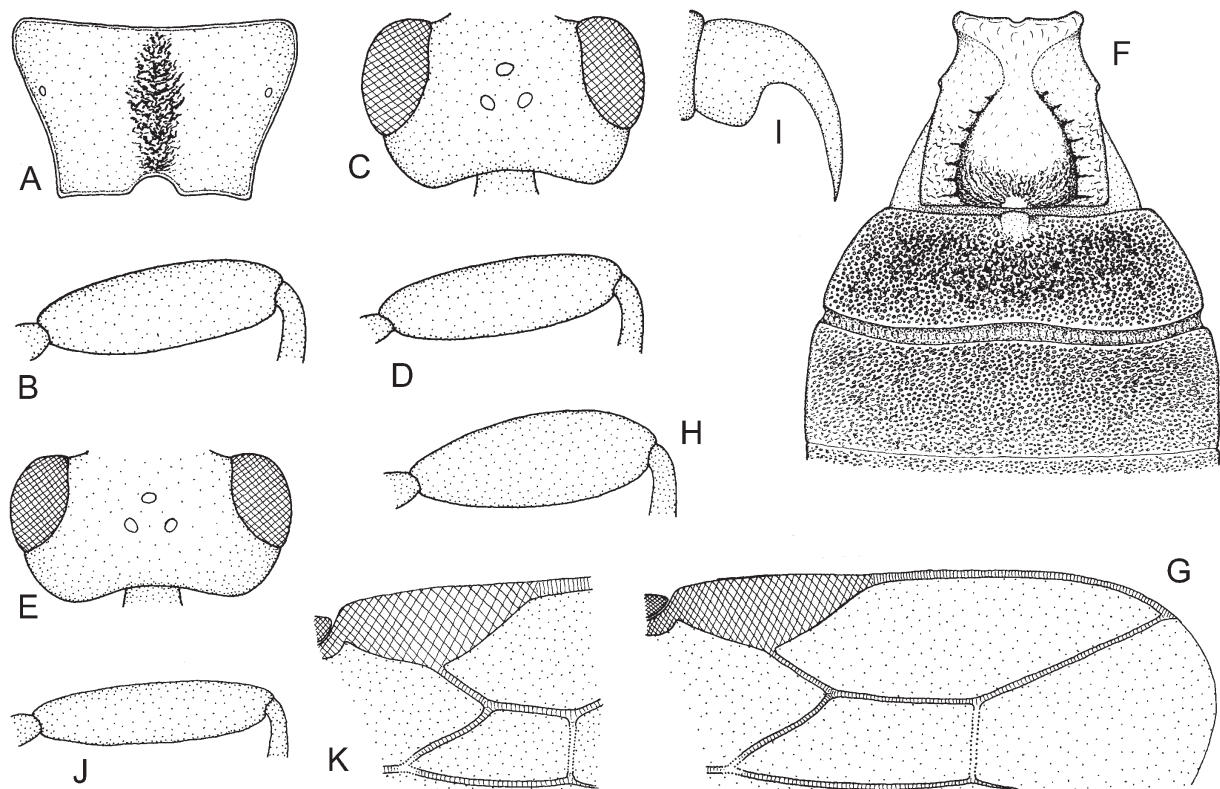


Fig. 19. — A-D. *Bracon (Bracon) longicollis* Wesmael, 1838 (A: ♀ / ♂ paralectotype, B: ♀ paralectotype, C-D: ♂ paralectotype). A. Propodeum. B. Hind femur. C. Head in dorsal view. D. Hind femur. — E-I. *Bracon (Bracon) gusaricus* Telenga, 1933, ♀. E. Head in dorsal view. F. Tergites 1-3. G. Distal part of right forewing. H. Hind femur. I. Claw. — J-K. *Bracon (Bracon) variegator* Spinola, 1808, ♀ / ♂. J. Hind femur. K. Middle part of right forewing.

Variable features of the ♀ (203 ♀♀) (Figs 18A, E; 19B; 20B-G)

Body 2.4-5, usually 2.8-4.5 mm, long. Antenna somewhat shorter than to as long as body (rarely somewhat longer) and with 22-36, usually 26-34, antennomeres. Flagellomeres 1.8-2 times, less usually 1.3-1.6 times (rarely subcubic 1.1-1.2 times), as long as broad. - Head in dorsal view 1.7-2, usually 1.8-1.9, times as broad as long (Fig. 18A); head rarely 1.7 times as broad as long and temple moderately rounded (Fig. 20B) or head twice as broad as long and temple strongly receded (3 ♀♀, Fig. 20C). Mesosoma 1.9-2 times as long as high (3 ♀♀). Propodeum weakly sculptured above lunule, medio-longitudinal carina missing (18 ♀♀, Fig. 20C); or propodeum almost entirely rugose with strong medio-longitudinal carina (9 ♀♀, Fig. 20D). Hind femur 2.6-2.7 times, rarely 2.9-3.3 times, as long as broad medially (Figs 18E; 19B). Fore wing: pterostigma 3-3.3 times, usually 3-3.1 times, as long as wide. Second submarginal cell unusually long, 3-SR 1.5-1.6 times as long as 2-SR (3 ♀♀, Fig. 20E). First tergite large, as long as broad behind or slightly broader behind than long (18 ♀♀, Fig. 20G). Sculpture of second tergite restricted medially (Fig. 20F), further tergites (very) weakly uneven (16 ♀♀) or polished (42 ♀♀), or rugulose-subrugulose (21 ♀♀). Ovipositor sheath long, as long as hind tibia + basitarsus (3 ♀♀). Albanic form (32 ♀♀): margin of tergites (beyond first tergite) and legs yellow, reddish yellow, testaceous. Pterostigma yellow (2 ♀♀). Melanic form (19 ♀♀): metasoma almost entirely blackish to black, at most second tergite laterally rusty.

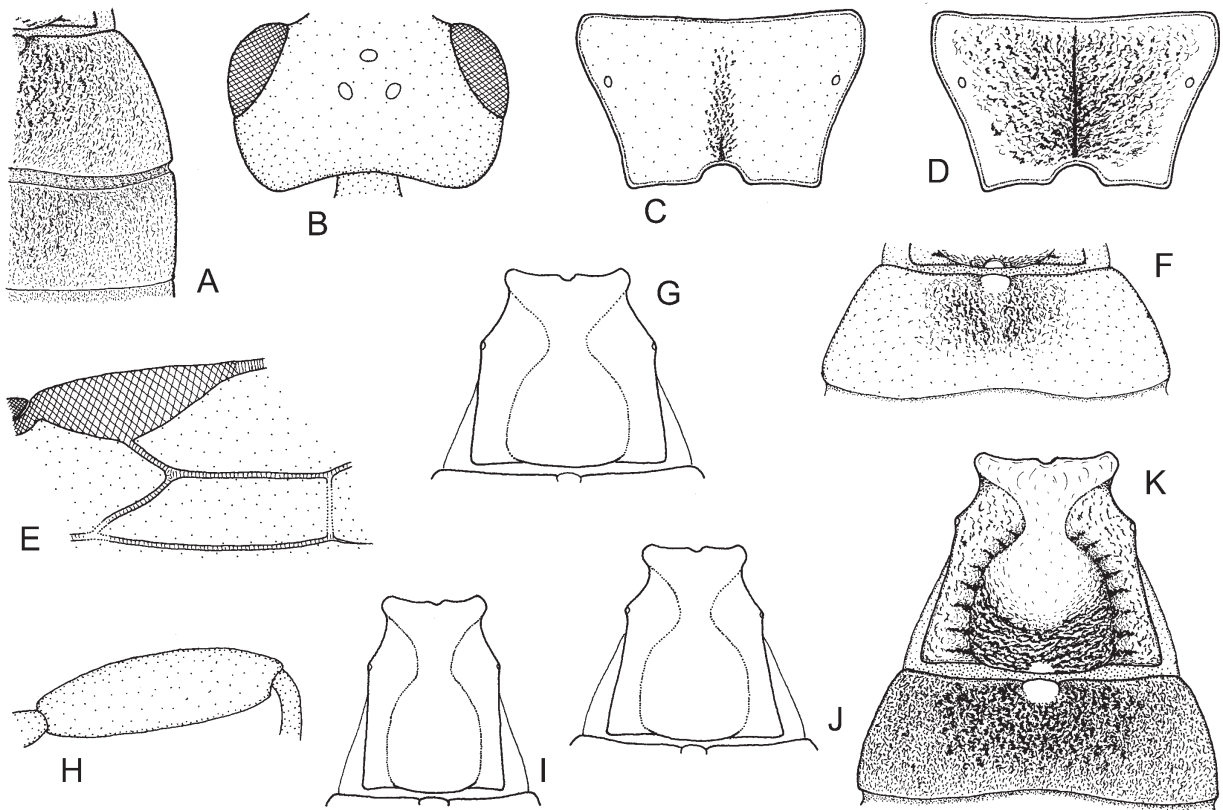


Fig. 20. — A-J. *Bracon (Bracon) longicollis* Wesmael, 1838 (A: ♂ paralectotype, B-E, G: ♀, F: ♀/♂, H-J: ♂). A. Right half of tergites 2-3. B. Head in dorsal view. C-D. Propodeum. E. Middle part of forewing: pterostigma and second submarginal cell. F. Second tergite. G. First tergite. H. Hind femur. I-J. First tergite. — K. *Bracon (Bracon) longicollis* var. *depressiusculus* (Wesmael, 1838), tergites 1-2.

Variable features of the ♂ (89 ♂♂) (Figs 19C-D; 20A, C, F, H-J)

Similar to the two ♂ types. Body 2.2-3.5 mm, usually 2.8-3.2 mm, long. Antenna slightly longer than to as long as body and with 26-43, usually 29-37, antennomeres. Flagellomeres (1.6-)1.8-2(-2.2) times longer than broad (rarely 1.3-1.4 times). Head in dorsal view 1.7-1.9, usually 1.7-1.75, times as broad as broad as long, rarely temple (8 ♀♀) less rounded, i.e. head subcubic (Fig. 19C). Propodeum rarely weakly sculptured (8 ♂♂, cf. Fig. 20C). Hind femur 2.8-3.3 times as long as broad (12 ♂♂, Figs 19D; 20H). First tergite subparallel-sided and rarely 1.3 times as long as broad behind (Fig. 20I) or more broadening posteriorly (Fig. 20J); second tergite usually longer than third tergite (Fig. 20A), less usually just longer than third tergite or (rarely) tergites 2-3 equal in length. Sculpture of second tergite restricted to antero-medially (Fig. 20F) and further tergites (3-4, 3-5) just uneven to polished. Albanic and melanic colour forms like in ♀.

***Bracon longicollis* var. *depressiusculus* (Szépligeti)**

Originally the taxon *depressiusculus* was described by Szépligeti as a species of the genus *Bracon* (Szépligeti 1904: 182). A revision of the *Bracon* species by Thomson led to the recognition that the taxon *depressiusculus* represents but a variety of the species of *B. longicollis* (Papp 1969b: 200). This taxonomic assignment is accepted as a deliberate standpoint (contrary to that by Papp 2004: 173), subsequently the distinction of the variety is presented:

***B. longicollis* nominate form (Fig. 18)**

Body less strong. First tergite less large, slightly less broadening posteriorly (Fig. 18I). Sculpture of body less rough (Fig. 18I). Antenna with 26-34 antennomeres. Corporal colour variable from melanic to albanic (see before).

***B. longicollis* var. *depressiusculus* (Fig. 20K)**

Body strong. First tergite large, slightly more broadening posteriorly (Fig. 20K). Sculpture of body rough (Fig. 20K). Antenna with 29-35 antennomeres. Corporal colour fairly albanic.

Hosts

DIPT. Chloropidae: !*Chlorops pumilionis* Bjerkander, *Ch. taenipus* Meigen. — LEP. Momphidae: !*Mompha bradleyi* Riedl. Glyphipterigidae: ?*Glyphipterix simpliciella* Stephens. — HYM. Cephidae: !*Cephus pygmaeus* Linnaeus. Tenthredinidae: !*Heptamelus ochroleucus* (Stephens).

Distribution

Palearctic Region, in Europe frequent to common.

Taxonomic position

The species *Bracon* (*Bracon*) *longicollis* is nearest to *B. (Glabrobracon) exhilarator* Nees, their distinction see at the latter species. - *B. (B.) longicollis* is near to *B. (B.) nigratus* Wesmael (Palearctic Region, in Europe fairly frequent to sporadic), the two species are distinguished by the following features:

- 1 (2) Propodeum with a medio-longitudinal carina and along it rugulose-subrugulose (to rugose) of variable extent (Figs 18D; 19A; 20C-D). Forewing: pterostigma (2.8-)3-3.2 times as long as wide (Figs 18G; 20E). Second tergite transverse, 3-3.2 times as broad behind as long; tergites 1-2 usually with rugosity (Figs 18I; 20F). Ovipositor sheath usually as long as hind tibia. Tegula yellow. ♀♂: (2.5-) 3-5 mm *B. (B.) longicollis* Wesmael, 1838
- 2 (1) Propodeum without a medio-longitudinal carina, at most above lunule with a few rugulae (Fig. 24C). Forewing: pterostigma wide, 2.2-2.5(-2.7) times as long as wide (Figs 24F; 25B). Second

tergite less transverse, 2.6-2.7 times as broad behind as long; tergites 1-2 usually with rougher rugosity (Fig. 24H). Ovipositor sheath usually as long as hind basitarsus. Tegula (dark) brown to blackish. ♀: (2.8-)3-4 mm, ♂: (2-)2.5 mm *B. (B.) nigratus* Wesmael, 1838

The species *B. (B.) longicollis* is also near to *B. (B.) speerschneideri* Schmiedeknecht considering their sculpture quality of the tergites and the short ovipositor sheath; the distinction of the two species is presented as follows:

- 1 (2) Propodeum with a medio-longitudinal carina, along it rugulose-subrugulose (Figs 18D; 19A, 20C-D). Hind femur thick, 2.3-3.1 times (♀) and 3.3 times (♂) as long as broad (Figs 18E; 19B). Temple receded (Fig. 18A). Tergites 2-3 of ♀ equal in length (Fig. 18I). Ground colour of body blackish to black, tergites 2-3 with yellow to testaceous pattern (albanic and melanic forms sporadic). Body rather strong, ♀: (2.5-)3-5 mm *B. (B.) longicollis* Wesmael, 1838
- 2 (1) Propodeum medio-basally with fine sculpture (Fig. 21A). Hind femur thin, four times as long as broad (Fig. 21B). Temple rounded (Fig. 21C). Female: second tergite somewhat longer than third tergite (Fig. 21D). Ground colour of body brown to dark brown with faint rusty pattern. Body rather gracile, ♀: 3-3.2 mm *B. (B.) speerschneideri* Schmiedeknecht, 1897

The species *Bracon (Glabrobracon) reseri* Papp seems also near to *B. (B.) longicollis* disregarding the subgeneric difference between them: *B. reseri*: at most tergites 2-3 rugo-rugulose, rugose. The deviating features of *B. reseri* from three species, *B. larvicida* Wesmael, *B. romani* Fahringer and

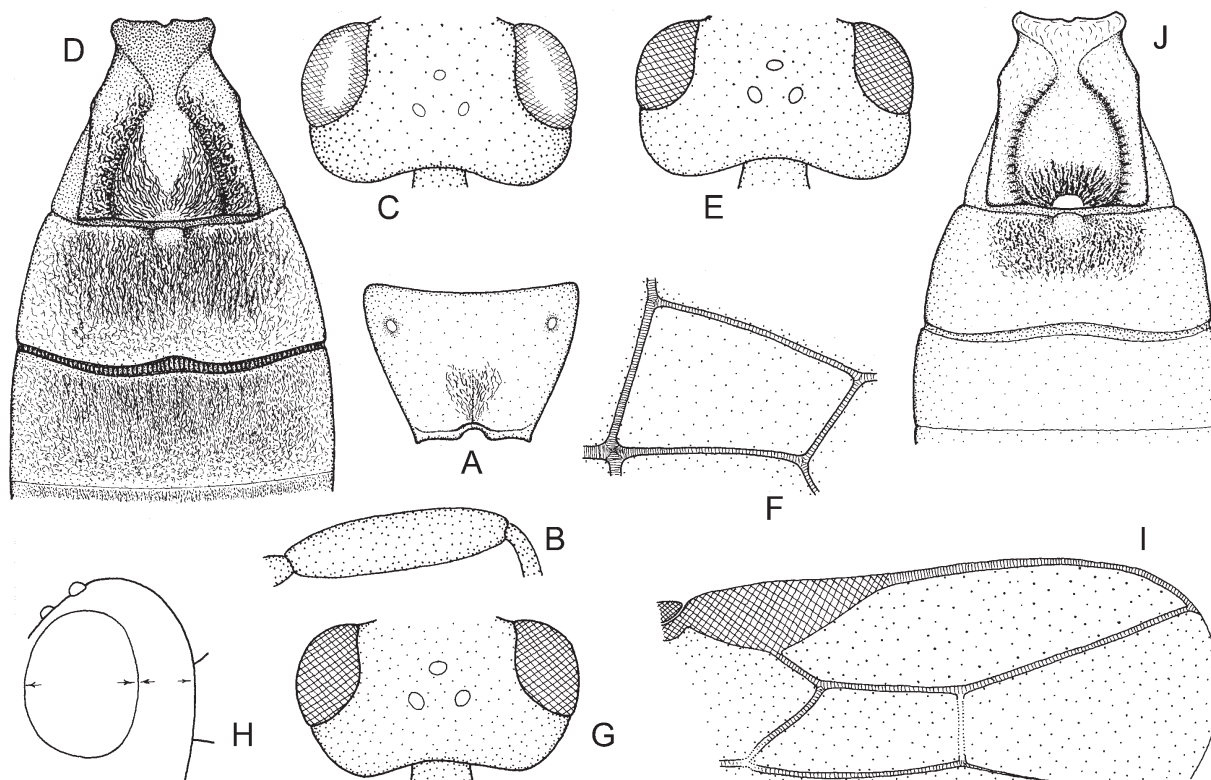


Fig. 21. — A-D. *Bracon (Bracon) speerschneideri* Schmiedeknecht, 1897, ♀. A. Propodeum. B. Hind femur. C. Head in dorsal view. D. Tergites 1-3. — E-F. *Bracon (Bracon) reseri* Papp, 1989, ♀ holotype. E. Head in dorsal view. F. First discal cell of right forewing. — G-J. *Bracon (Glabrobracon) delusor* Spinola, 1808, ♀. G. Head in dorsal view. H. Head in lateral view. I. Distal part of right forewing. J. Tergites 1-3.

B. terebella Wesmael, were presented previously (Papp 1989: 273-276), the fourth species, *B. longicollis*, is separated subsequently:

- 1 (2) Temple in dorsal view rounded (Fig. 21E). Flagellomeres 6-8 to 22-24 of ♀♀ subcubic, at most somewhat longer than broad; those of ♂♂ 1.3-1.4 times longer. First discal cell slightly less high, *l-m* 1.5 times as long as *m-cu* (Fig. 21F). Female: legs blackish to black with less yellowish brown to brown pattern; ♂: legs somewhat more light coloured. Tegula black. ♀♂: 3.2-3.6 mm
..... *B. (Gl.) reseri* Papp, 1989
- 2 (1) Temple in dorsal view receded (Fig. 18A). Flagellomeres of ♀♀ (1.3-)1.6-2 times as long as broad; those of ♂ 1.8-2.2 times longer. First discal cell high, *l-m* 1.7 times as long as *m-cu* (Fig. 18H). Female: legs yellow with more or less brownish to blackish pattern; ♂: legs yellow to brownish with less dark pattern. Tegula yellow to brown. ♀: 2.4-5 mm, ♂: 2.2-4 mm *B. longicollis* Wesmael, 1838

***Bracon (Foveobracon) megapterus* Wesmael, 1838**
Figs 22A-L, 23A

Braco megapterus Wesmael, 1838: 22 ♀ (type material: 5 ♀♀, seen 4 ♀♀), type locality: "...environs de Charleroi et de Bruxelles" (Belgium), ♀ lectotype (and three ♀ paralectotypes, present designations) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon (Orthobracon) biimpressus Telenga, 1936: 176 (in key), 295 (description) (in Russian) and 378 (in key), 402 (description) (in German) ♀ (type material: ?♀), type locality: "Europäischer Teil der UdSSR, ehem. Gouv. Ufa,".

Bracon megapterus – Szépligeti 1901: 263 (in key, in Hungarian); 1904 (1901): 175 (in key, in German), ♀.
Bracon (Lucobracon) megapterus – Fahringer 1927: 248 (in key) and 362 (redescription). — Telenga 1936: as *Ipobracon megapterus* 94 (in key), 98 (redescription) (in Russian) 330 (in key, in German). — Shenefelt 1978: 1621 (literature up to 1957).

Bracon (Foveobracon) biimpressus – Tobias 1961 (in subgenus *Foveobracon* created by him), 1986: 122 (in key, designation of ♀ lectotype and locality: "Bashkirskaya ASSR, Belebey" (European Russia); examined, **syn. nov.** — Shenefelt 1978: 1554 (as valid species, literature up to 1961).

Designation of the ♀ lectotype of *Bracon megapterus*

(first label, printed) "Coll. Wesmael", (second label, printed) "2047", (third label, partly handwritten) "Braco ♀ / megapterus mihi / dét. C. Wesmael", (fourth label, printed red) "Type", fifth label is the lectotype card. - Lectotype is in good condition: (1) micropinned, (2) left flagellum missing, right flagellum apically deficient.

Designation of the three ♀ paralectotypes of *Bracon megapterus* (1 ♀: "var. 1.")

Labels identical to those of the lectotype except paralectotype cards. Paralectotype are in good condition: (1) micropinned, (2) one ♀ with deficient flagellum, left hind wing glued separately, (3) one ♀ with missing both flagelli and left fore leg (except coxa + trochanter), (4) one ♀ with missing head and left fore leg (except coxa).

Material examined

11 ♀♀ + 3 ♂♂ from seven countries: GERMANY: 2 ♀♀ + 1 ♂ from three localities. BOHEMIA: 3 ♀♀ + 1 ♂ from two localities. POLAND: 1 ♀. SLOVAKIA: 1 ♀. CROATIA: 1 ♀: EUROPEAN RUSSIA: 1 ♀ + 1 ♂ from two localities. MONGOLIA: 2 ♀♀ from one locality.

Redescription of the ♀ lectotype of *Bracon megapterus* (Fig. 22A-I)

LENGTH. Body 5 mm long.

ANTENNAE. Right antenna apically deficient and with 39 antennomeres (according to the original description “de 39 on 40 articles environ”). First flagellomere 1.4 times as long as broad, further flagellomeres gradually shortening so that 37th flagellomere subcubic, i.e. just longer than broad.

HEAD. In dorsal view less transverse (Fig. 22A), 1.7 times as broad as long, eye one-fourth (or 1.3 times) longer than temple, temple rounded, occiput excavated. Oral opening usual in size, its horizontal diameter somewhat longer than shortest distance between opening and compound eye (Fig. 22B). Head polished, face laterally and clypeus weakly uneven, frons finely granulate.

MESOSOMA. In lateral view 1.4 times as long as high, polished. Propodeum polished, lunule unusually protruding and around it with short rugae (Fig. 22C).

LEGS. Hind femur 3.8 times as long as broad medially (Fig. 22D). Claw strongly curved and with finger-like basal lobe (Fig. 22E).

WINGS. Forewing as long as body. Pterostigma (Fig. 22F) 2.6 times as long as wide and issuing *r* somewhat proximally from its middle, *r* short, 0.45 times as long as width of pterostigma; second submarginal cell long, 3-SR 1.75 times as long as 2-SR, SRI straight, reaching tip of wing and 1.4 times as long as 3-SR; 1-RI distinctly 1.6 times as long as pterostigma. First discal cell subquadrate, 1-M 1.5 times as long as *m-cu*, 1-SR-M 1.2 times longer than 1-M (Fig. 22G).

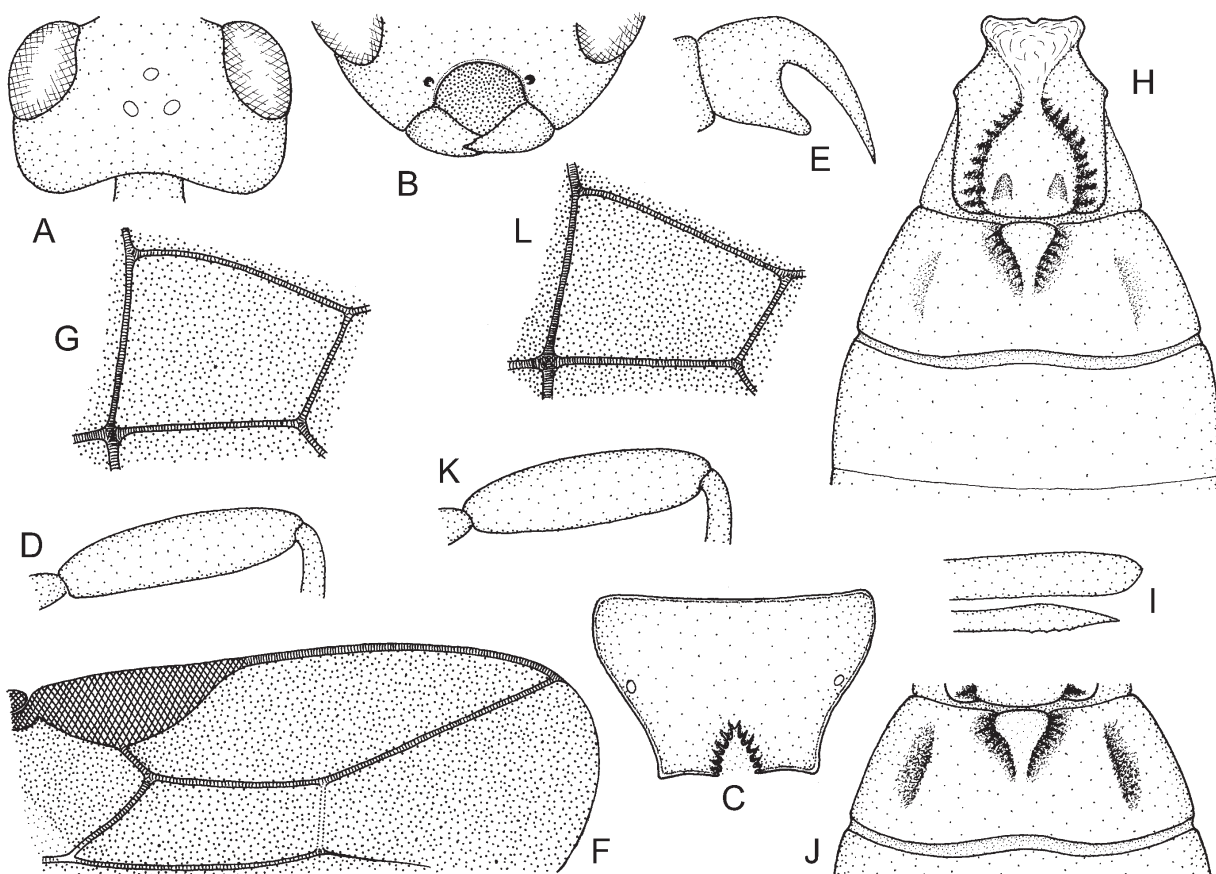


Fig. 22. *Bracon (Foveobracon) megapterus* Wesmael, 1838 (A-I: ♀ lectotype, J-L: ♀). **A.** Head in dorsal view. **B.** Head in frontal view. **C.** Propodeum. **D.** Hind femur. **E.** Claw. **F.** Distal part of right forewing. **G.** First discal cell of right forewing. **H.** Tergites 1-3. **I.** Hind end of ovipositor apparatus. **J.** Second tergite. **K.** Hind femur. **L.** First discal cell of right forewing.

TERGITES. First tergite (Fig. 22H) 1.3 times longer than broad behind, pair of spiracles slightly protruding, beyond spiracles tergite parallel-sided, margin of scutum crenulate, scutum smooth. Second tergite a bit longer than third tergite, antero-medially with a somewhat prominent three-sided areola, lateral margin of areola crenulo-rugulose, tergite laterally with a pair of longitudinal impressions, otherwise together with further tergites polished (Fig. 22H). Suture between tergites 2-3 bisinuate, smooth, fairly deep. Ovipositor sheath as long as hind tibia, posterior end of ovipositor apparatus as in Fig. 22I.

COLOUR. Antenna, head, mesosoma and first tergite black. Eyes with interrupted reddish yellow pattern. Mandible reddish yellow. Palpi proximo-distally black to brown. Coxae + trochanters black, rest of legs blackish brown, fore femur with yellowish pattern. Metasoma (except black first tergite) yellow, areola of second tergite blackish brown. Ovipositor sheath black. Wings dark brownish fumous, pterostigma and veins brown.

Redescription of the three ♀ paralectotypes of *Bracon megapterus*

Similar to the lectotype. Eye in dorsal view 1.5 times as long as temple (1 ♀). Tergites 3-6 medially with faint brownish maculae.

Variable features of the ♀ (5 ♀♀) (Fig. 22J-L)

Areola of second tergite laterally more impressed and here with strong crenulo-rugosity, lateral pair of impressions well distinct (Fig. 22J). Hind femur 3.6-3.8 times as long as broad medially (Fig. 22K). Forewing: 3-SR 1.7-1.8 times as long as 2-SR; first discal cell less subquadrate, 1-M twice as long as *m-cu* (Fig. 22L).

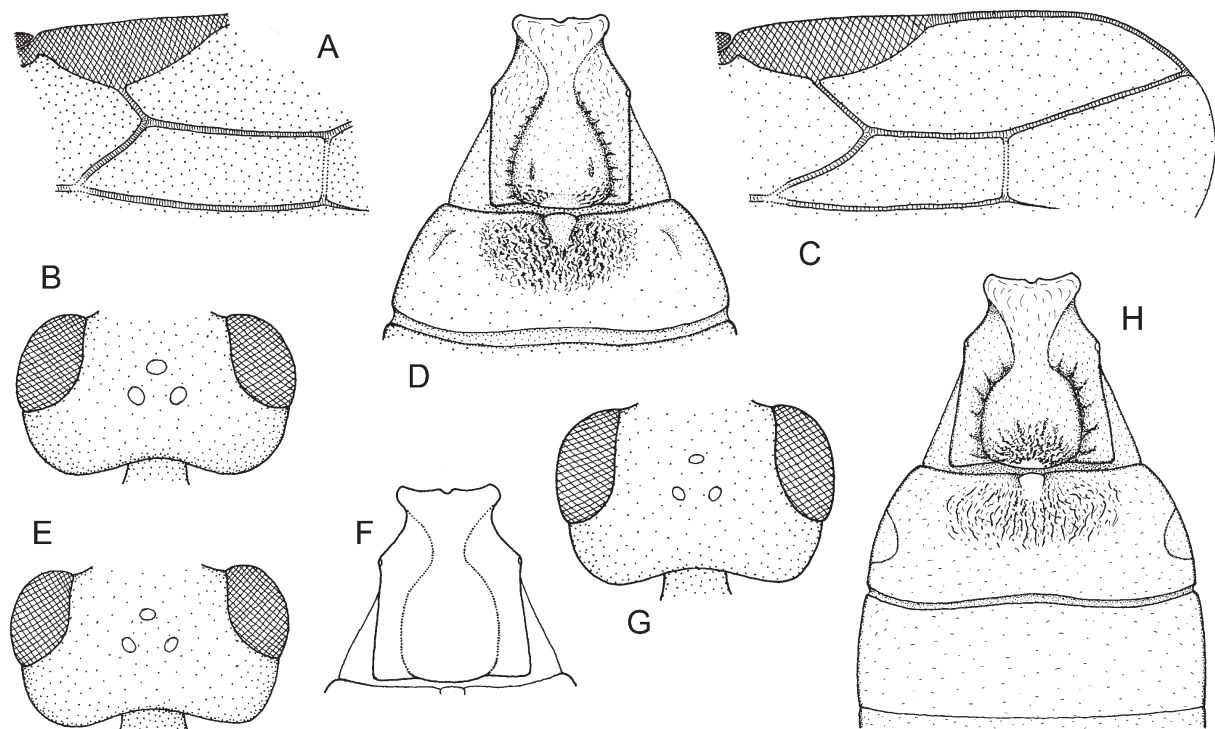


Fig. 23. — **A.** *Bracon (Foveobracon) megapterus* Wesmael, 1838, ♀, middle part of forewing: pterostigma and second submarginal cell. — **B-D.** *Bracon (Foveobracon) plugarui* Tobias, 1986, ♀. **B.** Head in dorsal view. **C.** Distal part of right forewing. **D.** Tergites 1-2. — **E-F.** *Bracon (Foveobracon) roberti* Wesmael, 1838, ♂. **E.** Head in dorsal view. **F.** First tergite. — **G-H.** *Bracon (Glabrobracon) orbis* Papp, 1981, ♀ holotype. **G.** Head in dorsal view. **H.** tergites 1-3.

Hosts

COL. Cerambycidae: *Molorchus umbellatarum* Schreber. — LEP. Thyatiridae: *Achlya flavicornis* Linnaeus, *Polyploca ridens* Fabricius.

Distribution:

Belgium, France, Germany, Bohemia, Slovakia, Slovenia, Croatia, Bulgaria, Finland, European Russia, Mongolia. A less frequent to sporadic species.

Taxonomic position

Within the subgenus *Foveobracon* the species *B. (Fo.) megapterus* is nearest to *B. (Fo.) plugarui* Tobias considering their antero-median areola on second tergite and colour of the body; the two species are separated by a few features:

- 1 (2) Temple in dorsal view rounded (Fig. 22A). Second submarginal cell long, 3-SR 1.7-1.8 times as long as 2-SR, *r* shorter than width of pterostigma (Fig. 22F). Second tergite along areola crenulate (Fig. 22H, J). Antenna with 35-37 antennomeres. Femora 2-3 black. Body strongly built. ♀♂: 5 mm*B. (Fo.) megapterus* Wesmael, 1838
- 2 (1) Temple in dorsal view receded (Fig. 23B). Second submarginal cell less long, 3-SR 1.2-1.3 times as long as 2-SR, *r* longer than width of pterostigma (Fig. 23C). Second tergite around areola rugo-rugulose (Fig. 23D). Antenna with 26-27 antennomeres. Femora 2-3 yellow. Body usually built. ♀♂: 2 mm*B. (Fo.) plugarui* Tobias, 1986

Bracon (Bracon) nigratus Wesmael, 1838

Figs 24A-K, 25A-F

Braco nigratus Wesmael, 1838: 34 ♀♂ (type material: 3 ♀♀ + 1 ♂), type locality: “environs de Bruxelles” (Belgium), ♀ lectotype (and two ♀ + one ♂ paralectotypes, present designation) deposited in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon (Orthobracon) nigratus Fahringer 1927: 269, 270 (♀), 278 (♂) (in key) and 405 (redescription), assigned to “Sektion *Orthobracon*”.

Bracon orbicularis Niezabitowski, 1910: 11 (55) (enumeration) and 16 (60) (description) ♀, type locality: “Spas koło Turki” (Poland), syntype series in (?) Zakład Ekologii i Ochrony Srobowiska WSP, Kielce; not examined, **syn. nov.**

Bracon nigratus – Szépligeti 1901: 262 (♀), 263 (♂) (in key, in Hungarian); 1904 (1901): 162, 163 (♀), 164 (in key) (in German).

Bracon (Bracon) nigratus – Telenga 1936: 161 (♀), 168 (♂) (in key), 243 (redescription) (in Russian); 363 (♀) and 371 (♂) (in key, in German), assigned to “Section *Striobracon*” (= *Bracon* s. str.). — Papp 1968: 194 (in key) and 205 (distribution), assigned to subgenus *Bracon*. Shenefelt 1978: 1516 (literature up to 1974). — Tobias 1986: 128 (in key, in Russian). — Tobias & Belokobylskij 2000: 135 (in key, in Russian).

Bracon orbicularis – Fahringer 1927: as valid species 266 and 270 (♀) (in key), 411 (redescription), assigned to “Sektion *Orthobracon*”. — Telenga 1936: 141 (in key and redescription, as valid species assigned to subgenus *Ceratobracon* Telenga, 1936). — Tobias 1971: 209 (taxonomic position). — Shenefelt 1978: 1521 (as valid species, literature up to 1971).

Designation of the ♀ lectotype of *Bracon nigratus*

(First label, printed) “Coll. Wesmael”; (second label, printed) “2039”; (third label) “Braco ♀ / nigratus mihi” (handwritten) / “det. C. Wesmael” printed); (fourth label, printed red) “Type”; (fifth label is the

locality label attached by Papp in 1987) “Belgique / Bruxelles” (printed) / “VI leg. Wesmael” handwritten by Papp); sixth label is the lectotype card. Lectotype is in good condition: (1) pinned by mesosoma (hind part of mesoscutum invisible); (2) left antenna missing.

Designation of the two ♀ and one ♂ paralectotypes of *Bracon nigratus*

Their labels are similar to those of the lectotype. Three paralectotypes pinned similar to the lectotype; one ♀ paralectotype is in good condition: (1) both flagelli distally deficient: right flagellum with 13 and left flagellum with 19 flagellomeres; (2) left hind wing apically somewhat creased; one ♀ paralectotype is in poor condition: head, left pair of wings and tarsomeres 3-5 of hind pair of legs missing; one ♂ paralectotype is in good condition: pair of antenna and right middle leg (except coxa + trochanter) missing.

Remark

In Wesmael's Collection there are further two specimens (one ♂ in good condition + one specimen in very poor condition: head, left pair of wings, legs partly and metasoma missing; the two specimens not belonging to the syntype series), both specimens were named by Marshall as “*Bracon*” and by me as *B. nigratus*.

Material examined

41 ♀♀ + 47 ♂♂ from fifteen countries: ENGLAND: 1 ♂. FRANCE: 1 ♂. SWEDEN: 1 ♀ + 2 ♂♂ from three localities. DENMARK: 2 ♂♂ from two localities. GERMANY: 3 ♀♀ + 2 ♂♂ from five localities.

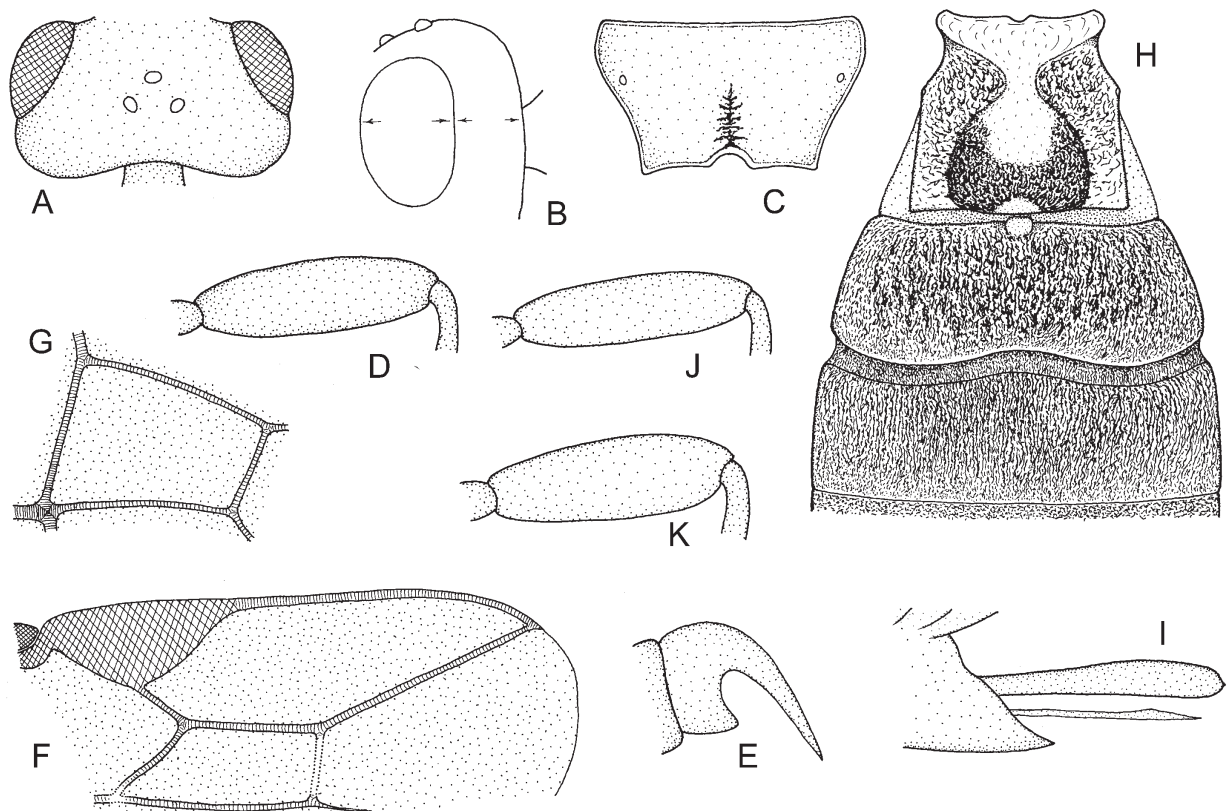


Fig. 24. *Bracon (Bracon) nigratus* Wesmael, 1838, (A-I: ♀ lectotype, J: ♀ paralectotype, ♂, K: paralectotype). **A.** Head in dorsal view. **B.** Head in lateral view. **C.** Propodeum. **D.** Hind femur. **E.** Claw. **F.** Distal part of right forewing. **G.** First discal cell of right forewing. **H.** Tergites 1-3. **I.** Hypopygium and ovipositor apparatus. **J-K.** Hind femur.

BOHEMIA: 1 ♀ + 1 ♂ from two localities. SLOVAKIA: 3 ♀♀ + 1 ♂ from four localities. HUNGARY: 21 ♀♀ + 28 ♂♂ from fortythree localities. ROMANIA (Transylvania): 8 ♀♀ + 5 ♂♂ from ten localities. UKRAINE (Podkarpatske): 1 ♀. KOSOVO: 1 ♀. ALBANIA: 1 ♀. BULGARIA: 1 ♀ + 2 ♂♂ from three localities. TURKEY: 1 ♂. GEORGIA: 1 ♂.

Redescription of the ♀ lectotype of *Bracon nigratus* (Fig. 24A-I)

LENGTH. Body 3.1 mm long.

ANTENNAE. About as long as body and with 21 antennomeres. First flagellomere 1.9 times and penultimate flagellomere 1.5 times as long as broad, flagellum just attenuating.

HEAD. In dorsal view transverse (Fig. 24A), 1.8 times as broad as long, eye 1.5 times longer than temple, temple rounded, occiput weakly excavated. OOL twice as long as POL. Eye in lateral view 1.55 times as high as wide and 1.3 times wider than temple, temple evenly broad beyond eye (Fig. 24B, see arrows). Oral opening: its horizontal diameter somewhat longer than shortest distance between opening and eye (cf. Fig. 8D). Head polished.

MESOSOMA. In lateral view stout, 1.25 times as long as high, polished. Notaulix distinct, weak, smooth. Propodeum polished, above lunule with a few rugulae (Fig. 24C).

LEGS. Hind femur fairly broad, 3.3 times as long as broad medially (Fig. 24D). Claw downcurved, with a distinct and somewhat pointed basal lobe (Fig. 24E).

WINGS. Forewing just longer than body. Pterostigma wide (Fig. 24F), 2.2 times as long as wide and issuing *r* just proximally from its middle; *r* shorter than width of pterostigma; second submarginal cell usual in size, 3-SR 1.35 times longer than 2-SR, *SR* straight, 1.85 times longer than 3-SR and reaching tip of wing. First discal cell: *I-M* 1.75 times as long as *m-cu*, *I-SR-M* faintly bent and 1.3 times longer than *I-M* (Fig. 24G).

TERGITES. First tergite (Fig. 24H) broad, almost one-fifth broader behind than long, pair of spiracles weakly broadening, rugo-scribulate, laterally from scutum subcrenulate. Second tergite 2.6 times broader behind than long medially, densely rugulose, suture between tergites 2-3 bisinuate; third tergite somewhat shorter than second tergite; tergites 2-5 with weakening longitudinal rugosity (Fig. 24H). Hypopygium small, pointed; ovipositor sheath short, in lateral view as long as hind basitarsus + second tarsomere (Fig. 24I).

COLOUR. Antenna and ground colour of body black. Mandible yellow, palpi light brown. Tegula brownish black. Second tergite laterally and third tergite antero-laterally rusty. Fore pair of legs yellow, coxa + trochanters brown, femur basally brownish, tarsus faintly brownish fumous; middle and hind legs brown to brownish, tibiae basally yellow. Wings brownish subfumous, pterostigma brown and veins light brown.

Redescription of the two ♀ paralectotypes of *Bracon nigratus* (Fig. 24J)

Similar to the ♀ lectotype. Body 3 mm long (1 ♀, the other ♀ missing head). Head in dorsal view 1.8 times as broad as long, eye 1.5 times longer than temple. Hind femur almost 3.6 times as long as broad distally (Fig. 24J). Pterostigma 2.1 times as long as wide.

Redescription of the ♂ paralectotype of *Bracon nigratus* (Fig. 24K)

Similar to the ♀ types. Body 2.9 mm long. Antenna missing. Head in dorsal view 1.9 times as broad as long. Hind femur broad, 2.9 times as long as broad medially (Fig. 24K). Pterostigma of fore wing less

wide, 2.5 times as long as wide and issuing *r* from its middle. First tergite less strongly sculptured. Legs nearly entirely brownish to brown.

Variable features of the ♀ (41 ♀♀) (Fig. 25A-E)

Similar to the types (lectotype + two paralectotypews). Body (2.8-)3-4 mm long. Antenna with (26-)30-31(-32) antennomeres, flagellum attenuating distally, first flagellomere 1.3-1.9 times, usually 1.8-1.9 times, and penultimate flagellomere 1.4-1.8 times as long as broad. Head in dorsal view 1.75-1.85 times as broad as long, temple rounded (Fig. 25A). Pterostigma less wide, nearly 2.7 times as long as wide; second submarginal cell short, i.e. 3-SR slightly longer than 2-SR (3 ♀♀, Fig. 25B) or second submarginal cell long, i.e. 3-SR 1.4 times as long as 2-SR (4 ♀♀, Fig. 25C). First tergite very broad, nearly 1.4 times as broad behind as long (3 ♀♀, Fig. 25D). Second tergite 2.6-2.7(-2.8) times as broad behind as long and with strong rugose elements (7 ♀♀, Fig. 25E). Second tergite more or less entirely and third tergite laterally light coloured (yellowish to brownish) (8 ♀♀); head partly with brownish to rusty pattern along eye (3 ♀♀). Hind (and middle) femur (femora) darkening (4 ♀♀), usually rusty to reddish yellow. Wings brownish fumous (18 ♀♀).

Variable features of the ♂ (47 ♂♂) (Fig. 25A)

Similar to the ♀. Body (2-)2.5-3.5(-4) mm long. Antenna longer than body and with (28-)30-32(-34) antennomeres, flagellum attenuating, first flagellomere 1.6-2 times and penultimate flagellomere 1.5-1.9 times as long as broad. Temple in dorsal view more rounded (10 ♂♂, Fig. 25A). Propodeum with a

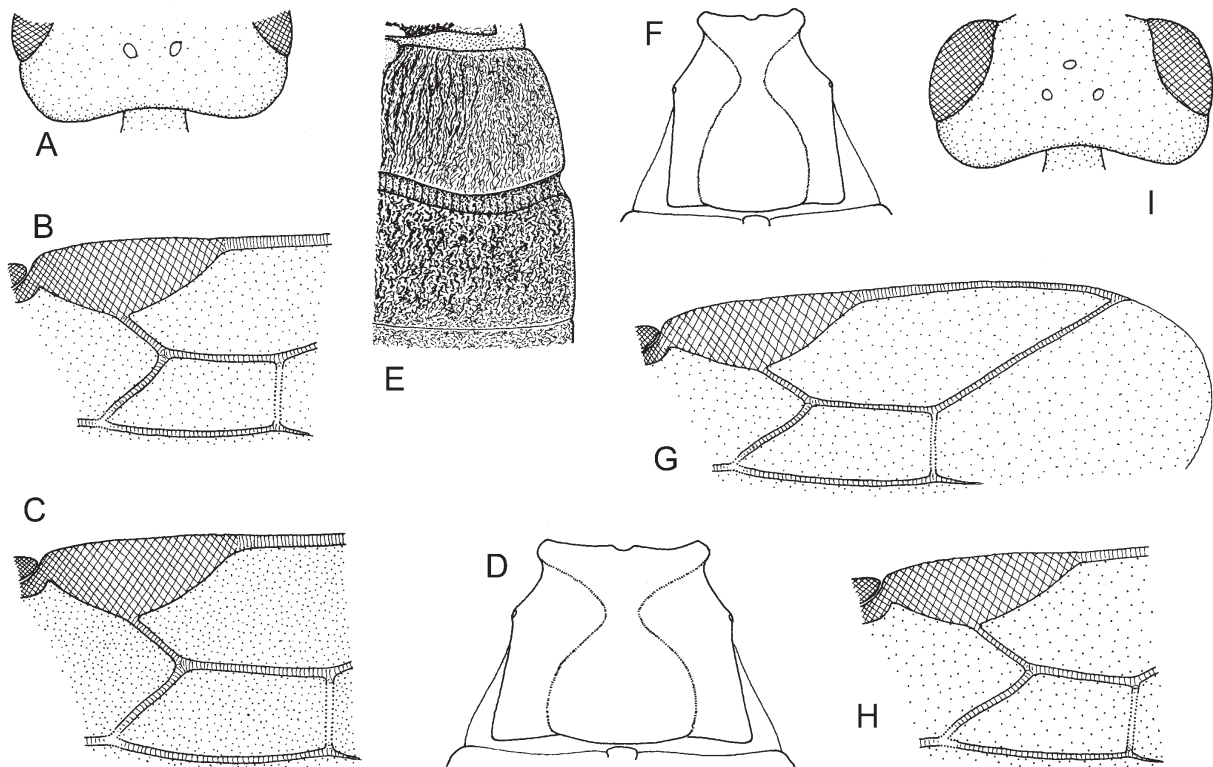


Fig. 25. — A-F. *Bracon (Bracon) nigratus* Wesmael, 1838 (A-C, E: ♀ / ♂, D: ♀, F: ♂). A. Temple and occiput in dorsal view. B-C. Middle part of right forewing: pterostigma and second submarginal cell. D. First tergite. E. Right half of tergites 2-3. F. First tergite. — G-I. *Bracon (Bracon) variegator* Spinola, 1808, ♀ / ♂. G. Distal part of right forewing. H. Middle part of right forewing: pterostigma and second submarginal cell. I. Head in dorsal view.

medio-longitudinal keel (1 ♂, cf. Fig. 18D). Second submarginal cell variably less long to long like in ♀ (Figs 25B-C). First tergite long, slightly longer than broad behind (2 ♂♂, Fig. 25F). Second (and third) tergite(s) with rugose elements like in ♀ (11 ♂♂, Fig. 25E). Tergites 2-3 light coloured like ♀ (8 ♂♂).

Hosts

LEP. Coleophoridae: !*Coleophora millefolii* Zeller. Tortricidae: !*Cydia compositella* Fabricius. Zygaenidae: *Zygaena achilleae* Esper. — DIPT. Tephritidae: *Sitarea scorzonerae* Robineau-Desvoidy.

Distribution

Western Palaearctic Region, Georgia, Asiatic Russia: Siberia.

Taxonomic position

Within the subgenus *Bracon s.str.* the species *Bracon nigratus* is nearest to three species: *B. gusaricus* Telenga, *B. longicollis* Wesmael and *B. variegator* Spinola considering their short ovipositor sheath. The four species are distinguished as follows:

- 1 (4) Hind femur thick, 2.5-2.6(-2.8) times as long as broad medially (Figs 18E; 19B, D, H). Ovipositor sheath short.
- 2 (3) Propodeum with a medio-longitudinal carina and along it rugose-subrugulose of variable extent (Figs 18D; 19A). Temple in dorsal view receded (to strongly rounded) (Figs 18A; 19C). Second tergite less broad, usually 2.5-2.8 times as broad behind as long laterally, variably rugulose-rugose (Fig. 18I). Pterostigma three times as long as wide, issuing *r* somewhat proximally from its middle, *r* shorter than width of pterostigma; second submarginal cell relatively less wide (Fig. 18G). Hind femur relatively less broadening (Figs 18E; 19B, D). Claw more downcurved (Fig. 18F). Metasoma usually more black. ♀♂: (2.5-)3-5 mm *B. (B.) longicollis* Wesmael, 1838
- 3 (2) Propodeum polished, i.e. at most around lunule with short striae (cf. Fig. 5E). Temple rounded (Fig. 19E). Second tergite broad, 3.3 times as broad behind as long laterally, rugulose-granulose (Fig. 19F). Pterostigma 2.7 times as long as wide, issuing *r* from its middle, *r* as long as width of pterostigma; second submarginal cell relatively wide (Fig. 19G). Hind femur relatively more broadening (Fig. 19H). Claw less downcurved (Fig. 19I) *B. (B.) gusaricus* Telenga, 1936

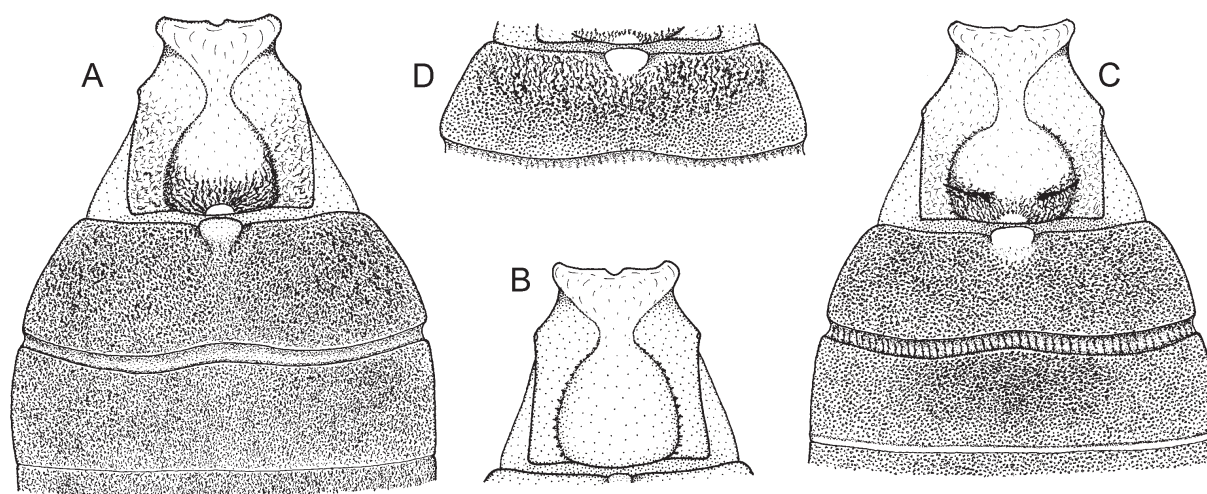


Fig. 26. — **A.** *Bracon (Bracon) variegator* Spinola, 1808, ♀, tergites 1-3. — **B.** *Bracon (Bracon) mesasiaticus* Tobias, 1957, ♀ paratype, first tergite. — **C-D.** *Bracon (Bracon) mellitor* Say, 1836, ♀. **C.** Tergites 1-3. **D.** Second tergite.

- 4 (1) Hind femur thin, (2.9-)3.5-3.8 times as long as broad (Figs 19J; 24D, J-K). Ovipositor sheath very short to short.
- 5 (6) Fore wing: *SR1* reaching tip of wing, second submarginal cell of middle length, i.e. *3-SR* somewhat longer than *2-SR* (Fig. 24F; 25B-C). Temple in dorsal view rounded, eye less than twice longer than temple (Fig. 24A). Tergites posteriorly with weakening rugosity (Figs 24H; 25E). Pterostigma light brown to brown. ♀: 3-3.5 *B. (B.) nigratus* Wesmael, 1838
- 6 (5) Fore wing: *SR1* approaching tip of wing, second submarginal cell variable in length, i.e. *3-SR* shorter than to (somewhat) longer than *2-SR* (Figs 19K; 25G, H). Temple in dorsal view strongly rounded, eye twice longer than temple (Fig. 25I). Tergites granulate (Fig. 26A). Pterostigma usually brown, less usually basally to almost entirely yellow. ♀♂: 2-4(-5) mm. *B. (B.) variegator* Spinola, 1808

***Bracon (Glabrobracon) nigricollis* Wesmael, 1838**

Fig. 27A-L

Bracon nigricollis Wesmael, 1838: 19 ♀ (type material: 1 ♀), type locality: “environs de Liège” (Belgium), the single ♀ syntype (“Je ne possède qu’une femelle de cette espèce,” Wesmael l.c.) is not present in Wesmael’s Collection (Brussels), supposedly lost.

Bracon nigricollis – Szépligeti 1901: 263 (♀, in key, in Hungarian); 1904 (1901): 176 (♀, in key, in German).

Bracon (Lucobracon) nigricollis – Fahringer 1927: 251 (in key) and 363 (redescription, ♀), assigned to “Section *Lucobracon*”. — Telenga 1936: 173 ♀ (in key), 285 (redescription) (in Russian) and 376 (in key, in German). — Shenefelt 1978: 1622 (literature up to 1953).

Material examined

11 ♀♀ + 4 ♂♂: BOHEMIA: 1 ♂. HUNGARY: 5 ♀♀ + 1 ♂ from two localities. ROMANIA: 3 ♀♀ + 1 ♂ from one locality. ITALY: 1 ♀ + 1 ♂ from two localities. CYPRUS: 1 ♀. GEORGIA: 1 ♀.

Redescription of *Bracon nigricollis* Wesmael (3 ♀♀) (Fig. 27A-H)

Introductory remark to the redescription

Owing to the absence (or loss?) of the syntype ♀ three ♀♀ were selected from among the eleven ♀♀ examined (see before); their collection data are identical: 3 ♀♀ (+ 1 ♂), Romania, Iași, ex *Rhopobota unipunctana* Haworth, 20 August 1993, leg. et educ. I. Andriescu. The three ♀ (and one ♂) specimens matching in all respects to the original description by Wesmael (l.c.). Designation of a neotype out of the three ♀♀ was disregarded because the present state of the ♀♀ in question are not appropriate for it. Furthermore, a few specific features of them are not manifested uniformly.

LENGTH. Body 2.2-3 mm long (2.2: 1 ♀, 2.8: 1 ♀, 3: 1 ♀).

ANTENNAE. As long as three-fourths of body and with 23 (1 ♀) and 25 (1 ♀) antennomeres. First and penultimate flagellomeres twice as long as broad, flagellum faintly attenuating.

HEAD. In dorsal view transverse (Fig. 27A), 1.9 times (1.87: 1 ♀, 1.9: 2 ♀♀) as broad as long, eye 1.5-1.6 times (1.5: 2 ♀♀, 1.6: 1 ♀) longer than temple, temple rounded, occiput weakly excavated. OOL twice longer than POL. Eye in lateral view 1.5 times as high as wide and 1.5 times wider than temple, temple beyond eye evenly wide (Fig. 27B, see arrows). Oral opening: its horizontal diameter one-sixth longer than shortest distance between opening and eye (cf. Fig. 22B). Head polished, face above (or around antennal sockets) finely coriaceous.

MESOSOMA. In lateral view 1.6 times as long as high, polished. Notaulix weakly distinct, around its hind meeting rugulose. Propodeum polished, around lunule with short fine striae (Fig. 27C).

LEGS. Hind femur 3.6 times as long as broad distally (Fig. 27D). Claw downcurved and with a distinct basal lobe (Fig. 27E).

WINGS. Forewing somewhat longer than body. Pterostigma (Fig. 27F) 3-3.6 times as long as wide (3: 1 ♀, 3.3: 1 ♀, 3.6: 1 ♀) and issuing *r* proximally from its middle, *r* just shorter than (1 ♀) to as long as (2 ♀♀) width of pterostigma. Second submarginal cell long, 3-*SR* 1.3-1.5 times as long as 2-*SR* (1.3: 1 ♀, 1.4: 1 ♀, 1.5: 1 ♀); *SR1* straight, 1.4-1.6 times as long as 3-*SR* (1.4: 1 ♀, 1.5: 1 ♀, 1.6: 1 ♀) and reaching tip of wing. First discal cell: *I-M* 1.8-1.9 times longer than *m-cu* (1.8: 2 ♀♀, 1.9: 1 ♀), two veins not parallel, *I-SR-M* 1.5 times as long as *I-M* (Fig. 27G).

TERGITES. First tergite (Fig. 27H) 1.0-1.25 times as long as broad behind (1.0: 1 ♀, 1.14: 1 ♀, 1.25: 1 ♀), sides beyond pair of spiracles faintly concave and either parallel (2 ♀♀) or somewhat converging posteriorly (1 ♀); margin of scutum finely crenulated, lateral part of tergite with rugulo-striolae (2 ♀♀), otherwise tergite polished. Second tergite transverse, 2.8 times as broad behind as long laterally and somewhat longer than third tergite; suture between tergites 2-3 weakly bisinuate, finely crenulated. Tergites polished, second tergite antero-medially finely strio-rugulose (Fig. 27H). Tergites 3-4 behind (i.e. before hind margin) with a transverse weak sulcus finely crenulated (1 ♀, Fig. 27K). Hypopygium concealed, ovipositor sheath two-thirds to three-fourths as long as metasoma (or clearly to somewhat shorter than hind tibia).

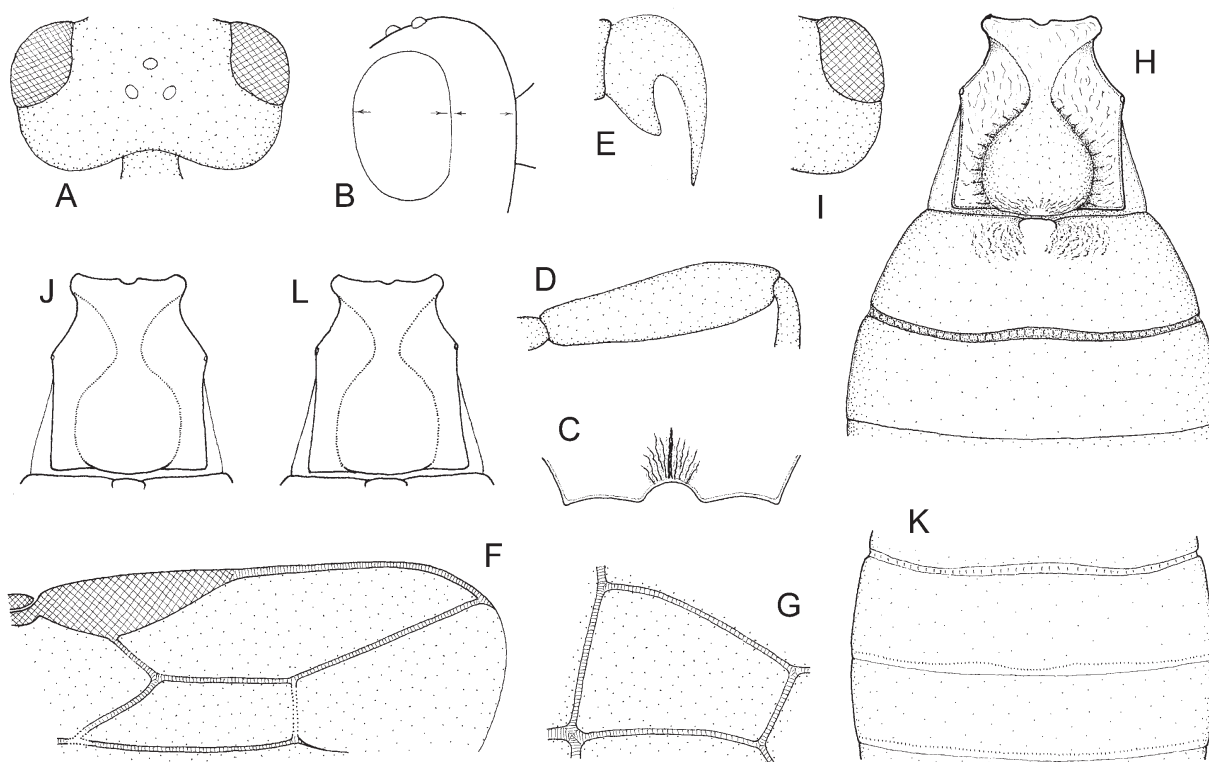


Fig. 27. *Bracon (Glabrobracon) nigricollis* Wesmael, 1838 (A-H, J-L: ♀, I: ♂). **A.** Head in dorsal view. **B.** Head in lateral view. **C.** Posterior third of propodeum. **D.** Hind femur. **E.** Claw. **F.** Distal part of right forewing. **G.** First discal cell of right forewing. **H.** Tergites 1-3. **I.** Right half of head in dorsal view. **J.** First tergite. **K.** Tergites 3-4. **L.** First tergite.

COLOUR. Scape and pedicel ochre, flagellum brownish black, first 3-4 flagellomeres ventrally faintly ochre. Head and mesosoma black, face with ochre suffusion. Cheek and temple below brownish, mandible yellow, palps pale yellow. Vertex near to eyes with a pair of faint rusty maculae. Tegula yellow (2 ♀♀) or brownish yellow (1 ♀). First tergite black with faint brownish tint. Further tergites yellow, second tergite antero-medially with a blackish macula (2 ♀♀) or tergites medially with a blackish streak (1 ♀). Legs yellow, coxae brownish. Wings subhyaline, pterostigma and veins light brownish.

Variable features of the ♀ (8 ♀♀) (Fig. 27I-K)

Similar to the three ♀♀. Body 2.6-2.8(-3) mm long. Antenna with 23-26 antennomeres (23: 1 ♀, 24: 2 ♀♀, 25: 3 ♀♀, 26: 1 ♀). Head in dorsal view less transverse, 1.7 times as broad as long (1 ♀, Fig. 27I). Oral opening: its horizontal diameter one-sixth to one-fifth longer than shortest distance between opening and eye. First tergite 1.25 times longer than broad behind (3 ♀♀, Fig. 27J). Tergites 3-4 behind (i.e. close before hind margin) with a transverse, very weak sulci finely subcrenulated (2 ♀♀, Fig. 27K). Ovipositor sheath long, as long as hind tibia. First tergite yellow, scutum blackish (1 ♀).

Description of the ♂ (4 ♂♂) (Figs 27L; 29G)

Similar to the ♀. Body 2.8-3.2 mm long (2.8: 1 ♂, 3: 2 ♂♂, 3.2: 1 ♂). Antenna somewhat longer than body and with 28-33 antennomeres (28: 1 ♂, 30: 2 ♂♂, 33: 1 ♂), flagellomeres 2-2.2 times longer than broad. Head (1.7-)-1.9 times as broad as long (1.7: 1 ♂, cf. Fig. 29G; 1.9: 3 ♂♂). First tergite like in ♀ or somewhat broadening posteriorly (1 ♂, Fig. 27L). Metasoma vivid yellow (1 ♂).

Hosts

New host: *Rhopobota unipunctana* Haworth (Lep., Tortricidae: Eucosmini), host taken in Iași (Romania: Moldavia), 20 Aug. 1993, leg. et educ. 3 ♀♀ + 1 ♂ by I. Andriescu. — Three known hosts needed to be confirmed (Shenefelt 1978: 1622): LEP. Incurvariidae: *Lampronia fuscata* Tengström; Momphidae: *Mompha subbistrigella* Haworth and Tortricidae: *Cydia discretana* Wocke.

Distribution

Belgium, Bohemia, Hungary, Romania, Italy, Cyprus, Georgia; after Shenefelt (1978: 1622): The Netherlands, France, Germany.

Taxonomic position

Bracon (*Glabrobracon*) *nigricollis* Wesmael is nearest to *B. (Gl.) conjugellae* Bengtsson (Sweden, Hungary), a few features are distinctive between the two species:

- 1 (2) Head in dorsal view less transverse, 1.7-1.75 times as broad as long; temple moderately rounded, eye 1.4-1.5 times longer than temple (Fig. 29G). First tergite 1.4-1.5 times longer than broad behind, beyond pair of spiracles with slightly converging sides; second tergite slightly longer than third tergite (Fig. 29H). Hind femur broadest medially (Fig. 29I). Ovipositor sheath longer than hind tibia. Metasoma vivid yellow, medially with dark brown streak. ♀♂: 3.2-3.4 mm *B. (Gl.) conjugellae* Bengtsson, 1924
- 2 (1) Head in dorsal view more transverse, (1.7-)-1.9 times as broad as long; temple rounded, eye 1.8-1.9 times longer than temple (Figs 27A, I). First tergite at most 1.25 times longer than broad behind, beyond pair of spiracles with parallel sides; second tergite distinctly longer than third tergite (Figs 27H-J). Hind femur broadest distally (Fig. 27D). Ovipositor sheath shorter than (or at most as long as) hind tibia. Metasoma yellow, second tergite antero-medially with a blackish macula or medially with blackish streak. ♀: 2.2-3 mm, ♂: 2.8-3.2 mm *B. (Gl.) nigricollis* Wesmael, 1838

***Bracon (Glabrobracon) nigriventris* Wesmael, 1838**
Figs 28A-J; 29A-F

Bracon nigriventris Wesmael, 1838: 36 ♀ (type material: 1 ♀), type locality: “environs de Bruxelles” (Belgium), ♀ holotype (“j’ai pris une seule femelle de cette espèce” Wesmael l.c., present designation) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon indubius var. 1. Szépliget, 1901a: 264 (in key) and 278 (description) (in Hungarian); 1904 (1901): 178 (in key) and 182 (description) (in German) ♀♂, paralectotypes (1 ♀ + 1 ♂) locality: (1) 1 ♀: Hungary, Pilismarót (Hym. Typ. No. 1437), (2) 1 ♂: Budapest, Gellérthegy (Hym. Typ. No. 1438).

Bracon laticeps Telenga, 1936: 175 (in key), 293 (description) (in Russian) and 378 (in key), 401 (description) (in German) ♀, type locality: “Krim, Jalta” (Ukraine), assigned to Section *Orthobracon*.

Bracon lencoranus Telenga, 1936: 172 (in key) and 279 (description) (in Russian) and 374 (in key), 399 (description) (in German) ♀, type locality: “Transkaukasien, Lenkoranj” (Azerbaijan), assigned to Section *Orthobracon*.

Ichneumon (Bracon) palpebrator Ratzeburg, 1844: 47 ♀♂ (type material: several ♀♀ and ♂♂), type locality: Borutin, Oberschlesien (Germany), ♀ lectotype (designated by Papp 1971b: 282) in Senckenberg Deutsches Entomologisches Institut, Müncheberg; synonymized by Papp l.c.).

Bracon persimilis Telenga, 1936: 149 (in key), 209 (description) (in Russian) and 351 (in key), 390 (description) (in German) ♀, type locality: “Nord-Kaukasus, Kisljar” (European Russia: Daghestan).

Bracon subornatus Szépliget, 1901: 263 (in key), 277 (description) (in Hungarian); 1904 (1901): 175 (in key), 180 (description) (in German).

Bracon nigriventris – Szépliget 1901: 265 (♀, in key, in Hungarian); 1904 (1901): 177, 179 (♀, in key, in German).

Bracon (Orthobracon) nigriventris – Fahringer 1926: 272 (♀, in key), 406 (redescription), assigned to “Section *Orthobracon*”.

Bracon (Lucobracon) nigriventris – Papp 1969a: 322 (in key) and 329 (taxonomic notes). — Shenefelt 1978: 1641 (literature up to 1974). — Tobias 1986: 147 (in key). — Tobias & Belokobylskij 2000: 162 (in key, synonyms).

Bracon indubius var. 1 – Papp 2004: 176 (synonymization of the full series: seven ♀♀ + four ♂♂).

Bracon laticeps – Shenefelt 1978: 1621 (as synonym of *B. lautus* Szépliget after Tobias 1961: 171). — Tobias 1986: 147 (in key, as synonym of *B. nigriventris*).

Bracon lencoranus – Shenefelt 1978: 1501 (as valid species). — Tobias 1986: 147 (in key, as synonym of *B. nigriventris*).

Ichneumon (Bracon) palpebrator – Shenefelt 1978: 1609 (as valid species, literature up to 1971).

Bracon persimilis – Shenefelt 1978: 1580 (as valid species, literature up to 1936). — Tobias 1976: 69 (in key) and 1986: 147 (synonymization in key).

Bracon subornatus – Fahringer 1927: as valid species 262 (in key) and 423 (redescription), assigned to “Section *Orthobracon*”. — Telenga 1936: as valid species 172 (in key), 279 (redescription) (in Russian). — Papp 1969a: 329 (synonymization). — Papp 2004: 181 (“identity” with *B. titubans* Wesmael) and 2008: 1789: citations, type locality, ♀ lectotype designation.

Designation of the ♀ holotype of *B. nigriventris*

(First label, printed) “Coll. Wesmael”; (second label, printed) “2050”; (third label) “Braco ♀ / nigriventris mihi” (handwritten) / “dét. C. Wesmael” (printed); (fourth label, printed red) “Type”; (fifth label with my handwriting) “Belgique / Bruxelles / VII, leg. Wesmael” (above on label) “teste J. Papp / 1987” (reverse on label); sixth label is the holotype card. Holotype is in fairly good condition: (1) micropinned on a thick needle hence mesoscutum partly and scutellum entirely invisible; (2) flagelli damaged; (3) right middle leg glued separately on the polyporus stage; (4) tarsomeres 2-5 of left middle and tarsus of right hind legs missing.

In the Wesmael Collection under the name label *Bracon nigriventris* there is a second ♀ specimen with three labels similar to that of the first three labels of the holotype. However, it does not represent the syntype specimen considering Wesmael's own statement (1838: 37) "J'ai pris une seule femelle de cette espèce...". I labelled accordingly this specimen ("non Type").

Material examined

36 ♀♀ + 32 ♂♂: ENGLAND: 4 ♀♀ + 2 ♂♂ from two localities. DENMARK: 1 ♀. FRANCE: 4 ♀♀ + 5 ♂♂ from one locality. GERMANY: 3 ♀♀ + 1 ♂ from three localities. SLOVAKIA: 1 ♀ + 1 ♂ from two localities. HUNGARY: 17 ♀♀ + 13 ♂♂ from 21 localities. ROMANIA (Transsylvania): 1 ♀. ITALY: 1 ♀ + 1 ♂ from two localities. CROATIA: 1 ♂. MACEDONIA: 1 ♂. KOSOVO: 1 ♂. BULGARIA: 2 ♀♀ from two localities. TURKEY: 1 ♀ + 1 ♂ from two localities. ARMENIA: 1 ♀ + 3 ♂♂ from three localities. MONGOLIA: 2 ♂♂ from one locality.

Redescription of the ♀ holotype of *Bracon nigriventris* (Fig. 28A-H)

LENGTH. Body 3.3 mm long.

FLAGELLI. Deficient, right flagellum with 10 and left flagellum with 14 flagellomeres (according to the original description antenna with 28 antennomeres). First flagellomere twice as long as broad apically.

HEAD. In dorsal view (Fig. 28A) less transverse, 1.6 times as broad as long, eye 1.5 times as long as temple, temple rounded, occiput weakly excavated. Oral opening fairly large, its horizontal diameter 1.5 times as long as shortest distance between opening and eye (Fig. 28B). Head polished.

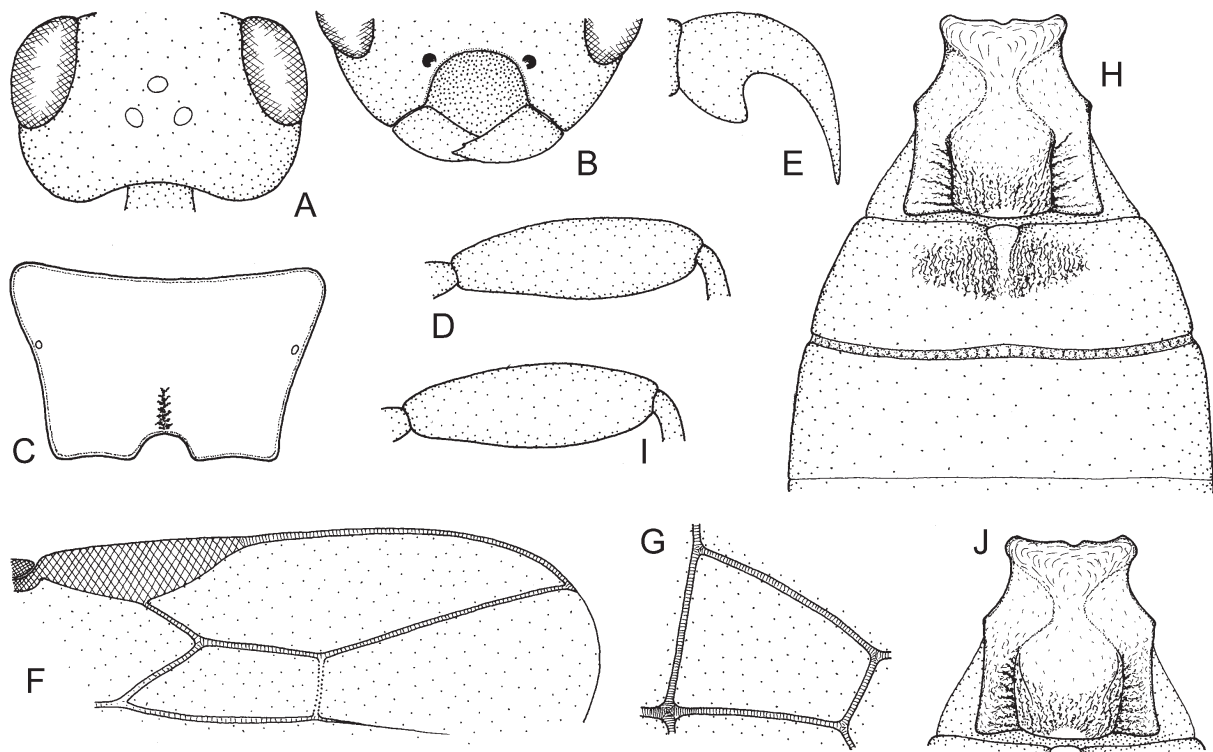


Fig. 28. *Bracon (Glabrobracon) nigriventris* Wesmael, 1838 (A-H: ♀ holotype, I: ♀, J: ♂). **A.** Head in dorsal view. **B.** Head in frontal view. **C.** Propodeum. **D.** Hind femur. **E.** Claw. **F.** Distal part of right forewing. **G.** First discal cell of right forewing. **H.** Tergites 1-3. **I.** Hind femur. **J.** First tergite.

MESOSOMA. In lateral view 1.4 times as long as high. Propodeum polished, only above lunule with short rugae (Fig. 28C).

LEGS. Hind femur three times as long as broad distally (Fig. 28D). Claw of hind tarsus moderately curved and its basal lobe of usual size (Fig. 28E).

WINGS. Forewing as long as body. Pterostigma (Fig. 28F) 3.3 times as long as wide and issuing *r* from its middle, *r* just shorter than width of pterostigma, second submarginal cell less long, 3-*SR* 1.3 times longer than 2-*SR*, *SR1* straight, twice as long as 3-*SR* and reaching tip of wing; 1-*RI* 1.5 times as long as pterostigma. First discal cell subquadrate, 1-*M* twice as long as *m-cu*, 1-*SR-M* just bent and 1.3 times as long as 1-*M* (Fig. 28G).

TERGITES. First tergite (Fig. 28H) a bit broader behind than long, beyond pair of spiracles subparallel-sided, scutum behind rugulose, tergite laterally from scutum with crenulae. Tergites 2-3 of equal length, second tergite 2.9 times and third tergite 3 times as broad as long, suture between them bisinuate, subcrenulate. Second tergite antero-medially longitudinally striate, otherwise together with further tergites polished (Fig. 28H). Ovipositor sheath long, as long as hind tibia + basitarsus combined.

COLOUR. Antenna dark brown. Head rusty brown, cheek and clypeus brownish yellow, palpi pale brownish yellow. Mesosoma rusty brown, mesoscutum, scutellum and mesopleuron blackish. Tergites 1-2 vivid brownish yellow, scutum anteriorly with faint brownish suffusion; further tergites darkening

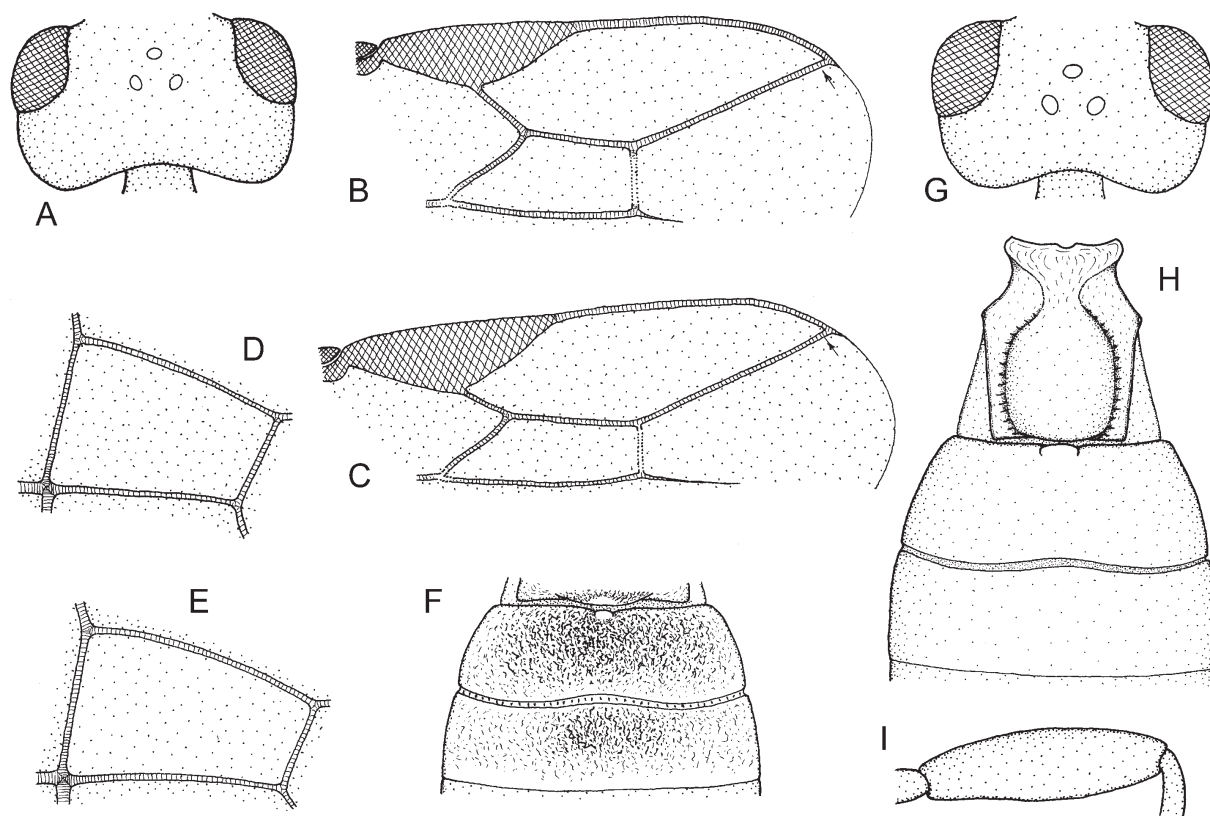


Fig. 29. — **A-F.** *Bracon (Glabrobracon) nigriventris* Wesmael, 1838 (A-B, D-E: ♀, C, F: ♂). **A.** Head in dorsal view. **B-C.** Distal part of right forewing. **D-E.** First discal cell of right forewing. **F.** Tergites 2-3. — **G-I.** *Bracon (Glabrobracon) conjugellae* Bengtsson, 1924, ♀ paralectotype. **G.** Head in dorsal view. **H.** Tergites 1-3. **I.** Hind femur.

brown. Legs brownish yellow; coxae, femori and tibiae with faint brownish tint. Wings subhyaline, pterostigma and veins light brown.

Variable features of the ♀ (36 ♀♀) (Figs 28D, G, I; 29B-F)

Body 3-3.5 mm, usually 3.1-3.3 mm, long. Antenna with (23-)26-31 antennomeres, flagellomeres exceptionally subcubic (1 ♀). Head in dorsal view (1.6-)1.7-1.8 times as broad as long, eye 1.3-1.5 times longer than temple, temple less rounded to rounded (Fig. 9F). Hind femur 2.8-3.1 times as long as broad medially (Fig. 28D, I). Fore wing: pterostigma 3-3.4 times as long as wide, second submarginal cell of variable length, 3-SR just longer than to 1.4 times as long as 2-SR, SR1 more or less approaching to reaching tip of wing (Fig. 29B-C, see arrow). First discal cell less high (Fig. 29D-E) to high (Fig. 28G), i.e. *I-M* less than twice to more than twice longer than *m-cu*. Tergites 2-3 medially rugo-rugulose (Fig. 29F). Ovipositor sheath long, as long as hind tibia + hind tarsus combined (5 ♀♀). Body black with more or less brownish, light brownish to yellowish pattern.

Variable features of the ♂ (32 ♂♂) (Figs 29B-C; 30E; 38G-H)

Similar to the ♀. Body (2.8-)3.1-3.3 mm long. Antenna with (30-)34-36 antennomeres. Head in dorsal view as in ♀, exceptionally 1.55 times as broad as long and eye just longer than temple (cf. Fig. 30E). First tergite slightly to (exceptionally) 1.4 times as long as broad behind (cf. Fig. 38G-H). Variable features of the fore wing like in ♀ (Fig. 29B-C). Body usually black, blackish to brownish black with less light coloured pattern.

Hosts

COL. Cerambycidae: *Plagionotus floralis* Pallas. Curculionidae: *Hylobius excavatus* Laicharting. *Pissodes castaneus* De Geer (= *P. notatus* Fabricius), *P. piceae* Illiger, *P. pini* Linnaeus.

Distribution

Palearctic Region, in Europe frequent (in its southern half) to less frequent.

Taxonomic position

Bracon nigriventris is nearest to *B. larvicida* Wesmael and *B. titubans* Wesmael, the distinction of the three species is presented at *B. titubans*. *B. nigriventris* is also near to *B. fuscicoxis* Wesmael, their distinction is given at *B. fuscicoxis*.

***Bracon (Glabrobracon) nigriventris* var. *indubius* (Szépligeti, 1901)**

Bracon indubius Szépligeti, 1901a: 264 (in key) and 278 (description) (in Hungarian); 1904 (1901): 178 (in key) and 182 (description) (in German) ♀♂, type locality: “Budapest” Kincstári erdő (♀ lectotype, Hym. Typ. No. 1433) and “Budapest” Gellérthegy (♂ paralectotype, Hym. Typ. No. 1434).

Bracon nigriventris var. *flavus* Papp, 1969a: 322 (♀), **syn. nov.**

Bracon indubius – Tobias 1961: 173 (“type” designations, redescription as valid species). — Papp 1969a: 322 ♀♂ (in key as *B. nigriventris* var. *indubius* comb. n.) and 329 (*indubius* “partim” as synonym of *B. nigriventris*); 2004: 176 (as “valid species?”).

The var. *indubius* represent a light coloured form of *B. nigriventris*:

(a) body entirely brownish yellow (or ochre) with faint brownish suffusion on vertex, mesosternum, propodeum, last tergites and proximally on legs (coxae, trochanters, femori) (♀).

(b) head and mesosoma black, brown to light brown, metasoma anteriorly brownish yellow or ochre, legs brownish yellow to brown (♀♂), this form is essentially identical to Tobias's "light form" of *B. indubius* (Tobias 1961: 173).

Taxonomic remarks

1) The species *B. nigriventris* is highly variable viewing its few morphological and colour features. By the features of the variable length of second submarginal cell (Figs 28F; 29C-D), variable height of first discal cell (Figs 28G; 29D-E), transverse to subcubic form of head (Figs 28A; 29A), variable breadth of hind femur (Fig. 28D, I) and variable colour pattern of the body (from almost brownish yellow to blackish / black) the taxonomic position of the species is rather intermediate between the subgenera *Lucobracon* and *Glabrobracon*. Earlier I ranged it to the subgenus *Lucobracon* (Papp 1969a: 322, 329), as Tobias (1986: 147) did later. Considering in complexity the features characterized *B. nigriventris* I assign it to the subgenus *Glabrobracon*.

2) Tobias & Belokobylskij (2000: 162) synonymized the name *Bracon (Lucobracon) turolus* Papp (Mongolia) with *Bracon (Glabrobracon) nigriventris* Wesmael (Palearctic Region): *turolus* is but a dark (melanic) form of *nigriventris*. Re-examining the ♀ holotype of *B. turolus* and compared it to the ♀ lectotype of *B. nigriventris* the species *B. turolus* is not identical with *B. nigriventris* but representing a valid species, the two species differing by the following features:

1 (2) Mesosoma in lateral view not elongated, 1.4(-1.5) times as long as high. Forewing: marginal cell (*MI*) at most approaching, usually reaching, tip of wing (Figs 28F; 29B-C); first discal cell (*DI*) less *I-SR-M* 1.3-1.4 times longer than *I-M* (Figs 28G; 29D-E) (subgenus *Glabrobracon*). Hind femur less thick, (2.8-)3-3.1 times as long as broad medially (Fig. 28D, I). Female: first tergite as

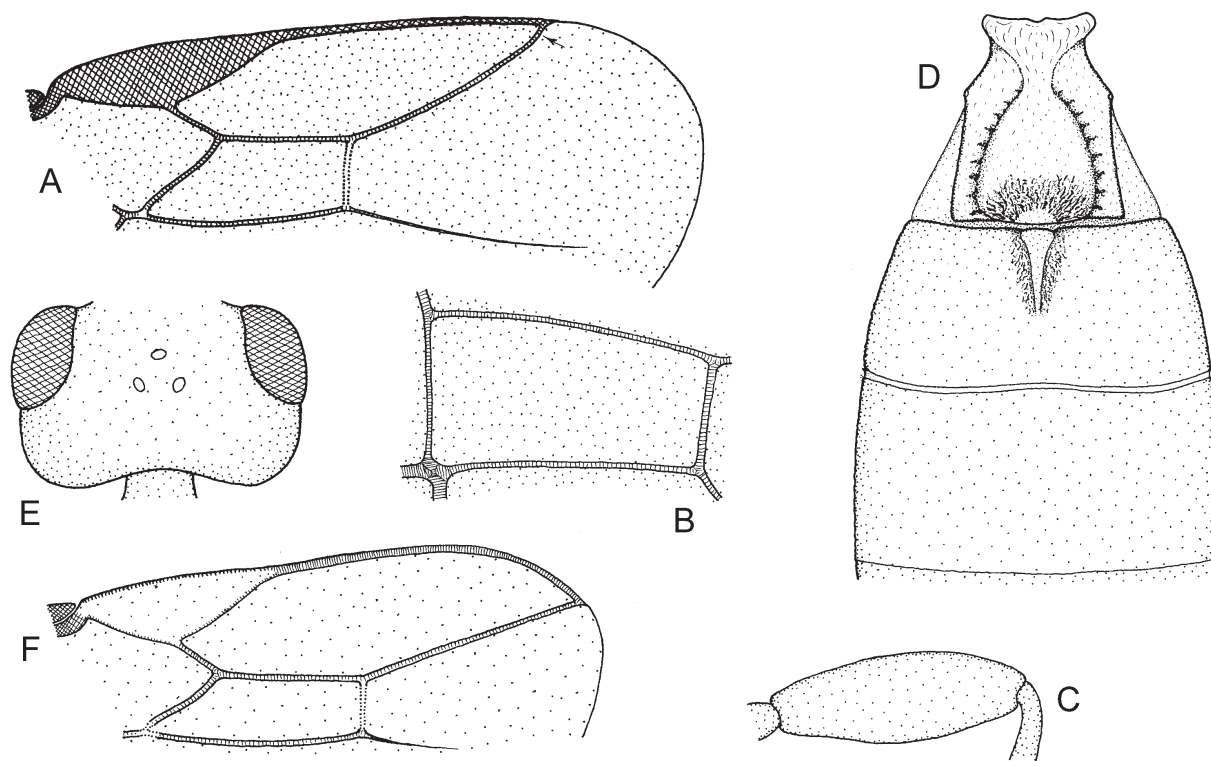


Fig. 30. — A-E. *Bracon (Lucobracon) turolus* Papp, 1984, ♀ holotype. A. Distal part of right forewing. B. First discal cell of right forewing. C. Hind femur. D. Tergites 1-3. E. Head in dorsal view. — F. *Bracon (Glabrobracon) orbus* Papp, 1981, ♀ holotype, distal part of right forewing.

long as broad behind, tergites 2-3 transverse, 2.8-3.1 times as broad behind as long (Fig. 28H). Head in dorsal view slightly more transverse (Figs 28A; 29A). ♀: 3-3.5 mm, ♂: (2.8-)3.1-3.3 mm

-*B. (Gl.) nigriventris* Wesmael, 1838
2 (1) Mesosoma in lateral view elongated, 1.8 times as long as high. Forewing: marginal cell (*MI*) ending before tip of wing (Fig. 30A); first discal cell (*DI*) elongated: *1-SR-M* almost twice longer than *1-M* (Fig. 30B) (subgenus *Lucobracon*). Hind femur thick, 2.6 times as long as broad medially (Fig. 30C). Female: first tergite somewhat longer than broad behind, tergites 2-3 less transverse, 2.1-2.2 times as broad behind as long (Fig. 30D). Head in dorsal view slightly less transverse (Fig. 30E). ♀: 3 mm*B. (Lu.) turolus* Papp, 1984, **sp. rev.**

***Bracon (Glabrobracon) parvulus* Wesmael, 1838**

Figs 31A-L, 32A-C

Braco parvulus Wesmael, 1838: 55 ♀♂ (type material: 1 ♀ + 3 ♂♂, 1 ♂ lost), type locality: “environs de Bruxelles” (Belgium), ♀ lectotype (and two ♂ paralectotypes, present designations) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon fumipennis Thomson, 1894: 1808 (under the name “fuscipennis”: junior homonym of *Braco fuscipennis* Wesmael, 1838) and 1859 (“fumipennis” new name for *B. fuscipennis* Thomson) ♀♂, type locality: Lapland, Sweden, ♀ lectotype (and one ♀ + one ♂ paralectotypes) in Zoologisk Museum, Lund; examined.

Bracon thomsoni Marshall, 1897: 51 (new name for *B. fuscipennis* Thomson nec Wesmael, unnecessary emendation).

Bracon parvulus – Szépligeti 1901: 270 (in key, in Hungarian); 1904 (1901): 190 (in key, in German).

Bracon (Glabrobracon) parvulus – Fahringer 1927: 300 (♀), 309 (♂) (in key) and 1928: 480 (redescription), assigned to “Section *Glabrobracon*”. — Telenga 1936: 181 (as synonym of *B. atrator*, in Russian). — Shenefelt 1978: 1558 (as synonym of *B. atrator* after Dalla Torre 1898: 259, literature up to 1962). — Papp 2000: 233 (in key and 258 (redescription, taxonomy).

Bracon fumipennis – Szépligeti 1901 and 1904 (1901): not mentioned. — Telenga 1936: 149 (♀), 157 (♂) (in key), 207 (redescription) (in Russian) and 351 (♀), 359 (♂) (in key, in German). — Papp 1966: 378 (as *B. obscurator ab. fumipennis*), 1969: 203 (designations of the lectotype and two paralectotypes, synonymization). — Shenefelt 1978: 1575 (as *B. obscurator ab. fumipennis* after Papp 1966, literature up to 1974). — Tobias 1986: 131 (as valid species in key, in Russian). — Papp 2000: 258 (as synonym of *B. parvulus*). — Tobias & Belokobylskij 2000: as valid species 140 (in key, in Russian).

Designation of the ♀ lectotype of *Bracon parvulus*

(First label, printed) “Coll Wesmael”; (second label, printed) “2078”; (third label, printed red) “Type”; (fourth label) “*Braco parvulus mihi ♀*” (handwriting) “dét. C. Wesmael” (printed); (fifth label, handwriting) “Belgique / Bruxelles” (label attached by me); sixth label is the lectotype card. - Lectotyped is in good condition: pinned by the mesosoma (pin fairly thick).

Designation of the two ♂ paralectotypes of *Bracon parvulus*

(First label, printed) “Coll. Wesmael”; (second label, printed) “2077”; (third label) “*Braco parvulus mihi ♂*” (handwriting) “dét. Wesmael” (printed); (fourth label, handwriting) “Belgique / Bruxelles” (label attached by me); fifth labels are the paralectotype cards. Paralectotypes are in good condition: (1) micropinned by mesosoma (pin thick); (2) right flagellum distally deficient (1 ♂); (3) right hind wing missing (1 ♂); (4) right hind leg, except coxa, missing (1 ♂).

Taxonomic remark

The two ♂ paralectotypes are representing the species *Bracon delibator* Haliday, 1833 viewing their long maxillar palp etc., present emendation, fifth label on paralectotypes with this actual name too.

Designation of the types

♀ lectotype and one ♀ + one ♂ paralectotypes of *Bracon fumipennis* Thomson were presented in Papp 1969: 203. Lectotype is in good condition: (1) pinned by mesosoma; (2) ultimate two flagellomeres missing. Two paralectotypes are also in good condition: (1) glued on a pointed card by anterior sternites (♀) and by oral part of head + mesosternum (♂); (2) left flagellum missing (♀), right fore leg, except coxa + trochanters, missing (♀); fore pair of legs less visible owing to the mounting (♂); (3) wings apically somewhat creased (♀)4

Material examined

57 ♀♀ + 16 ♂♂ from sixteen countries: IRELAND: 2 ♀♀ from one locality. ENGLAND: 3 ♀♀ from three localities. SWEDEN: 3 ♀♀ from three localities. FRANCE: 3 ♀♀ from three localities. GERMANY: 3 ♀♀ + 2 ♂♂ from three localities. AUSTRIA 1 ♂. SWITZERLAND: 1 ♂. SLOVAKIA: 3 ♀♀ + 1 ♂ from four localities. HUNGARY: 30 ♀♀ + 5 ♂♂ from 24 localities. ROMANIA: 3 ♀♀ from three localities. SPAIN: 1 ♂. SERBIA: 1 ♂. CROATIA: 4 ♀♀ + 1 ♂ from one locality. TURKEY: 3 ♀♀ + 1 ♂ from three localities. ARMENIA: 2 ♂♂ from two localities. GEORGIA: 1 ♀.

Redescription of the ♀ lectotype of *Bracon parvulus* (Fig. 31A-I; 32B)

A redescription of this species was given earlier (Papp 2000: 258) based on 72 ♀ specimens. The present redescription is confined to the ♀ lectotype.

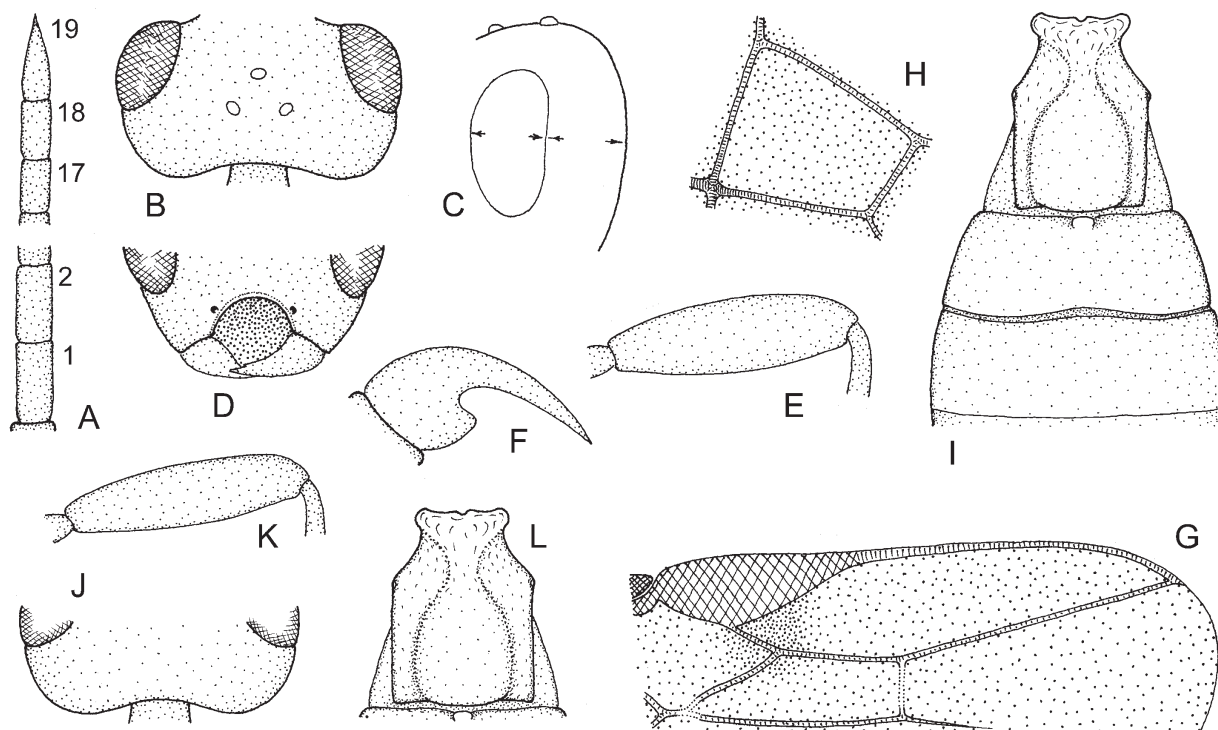


Fig. 31. *Bracon (Glabrobracon) parvulus* Wesmael, 1838 (A-I: ♀ holotype, , J-K: ♀ / ♂, L: ♀). A. Flagellomeres 1-2 and 17-19. B. Head in dorsal view. C. Head in lateral view. D. Head in frontal view. E. Hind femur. F. Claw. G. Distal part of right forewing. H. First discal cell of right forewing. I. Tergites 1-3. J. Hind half of head in dorsal view. K. Hind femur. L. First tergite.

LENGTH. Body 2 mm long.

ANTENNAE. About three-fourths as long as body and with 19 antennomeres. First flagellomere twice and penultimate flagellomere also twice as long as broad, flagellum distally attenuating (Fig. 31A).

HEAD. In dorsal view (Fig. 31B) transverse, 1.8 times as broad as long, eye twice longer than temple, temple rounded, occiput weakly excavated. Eye in lateral view almost twice as high as wide and temple just wider than eye, temple beyond eye evenly wide (Fig. 31C, see arrows). Horizontal diameter of oral opening somewhat longer than shortest distance between opening and eye (Fig. 31D). Head polished.

MESOSOMA. In lateral view stout (Fig. 32A), 1.3 times as long as high, polished. Notaulix more or less distinct on dorsal or horizontal part of mesoscutum (or a sulciform dession?). Propodeum entirely polished.

LEGS. Hind femur 3.3 times as long as broad somewhat distally (Fig. 31E). Claw downcurved and with a distinct small basal lobe (Fig. 31F).

WINGS. Forewing somewhat longer than body. Pterostigma (Fig. 31G) 2.7 times as long as wide, issuing *r* proximally from its middle and 0.6 times as long as width of pterostigma; second submarginal cell of usual length, 3-*SR* somewhat longer than 2-*SR*; *SRI* straight, 2.3 times as long as 3-*SR* and reaching tip of wing. First discal cell less high, 1-*M* 1.7 times as long as *m-cu*, 1-*SR-M* straight and 1.2 times as long as 1-*M* (Fig. 31H).

TERGITES. First tergite (Fig. 31I) 1.4 times as long as broad behind, beyond pair of spiracles with just converging sides. Second tergite nearly three times as broad behind as long and as long as third tergite; suture between tergites 2-3 faintly bisinuate, deep, smooth (Fig. 31I). Every tergite polished. Hypopygium of usual size and pointed; ovipositor sheath long, twice as long as hind tibia + tarsus combined (Fig. 32B).

COLOUR. Body brownish black. Antenna brownish black. Tegulae brownish black. Legs brownish black to dark brown. Wings weakly brownish fumous, pterostigma and veins light brownish.

Redescription of the ♀ lectotype of *Bracon fumipennis* (Fig. 31J-L)

Similar to the ♀ lectotype of *B. parvulus* Wesmael. Body 2.8 mm long. Antenna somewhat shorter than body and with 21 antennomeres. Head in dorsal view 1.9 times as broad as long, temple more rounded (Fig. 31J). Hind femur 3.8 times as long as broad medially, nearly parallel-sided (Fig. 31K). Pterostigma 2.8 times as long as wide. First tergite 1.3 times as long as broad behind, beyond pair of spiracles with slightly converging sides (Fig. 31L).

Redescription of the ♀ paralectotype of *Bracon fumipennis*

Similar to the ♀ lectotype of *B. fumipennis*. Body 2.7 mm long. Antenna with 21 antennomeres. Head in dorsal view 1.75 times as broad as long, temple rounded. Hind femur 3.1 times as long as broad medially. Ovipositor sheath less than twice as long as hind tibia + tarsus combined.

Redescription of the ♂ paralectotype of *Bracon fumipennis* (Fig. 31E, L)

Similar to the ♀ types of *B. fumipennis*. Body 2.8 mm long. Antenna as long as body and with 24 antennomeres. Head in dorsal view 1.7 times as broad as long. Hind femur 3.3 times as long as broad distally (Fig. 31E). First tergite 1.4 times as long as broad behind, beyond pair of spiracles with just converging sides (Fig. 31L). Sternites pale yellow.

Variable features of the ♀ (57 ♀♀) (Fig. 31I, J; 32C)

Similar to the ♀ lectotype of *Bracon parvulus*. Body 2-3.5 mm long. Antenna with 18-25 antennomeres. Penultimate flagellomere (1.4-)1.8-2 times as long as broad. Head in dorsal view 1.8-1.9(-2) times as broad as long. Hind femur 3.3-3.6 times as long as broad either somewhat distally or medially. Pterostigma (2.3-)2.5-2.7 times as long as wide, *r* exceptionally issuing from its middle. 3-SR of fore wing somewhat to 1.2-1.35 times as long as 2-SR, SRI 2-2.4 times longer than 3-SR and reaching tip of wing. First tergite 1.3-1.5 times as long as broad, beyond pair of spiracles either with just converging or with parallel sides (Fig. 31I, L). Second tergite exceptionally rugulose (to rugose) antero-medially (Fig. 32C). Body black, sometimes with more or less brownish tint. Hind tibia basally yellow, rarely fore femur apically and fore tibia basally yellowish.

Deviating features of the ♂ (16 ♂♂) (Fig. 31J)

Similar to the ♀. Body (2.5-)3-3.2 mm long. Antenna as long as body and with 26-29 antennomeres. Temple in dorsal view somewhat more rounded (Fig. 31J). Tibias with more yellow(ish) pattern basally.

Hosts

COL. Chrysomelidae: *Gastroidea polygoni* Linnaeus, *G. viridula* DeGeer. — DIPT. Tephritidae: *Orellia ruficauda* Fabricius. *Sitarea lurida* (Loew), *S. scorzonera* Robineau-Desvoidy. *Tephritis !bardanae* Schrank, *T. pulchra* Loew.

Distribution

Sporadic to frequent in the Palaearctic Region.

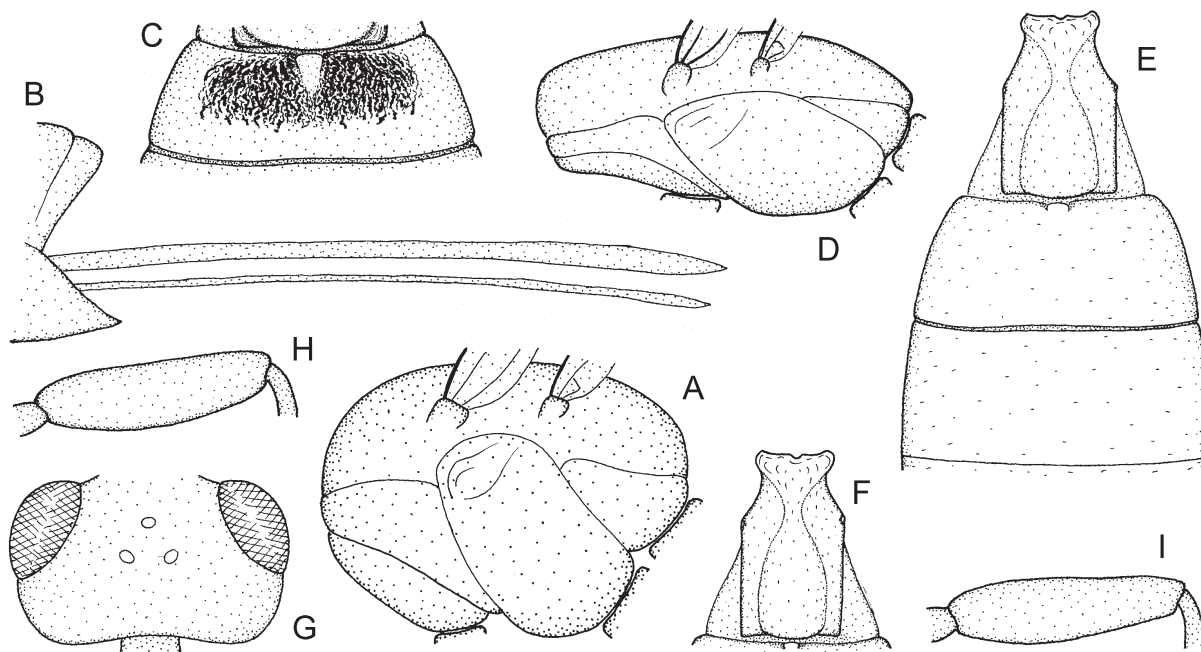


Fig. 32. — A-C. *Bracon (Glabrobracon) parvulus* Wesmael, 1838 (A-B: ♀ lectotype, C: ♀ / ♂). A. Mesosoma. B. Hind end of metasoma: hypopygium and ovipositor sheath. C. Second tergite. — D-I. *Bracon (Glabrobracon) longulus* Thomson, 1894 (D-E, G-H: ♀ lectotype, F, I: ♀ / ♂). D. Mesosoma in lateral view. E. Tergites 1-3. F. First tergite. G. Head in dorsal view. H-I. Hind femur.

Taxonomic position

Within the subgenus *Glabrobracon* the species *Bracon parvulus* is nearest to *B. longulus* Thomson (Europe) and they are distinguished by the following features:

- 1 (2) Mesosoma in lateral view stout as usually, 1.4-1.6 times as long as high; mesoscutum and scutellum not flattened (Fig. 32A), propodeum declined. First tergite 1.3-1.5 times ($\text{♀}\text{♂}$) as long as broad behind, tergites 2-3 more transverse, nearly three times as long as broad (Fig. 31I, L). Head in dorsal view slightly more transverse, 1.8-1.9 times as broad as long (Fig. 31B, J). Ovipositor sheath at most twice as long as hind tibia + tarsus combined. ♀ : 2-3.5 mm, ♂ : 2.5-3.2 mm*B. (Gl.) parvulus* Wesmael, 1838
- 2 (1) Mesosoma in lateral view elongate, 1.8-2 times as long as high; mesoscutum and scutellum flattened, propodeum moderately declined (Fig. 32D). First tergite 1.4-1.6 times (♀) and 1.6-1.8 times (♂) as long as broad behind, tergites 2-3 less transverse, 2-2.5 times as broad as long (Fig. 32E-F). Head in dorsal view slightly less transverse, 1.6-1.7(-1.8) times as broad as long (Fig. 32G). Ovipositor sheath very long, 2.5-3 times as long as hind tibia + tarsus combined. $\text{♀}\text{♂}$: 2.6-3 mm
.....*B. (Gl.) longulus* Thomson, 1894

Bracon (Bracon) pectoralis Wesmael, 1838

Figs 33A-I, 34A, 35A-I

Bracon pectoralis Wesmael, 1838: 12 $\text{♀}\text{♂}$ (type material: 3 $\text{♀}\text{♀}$ + 1 ♂), type locality: “environs de Liège” (Belgium), ♀ lectotype (and two ♀ + one ♂ paralectotypes, present designation) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon pectoralis var. *maculatus* Papp, 1968: 192 (in key), 206 (description), localities: Hungary (Vácduka, Pécs), Romania: Transylvania (Rév = Vadul Crişului); examined, identical with var. *fumigatus* (Szépligeti).

Bracon fumigatus Szépligeti, 1901: 184 (in key), 273 (description) (in Hungarian); 1904 (1901): 161 (in key) and 170 (description) (in German) ♀ (type series: 1 ♀), type locality: “Budapest” (Hungary), ♀ lectotype in Magyar Természettudományi Múzeum, Budapest; examined.

Bracon ochrosus Szépligeti, 1896: 290 (description in Hungarian) and 363 (description in German) ♂ (type series 1 ♂), type locality: “Budakesz”(-i) (Hungary), ♂ holotype in Magyar Természettudományi Múzeum, Budapest; examined.

Bracon pectoralis – Szépligeti 1901: 183 (in key, in Russian); 1904 (1901): 158 (in key, in German).

Bracon (Bracon) pectoralis – Fahringer 1927: 236 (♀), 245 (♂) (in key), 332 (redescription), assigned to “Section *Striobracon*” (= *Bracon* s. str.). — Telenga 1936: 158 (♀), 166 (♂) (in key), 229 (redescription) (in Russian) and 360 (♀), 369 (♂) (in key in German). — Papp 1968: 192 (in key), 206 (taxonomy). — Shenefelt 1978: 1523 (literature up to 1974). — Tobias 1986: 124 (in key in Russian). Tobias & Belokobylskij 2000: 124 (in key in Russian).

Bracon (in sp.) *pectoralis* – Tobias 1961a: 157 (redescription).

Bracon fumigatus – Fahringer 1927: as valid species 243 (in key) and 318 (redescription), assigned to “Sektion *Striobracon*” (= *Bracon* s. str.). — Telenga 1936: as valid species 166 (in key), 262 (redescription) (in Russian) and 368 (in key in German). — Papp 1968: as valid species 196 (in key) and 200 (type designations). — Shenefelt 1978: 1487 (as valid species after Papp l.c., literature up to 1968). — Tobias 1986: 125 (in key as synonym of *B. intercessor* Nees). — Papp 2004: 175 (as *B. pectoralis* var. *fumigatus*, type designation and depository); 2008: 1790 (as synonym of *B. pectoralis*).

Bracon ochrosus – Szépligeti 1901: 262 (in key); 1904 (1901): 163 (in key) ♂ . — Fahringer 1927: as valid species 277 (in key) and 410 (redescription), assigned to “Section *Orthobracon*”. — Telenga 1936: as valid species 166 (in key), 264 (redescription) (in Russian) and 369 (in key in German). — Papp 1968: 206 (designation of the holotype, synonymization). — Shenefelt 1978: 1523 (as synonym of *B.*

pectoralis after Papp l.c., literature up to 1968). — Tobias 1986: not mentioned. — Papp 2004: 179 (type depository, as synonym of *B. pectoralis*), 2008: 1790 (as synonym of *B. pectoralis*).

Designation of the ♀ lectotype of *B. pectoralis*

(First label, printed) “Coll. Wesmael”; (second, printed) “2023”; (third label) “Braco ♀ / pectoralis mihi” (handwritten) “dét. C. Wesmael” (printed); (fourth label, printed red) “Type”; (fifth label attached by me) “Belgique” (printed) / “Liège / leg. M. Robert” (my handwriting) (“teste J. Papp 1987” reverse on fifth label with my handwriting); sixth label is the lectotype card. Lectotype is in good condition: (1) micropinned, (2) both flagelli missing.

Designation of the two ♀ paralectotypes of *B. pectoralis*

Labels identical to those of the ♀ lectotype except one ♀ with second label No. “2024” and both ♀♀ with paralectotype cards. Paralectotypes are in good condition: (1) micropinned, (2) 1 ♀ (no. 2023): right flagellum missing, left flagellum deficient, i.e. with 20 flagellomeres, (3) 1 ♀ (no. 2024, var. 1.) both flagelli deficient, right flagellum with 21 and left flagellum with 10 flagellomeres.

Designation of the ♂ paralectotype of *B. pectoralis*

Labels are identical to those of the paralectotypes; the sexual sign on third label is “♀”. Paralectotype is in good condition: (1) micropinned, (2) left flagellum missing, right flagellum with 13 flagellomeres.

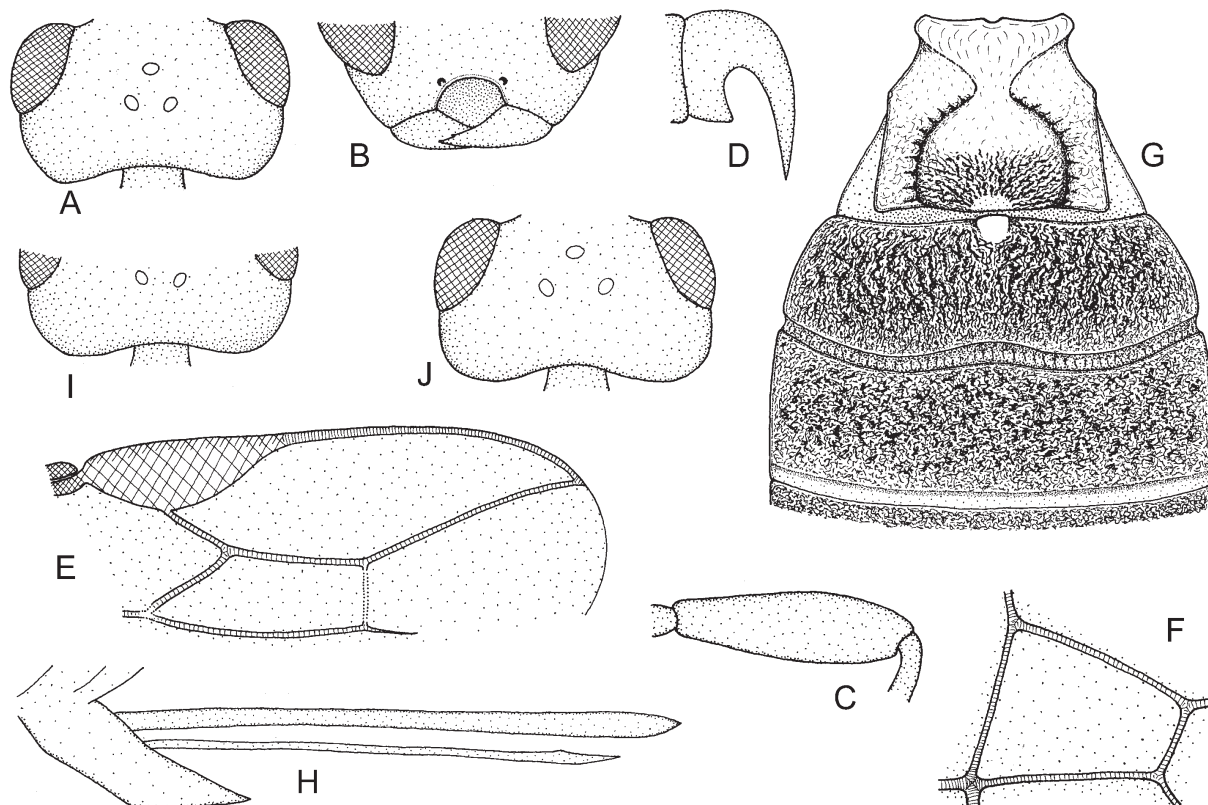


Fig. 33. — A-I. *Bracon (Bracon) pectoralis* Wesmael, 1838 (A-G: ♀ lectotype, H: ♀ paralectotype, I: ♂ paralectotype). A. Head in dorsal view. B. Head in frontal view. C. Hind femur. D. Claw. E. Distal part of right forewing. F. First discal cell of right forewing. G. Tergites 1-3. H. Hypopygium and ovipositor apparatus. I. Hind half of head in dorsal view. — J. *Bracon (Bracon) luteator* Spinola, 1808, ♀ / ♂, head in dorsal view.

Material examined

124 ♀♀ + 84 ♂♂ from twenty-four countries: ENGLAND: 1 ♀. THE NETHERLANDS: 1 ♀ + 1 ♂ from one locality. FRANCE: 2 ♀♀ from one locality. SWEDEN: 1 ♀. SLOVAKIA: 1 ♀ + 1 ♂ from two localities. HUNGARY: 63 ♀♀ + 46 ♂♂ from fifty-six localities. ROMANIA: 4 ♀♀ + 1 ♂ from five localities. MACEDONIA: 1 ♀. CROATIA: 7 ♀♀ from six localities. ALBANIA: 1 ♀. BULGARIA: 4 ♀♀ + 3 ♂♂ from three localities. GREECE: 7 ♀♀ + 6 ♂♂ from eight localities. ITALY: 7 ♀♀ + 10 ♂♂ from eight localities. CYPRUS: 4 ♀♀ + 4 ♂♂ from six localities. SPAIN: 3 ♀♀ + 2 ♂♂ from four localities. PORTUGAL: 1 ♀ + 2 ♂♂ from two localities. ALGERIA: 2 ♀♀ + 1 ♂ from three localities. TUNISIA: 2 ♀♀ from two localities. EGYPT: 2 ♀♀ from one locality. JORDAN: 2 ♀♀ from two localities. SYRIA: 1 ♂. TURKEY: 4 ♀♀ + 3 ♂♂ from five localities. GEORGIA: 1 ♀. TURKMENISTAN: 3 ♀♀ + 3 ♂♂ from three localities.

Redescription of the ♀ lectotype of *B. pectoralis* (Figs 27C; 33A-H)

LENGTH. Body 3.6 mm long.

FLAGELLUM. Both flagellum missing.

HEAD. In dorsal view less transverse (Fig. 33A), 1.7 times as broad as long, eye slightly protruding and 1.3 times longer than temple, temple rounded, occiput weakly excavated. OOL twice as long as POL. Oral opening: its horizontal diameter 1.2 times as long as shortest distance between opening and eye (Fig. 33B). Head polished.

MESOSOMA. In lateral view stout, 1.2 times as long as high, polished. Notaulix evenly distinct, shallow, smooth. Propodeum polished, around lunule with a few short rugae (cf. Fig. 27C).

LEGS. Hind femur 3.3 times as long as broad distally (Fig. 33C). Claw fairly downcurved, its basal lobe of usual size and pointed (Fig. 33D).

WINGS. Forewing somewhat longer than body. Pterostigma (Fig. 33E) 2.7 times as long as wide and issuing *r* proximally from its middle; *r* just shorter than width of pterostigma; second submarginal cell long, 3-*SR* 1.4 times as long as 2-*SR*, *SR*1 faintly bent, 1.7 times as long as 3-*SR* and reaching tip of wing. First discal cell usual in size, 1-*M* twice as long as *m-cu*, 1-*SR-M* straight and 1.2 times longer than 1-*M* (Fig. 33F).

TERGITES. First tergite (Fig. 33G) broad, one-fifth broader than long, beyond pair of spiracles broadening, hind half of scutum rugose, margin of scutum crenulated. Second tergite transverse, 3.5 times as broad behind as long laterally, suture between tergites 2-3 bisinuate, deep, crenulated; third tergite as long as second tergite. Tergites 3-6 before their hind margin with fine furrow (Fig. 33G). Second tergite rather longitudinally rugose, third and further tergites densely rugo-rugulose. Hypopygium pointed, ovipositor sheath long, as long as body (Fig. 33H).

COLOUR. Body testaceous, mesosoma with light brownish suffusion. Palpi and galea brown. Mesosternum black. Legs yellow, tarsi brownish. Wings subhyaline, pterostigma yellow, veins light brownish.

Redescription of the two ♀ paralectotypes of *B. pectoralis* (Fig. 33I)

(1 ♀ + 1 ♀ “var. 1.” det. Wesmael) Similar to the ♀ lectotype. Body 3-3.2. mm long. Flagelli deficient; first flagellomere 2.2 times and 21st flagellomere 1.4 times as long as broad, flagellum just thickening distally. Head in dorsal view transverse, 1.7-1.8 times as broad as long, temple somewhat more rounded (Fig. 33I). Hind femur 3.3-3.4 times as long as broad distally. Forewing: 3-*SR* 1.6 times as long as 2-*SR*.

First tergite beyond pair of spiracles somewhat less broadening. Ovipositor sheath somewhat shorter than body, i.e. as long as meta- and mesosoma combined.

Redescription of the ♂ paralectotype of *B. pectoralis* (Fig. 34A)

Similar to the ♀ paralectotypes. Body 2.8 mm long. Right flagellum deficient, first flagellomere 2.5 times and 13th flagellomere 1.7 times as long as broad. First tergite as long as broad behind; second tergite less broad, 2.4 times as broad behind as long laterally and with longitudinal striae (Fig. 34A).

Variable features of the ♀♀ (124 ♀♀) (Figs 33A; 35A-G)

Body (2.8-)3-4.5 mm, usually 3.2-3.8 mm, long. Antenna somewhat shorter to somewhat longer than body and with (22-)26-31(-41) antennomeres. Head in dorsal view 1.65-1.8 times, usually 1.7-1.75 times (Figs 33A; 35A), as broad as long. Hind femur 3.8 times (Fig. 35B), usually 3.3-3.4(-3.5) times as long as broad distally, or hind femur relatively thick (Fig. 35C). Forewing: second submarginal cell very long, 3-SR 1.7 times (Fig. 35D), usually 1.4-1.5 times, as long as 2-SR; or second submarginal cell relatively short: 3-SR 1.3 times as long as 2-SR (Fig. 35E). First tergite less broadening, just broader behind than long (Fig. 35F). Tergites 2-3 somewhat less roughly rugo-rugulose (Fig. 35G).

Variable features of the ♂♂ (84 ♂♂) (Fig 33A; 35A, H-I)

Body 2.6-3.6(-4) mm long. Antenna as long as to longer than body and with (20-)23-30(-36) antennomeres. Head in dorsal view (1.6-)1.7-1.75 times as broad as long (Fig. 33A); exceptionally subcubic, 1.6 times as broad as long (Fig. 35A). Tergites 2-3 either roughly (Fig. 35H) or weakly (Fig. 35I) sculptured or rarely metasoma beyond (second or) third tergite almost smooth.

Hosts

COL. Apionidae: !*Oxystoma dimidiatum* Desbrochers des Loges (new host). Bruchidae: !*Bruchidius lividimanus* Gyllenhal, *B. fasciatus* Olivier, *Bruchophagus roddi* Gussakovsky. Curculionidae: !*Larinus flavescens* Germar, !*L. sturnus* Schaller, !*Rhinocyllus conicus* Frölich. — LEP. Alucitidae: *Alucita hexadactyla* Linnaeus, *A. huebneri* Wallengren. Gelechiidae: !*Metzneria aestivella* Zeller, *Sitotroga cerealella* Olivier. Pyralidae: *Etiella zinckenella* Treitschke. — DIPT. Tephritidae: *Acantophilus helianthi* Rossi, *Chaetorellia hexachaeta* Loew, !*Terellia virens* Loew, *Urophora quadrifasciata*

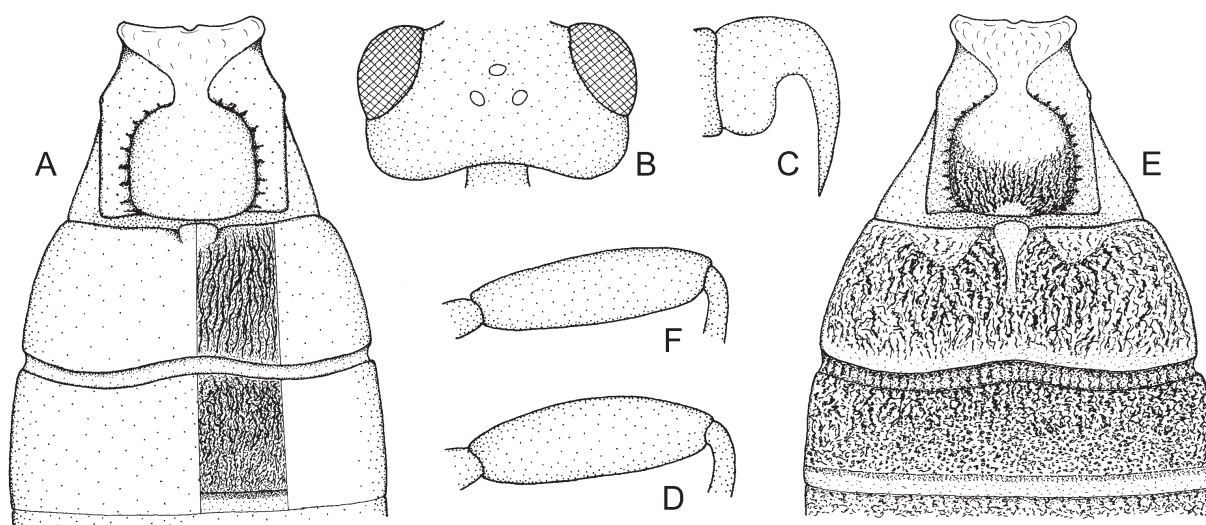


Fig. 34. — A. *Bracon (Bracon) pectoralis* Wesmael, 1838, ♂ paralectotype, tergites 1-3. — B-D. *Bracon (Bracon) mellitor* Say, 1836, ♀ / ♂. B. Head in dorsal view. C. Claw. D. Hind femur. — E-F. *Bracon (Bracon) luteator* Spinola, 1808. E. Tergites 1-3 (♀). F. Hind femur (♀ / ♂).

Meigen, !*Xyphosia miliaria* Schrank. — HYM. Cynipidae: *Aphelonyx cerricola* Giraud. Eurytomidae: !*Bruchophagus roddi* Gussakovsky.

Distribution

Palearctic Region, a species inhabitant its steppe / semidesert zone.

Bracon (Bracon) pectoralis var. *fumigatus* (Szépligeti, 1901) (=var. *maculatus* Papp, 1968)

Material examined

25 ♀♀ + 14 ♂♂ from 14 countries: ENGLAND: 1 ♀. GERMANY: 1 ♀. HUNGARY: 9 ♀♀ + 3 ♂♂ from seven localities. ROMANIA (Transsylvania): 1 ♀ + 1 ♂ from two localities. SLOVENIA: 1 ♀. BULGARIA: 1 ♂. ALBANIA: 1 ♀. GREECE: 1 ♀ + 1 ♂ from two localities. SPAIN: 3 ♀♀ + 2 ♂♂ from five localities. ITALY: 3 ♀♀ from three localities. ALGERIA: 5 ♂♂ from five localities. EGYPT: 1 ♀. CYPRUS: 2 ♀♀ + 1 ♂ from one locality. TURKMENISTAN: 1 ♀.

Deviation from the nominate form

Ground colour of body testaceous with brown, dark brown to black(ish) pattern laterally on mesoscutum, prosternum, mesosternum, propodeum, laterally from scutellum (or axille) and (partly) coxae + trochanters. ♀♂: 2.5-4 mm long. - Distributed in the western Palearctic Region.

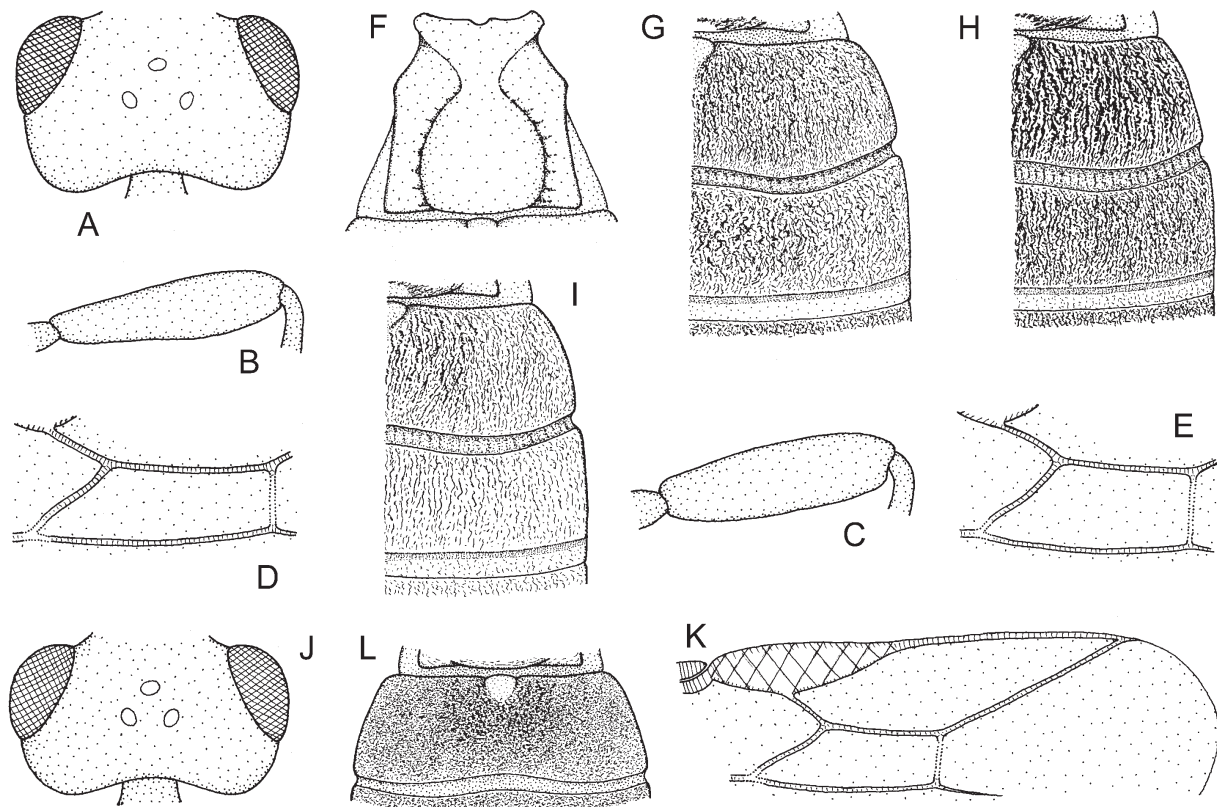


Fig. 35. — A-I. *Bracon (Bracon) pectoralis* Wesmael, 1838 (A: ♀ / ♂, B-G: ♀, H-I: ♂). A. Head in dorsal view. B-C. Hind femur. D-E. Second submarginal cell of forewing. F. First tergite. G-I. Right half of tergites 2-3. — J-L. *Bracon (Bracon) mesasiaticus* Tobias, 1957, ♀ paralectotype. J. Head in dorsal view. K. Distal part of right forewing. L. Second tergite.

Taxonomic position

Within the subgenus *Bracon* s. str. the species *Bracon pectoralis* is nearest to the albanic form of *B. luteator* Spinola (Palearctic Region) viewing their somewhat less transverse head in dorsal view, long ovipositor sheath and reddish yellow to testaceous corporal colour. The two species are distinguished by the following features:

- 1 (2) Tergites 2-3 of equal length, second tergite at most a bit longer than third tergite and antero-laterally without a pair of fields; first tergite broader behind than long, distinctly broadening posteriorly (Figs 33G; 34A; 35F). Temple in dorsal view rounded to more rounded (Figs 33A; 35A). Hind femur broadening distally (Figs 33C; 35B-C). Femora yellow. ♀: 3-4.5 mm, ♂: 2.6-3.6 mm *B. (B.) pectoralis* Wesmael, 1838
- 2 (1) Second tergite 1.2-1.3 times longer than third tergite and antero-laterally with a pair of faintly distinct fields with weak sculpture; first tergite somewhat longer than broad behind, weakly broadening posteriorly; sculpture of tergites 2-3 slightly less dense (Fig. 34E). Temple in dorsal view moderately rounded (Fig. 33J). Hind femur nearly evenly broad or, less frequently, just broadening (Figs 34F). Femora more or less blackish to black. ♀♂: (2.2-)2.5-5.5 mm *B. (B.) luteator* Spinola, 1808

Bracon pectoralis is also near to the species *B. (B.) mesasiaticus* Tobias (Uzbekistan) viewing their testaceous body colour and transverse weak furrows on hind part of tergites 3-7; the two species are separated by the following marks keyed:

- 1 (2) Temple in dorsal view rounded; eye less long, (1.25-)1.3 times as long as temple (Fig. 33A). Forewing: marginal cell (or vein *RI*) reaching tip of wing (Fig. 33E). First tergite broadening posteriorly, tergites rugose-rugulose (Fig. 33G). Body testaceous with a few to more (var. *fumigatus*) dark coloured pattern. ♀: (2.8-)3-4.5 mm, ♂: 2.6-3.6(-4) mm *B. (B.) pectoralis* Wesmael, 1838
- 2 (1) Temple in dorsal view strongly rounded; eye almost twice as long as temple (Fig. 35J). Forewing: marginal cell (or vein *RI*) approaching tip of wing (Fig. 35K). First tergite parallel-sided and as long as broad behind (Fig. 26B). Tergites rugulo-granular (Fig. 35L). ♀: 3-3.2 mm *B. (B.) mesasiaticus* Tobias, 1957

Bracon pectoralis is near to the Nearctic (U.S.A.) species *B. (B.) mellitor* Say considering their common features: testaceous body colour, strongly downcurved claw and weak transverse furrows on hind part of tergites 3-7; the two species are distinguished as follows:

- 1 (2) First tergite as long as broad behind, its pair of spiracles near to middle of tergite, scutum postero-laterally with a pair of rather transverse keels (Fig. 26C). ♀: tergites 2-3 granularly sculptured (Fig. 26C), rarely second tergite anteriorly with rugulo(-rugose) elements (Fig. 26D); ♂: tergites 2-3 rugulose, less frequently rugulose-granulose. Eye in dorsal view 1.5 times longer than temple (Fig. 34B). Basal lobe of claw not pointed (Fig. 34C). Hind femur not broadening posteriorly, 2.9-3 times as long as broad medially (Fig. 34D). Hind tibia and all tarsi brown to blackish. ♀: (3.5-)4-4.5(-5) mm, ♂: 3-3.5(-4) mm *B. (B.) mellitor* Say, 1836
- 2 (1) First tergite one-fifth broader behind than long, its pair of spiracles less near to middle of tergite, scutum without transverse pair of keels. Females: tergites 2-3 rugose-rugulose (Fig. 33G); ♂: tergites 2-3 with striate elements (Fig. 34A). Eye in dorsal view 1.2-1.25 times longer than temple (Fig. 33A). Basal lobe of claw somewhat pointed (Fig. 33D). Hind femur broadening posteriorly, 3.3-3.5 times as long as broad distally (Figs 33C; 35B-C). Hind tibia yellow, tarsi brownish. ♀: (2.8-)3-4.5 mm, ♂: 2.6-3.6(-4) mm *B. (B.) pectoralis* Wesmael, 1838

***Bracon (Glabrobracon) peroculatus* Wesmael, 1838**
Fig. 36A-L

Braco peroculatus Wesmael, 1838: 46 ♀ (type series: 1 ♀), type locality: “environs de Liège” (Belgium), ♀ holotype (“Je ne possède qu’un seul individu de cette espèce,...” Wesmael l.c., present designation) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Braco peroculatus – Szépligeti 1901: 266 (in key, in Hungarian); 1904 (1901): 187 (in key, in German). *Bracon (Glabrobracon) peroculatus* – Fahringer 1927: 282 (♀, in key) and 1928: 481 (redescription), assigned to “Section *Glabrobracon*”. — Telenga 1936: 143 (♀, in key), 180 (redescription) (in Russian) and 345 (in key, in German). — Shenefelt 1978: 1579 (literature up to 1971). — Tobias 1986: 136 (in key, in Russian). — Tobias & Belokobylskij 2000: 148 (in key, in Russian).

Designation of the ♀ holotype of *B. peroculatus*

(First label, handwritten) “47”; (second label, printed) “Coll. Wesmael”; (third label, printed) “2060”; (fourth label) “Braco ♀ / peroculatus mihi L” (handwritten) “dét. C. Wesmael” (printed); (fifth label, printed) “Type”; (sixth label with my handwriting) “Belgique / Liège / leg. M. Robert” (above) “teste J. Papp 1987” (reverse); seventh label is the holotype card attached by me. Holotype is in fairly poor condition: (1) micropinned; (2) flagelli deficient; (3) right fore wing distally (beyond pterostigma) deficient; (4) missing: hind pair of wings and pair of ovipositor sheath.

Material examined

4 ♀♀ from four countries: AUSTRIA, Salzburg, Mattsee: 1 ♀, taken from an umbellifer flower, 9 Sep. 1957, leg. Babiy. GERMANY, Thüringen, Triptis, Braunsd. Wald: 1 ♀, 7 Jun. 1972, leg. H. Schnee. HUNGARY, Edde, Alsóbogát: 1 ♀, taken from *Stenactis annua* flower, 22 Jun. 1985, leg. Zs. Józán. MACEDONIA, Üsküb (=Skopje): 1 ♀, 4 Jun. 1914, leg. Schulze.

Redescription of the ♀ holotype of *B. peroculatus* (Fig. 36A-G)

LENGTH. Body 5 mm long.

ANTENNAE. Deficient (according to the original description antenna with 40 antennomeres), right antenna with 16 and left antenna with 14 flagellomeres. First flagellomere 1.6 times and 16th flagellomere 1.3 times as long as broad apically.

HEAD. In dorsal view transverse (Fig. 36A), just less than twice (i.e. 1.9 times) as broad as long, eye somewhat protruding and 1.4 times as long as temple, temple receded, occiput weakly excavated. Horizontal diameter of oral opening one-fifth longer than shortest distance between opening and compound eye (Fig. 36B). Head polished.

MESOSOMA. In lateral view 1.3 times as long as high. Propodeum polished, around lunule with short subrugulosity.

LEGS. Hind femur 3.3 times as long as broad medially (Fig. 36C). Claw of hind leg clearly downcurved and its basal lobe fairly large (Fig. 36D).

WINGS. Forewing about one-quarter longer than body. Pterostigma wide (Fig. 36E), 2.8 times as long as wide and issuing *r* just proximally from its middle, *r* slightly shorter than width of pterostigma; second submarginal cell less long, 3-SR somewhat longer than 2-SR, SR1 more than twice as long as 3-SR, straight and reaching tip of wing; 1-RI clearly 1.5 times as long as pterostigma. First discal cell high, 1-M a bit more than twice as long as *m-cu*, 1-SR-M bent and 1.2 times longer than 1-M (Fig. 36F).

TERGITES. First tergite (Fig. 36G) 1.3 times as long as broad behind, beyond pair of spiracles parallel-sided, margin of scutum crenulated, scutum posteriorly with line-shape subrugulae. Second tergite one-sixth longer than third tergite, suture between them faintly biconcave, fairly deep and smooth. Second tergite anteo-medially (below small areola) subrugulose, otherwise together with further tergites polished. Ovipositor sheath as long as hind tibia + tarsus combined.

COLOUR. Antenna, head, mesosoma and legs black, metasoma yellow. Pedicel, orbit, clypeus and mandible brownish yellow. Palpi brownish. Tegula brown. Trochanteri partly, femora + tibiae apically and tarsi ventrally rusty yellow. Scutum of first tergite black. Wings brownish fumous, pterostigma and veins light brown.

Variabilities of three ♀♀ (Fig. 36F-L)

Body 4.5-5 mm long. Antenna somewhat shorter (1 ♀) to as long as body (2 ♀♀), with 33-39 antennomeres. First flagellomere 1.5-1.6 times and penultimate flagellomere 1.3 times as long as broad. Head in dorsal view 1.8-1.85 as broad as long, eye somewhat less protruding (Fig. 36H). Hind femur as in Fig. 36I. Pterostigma 2.5 times as long as wide (Fig. 36J). First tergite slightly broadening beyond pair of spiracles (Fig. 36K). First tergite entirely black, further tergites medially with a black streak. Posterior end of ovipositor apparatus as in Fig. 36L. Fore leg yellow except coxa + trochanter. Tegula brown to yellow. Mandible rusty.

Male unknown.

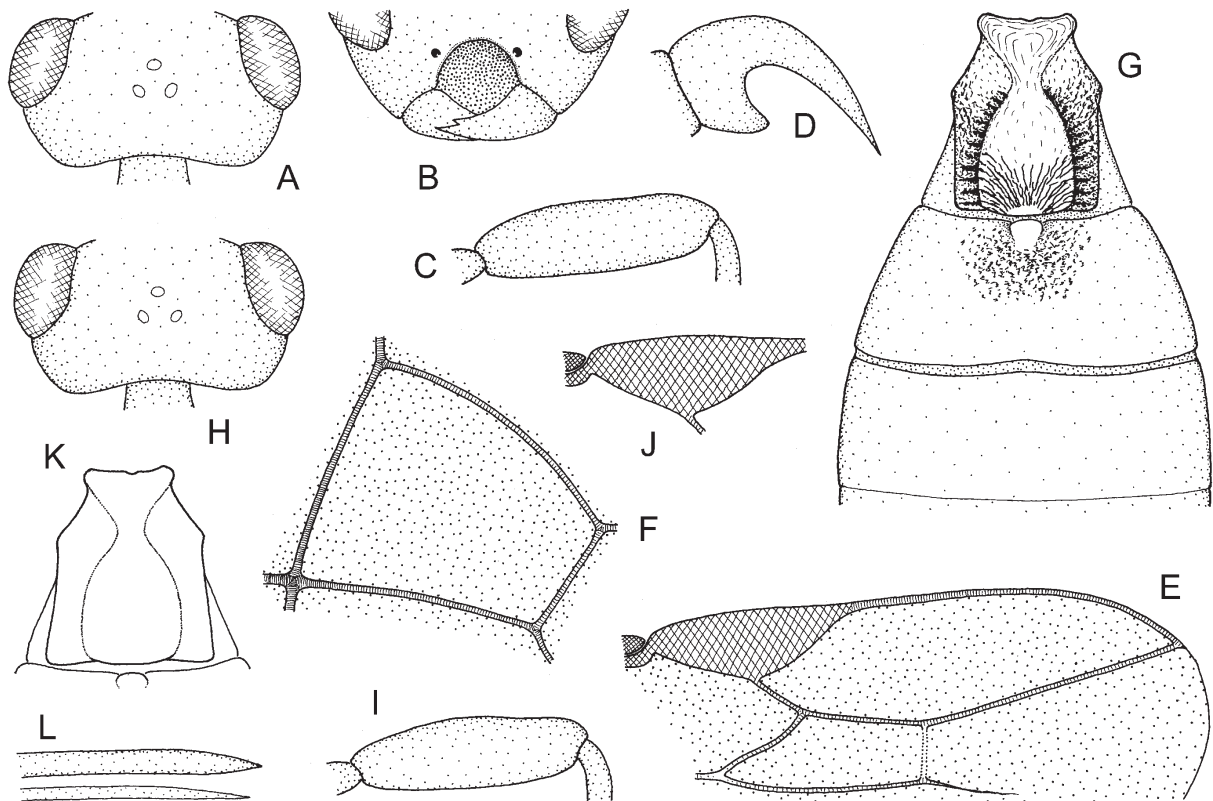


Fig. 36. *Bracon (Glabrobracon) peroculatus* Wesmael, 1838 (A-G: ♀ holotype, H-L: ♀). **A.** Head in dorsal view. **B.** Head in frontal view. **C.** Hind femur. **D.** Claw. **E.** Distal part of right forewing. **F.** First discal cell of right forewing. **G.** Tergites 1-3. **H.** Head in dorsal view. **I.** Hind femur. **J.** Pterostigma of right forewing. **K.** First tergite. **L.** Hind end of ovipositor apparatus.

Host

LEP. Tortricidae: *Cnephasia chrysantheana* Duponchel.

Distribution

Belgium, Germany, Austria, Macedonia, European Russia, Asiatic Russia (Primorski Krai).

Taxonomic position

Bracon peroculatus is nearest to *B. megapterus* Wesmael (Europe, Mongolia) considering their corporal structure and colour pattern; however, they are differentiated by the following features:

- 1 (2) Scutum of first tergite postero-laterally without a pair of impressions, second tergite antero-medially with a usual small areola, tergite laterally not impressed: subgeneric difference of *Glabrobracon* (Fig. 36G). Temple in dorsal view receded, head transverse, 1.8-1.9 times as broad as long (Fig. 36A, H). Second submarginal cell less long, 3-SR somewhat longer than 2-SR (Fig. 36E). ♀: 4.5-5 mm*B. (Gl.) peroculatus* Wesmael, 1838
- 2 (1) Scutum of first tergite postero-laterally with a pair of impressions, second tergite antero-medially with a well prominent areola margined with crenulae, tergite laterally longitudinally impressed: subgeneric difference of *Foveobracon* (Fig. 22H, J). Temple in dorsal view rounded, head less transverse, 1.7 times as broad as long (Fig. 22A). Second submarginal cell long, 3-SR 1.7-1.8 times longer than 2-SR (Fig. 22F). ♀♂: 5 mm*B. (Fov.) megapterus* Wesmael, 1838

Bracon peroculatus is also near to *B. plugarui* considering their corporal structure, form of second submarginal cell of fore wing and colour of body; the two species are distinguished as follows:

- 1 (2) First and second tergites without impression: subgeneric difference of *Glabrobracon*. Second tergite clearly longer than third tergite; second tergite around areola not (or weakly) sculptured (Fig. 36G). Eye in dorsal view somewhat protruding (Fig. 36A). Ovipositor sheath as long as hind tibia + tarsus combined. Mandible brownish yellow to rusty. ♀: 4.5-5 mm*B. (Gl.) peroculatus* Wesmael, 1838
- 2 (1) Scutum of first tergite and second tergite laterally with a pair of impressions: subgeneric difference of *Foveobracon*. Tergites 2-3 equal in length; second tergite around areola rugo-rugulose (Fig. 23D). Eye in dorsal view not protruding (Fig. 23B). Ovipositor sheath at most as long as hind tarsus. Mandible pale yellow. ♀: 2-3 mm*B. (Fov.) plugarui* Tobias, 1986

Bracon (Glabrobracon) picticornis Wesmael, 1838

Figs 37A-L, 38A-I

Bracon picticornis Wesmael, 1838: 42 ♀♂ (type material: 10 ♀♀ + 5 ♂♂, seen: 5 ♀♀ + 2 ♂♂), type locality: "environs de Bruxelles" (Belgium), ♀ lectotype (and four ♀ + two ♂ paralectotypes, present designations) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon amoenus Ratzeburg: nom. nud., Königsmann 1964: 659.

Bracon gallarum Ratzeburg, 1852: 39 ♀♂ (type material: several ♀♀ and ♂♂), type locality: (?) Germany, syntype series (?) destroyed.

Bracon juniperatae Ratzeburg: nom. nud., Königsmann 1964: 659.

Bracon laevigatissimus Dalla Torre, 1898: 276 (new name for *B. laevigatus* Ratzeburg, 1852 nec Brullé, 1846).

Bracon scutellaris Ratzeburg, 1848 (nec Wesmael, 1838): 41 ♀♂ (type material: several ♀♀ and ♂♂), type locality: Germany, syntype series ?destroyed.

Bracon versicolor Szépligeti, 1901: 263 (in key), 278 (description) (in Hungarian); 1904 (1901): 176 (in key), 180 (description) (in German) ♀, type locality: “P.-Maróth” (=Pilismarót, Hungary), ♀ lectotype in Magyar Természettudományi Múzeum, Budapest; examined.

Bracon vitripennis Ratzeburg, 1852: 37 ♂ (type material: “Wenige Exemplare...”), type locality: Germany, syntype series destroyed (after Königsmann 1964: l.c.); **syn. nov.**

Bracon picticornis – Szépligeti 1901: 263 (in key, in Hungarian); 1904 (1901): 176 (in key, in German) ♀♂.

Bracon (Lucobracon) picticornis – Fahringer 1927: 251, 274 (♀), 257, 281 (♂) (in key) and 365 (redescription) ♀♂, assigned to “Section *Lucobracon*”. — Telenga 1936: 172 (♀), 178 (♂) (in key) 280 (redescription) (in Russian) and 375 (♀), 380 (♂) (in key, in German) ♀♂.

Bracon (Glabrobracon) picticornis – Tobias 1958: 100 (in key, in Russian). — Shenefelt 1978: 1643 (listed four varieties and nine aberrations, literature up to 1974). — Tobias 1986: 136 (in key, in Russian). — Tobias & Belokobylskij 2000: 150 (in key, in Russian).

Bracon gallarum – Szépligeti 1901: 267 (in key, cf. *B. pallidipes* Szépligeti, in Hungarian); 1904 (1901): not mentioned. — Fahringer 1928: 510 (redescription, as sp. inquir.). — Telenga 1936: 280 (as syn. of *B. picticornis*). — Shenefelt 1978: 1644 (as synonym of *B. picticornis*).

Bracon laevigatissimus – Ratzeburg 1848: 41 (description under the name *B. scutellaris* Wesmael, 1838) and 1852: 39 (as *B. laevigatus* new name for *B. scutellaris sensu* Ratzeburg) ♀♂. — Szépligeti 1901: as valid species 266 (in key, in Hungarian); 1904 (1901): as valid species 176 (in key, in German). — Telenga 1936: 280 (as synonym of *B. picticornis*). — Papp 1971b: as valid species 281 (present type designations: ♀ lectotype + one ♀ paralectotype, redescription, synonyms). — Shenefelt 1978: as valid species 1637 (literature up to 1974).

Bracon scutellaris – Fischer 1965: 134 (as synonym of *B. picticornis*). — Shenefelt 1978: 1637 (as synonym of *B. laevigatissimus*, literature up to 1971).

Bracon versicolor – Fahringer 1927: as valid species 261 (in key) 431 (redescription) ♀, assigned to “Section *Orthobracon*”. — Telenga 1936: as valid species 172 (in key), 280 (redescription) (in Russian) and 375 (in key, in German). — Papp 1974: 433 (synonym as *B. picticornis* var. *versicolor* stat. n.). — Shenefelt 1978: 1645 (as *B. picticornis* var. *versicolor* after Papp l.c., literature up to 1974). — Papp 2004: 183 (type designation and depository, as *B. picticornis* var. *versicolor*), 2008: 1791 (as synonym of *B. picticornis*).

Bracon vitripennis – Fahringer 1928: 531 (as uncertain species, redescription). — Telenga 1936: 305 (as uncertain species). — Königsmann 1964: 638 (uncertain single ♂ present). — Shenefelt 1978: 1550 (as valid species, literature up to 1964).

Designation of the ♀ lectotype of *B. picticornis* (Fig. 37A-K)

(First label, printed) “Coll. Wesmael”; (second label, printed) “2055”; (third label) “Braco ♂♀ / picticornis mihi” (handwritten) / “dét. C. Wesmael” (printed); (fourth label, printed red) “Type”; fifth label (printed) is with the locality Bruxelles after Wesmael (l.c.); sixth label is the lectotype card (fifth and sixth labels attached by me). Lectotype is in good condition: (1) micropinned (pin thick); (2) left antenna apically deficient, i.e. with 24 antennomeres; (3) right hind leg (except coxa + trochanters) missing; (4) membrane of wing instantly distally from pterostigma torn.

Designations of the four ♀ paralectotypes (one ♀: “var. 1.”) of *B. picticornis*

Labels 1-5 identical to those of the lectotype. Sixth labels are the paralectotype cards. Paralectotypes are in more or less good condition: (1) micropinned (pin thick); (2) head missing (one ♀); (3) flagelli partly deficient; (4) left middle leg missing (one ♀), legs partly deficient (one ♀); (5) metasoma glued on separate small card attached to the pin (one ♀); (6) pair of ovipositor sheath missing (one ♀).

Designations of two ♂ paralectotypes of *B. picticornis*

Labels 1-6 identical to those of the paralectotypes. - Paralectotypes are in good condition: (1) micropinned (pin thick); (2) left flagellum missing (one ♂) and flagelli deficient (on ♂); (3) left fore wing basally torn.

Material examined

79 ♀♀ + 27 ♂♂ from twenty countries: ENGLAND: 2 ♀♀ + 1 ♂ from three localities. SWEDEN: 1 ♀. FINLAND: 1 ♂. THE NETHERLANDS: 5 ♀♀ from four localities. GERMANY: 6 ♀♀ + 12 ♂♂ from thirteen localities. DENMARK: 5 ♀♀ + 2 ♂♂ from six localities. AUSTRIA: 1 ♀. BOHEMIA: 6 ♀♀ + 1 ♂ from seven localities. SLOVAKIA: 1 ♀. HUNGARY: 38 ♀♀ + 11 ♂♂ from 43 localities. ROMANIA (Transsylvania): 1 ♀ + 2 ♂♂ from three localities. ITALY: 1 ♀ + 1 ♂ from two localities. BULGARIA: 5 ♀♀ from five localities. GREECE: 2 ♀♀ + 1 ♂ from three localities. TURKEY: 1 ♀. ARMENIA: 1 ♀. IRAN: 1 ♀. AFGHANISTAN: 2 ♀♀ + 4 ♂♂ from two localities. MONGOLIA: 1 ♂. KOREA: 1 ♂.

Redescription of the ♀ lectotype of *B. picticornis* (Fig. 37A-K)

LENGTH. Body 3 mm long.

ANTENNAE. As long as body and with 31 antennomeres. First flagellomere 2.5 times, further flagellomeres attenuating so that penultimate flagellomere also 2.5 times as long as broad (Fig. 37A).

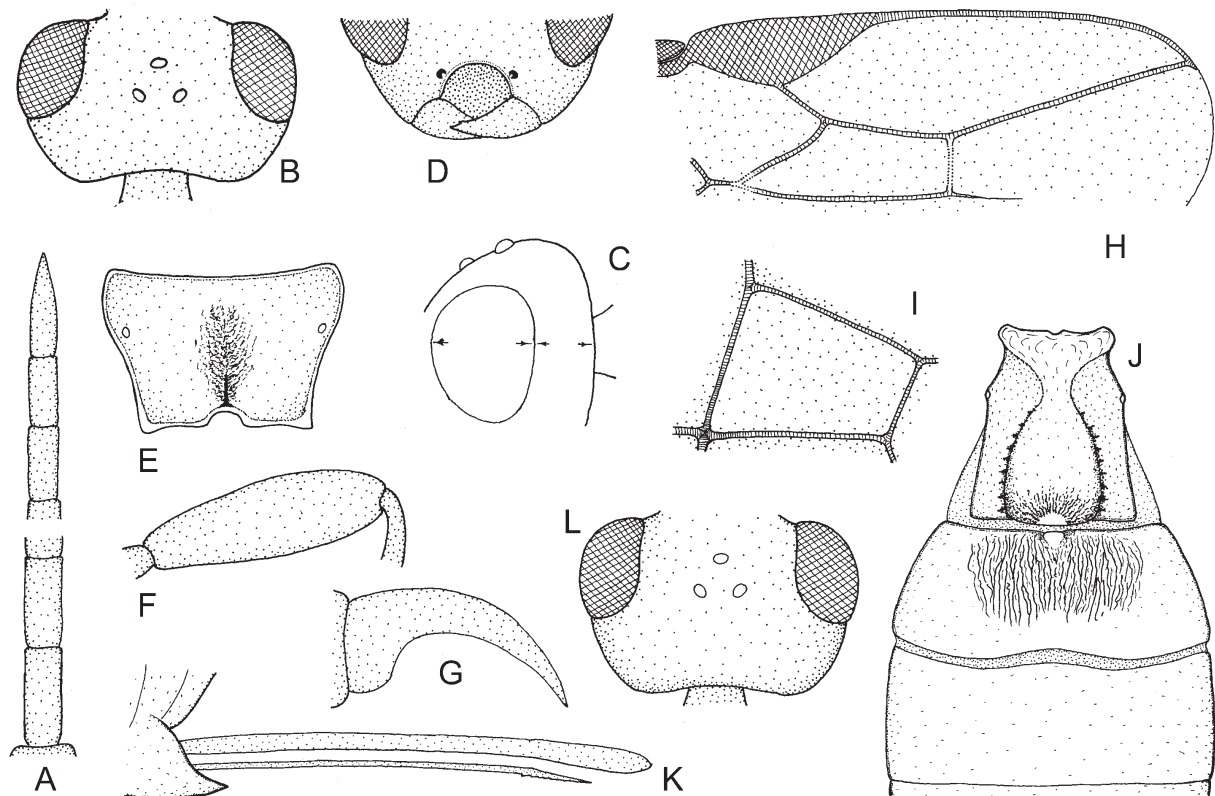


Fig. 37. *Bracon (Glabrobracon) picticornis* Wesmael, 1838 (A-K: ♀ lectotype, L: ♀ paralectotype). A. Flagellomeres 1-2 and 29-31. B. Head in dorsal view. C. Head in lateral view. D. Head in frontal view. E. Propodeum. F. Hind femur. G. Claw. H. Distal part of right forewing. I. First discal cell of right forewing. J. Tergites 1-3. K. Hypopygium and ovipositor apparatus. L. Head in dorsal view.

HEAD. In dorsal view less transverse (Fig. 37B), 1.7 times as broad as long, eye nearly 1.7 times longer than temple, temple (rounded-)receded, occiput weakly excavated. Eye in lateral view 1.3 times as long as wide and 1.7 times wider than temple (Fig. 37C, see arrows). Horizontal diameter of oral opening one-fifth wider than shortest distance between opening and compound eye (Fig. 37D). Head polished.

MESOSOMA. In lateral view almost twice as long as high, polished. Propodeum above lunule with rugae and rugulae (Fig. 37E).

LEGS. Hind femur 2.9 times as long as broad distally (Fig. 37F). Claw moderately curved, its basal lobe small (Fig. 37G).

WINGS. Forewing as long as body. Pterostigma (Fig. 37H) fairly wide, 2.8 times as long as wide and issuing *r* just proximally from its middle, *r* almost 0.8 times as long as width of pterostigma. Second submarginal cell long, 3-*SR* somewhat longer than 2-*SR*, *SRI* straight, 2.1 times longer than 3-*SR* and reaching tip of wing. First discal cell usual in size, 1-*M* just twice as long as *m-cu*, 1-*SR-M* 1.25 times as long as 1-*M* (Fig. 37I).

TERGITES. First tergite (Fig. 37J) slightly longer than broad behind, evenly broadening posteriorly, margin of scutum crenulate, scutum posteriorly striolate. Second tergite clearly 2.5 times as broad as long laterally and a bit longer than third tergite, suture between tergites 2-3 bisinuate, smooth. Second tergite striate (laterally smooth), further tergites polished (Fig. 37J). Hypopygium pointed, ovipositor sheath as long as hind tibia (Fig. 37K).

COLOUR. Head brown, oral part yellow, palpi pale yellow. Scape and pedicel yellow, flagellum light brown. Mesosoma brown to dark brown, tegula yellow. First tergite dark brown, further tergites brown,

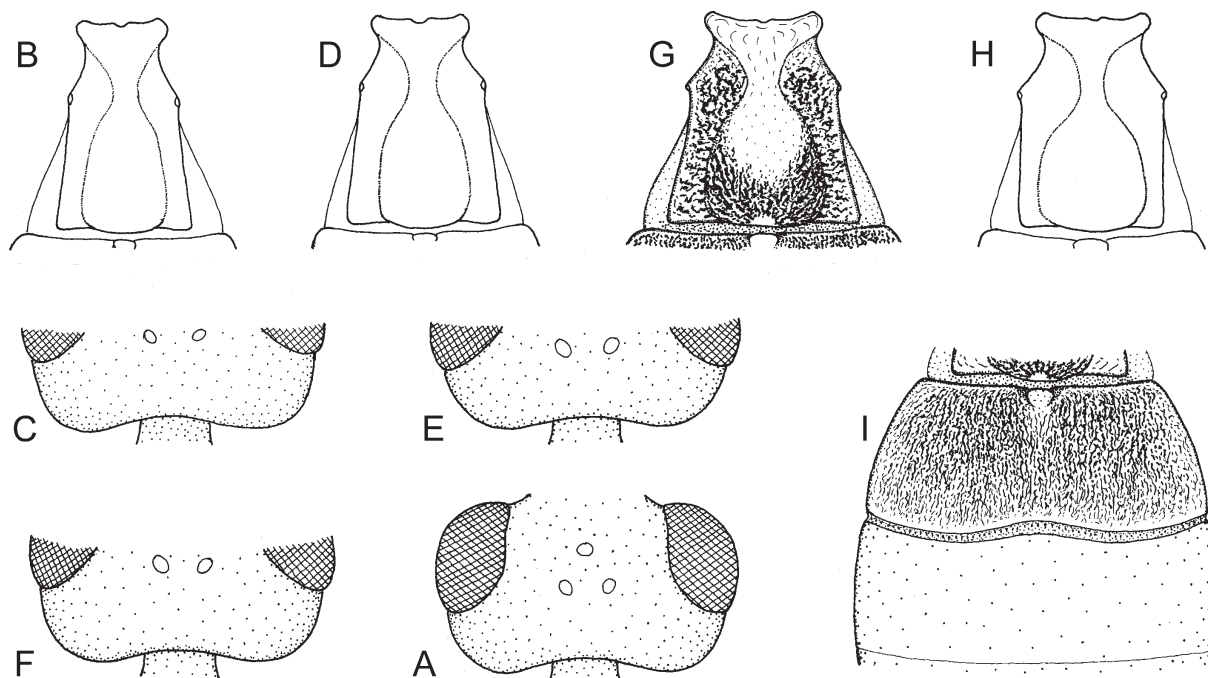


Fig. 38. *Bracon (Glabrobracon) picticornis* Wesmael, 1838 (A, E-F, H: ♀ / ♂, B: ♀ paralectotype, C-D: ♂ paralectotype, G, I: ♀). A. Head in dorsal view. B. First tergite. C. Hind half of head in dorsal view. D. First tergite. E-F. Hind half of head in dorsal view. G-H. First tergite. I. Tergites 2-3.

tergites 2-3 laterally yellow. Sternites yellow. Legs yellow, hind tibia apically and tarsi very faintly brownish fumous. Wings hyaline, pterostigma light brown, veins yellowish brown.

Variable features of the three ♀♀ of *B. picticornis* (Figs 37B; 38A-B)

Similar to the ♀ lectotype. Body 2.5 mm (1 ♀) and 3.1 mm (1 ♀) long. Antenna with 26 antennomeres (1 ♀). Head in dorsal view 1.8-1.7 times as broad as long (Figs 37B; 38A). 3-SR nearly 2.3 times as long as 2-SR. First tergite 1.5 times longer than broad (2 ♀♀, Fig. 38B). Head above with faint reddish pattern, pronotum and mesoscutum reddish yellow. Tergites laterally reddish yellow (1 ♀: “var. 1.” by Wesmael).

Variable features of the two ♂ paralectotypes of *B. picticornis* (Fig. 38C-D)

Similar to the ♀ types. Body 2.2 mm long. Antenna with 27 antennomeres. Temple rather rounded (Fig. 38C). First tergite 1.2-1.3 times as long as broad behind (Fig. 38D). Body dark coloured, legs yellow, hind coxa basally brown to brownish.

Variable features of the ♀ and ♂ of *B. picticornis* (Fig. 38E-I)

(79 ♀♀ + 27 ♂♂) Similar to the types. Body (2.2-)2.4-3.5 mm long. Antenna with (25-)26-32(-35) antennomeres. Head in dorsal view 1.8 times as broad as long (6 ♀♀ + 2 ♂♂, Fig. 38A), temple either more receded (8 ♀♀ + 2 ♂♂, Fig. 38E) or rounded (4 ♀♀, Fig. 38F). Propodeum usually entirely polished. First tergite clearly broadening posteriorly, almost as broad as long (12 ♀♀, Fig. 38G) or beyond pair of spiracles parallel-sided (2 ♀♀ + 4 ♂♂, Fig. 38H); tergites 2-3 transverse, second tergite 2.5-3 times as broad behind as long laterally and clearly longer than second tergite, second tergite distinctly and almost entirely striate (8 ♀♀, Fig. 38I).

Hosts

COL. Cerambycidae: *Clytus* sp., *Plagionotus arcuatus* Linnaeus. Anobiidae: *Ernobius abietis* Fabricius. — LEP. Momphidae: *Mompha subdivisella* Bradley. Choreutidae: *Millieria dolosalis* Herrich-Schäffer. Tortricidae: *Cochylis pallidana* Zeller. — DIPT. Cecidomyiidae: *Cecidomyia salicis* Schrank, *Dasineura rosaria* Loew. — HYM. Tenthredinidae: *Nematus bipartitus* Lepeletier, *N. capreae* Linnaeus, ?*N.*

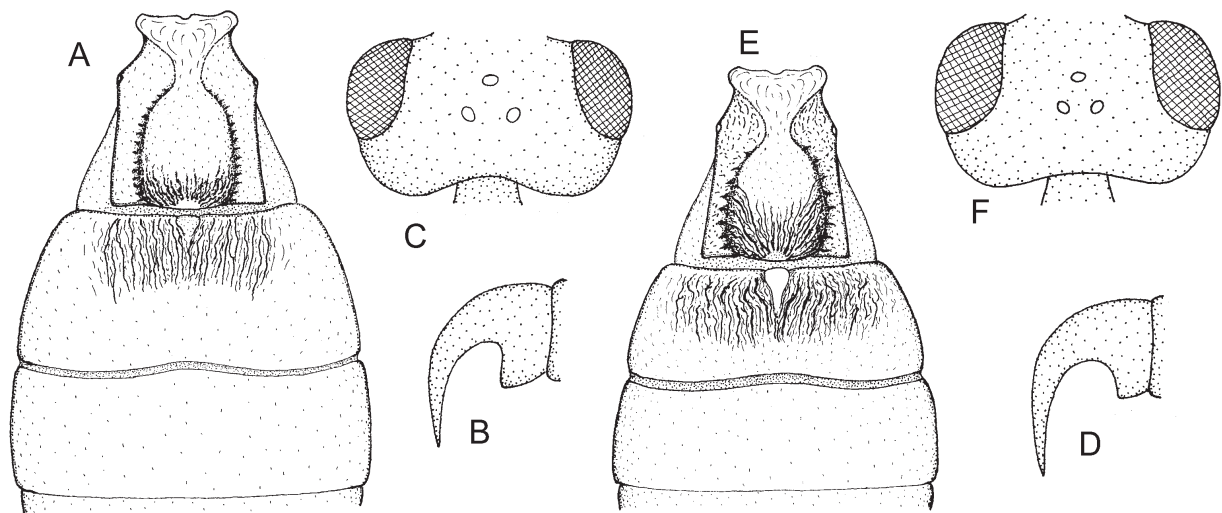


Fig. 39. — A-C. *Bracon (Glabrobracon) subsinuatus* Szépligeti, 1901, ♀ lectotype. A. Tergites 1-3. B. Claw. C. Head in dorsal view. — D-F. *Bracon (Glabrobracon) epitriptus* Marshall, 1885, ♀ paralectotype. D. Claw. E. Tergites 1-3. F. Head in dorsal view.

gallicola Westwood, *N. saliceti* Foerster, *N. salicis* Linnaeus, *N. viminalis* Linnaeus, *Pontania pedunculi* Hartig, !*P. gallarum* Hartig, !*P. proxima* Lepeletier, !*P. varia* Kopelke, !*P. vesicator* Bremsi.

Distribution

Palearctic Region, in Europe frequent to common.

Taxonomic position

Within the subgenus *Glabrobracon* the species *B. picticornis* Wesmael is nearest to *B. epitriptus* Marshall (Palearctic Region, in Europe frequent) and *B. subsinuatus* Szépligeti (Europe), the three species are distinguished by a few subtle features:

- 1 (2) Second tergite distinctly, 1.3-1.4 times longer than third tergite, second tergite less transverse than third tergite (Fig. 39A). Claw downcurved, its basal lobe more distinct (Fig. 39B). Head in dorsal view 1.7-1.9 times as broad as long (Fig. 39C). ♀♂: (2.5-)3-4 mm
.....*B. (Gl.) subsinuatus* Szépligeti, 1901
- 2 (1) Second and third tergites transverse, second tergite usually slightly longer than third tergite (Fig. 37J, 38I). Claw less (Fig. 37G) or more distinctly downcurved (Fig. 39D), its basal lobe less distinct (Figs 37G; 39D). Head in dorsal view 1.6-1.8 times as broad as long (Figs 37B; 38A; 39F).
- 3 (4) Claw faintly downcurved, its basal lobe rounded (Fig. 37G). Tergites 2-3 slightly less transverse, second tergite 2.3-2.5 times as broad as long (Fig. 37J). Head in dorsal view 1.8-1.7 times as broad as long, temple receded, eye 1.7 times as long as temple (Fig. 37B; 38A). Hind coxa usually yellow, at most basally darkening. ♀♂: (2.2-)2.4-3.5 mm
.....*B. (Gl.) picticornis* Wesmael, 1838
- 4 (3) Claw clearly downcurved, its basal lobe angled (Fig. 39D). Tergites 2-3 transverse, second tergite 2.4-3 times as broad as long (Fig. 39E). Head in dorsal view 1.6-1.7 times as broad as long, temple rounded, eye twice as long as temple (Fig. 39F). Hind coxa frequently more or less blackish to black. ♀♂: 2.5-3.5(-4.5) mm*B. (Gl.) epitriptus* Marshall, 1885

Taxonomic remark

The two species, *B. epitriptus* and *B. picticornis*, are very similar to each other. The few distinctive features described in the above key are average ones and not always clear-cut, i.e., there may be specimens with transitional appearance hardly assignable to any of the species in question. A DNS-sequence or other modern proceeding method will, supposedly, disclose their true taxonomic / systematic position.

Bracon (Pigeria) piger Wesmael, 1838 Figs 40A-L, 41A-D

Bracon piger Wesmael, 1838: 48 ♀ (type material: 2 ♀♀), type locality: “la plaine de Mon-Plaisir, près de Bruxelles” (Belgium), ♀ lectotype (and one ♀ paralectotype, present designations) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon explorator Szépligeti, 1904 (1901): 189 (in key), 194 (description) (in German) ♀♂, type locality: Siófok (Hungary), one ♀ paralectotype (from Siófok) identical and synonymized with *B. piger*, further specimens (♀ lectotype, four ♀ and one ♂ paralectotypes from Budapest and Siófok) identical and synonymized with *B. otiosus* Marshall, 1885 (cf. Papp 2004: 174, 2008: 1791).

Bracon rotundatus Szépligeti, 1901: 270 (as “rotundator” in key), 282 (description) (in Hungarian), 1904 (1901): 190 (in key), 195 (description) (in German), type locality: “Budapest” (Hungary), ♀ lectotype in Magyar Természettudományi Múzeum, Budapest; examined.

Bracon rotundulus Szépligeti, 1904 (1901): 190 (in key) and 195 (description) ♀♂, type locality: Budapest: Svábhegy (Hungary), ♀ lectotype (and two ♀ paralectotypes from Budapest and Pilismarót, Hungary) in Magyar Természettudományi Múzeum, Budapest; examined.

Bracon piger – Szépligeti 1901: 267 (in key, in Hungarian); 1904 (1901): 186 (in key, in German) ♀.
Bracon (Glabrobracon) piger – Fahringer 1927: 284 (in key), 1928: 482 (redescription) ♀, assigned to “Section *Glabrobracon*”. — Telenga 1936: 152 (in key), 221 (redescription) (in Russian) and 354 (in key, in German) ♀. — Papp 1966: 376 (in key), 389 (redescription) ♀♂. — Shenefelt 1978: 1580 (literature up to 1974). — Van Achterberg 1985 (generic differentiation as *Pigeria piger*, redescription). — Tobias 1986: 134 (in key, in Russian). — Tobias & Belokobylskij 2000: 164 (as *Pigeria piger*).
Bracon rotundatus – Fahringer 1928: 484 (as synonym of *B. praecox* Wesmael). — Telenga 1936: 153 (in key), 222 (redescription) (in Russian) and 355 (in key, in German) as *B. piger* var. *rotundatus* (Szépligeti). — Tobias 1961: 162 (as synonym of *B. variator* Nees). — Papp 1966: 392 (as synonym of *B. variator* Nees). — Shenefelt 1978: 1587 (as *B. variator* var. *rotundatus*, literature up to 1967). — Papp 2004: 179 and 2008: 1791 (as valid species, type designation and depository).
Bracon rotundulus – Fahringer 1928: 484 (as *B. praecox* var. *rotundulus*). — Telenga 1936: 152 (♀), 156 (♂, in key, in Russian) and 354 (♀), 358 (♂) (in key, in German) as *B. praecox* var. *rotundulus* (222). — Tobias 1961: 162 (as synonym of *B. variator* Nees). — Papp 1966: 392 (as synonym of *B. variator* Nees). — Shenefelt 1978: 1587 (as *B. variator* var. *rotundulus*, literature up to 1967). Tobias 1986: not mentioned. — Papp 2004: 180 (as synonym of *B. piger*, type designations and depository).

Taxonomic remark

The genus *Pigeria* was described by van Achterberg (1985), who assigned two European species to it: *P. piger* (Wesmael, 1838) and *P. wolschrijni* van Achterberg, 1985. Quicke & Sharkey (1989: 350) noted that “Although *Pigeria* is being kept separate from *Bracon* in the present paper, it is probably best considered as only a derived subgenus of the latter.” In this paper taxon *Pigeria* is suppressed to subgeneric level and regarded as one of the subgenera of *Bracon*.

Designation of the ♀ lectotype of *Bracon piger*

(First label, printed) “Coll. Wesmael”; (second label, printed) “2062”; (third label) “Braco ♀ / piger mihi” (handwriting) / “det. Wesmael” (printed); (fourth label, printed red) “Type”; fifth label (printed) is with the (?) inventory number “3.317”; sixth label (printed) with the locality Bruxelles after Wesmael; seventh label is the lectotype card (sixth and seventh labels attached by me). Lectotype is in good condition: (1) micropinned; (2) right flagellum deficient (with 11 flagellomeres); (3) missing: tarsomeres 2-5 of left fore and left middle legs.

Designation of the ♀ paralectotype of *Bracon piger*

Labels identical to those of the lectotype except eighth label attached to the polyporus stage with handwriting “20. aout. M.plai: 3”. Paralectotype is in poor condition: (1) micropinned; (2) right flagellum deficient (with 23 flagellomeres); (3) missing: hind pair of legs and right pair of wings; (4) metasoma glued dorsally (to tergites) onto the label with the text (see before); (5) base of left fore wing torned, left hind wing apically deficient.

Material examined

127 ♀♀ + 51 ♂♂ from twenty countries: ENGLAND: 1 ♀. FRANCE: 3 ♀♀ from three localities. THE NETHERLANDS: 1 ♀. GERMANY: 7 ♀♀ + 5 ♂♂ from eight localities. AUSTRIA: 1 ♀ + 1 ♂ from one locality. BOHEMIA: 1 ♀ + 1 ♂ from two localities. HUNGARY: 95 ♀♀ + 32 ♂♂ from hundred and twenty-one localities. CROATIA: 4 ♀♀ + 3 ♂♂ from five localities. SERBIA: 1 ♀ + 1 ♂ from two localities. MACEDONIA: 1 ♀. BULGARIA: 2 ♀♀ + 1 ♂ from three localities. GREECE: 2 ♂♂ from two localities. ITALY: 1 ♀ + 2 ♂♂ from two localities. SPAIN: 1 ♂. TURKEY: 2 ♀♀ + 1 ♂ from three localities. ARMENIA: 1 ♀. LEBANON: 1 ♀. TURKMENISTAN: 1 ♀. MONGOLIA 2 ♀♀ from two localities. CHINA: 2 ♀♀ + 1 ♂ from two localities.

Redescription of the ♀ lectotype of *Bracon piger*

LENGTH. Body 4 mm long.

ANTENNAE. Almost as long as body and with 32 antennomeres (left antenna). First flagellomere subcubic, 1.2 times as long as broad, further flagellomeres gradually attenuating so that penultimate flagellomere subcubic, somewhat more than 1.3 times as long as broad (Fig. 40A).

HEAD. In dorsal view (Fig. 40B) less transverse, 1.6 times as broad as long, eye one-fourth longer than temple, temple rounded, occiput weakly excavated. Eye in lateral view nearly 1.5 times as high as wide, temple a bit wider than eye (Fig. 40C, see arrows). Horizontal diameter of oral opening somewhat longer than shortest distance between opening and compound eye (Fig. 40D). Head polished and hairy.

MESOSOMA. In lateral view 1.3 times as long as high, polished. Notaulix distinct. Propleura in lateral view concave, ventrally elevated and here weakly carinated (Fig. 40E, see arrow). Fore pair of coxae somewhat flattened (Fig. 40F; cf. Figs 10 and 16 in Achterberg 1985: 171, 173). These latter two features are subgeneric ones. Propodeum polished.

LEGS. Hind femur 3.3 times as long as broad distally (Fig. 40G). Claw more downcurved than usually, its basal lobe large and apically truncate (Fig. 40H).

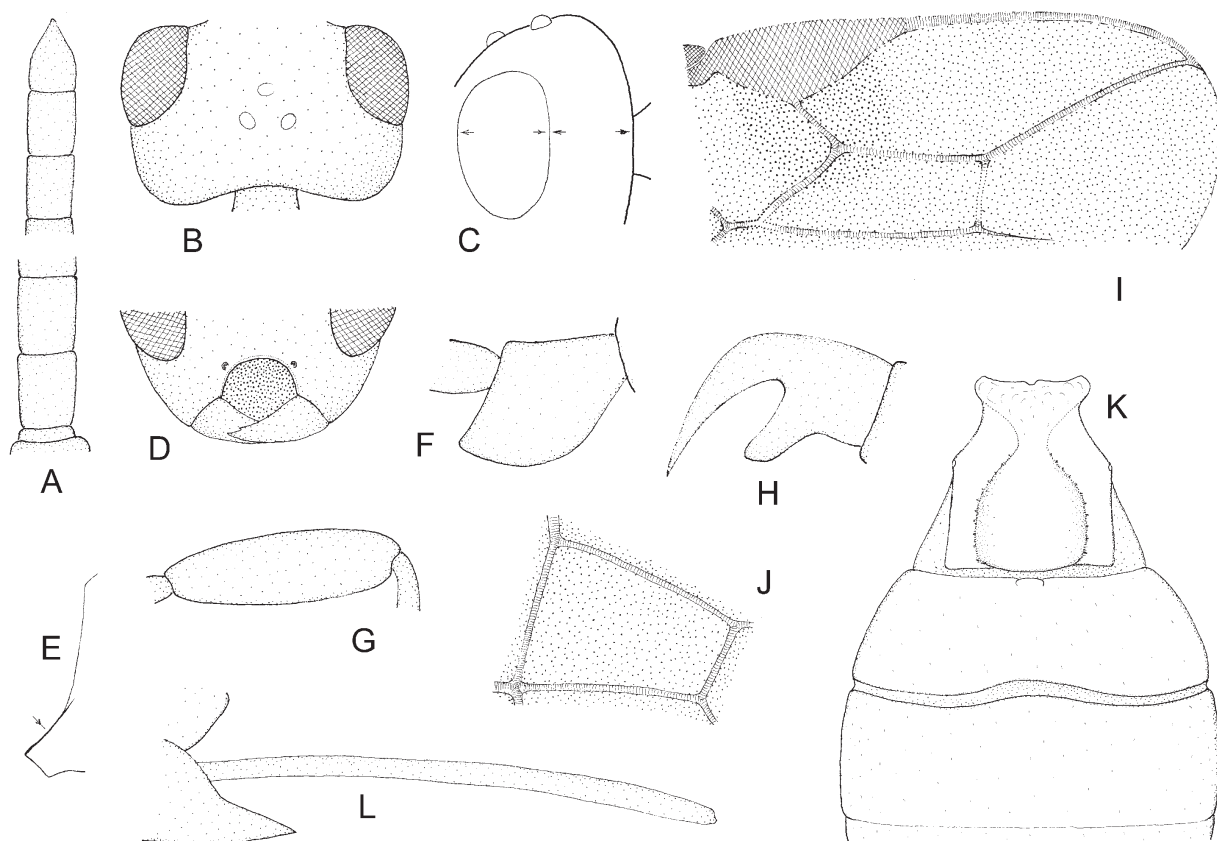


Fig. 40. *Bracon (Pigeria) piger* Wesmael, 1838, ♀ lectotype. **A.** Flagellomeres 1-2 and 30-32. **B.** Head in dorsal view. **C.** Head in lateral view. **D.** Head in frontal view. **E.** Propleura in lateral view. **F.** Fore coxa in lateral view. **G.** Hind femur. **H.** Claw. **I.** Distal part of right forewing. **J.** First discal cell of right forewing. **K.** Tergites 1-3. **L.** Hypopygium and ovipositor apparatus.

WINGS. Forewing slightly longer than body. Pterostigma (Fig. 40I) fairly wide, 2.5 times as long as wide and issuing *r* proximally from its middle, *r* somewhat shorter than width of pterostigma; second submarginal cell long, 3-*SR* 1.5 times as long as 2-*SR*, *SR*1 faintly bent, nearly 1.6 times longer than 3-*SR* and reaching tip of wing (Fig. 40I). First discal cell usual in form, *l-M* twice longer than *m-cu*, *l-SR-M* just bent and nearly 1.4 times longer than *l-M* (Fig. 40J).

TERGITES. First tergite (Fig. 40K) somewhat longer than broad behind, beyond pair of spiracles weakly broadening, margin of scutum finely crenulated, otherwise tergite, together with further ones, polished. Second tergite clearly three times broader behind than long laterally, somewhat shorter than third tergite, suture between them bisinuate and smooth. Hypopygium pointed, ovipositor sheath as long as hind tibia and tarsomeres 1-2 combined (ovipositor invisible) (Fig. 40L).

COLOUR. Antenna, head and mesosoma black. Orbit rusty, palpi blackish. Metasoma yellow, fore half of scutum (of first tergite) black. Legs black, hind pair of tibiae basally brownish. Wings brown fumous, pterostigma and veins brown.

The ♀ paralectotype is quite similar in every respect to the lectotype, hence needless to redescribe.

Variable features of the ♀ (127 ♀♀)

Body 3.5-4.5 mm long. Antenna with 26-33, usually with 29-31, antennomeres. Flagellomeres 1.3-1.4(-1.5) times as long as broad. Head in dorsal view 1.6-1.68 times, exceptionally 1.7-1.73 times (Fig. 41A), as broad as long, eye one-fifth to one-fourth longer than temple. Propleura in lateral view either blunt

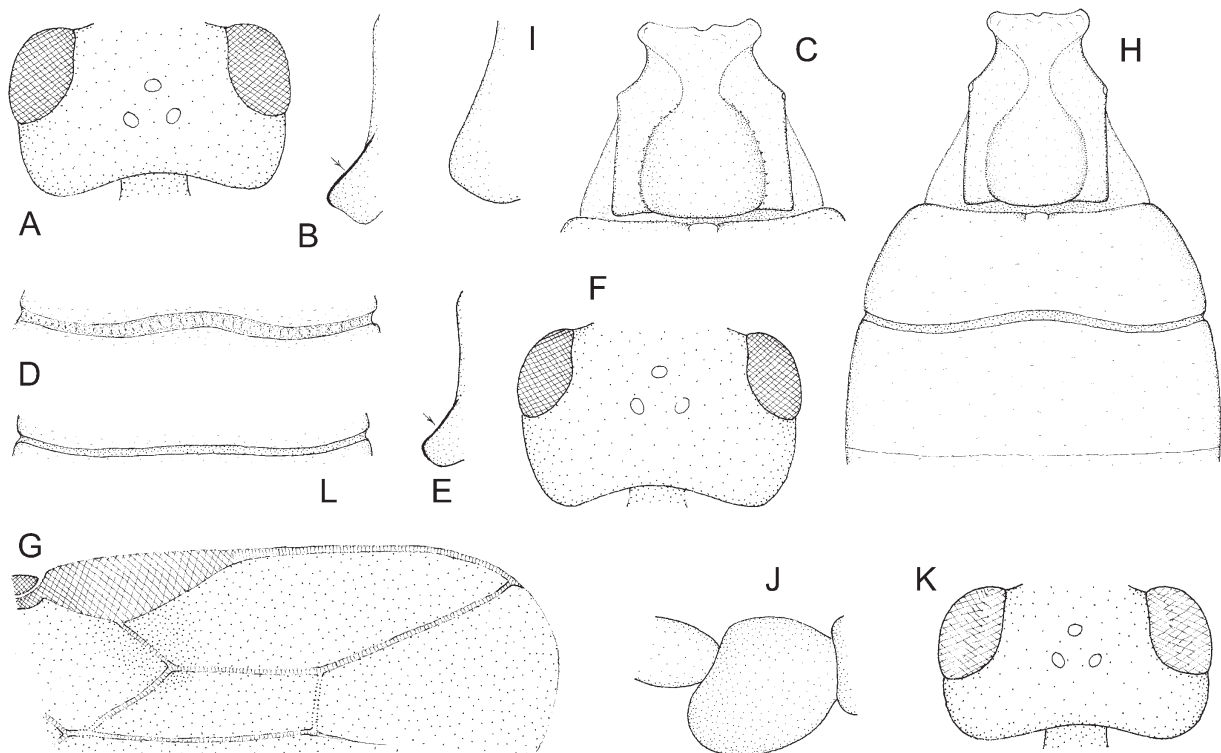


Fig. 41. — **A-D.** *Bracon (Pigeria) piger* Wesmael, 1838, ♀ / ♂. **A.** Head in dorsal view. **B.** Propleuron in lateral view. **C.** First tergite. **D.** Suture between tergites 2-3. — **E-H.** *Bracon (Pigeria) wolschrijni* van Achterberg, 1985, ♀ / ♂. **E.** Propleuron in lateral view. **F.** Head in dorsal view. **G.** Distal part of right forewing. **H.** Tergites 1-3. — **I-L.** *Bracon (Glabrobracon) variator* Nees, 1811, ♀ / ♂. **I.** Propleuron in lateral view. **J.** Fore coxa in lateral view. **K.** Head in dorsal view. **L.** Suture between tergites 2-3.

(Fig. 40E) or stronger (Fig. 41B). Hind femur 3.2-3.4 times, usually 3.3 times, as long as broad. First tergite as long as broad (Fig. 41C) to somewhat longer than broad behind (Fig. 40K).

Deviating features of the ♂ (51 ♂♂)

Similar to the ♀. Body 3.5-4.2(-4.5) mm long. Antenna with 25-36, usually 27-32, antennomeres. Flagellomeres (1.3-)1.4-1.5 times as long as broad. Head in dorsal view 1.6-1.7 times as broad as long (Figs 40B; 41A). Prosternum as in ♀ (cf. Figs 40E; 41B). First tergite somewhat longer than broad behind (Fig. 40K), usually as long as broad behind (Fig. 41C). Metasoma fairly frequently more or less black.

Hosts

COL. Bruchidae: *Bruchidius villosus* (Fabricius), *B. lividimanus* Gyllenhal. Curculionidae: *Pissodes validirostris* C.R. Sahlberg et J. Sahlberg. — LEP. Tortricidae: *Cnephasia longana* Haworth. *Cydia nigricana* Fabricius. Cochilidae: *Cochylis epilinana* Duponchel. Phycitidae: *Etiella zinckenella* Treitschke. Noctuidae: *Heliothis peltigera* Denis et Schiffermüller.

Hyperparasitoids

HYM. Eupelmidae: *Eupelmus annulatus* Nees, *Eupelmus muellneri* Ruschka. Eurytomidae: *Eurytoma appendigaster* Swederus. Ichneumonidae: *Scambus elegans* Woldstedt.

Distribution

Palearctic Region, in Europe frequent.

Taxonomic position

Within the subgenera *Pigeria* and *Glabrobracon* the species *Bracon piger* is nearest to *B. wolschrijni*, *B. variator* and *B. praecox*, respectively, the four species are distinguished by the following features in the key:

- 1 (4) Propleura in lateral view concave, its anterior elevation (weakly) carinated (Figs 40E; 41B, E, see arrow); fore pair of coxae somewhat flattened (Fig. 40F) (subgeneric features of *Pigeria*). Head in dorsal view subcubic (Fig. 40B) to less transverse, temple less rounded (Figs 41A, F).
- 2 (3) Second submarginal cell of fore wing less narrow, 3-SR twice (1.9-2.1 times) as long as *r-m* (Fig. 40I). Eye in dorsal view longer than temple (Figs 40B; 41A). First tergite at most slightly longer than broad behind (Fig. 40K). Antenna with (26-)29-33 (♀) and (25-)28-36 (♂) antennomeres. Ground colour of metasoma reddish yellow. ♀♂: Body robust, 3.5-4.5 mm. - Palearctic Region*B. (Pig.) piger* Wesmael, 1838
- 3 (2) Second submarginal cell of fore wing narrow, 3-SR (2.2-)2.4-2.6 times as long as *r-m* (Fig. 41G). Eye and temple in dorsal view equal in length (Fig. 41F). First tergite 1.2-1.3 times longer than broad behind (Fig. 41H). Antenna with (22-)23-27 antennomeres (♀♂). Ground colour of metasoma yellow. ♀♂: Body less robust, 2.3-2.8(-3) mm*B. (Pig.) wolschrijni* (van Achterberg, 1985)
- 4 (1) Propleura in lateral view straight, i.e. not concave and not carinated (Fig. 41I); fore pair of coxae not flattened, i.e. globose as usually (Fig. 41J) (subgeneric features of *Glabrobracon*). Head in dorsal view transverse, less transverse to subcubic, temple usually strongly rounded (Fig. 41F, K).
- 5 (6) Head in dorsal view transverse, 1.8-1.9 times as broad as long (Fig. 41K). First tergite 1.3-1.5(-1.6) times as long as broad behind, suture between tergites 2-3 straight to weakly bisinuate (Fig. 41L). Claw somewhat less pointed, its basal lobe fairly large (Fig. 67F). ♀♂: 3-4.5 mm*B. (Gl.) variator* Nees, 1811

6 (5) Head in dorsal view less transverse to subcubic, 1.6-1.7 times as broad as long (Fig. 42H). First tergite 1.2-1.3 times as long as broad behind, suture between tergites 2-3 more or less bisinuate (Figs 42F, 43H). Claw somewhat more pointed, its basal lobe less large (Fig. 42C). ♀♂: (2.5-)3.5-4.5 mm
.....*B. (Gl.) praecox* Wesmael, 1838

***Bracon (Glabrobracon) praecox* Wesmael, 1838**
Figs 42A-J, 43A-H

Braco praecox Wesmael, 1838: 52 ♀ (type material: 1 ♀), type locality: "...la cour d'athéné," (in Brussels, Belgium), ♀ holotype ("Je ne possède qu'une femelle de cette espèce;" Wesmael l.c., present designation) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon semilunatus Dalla Torre, 1898: 288 (erroneous citation of *B. semiluteus* Walker).

Bracon semiluteus Walker, 1874: 307 ♀, type locality: "Japan", ♀ holotype ("Type") in The Natural History Museum, London; examined.

Bracon praecox – Szépligeti 1901: as valid species 269 (in key, in Hungarian); 1904 (1901): 190 (in key, in German) ♀♂.

Bracon (Glabrobracon) praecox – Fahringer 1927: as valid species 269 (♀), 307 (♂) (in key), 1928: 484 (redescription) ♀♂, assigned to "Section *Glabrobracon*". — Telenga 1936: as valid species 152 (♀), 156 (♂) (in key), 222 (redescription) (in Russian) and 354-355 (♀), 358 (♂) (in key, in German). — Tobias 1961: 162 (as synonym of *B. variator* Nees). — Papp 1966: 392 (as synonym of *B. variator* after Tobias l.c.). — Shenefelt 1978: 1586 (as *B. variator ab. praecox* after Papp l.c., literature up to 1974). — Tobias 1986: 134 (as synonym of *B. variator*).

Bracon semilunatus – Shenefelt 1978: 1580 (as synonym of *B. piger*).

Bracon semiluteus – Morley 1913: 134 ("Quite certainly synonymous with *B. piger*, Wesm. ..."). — Fahringer 1928: 525 (assigned to sp. inquir.). — Watanabe 1937: 29 (as synonym of *B. piger* after Morley l.c.). — Shenefelt 1978: 1580 (as synonym of *B. piger* after Morley l.c.).

Designation of the ♀ holotype of *Bracon praecox*

(First label, printed) "Coll. Wesmael"; (second label, printed) "2067"; (third label) "Braco ♀ / praecox mihi (handwriting) "dét. C. Wesmael" (printed); (fourth label, printed red) "Type"; fifth label (printed) is with the (?)inventory number "3.317"; sixth label (printed) is with the locality name Bruxelles after Wesmael; seventh label is the holotype card (sixth and seventh labels attached by me). Holotype is in fairly poor condition: (1) micropinned, pin thick; (2) head missing; (3) fore pair of legs missing.

Designation of the ♀ holotype of *Bracon semiluteus*

(First label, handwriting) "242"; (second label, printed) "Japan / Coll. F. Walker / 1913-71."; (third round label with red margin, printed) "Type"; (fourth label, with ?Walker's handwriting) "Bracon / semiluteus"; (fifth label) "Bracon piger Wesm. ♀ XII. 13" (handwriting) "Morley det." (printed); sixth label is with the actual name *B. praecox* Wesmael given by me in 2007.

Material examined

48 ♀♀ + 38 ♂♂ from twenty-one countries: GREAT BRITAIN: 2 ♀♀ from two localities. FRANCE: 3 ♀♀ + 1 ♂ from four localities. GERMANY: 1 ♀ + 2 ♂♂ from three localities. DENMARK: 1 ♀. SWITZERLAND: 1 ♀. BOHEMIA: 1 ♀ + 1 ♂ from two localities. HUNGARY: 25 ♀♀ + 13 ♂♂ from 21 localities. SWEDEN: 1 ♀. ITALY: 2 ♀♀ from two localities. SPAIN: 1 ♀ + 1 ♂: from one locality. ALGERIA: 1 ♀ + 1 ♂ from two localities. CROATIA: 1 ♀ + 2 ♂♂ from two localities. ALBANIA: 1 ♂. BULGARIA: 7 ♀♀ + 3 ♂♂ from seven localities. GREECE: 3 ♂♂ from three localities. TURKEY: 3 ♂♂ from three localities. CYPRUS: 1 ♀. ISRAEL: 1 ♂. JORDAN: 4 ♂♂ from four localities. IRAQ: 1 ♂. MONGOLIA: 1 ♂.

Redescription of the ♀ holotype of *Bracon praecox* (Fig. 42A-G)

LENGTH. Body (without head) 2.8 mm long.

HEAD. Missing.

MESOSOMA. In lateral view 1.4 times as long as high, polished. Propleura in lateral view straight (Fig. 42A). Propodeum polished.

LEGS. Hind femur nearly 3.6 times as long as broad medially (Fig. 42B). Claw downcurved and pointed, its basal lobe less large (Fig. 42C).

WINGS. Forewing one-fourth longer than meso- and metasoma combined. Pterostigma (Fig. 42D) three times as long as wide and issuing *r* proximally from its middle, *r* 0.8 times as long as width of pterostigma; second submarginal cell fairly long, 3-*SR* 1.4 times as long as 2-*SR*, *SR1* straight, nearly 1.8 times longer than 3-*SR* and reaching tip of wing (Fig. 42D). First discal cell rather high, *I-M* less than twice (1.76 times) as long as *m-cu*; *I-SR-M* indistinctly bent and 1.3 times as long as *I-M* (Fig. 42E).

TERGITES. First tergite (Fig. 42F) 1.25 times as long as broad behind, beyond pair of spiracles parallel-sided, margin of scutum subcrenulate, otherwise together with further tergites polished. Second tergite transverse, 3.6 times as broad behind as long laterally, third tergite slightly longer than second tergite; suture between them bisinuate, deep and smooth. Hypopygium pointed, ovipositor sheath as long as hind tibia + basitarsus combined (Fig. 42G).

COLOUR. Mesosoma and legs black. Metasoma yellow, first tergite black, median macula of tergites 4-5 brown. Wings brown fumous, pterostigma and veins brown.

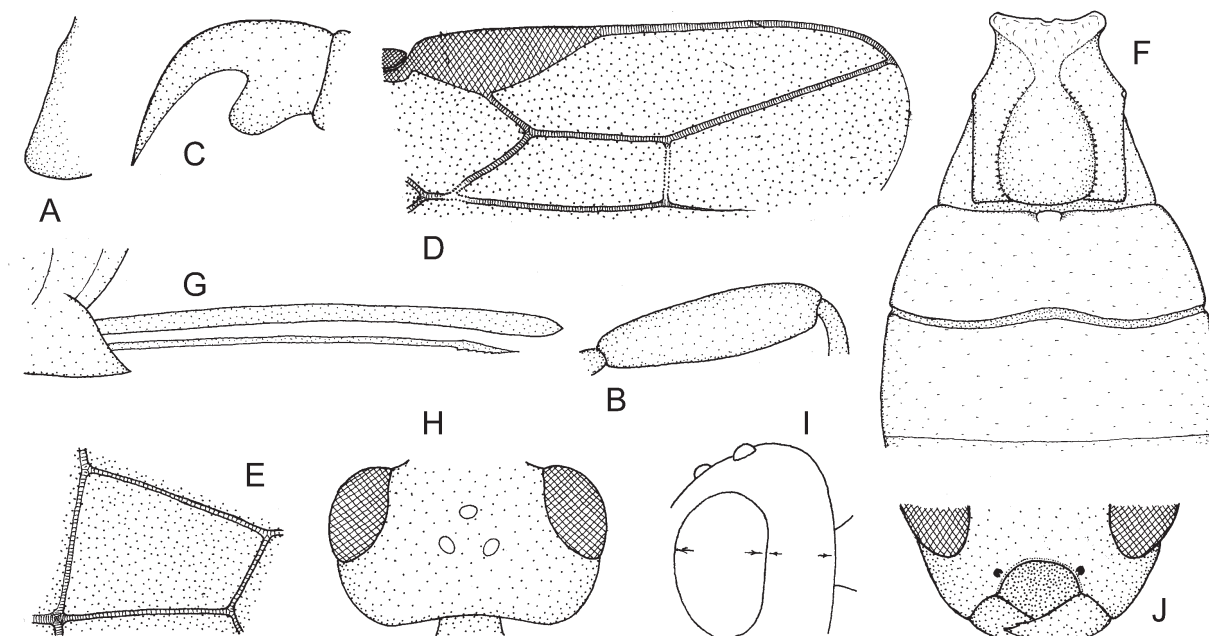


Fig. 42. *Bracon (Glabrobracon) praecox* Wesmael, 1838 (A-G: ♀ holotype, H-J: ♀ / ♂). **A.** Propleuron in lateral view. **B.** Hind femur. **C.** Claw. **D.** Distal part of right forewing. **E.** First discal cell of right forewing. **F.** Tergites 1-3. **G.** Hypopygium and ovipositor apparatus. **H.** Head in dorsal view. **I.** Head in lateral view. **J.** Head in frontal view.

Description of the head on the basis of a ♀ specimen identical with the holotype (Fig. 42H-J)

Antenna as long as head, mesosoma and half of metasoma combined and with 28 antennomeres (in the original description “31 articles”). First flagellomere nearly 1.8 times and penultimate flagellomere nearly 1.4 times as long as broad. Head in dorsal view (Fig. 42H) less transverse, 1.76 times as broad as long, eye one-third (or 1.4 times) longer than temple, temple strongly rounded, occiput weakly excavated. Eye in lateral view 1.5 times as high as wide and 1.4 times wider than temple (Fig. 42I, see arrows). Horizontal diameter of oral opening 1.6 times longer than shortest distance between opening and eye (Fig. 42J). Head polished, black.

Variable features of the ♀ (48 ♀♀) (Fig. 43A-G)

Similar to the ♀ holotype. Body (2.5-)3-4.5 mm long. Antenna with (23-)26-33 antennomeres. Head in dorsal view 1.7-1.8 times as broad as long (Fig. 43A). Hind femur 3.3 times (4 ♀♀) as long as broad medially (Fig. 43B). Pterostigma 2.6 times (11 ♀♀) as long as wide (Fig. 43C), *r* issuing from its middle (2 ♀♀, Fig. 43D). Fore wing: 3-*SR* 1.2 times (3 ♀♀) and 1.6 times (7 ♀♀) as long as 2-*SR* (Fig. 43E-F). First tergite just longer than broad behind (6 ♀♀). Third tergite (3 ♀♀) a bit longer than second tergite (Fig. 43G). Hind femur distally to (almost) entirely yellow or reddish yellow (7 ♀♀). Metasoma entirely yellow (2 ♀♀).

Variable features of the ♂ (38 ♂♂) (Fig. 43H)

Similar to the type + ♀. Body 2.5-4(-4.5) mm long. Antenna with 23-37 antennomeres. First tergite 1.5 times as long as broad behind (16 ♀♀, Fig. 43H).

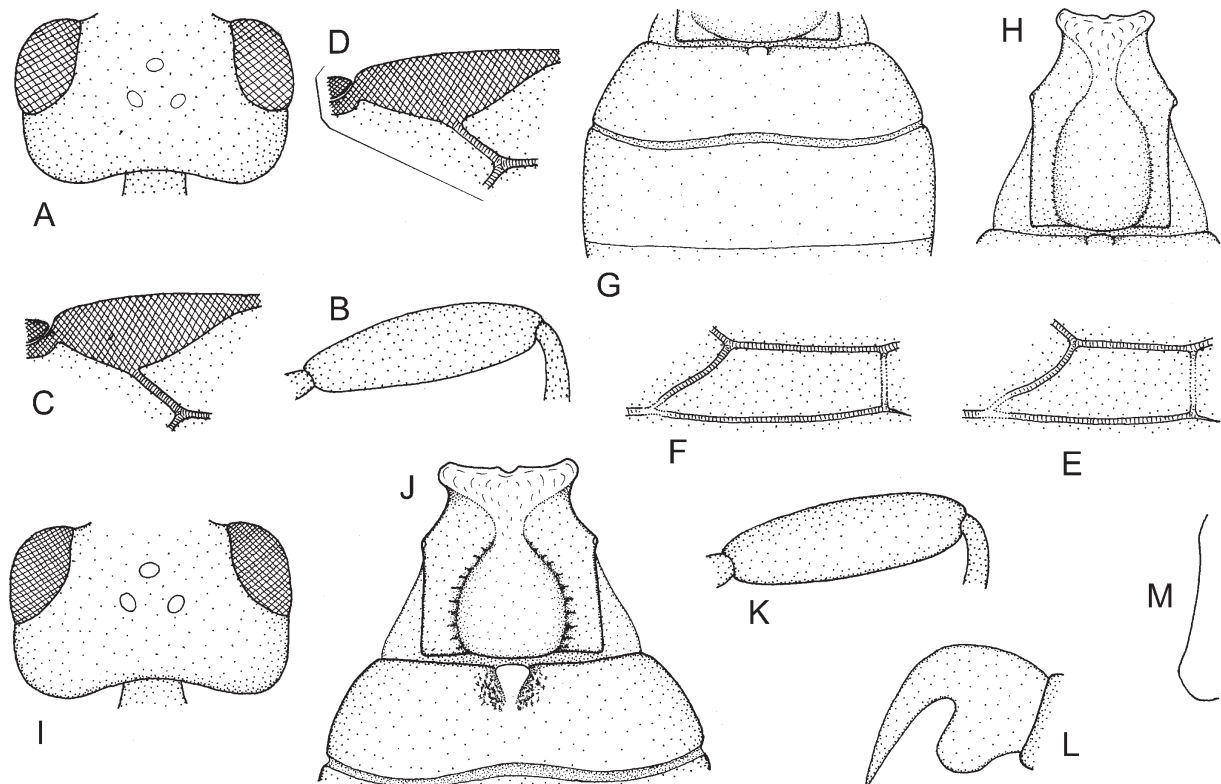


Fig. 43. — A-H. *Bracon (Glabrobracon) praecox* Wesmael, 1838 (A-G: ♀, H: ♂). A. Head in dorsal view. B. Hind femur. C-D. Pterostigma and *r* of right forewing. E-F. Second submarginal cell of right forewing. G. Tergites 2-3. H. First tergite. — I-M. *Bracon (Glabrobracon) bruchivorus* Muesebeck, 1963, ♀ / ♂. I. Head in dorsal view. J. Tergites 1-2. K. Hind femur. L. Claw. M. Propleuron.

Hosts

COL. Bruchidae: !*Bruchidius lividimanus* (Gyllenhal), *B. marginalis* (Fabricius), *B. villosus* (Fabricius). Apionidae: *Protapion apricans* Herbst, *P. trifolii* Linnaeus. Curculionidae: *Miarus campanulae* Linnaeus, !*Pissodes validirostris* (C. R. Sahlberg et J. Sahlberg). — LEP. Cochylidae: *Cochylis epilinana* Duponchel. Coleophoridae: *Coleophora gallipennella* Hübner. Phycitidae: !*Dioryctria abietella* Denis et Schiffermüller. Tortricidae: *Cnephasia longana* Haworth, !*Cydia nigricana* Fabricius. !*Retinia resinella* Linnaeus. Geometridae: !*Eupithecia venosata* Fabricius (in *Silene* pod). — DIPT. Tephritidae: *Tephritis leontodontis* Degener.

Hyperparasitoids

HYM. Eupelmidae: *Eupelmus annulatus* Nees. Eurytomidae: *Eurytoma appendigaster* Swederus. Ichneumonidae: *Scambus elegans* Woldstedt.

Distribution

Palearctic Region, a frequent to common species in Europe.

Taxonomic position

Within the subgenus *Glabrobracon* the species *Bracon praecox* is nearest to *B. piger* considering their more or less subcubic head, their distinction is presented at the latter species.

Bracon praecox is also near to the Nearctic species, *B. bruchivorus* Muesebeck (1963: 162), considering their subcubic head in dorsal view and parallel-sided first tergite; the two species are distinguished by a few features, see key:

- 1 (2) Temple in dorsal view strongly rounded (Fig. 42H). First tergite more or less longer than broad behind, second tergite antero-medially without a field and somewhat less transverse (Figs 42F; 43G). Hind femur (3.3-)3.6 times as long as broad medially (Figs 42B; 43B). Propleura in lateral view straight (Fig. 42A). Claw slightly less downcurved (Fig. 42C). Metasoma yellow with black pattern on first and last two tergites. ♀♂: 2.5-4.5 mm*B. (Gl.) praecox* Wesmael, 1838
- 2 (1) Temple in dorsal view weakly rounded (Fig. 43I). First tergite as long as broad behind, second tergite antero-medially with a small field and somewhat more transverse (Fig. 43J). Hind femur 2.8-2.9 times as long as broad medially (Fig. 43K). Propleura in lateral view slightly concave (Fig. 43M). Claw slightly more downcurved (Fig. 43L). Metasoma entirely testaceous. ♀♂: 3-3.8 mm*B. (Gl.) bruchivorus* Muesebeck, 1963

Bracon (Lucobracon) roberti Wesmael, 1838

Fig. 44A-L

Braco roberti Wesmael, 1838: 37 ♀ (type material: 1 ♀) type locality: “environs de Liège” (Belgium), ♀ holotype (“La seule femelle...” Wesmael l.c., present designation) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon roberti – Szépliget 1901: 266 (in key, in Hungarian); 1904 (1901): 180 (in key, in German) ♀♂. *Bracon (Orthobracon) roberti* – Fahringer 1927: 270 (♀), 279 (♂) (in key) and 417 (redescription), assigned to “Section *Orthobracon*”. — Telenga 1936: 175 (♀), 178 (♂) (in key), 294 (redescription, in Russian) and 378 (♀), 381 (♂) (in key, in German). — Papp 1974: 434 (additional features, distribution). — Shenefelt 1978: 1647 (literature up to 1974).

Designation of the ♀ holotype of *Bracon roberti*

(First label, printed) “Coll. Wesmael”; (second small label, printed) “2051”; (third label) “Braco roberti mihi ♀” (handwritten) / “dét. C. Wesmael” (printed); (fourth label, printed red) “Type”; (fifth label, with my handwriting) “Belgique / Bruxelles / leg. M. Robert” (after Wesmael l.c.); sixth label is the holotype card (labels 5-6 were attached by me). - Holotype is in good condition: (1) micropinned (through mesoscutum / mesosternum); (2) left flagellum deficient: with 26 flagellomeres; (3) left hind wing missing.

Material examined

8 ♀♀ + 1 ♂ from six countries: ENGLAND: 1 ♀. FRANCE: 1 ♀. GERMANY: 3 ♀♀ from three localities. HUNGARY: 1 ♀ + 1 ♂ from two localities. ROMANIA (Transsylvania): 1 ♀. BULGARIA: 1 ♀.

Redescription of the ♀ holotype of *Bracon roberti* (Fig. 44A-H)

LENGTH. Body 4.8 mm long.

ANTENNAE. About as long as body and with 34 antennomeres. First flagellomere 1.5 times, further flagellomeres attenuating so that penultimate flagellomere 1.7 times as long as broad (cf. Fig. 67A).

HEAD. In dorsal view transverse (Fig. 44A), 1.75 times as broad as long, eye somewhat protruding and 1.4 times longer than temple, temple receded, occiput excavated. Oral opening fairly large, its horizontal diameter 1.6 times longer than shortest distance between opening and compound eye (Fig. 44B). Head polished, face finely granulose, cheek granulose.

MESOSOMA. In lateral view 1.5 times as long as high, polished. Notaulix indistinct. Propodeum polished, above lunule and its hind margin with rugae (Fig. 44C).

LEGS. Hind femur 3.1 times as long as broad distally (Fig. 44D). Claw moderately downcurved, its basal lobe pointed (Fig. 44E).

WINGS. Forewing as long as body. Pterostigma (Fig. 44F) less wide, 2.8 times as long as wide and issuing *r* just proximally from its middle, *r* 0.7 times as long as width of pterostigma. Second submarginal cell less long, 3-*SR* slightly longer than 2-*SR*, *SR*1 straight to curved distally, 1.7 times longer than 3-*SR* and approaching tip of wing. First discal cell fairly high, 1-*M* 1.8 times length of *m-cu*, 1-*SR-M* almost 1.3 times as long as 1-*M* (Fig. 44G).

TERGITES. First tergite (Fig. 44H) 1.2 times as long as broad behind, beyond pair of spiracles weakly broadening, scutum posteriorly with fairly long rugae and short rugulae, lateral part of tergite rugulose, otherwise tergite smooth and shiny. Second tergite transverse, nearly three times broader behind than long, slightly longer than third tergite; suture between tergites 2-3 deep, subcrenulate and almost straight. Second tergite almost entirely rugo-rugulose, third tergite antero-posteriorly subrugulose to uneven (Fig. 44H), further tergites polished. Ovipositor sheath long, as long as hind tibia + tarsomeres 1-2 combined.

COLOUR. Scape black, flagellum dark brown. Head and mesosoma black, palpi brown. Metasoma yellow. First tergite medially with a small brown to blackish macula. Legs blackish brown. Wings faintly brownish fumous, pterostigma and veins opaque brown.

Variable features of the ♀ (6 ♀♀) (Fig. 44I-L)

Body 4.5-5.1 mm long. Antenna with 32-36 antennomeres. Head in dorsal view 1.75-1.8 times as broad as long, temple somewhat less receded (Fig. 44I). Hind femur slightly thicker (Fig. 44J). Second submarginal cell long, 3-SR 1.4 times as long as 2-SR (3 ♀♀, Fig. 44K). Second and third tergites with rather longitudinal sculpture. Posterior end of ovipositor and its sheath as in Fig. 44L.

Description of the ♂ (1 ♂) (Figs 23E-F; 44K)

Similar to the ♀. Body 4.2 mm long. Antenna with 33 antennomeres. Head in dorsal view 1.7 times as broad as long, eye somewhat less protruding, temple less receded (Fig. 23E). Second submarginal cell long, 3SR almost 1.3 times longer than 2SR (cf. Fig. 44K). First tergite beyond pair of spiracles slightly broadening (Fig. 23F). Orbit of compound eye reddish yellow, pronotum testaceous, hind femur reddish yellow.

Hosts

LEP. Tortricidae: *Cydia strobilella* Linnaeus. Sesiidae: *Synanthedon andrenaeformis* Laspeyres.

Distribution

England, Belgium, France, Germany, Hungary, Bulgaria.

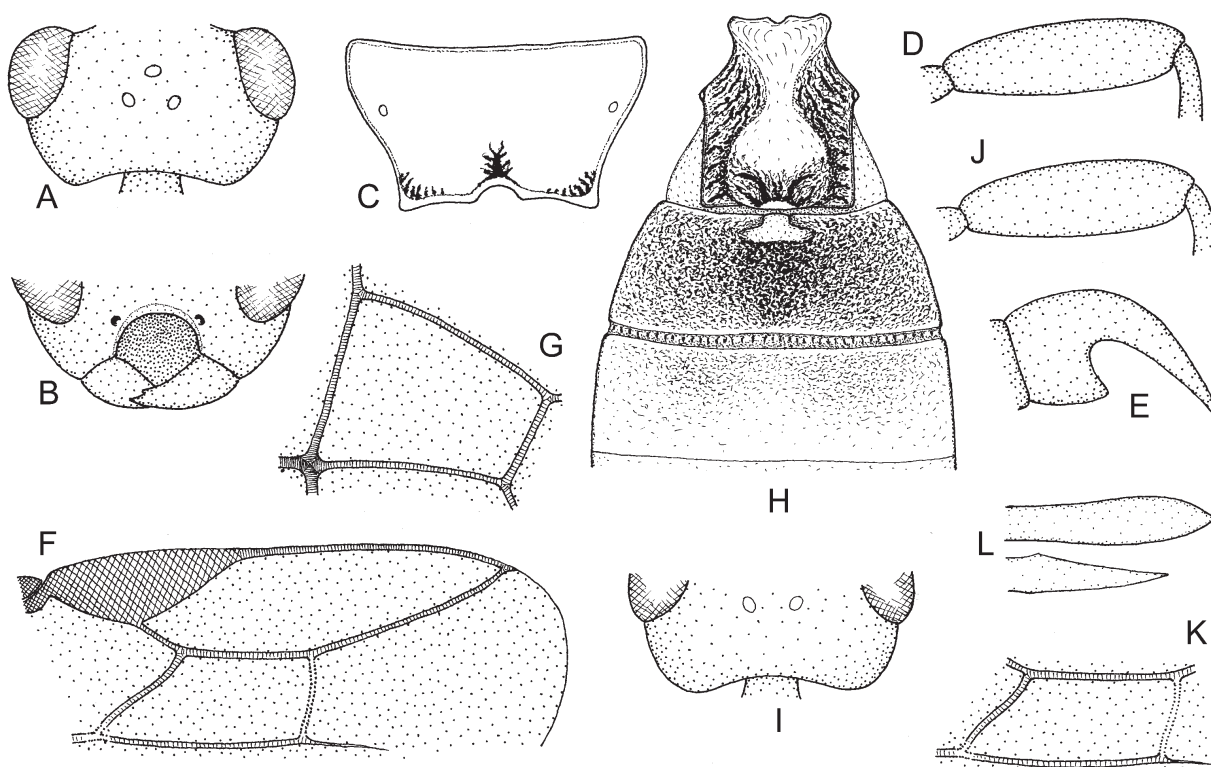


Fig. 44. *Bracon (Lucobracon) roberti* Wesmael, 1838 (A-H: ♀ holotype, I-L: ♀). **A.** Head in dorsal view. **B.** Head in frontal view. **C.** Propodeum. **D.** Hind femur. **E.** Claw. **F.** Distal part of right forewing. **G.** First discal cell of right forewing. **H.** Tergites 1-3. **I.** Head in dorsal view. **J.** Hind femur. **K.** Second submarginal cell. **L.** Posterior end of ovipositor apparatus.

Taxonomic position

The species *B. roberti* is nearest to *B. (Gl.) peroculatus* Wesmael (Europe) considering their receded temple and somewhat protruding eye in dorsal view, similarly downcurved claw, black head + mesosoma and yellow metasoma; the two species are distinguished by the following features:

- 1 (2) Second submarginal cell wide, *SRI* approaching tip of wing (subgeneric difference, Fig. 44F). First tergite 1.2 times as long as broad behind, its sculpture rougher; second tergite rugo-rugulose, laterally rugulose (Fig. 44H). First discal cell less high, *I-M* 1.8 times as long as *m-cu* (Fig. 44G). ♀: 4.5-5.1 mm*B. (L.) roberti* Wesmael, 1838
- 2 (1) Second submarginal cell less wide, *SRI* reaching tip of wing (subgeneric difference, Fig. 36E). First tergite 1.3 times as long as broad behind, its sculpture less rough; second tergite smooth, at most anterto-medially (i.e. around lunule) subrugulose (Fig. 36G, K). First discal cell high, *I-M* a bit more than twice as long as *m-cu* (Fig. 36F). ♀: 4.5-5 mm*B. (Gl.) peroculatus* Wesmael, 1838

Within the subgenus *Lucobracon* the species *B. roberti* is related to *B. erraticus* Wesmael viewing their *SRI* only approaching tip of wing, the two species are distinguished by the following features:

- 1 (2) Eye in dorsal view not protruding (Fig. 8B). First tergite broad: as long as broad behind or somewhat broader (Figs 8J; 9E), rarely slightly longer. First discal cell less high, *I-M* 1.7-1.8 times as long as *m-cu* (Fig. 8I). Hind femur 2.5-2.8 times (rarely 3.1 times) as long as broad (Figs 8F, L; 9A). Metasoma variably reddish yellow to almost blackish to black. ♀♂: (2.5-)3.4-4.5(-5) mm*B. (Lu.) erraticus* Wesmael, 1838
- 2 (1) Eye in dorsal view somewhat protruding (Fig. 44A). First tergite less broad: 1.2-1.3 times as long as broad behind (Fig. 44H). First discal cell high, *I-M* 1.8-1.9 times as long as *m-cu* (Fig. 44G). Hind femur 3.1(-3.2) times as long as broad (Fig. 44D, J). Metasoma yellow, first tergite medially blackish to black. ♀: 4.5-5 mm*B. (Lu.) roberti* Wesmael, 1838

Bracon (Bracon) scutellaris Wesmael, 1838

Fig. 45A-J

Braco scutellaris Wesmael, 1838: 14 ♀ (type material: 2 ♀♀), type locality: “environs de Bruxelles” (Belgium), ♀ lectotype (and one ♀ paralectotype, present designations) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon scutellaris – Szépligeti 1901: 184 (in key, in Hungarian); 1904 (1901): 160 (in key, in German) ♀.

Bracon (Bracon) scutellaris – Fahringer 1927: 237 (in key) and 337 (redescription) ♀, assigned to “Section *Striobracon*”. — Telenga 1936: 163 (in key), 251 (redescription) (in Russian) and 365 (in key, in German) ♀. — Shenefelt 1978: 1536 (literature up to 1971).

Designation of the ♀ lectotype of *Bracon scutellaris*

(First label, printed) “Coll. Wesmael”; (second label, printed) “2026”; (third label) “Braco ♀ / scutellaris mihi” (handwritten) “dét. C. Wesmael” (printed); (fourth label, printed red) “Type”; (fifth label with my handwriting) “Belgique / Bruxelles / V, leg. Wesmael” (above) “teste J. Papp / 1987” (reverse); sixth label is the lectotype card. (Fifth and sixth labels attached by me.) Lectotype is in good condition: (1) micropinned, micropin thick hence mesoscutum invisible; (2) right antenna deficient, i.e. with 13 antennomeres; (3) tarsomeres 3-5 of left middle leg missing.

Designation of the ♀ paralectotype of *Bracon scutellaris*

Labels 1-4 identical to those of the lectotype; (fifth label with my handwriting) "Belgique / Liège / leg. M. Robert" (above) "teste J. Papp / 1987" (reverse); sixth label is the paralectotype card. (Fifth and sixth labels attached by me.) Paralectotype is in fairly good condition: (1) micropinned; (2) fore pair of legs missing; (3) left middle leg glued finely to mesosoma left laterally.

Material examined

19 ♀♀ from ten countries: ENGLAND: 1 ♀. FRANCE: 1 ♀. DENMARK: 1 ♀. GERMANY: 6 ♀♀ from five localities. ITALY: 1 ♀. SWEDEN: 1 ♀. HUNGARY: 3 ♀♀ from two localities. ROMANIA (Transsylvania): 1 ♀. TURKEY: 1 ♀. KOREA: 1 ♀.

Redescription of the ♀ lectotype of *Bracon scutellaris* (Fig. 45A-G)

LENGTH. Body 3 mm long.

ANTENNAE. Slightly shorter than body and with 21 antennomeres (left antenna); right antenna deficient: with 13 antennomeres. First flagellomere almost three times and penultimate flagellomere 1.5 times longer than broad.

HEAD. In dorsal view transverse (Fig. 45A), 1.8 times as broad as long, eye 1.5 times longer than temple, temple rounded, occiput weakly excavated. Horizontal diameter of oral opening 1.4 times longer than shortest distance between opening and compound eye (Fig. 45B). Head polished, face finely granulose.

MESOSOMA. In lateral view 1.5 times as long as high. Propodeum polished, around lunule with short rugulae.

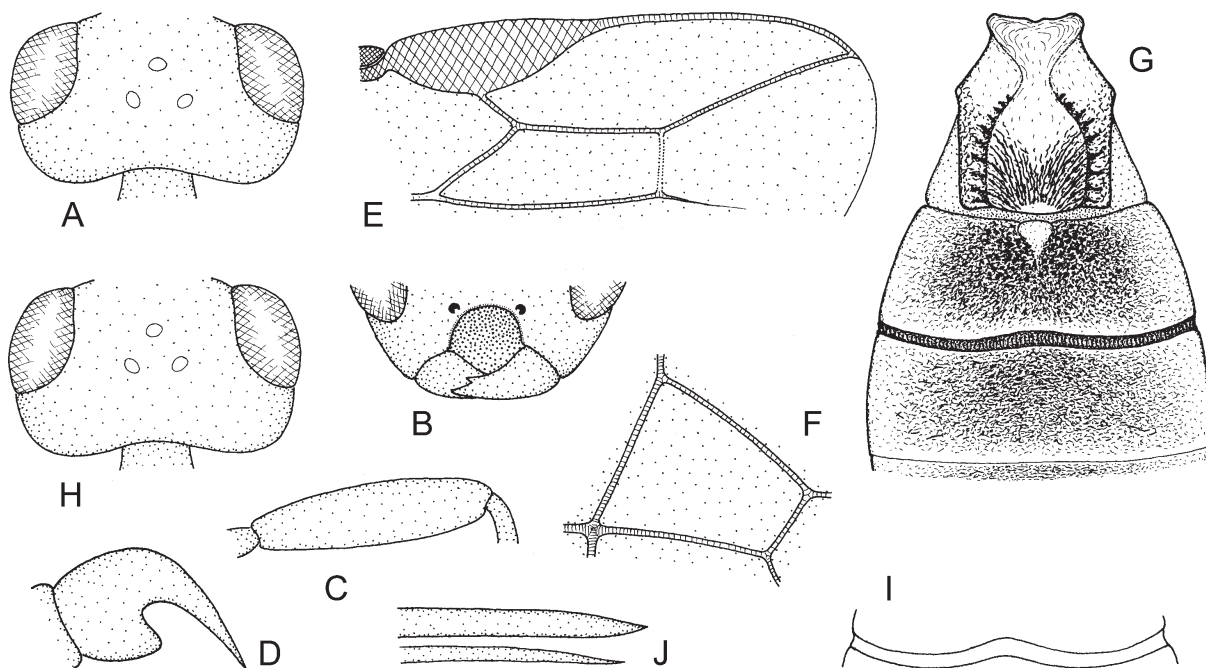


Fig. 45. *Bracon (Bracon) scutellaris* Wesmael, 1838 (A-G: ♀ lectotype, H-J: ♀ paralectotype). **A.** Head in dorsal view. **B.** Head in frontal view. **C.** Hind femur. **D.** Claw. **E.** Distal part of right forewing. **F.** First discal cell of right forewing. **G.** Tergites 1-3. **H.** Head in dorsal view. **I.** Suture between tergites 2-3. **J.** Posterior end of ovipositor apparatus.

LEGS. Hind femur 3.8 times as long as broad medially (Fig. 45C). Claw of hind leg downcurved and its basal lobe fairly large (Fig. 45D).

WINGS. Forewing one-sixth longer than body. Pterostigma (Fig. 45E) wide, 2.8 times as long as wide and issuing *r* proximally from its middle, *r* 0.6 times as long as width of pterostigma. Second submarginal cell long, 3-*SR* 1.4 times as long as 2-*SR*, *SR*1 1.4 times as long as 3-*SR*, just bent and reaching tip of wing; 1-*R*1 somewhat less than 1.5 times longer than length of pterostigma. First discal cell as in Fig. 45F, 1-*M* 2.3 times as long as *m-cu*, 1-*SR-M* faintly bent and 1.2 times as long as 1-*M*.

TERGITES. First tergite (Fig. 45G) 1.25 times as long as broad behind, beyond pair of spiracles parallel-sided, margin of scutum crenulated, scutum with posteriorly converging striolae. Second tergite somewhat longer than third tergite, suture between them biconcave, deep and crenulate (Fig. 45G). Tergites medially widely sculptured, second tergite rugo-rugulose, further tergites gradually with weakening sculpture, tergites laterally smooth. Ovipositor sheath long, as long as hind tibia + tarsomeres 1-2 combined.

COLOUR. Ground colour of body reddish yellow with dark pattern. Antenna dark brown. Blackish to black ocellar field, occiput, three maculae of mesoscutum, propodeum, pro- and mesosternum, first tergite entirely, further tergites widely medially. Tegula and legs yellow. Wings hyaline, pterostigma and veins light brownish.

Redescription of the ♀ paralectotype of *Bracon scutellaris* (Fig. 45H-J)

Body 2.8 mm long. Antenna with 21 antennomeres. Head in dorsal view (Fig. 45H) 1.7 times as broad as long, temple slightly more rounded. Suture between tergites 2-3 somewhat more biconcave (Fig. 45I). Posterior end of ovipositor sheath and ovipositor as in Fig. 45J.

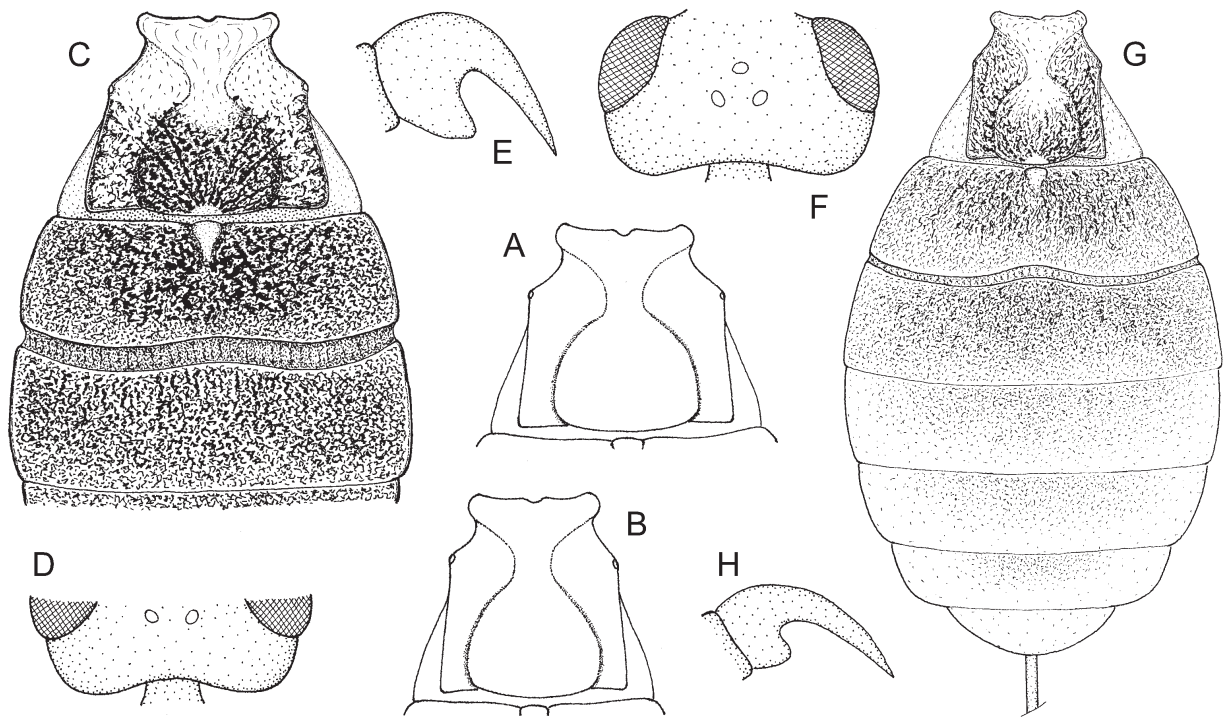


Fig. 46. — A-E. *Bracon (Bracon) intercessor* Nees, 1838 (A-C, E: ♀, D: ♀ / ♂). A-B. First tergite. C. tergites 1-3. D. Hind half of head in dorsal view. E. Claw. — F-H. *Bracon (Bracon) corruptor* Szépligeti, 1901, ♀ holotype. F. Head in dorsal view. G. Metasoma in dorsal view. H. Claw.

Variable features of the ♀ (17 ♀♀)

Body 2.8-3.2 mm, usually 3-3.1 mm, long. Antenna with 20-22(-24) antennomeres. Penultimate flagellomere 1.8 times as long as broad (2 ♀♀). Hind femur 3.6-4 times, usually 3.8 times, as long as broad either medially or somewhat distally. First tergite 1.15-1.25(-1.3) times as long as broad behind. Blackish to black pattern on mesosoma and tergites of variable extension, tergites sometimes nearly entirely black.

Male unknown.

Distribution

Europe (England, Denmark, Germany, Hungary, Italy, Romania, Sweden), Turkey, Korea.

Host

COL. Scolytidae: *Hylesinus crenatus* Fabricius. Anobiidae: *Anobium* sp., *Ernobius abietis* Fabricius. — LEP. Tortricidae: *Cydia strobilella* Linnaeus, *Pammene splendidulana* Guenée. — HYM. Tenthredinidae: *Nematus viminalis* Linnaeus, *Pontania bella* Zaddach, *P. pedunculi* Hartig.

Taxonomic position

Within the subgenus *Bracon* s. str. *B. scutellaris* is nearest to *B. intercessor* Nees (Palearctic Region), their distinction is not easy and covers a few features:

- 1 (2) First tergite usually broader behind than long (minute deviations feasible) (Fig. 46A, B). Sculpture of tergites rougher and extending to their entire surface (Fig. 46C). Temple usually receded (Fig. 46D). Claw slightly more downcurved, its basal lobe a bit larger (Fig. 46E). Tergites yellow to testaceous with usually narrow black to blackish maculae. ♀♂: 2.5-6 mm
.....*B. (B.) intercessor* Nees, 1834
- 2 (1) First tergite 1.15-1.25 times as long as broad behind (Fig. 45G). Sculpture of tergites less rough and laterally distinctly weakening (Fig. 45G). Temple receded to rounded (Fig. 45A, H). Claw slightly less downcurved, its basal lobe a bit smaller (Fig. 45D). Tergites widely blackish to black. Mesosoma black, mesoscutum medially and scutellum frequently reddish yellow to ferruginous. ♀♂: 2.8-3.2 mm
.....*B. (B.) scutellaris* Wesmael, 1838

Bracon scutellaris is related to *B. corruptor* Szépligeti (Hungary), the two species are very similar to each other, they are separated by a few features:

- 1 (2) Sculpture of tergites weaker: tergites 1-2 rugulose, tergites 3-6 granulose to subgranulose (Fig. 46G). Claw slightly less downcurved (Fig. 46H). Pterostigma pale yellow. ♀: 3 mm
.....*B. (B.) corruptor* Szépligeti, 1901
- 2 (1) Sculpture of tergites distinct: second tergite rugo-rugulose, further tergites gradually with weakening sculpture (Fig. 45G). Claw slightly more downcurved (Fig. 45D). Pterostigma light brownish. ♀♂: 2.8-3.2 mm
.....*B. (B.) scutellaris* Wesmael, 1838

***Bracon (Bracon) tenuicornis* Wesmael, 1838**

Fig. 47A-K

Braco tenuicornis Wesmael, 1838: 42 ♀ (type material: 1 ♀), type locality: “environs de Bruxelles” (Belgium), ♀ holotype (“J’ai pris une seule femelle de cette espèce...” Wesmael l.c., present designation) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Braco tenuicornis – Szépligeti 1901: 184 (in key, in Hungarian); 1904 (1901): 160 (in key, in German) ♀.

Bracon (*Orthobracon*) *tenuicornis*—Fahringer 1927: 271, 273 (♀), 281 (♂) (in key) and 425 (redescription) ♀♂, assigned to “Section *Orthobracon*”. — Telenga 1936: 162 (♀, in key), 249 (redescription) (in Russian) and 365 (in key, in German) ♀♂. — Shenefelt 1978: 1648 (literature up to 1971).

Bracon (*Bracon*) *tenuicornis* – Tobias 1986: 129 (in key, in Russian). — Tobias & Belokobylskij 2000: 138 (in key, in Russian). — Papp 2008: 1753 (in key).

Designation of the ♀ holotype of *Bracon tenuicornis* (Fig. 47A-H)

(First label, printed) “Coll. Wesmael”; (second label, printed) “2043”; (third label) “Braco ♀ / tenuicornis mihi” (handwriting) / “dét. C. Wesmael” (printed); (fourth label, printed) “Type”; (fifth label, with my handwriting) “Belgique / Bruxelles / VIII leg. Wesmael” (above), “test J. Papp / 1987” (reverse); sixth label is the holotype card (labels 5-6 attached by me). Holotype is in good condition: (1) micropinned, pin thick hence mesoscutum almost invisible; (2) flagelli apically deficient.

Material examined

12 ♀♀ + 1 ♂ from six countries: SCOTLAND: 1 ♀. THE NETHERLANDS: 2 ♀♀ from two localities. GERMANY: 2 ♀♀ from one locality. SWEDEN: 1 ♀. HUNGARY: 3 ♀♀ + 1 ♂ from three localities. BULGARIA: 2 ♀♀ from two localities.

Redescription of the ♀ holotype of *Bracon tenuicornis* (Fig. 47A-H)

LENGTH. Body 3.1 mm long.

ANTENNAE. Antennae deficient, left antenna with 30 and right antenna with 24 antennomeres (according to the original description antenna with 31 antennomeres). First flagellomere clearly twice and 28th flagellomere 1.8 times as long as broad.

HEAD. In dorsal view less transverse (Fig. 47A), 1.7 times as broad as long, eye 2.2 times longer than temple, temple constricted, occiput weakly excavated. Horizontal diameter of oral opening somewhat longer than shortest distance between opening and compound eye (cf. Fig. 40D). Head polished.

MESOSOMA. In lateral view 1.6 times as long as high, polished. Propodeum polished, above lunule with short carina and above it surface uneven (Fig. 47B).

LEGS. Hind femur 2.8 times as long as broad medially (Fig. 47C). Claw downcurved, basal lobe large as in Fig. 47D.

WINGS. Forewing about as long as body. Pterostigma (Fig. 47E) four times as long as wide and issuing *r* proximally from its middle, *r* as long as width of pterostigma. Second submarginal cell long, 3-SR 1.3 times longer than 2-SR, SRI straight, twice as long as 3-SR and reaching tip of wing; 1-RI just 1.5 times as long as length of pterostigma. First discal cell less high, 1-M 1.7 times as long as *m-cu*, 1-SR-M bent and 1.3 times longer than 1-M (Fig. 47F).

TERGITES. First tergite (Fig. 47G) 1.3 times as long as broad behind, beyond pair of spiracles faintly broadening, margin of scutum crenulated, scutum posteriorly and tergite laterally from scutum rugose-rugulose. Second tergite transverse, three times as broad behind as long and as long as third tergite; suture between tergites 2-3 feebly bisinuate and finely crenulated. Second tergite medially rugose, laterally rugulo-granulo-uneven, further tergites with weakening sculpture. Ovipositor sheath just shorter than hind tibia, hind end of ovipositor sheath and ovipositor as in Fig. 47H.

COLOUR. Antenna dark brown, scape basally, pedicelle entirely and first flagellomere again basally testaceous. Head and tergites brownish black, mesosoma black. Oral organs and clypeus yellow. Tegula

yellow with brownish suffusion. Legs yellow, coxae 2-3 basally blackish, fifth tarsomere light brownish. Second tergite latero-posteriorly with a pair of little yellow maculae. Sternites yellow with brownish pattern. Wings hyaline, pterostigma and veins yellow.

Variable features of the ♀ (12 ♀♀) (Fig. 47I-K)

Body 2.8-3.2, usually 3-3.1, mm long. Antenna with (20-)25-30 antennomeres. Penultimate flagellomere 1.6-1.8 times as long as broad. Temple in dorsal view somewhat more constricted (Fig. 47I). Propodeum with a carina and medially rugulose (Fig. 47J). Hind femur 2.8-2.9 times, rarely 4.1 times, as long as broad medially. First tergite more broadening posteriorly, i.e. somewhat longer than broad behind (Fig. 47K). Sculpture beyond first tergite rugulose to granulate. Dark colour either more or less extended, or tergites brown and head + mesosoma black to blackish.

Description of the ♂ (1 ♂)

Similar to the ♀. Body 2.2 mm long. Antenna with 26 antennomeres. Metasoma from fourth tergite smooth and shiny. Body black, legs yellow.

Host

COL. Scolytidae: *Phloeophthorus scarabaeoides* Bernard.

Distribution

Europe (so far known in six countries)

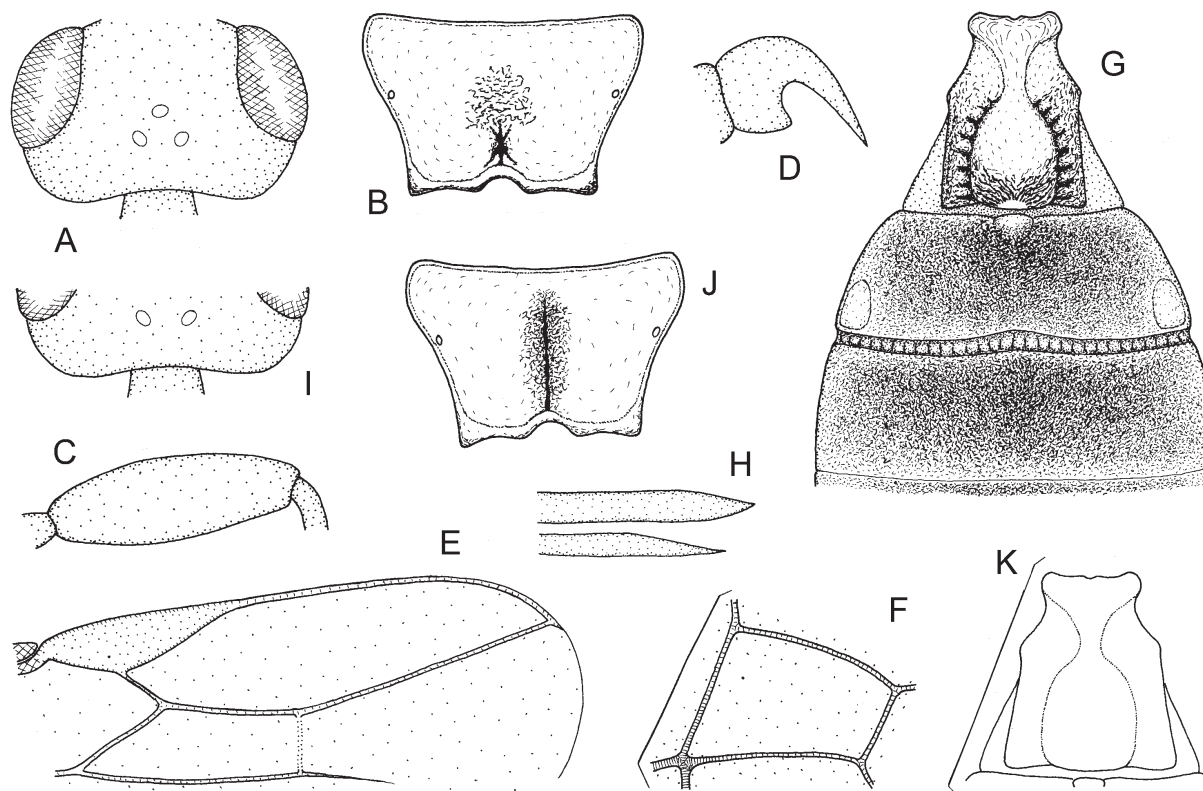


Fig. 47. *Bracon (Bracon) tenuicornis* Wesmael, 1838 (A-H: ♀ holotype, I-K: ♀). A. Head in dorsal view. B. Propodeum. C. Hind femur. D. Claw. E. Distal part of right forewing. F. First discal cell of right forewing. G. Tergites 1-3. H. Posterior end of ovipositor apparatus. I. Hind half of head in dorsal view. J. Propodeum. K. First tergite.

Taxonomic position

Bracon tenuicornis is nearest to *B. orbus* Papp (Papp 1981; Hungary) albeit the latter species is ranged in the subgenus *Glabrobracon*, the two species are similar to each other and are distinguished by a few features:

- 1 (2) Metasoma from second tergite with weakening sculpture (subgeneric difference of *Bracon* s. str., Fig. 47G). Head in dorsal view 1.7 times as broad as long, temple constricted (Fig. 47A, I). Second tergite as long as third tergite (Fig. 47G). Forewing: second submarginal cell less long, 3-SR 1.3 times longer than 2-SR (Fig. 47E). Propodeum medially either uneven or (less usually) with a medio-longitudinal carinula (Fig. 47B, J) *B. (B.) tenuicornis* Wesmael, 1838
- 2 (1) Metasoma less sculptured: second tergite (♀) or second and third tergites (♂) rugo-rugulose, further tergites polished (subgeneric difference of *Glabrobracon*, Fig. 23H). Head in dorsal view 1.6 times as broad as long, temple rounded (Fig. 23G). Second tergite somewhat longer than third tergite (Fig. 23H). Forewing: second submarginal cell long, 3-SR 1.5-1.6 times longer than 2-SR (Fig. 30F). Propodeum polished, around lunule with short rugulae (cf. Fig. 3C) *B. (Gl.) orbus* Papp, 1981

Bracon (Glabrobracon) terebella Wesmael, 1838

Figs 48A-K, 49A-G, 50A-B

Braco terebella Wesmael, 1838: 57 ♀ (type material: 4 ♀♀), type locality: “environs de Bruxelles” (Belgium), ♀ lectotype (and three ♀ paralectotypes, present designations) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon terebella – Szépligeti 1901: 269 (in key, in Hungarian); 1904 (1901): 189, 190 (in key, in German).

Bracon (Glabrobracon) terebella – Fahringer 1927: 294 (♀), 307 (♂) (in key), 1928: 490 (redescription) ♀♂, assigned to “Section *Glabrobracon*”. — Telenga 1936: 146 (♀), 155 (♂) (in key), 195 (redescription) (in Russian) and 348 (♀), 358 (♂) (in key, in German). — Papp 1966: 377 (in key), 391 (redescription) ♀♂. — Shenefelt 1978: 1582 (literature up to 1971). — Tobias 1986: 128 (in key, in Russian). — Tobias & Belokobylskij 2000: 135 (in key, in Russian).

Designation of the ♀ lectotype of *Bracon terebella*

(First label, printed) “Coll. Wesmael”; (second label, printed) “2081”; (third label) “*Braco terebella* / var. 1. ♀” (handwritten) / “dét. C. Wesmael” (printed); (fourth label, printed red) “Type”; fifth label is with the (?) inventory number “3.317”; sixth label is with the locality after Wesmael (l.c.) “Belgium / Bruxelles” (printed); seventh label is the lectotype card (sixth and seventh labels attached by me). Lectotype is in good condition: (1) micropinned, pin fairly thick; (2) left flagellum deficient, i.e. with 11 flagellomeres; (3) left hind wing missing. - Remark: The lectotype was originally assigned as a variety of the nominate form, this is indicated on the third (name) label as “var. 1.” This specimen is in the best condition (from among the four syntypes), consequently this was selected for the lectotype status.

Designation of the three ♀ paralectotypes of *Bracon terebella*

Labels are identical to those of the lectotype except two labels; the second of the two nominate forms with the number “2082”, the third label without “var. 1.” (except one ♀); the paralectotype cards are printed yellow. -- Paralectotypes are in good condition: Legs and wings partly missing or damaged.

Material examined

43 ♀♀ + 18 ♂♂ from nine countries: ENGLAND: 3 ♀♀ + 3 ♂♂ from two localities. GERMANY: 4 ♀♀ + 1 ♂ from five localities. FRANCE: 2 ♀♀ from two localities. DENMARK: 1 ♀. SWEDEN: 3

♀♀ from three localities. BOHEMIA: 1 ♀. SLOVAKIA: 1 ♀. HUNGARY: 24 ♀♀ + 14 ♂♂ from 23 localities. KOREA: 4 ♀♀ from three localities.

Redescription of the ♀ lectotype of *Bracon terebella* (Figs 48A-I; 50A)

LENGTH. Body 3.8 mm long.

ANTENNAE. About one-fourth shorter than body and with 28 antennomeres. First flagellomere 1.8 times, further flagellomeres attenuating so that penultimate flagellomere 1.7 times as long as broad (Fig. 48A).

HEAD. In dorsal view transverse (Fig. 48B), 1.8 times as broad as long, eye 1.5 times longer than temple, temple rounded, occiput weakly excavated. Eye in lateral view almost 1.6 times as high as wide, just one-fourth wider than temple, temple evenly wide behind eye (Fig. 48C, see arrows). Horizontal diameter of oral opening one-third longer than shortest distance between opening and compound eye (Fig. 48D). Head polished.

MESOSOMA. In lateral view 1.4 times as long as high, polished. Propodeum close around lunule with short rugulae (Fig. 48E).

LEGS. Hind femur 3.1 times as long as broad distally (Fig. 48F). Claw curved, fairly short, its basal lobe large (Fig. 50A).

WINGS. Forewing as long as body. Pterostigma (Fig. 48G) 2.7 times as long as wide and issuing *r* just proximally from its middle, *r* almost 0.8 times as long as width of pterostigma. Second submarginal cell of usual size, 3-*SR* a bit longer than 2-*SR*, *SR1* straight, nearly 1.9 times longer than 3-*SR* and reaching

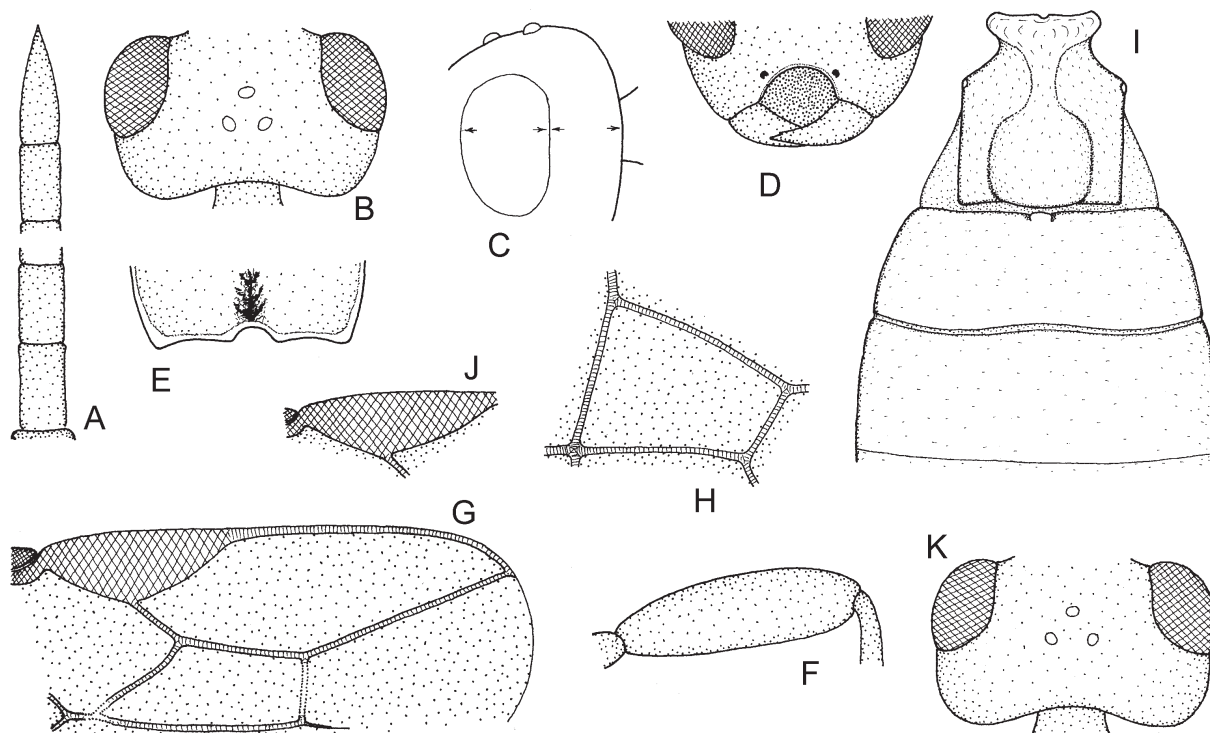


Fig. 48. *Bracon (Glabobracon) terebella* Wesmael, 1838 (A-I: ♀ lectotype, J: ♀ paralectotype, K: ♀ / ♂). A. Flagellomeres 1-2 and 27-28. B. Head in dorsal view. C. Head in lateral view. D. Head in frontal view. E. Hind part of propodeum. F. Hind femur. G. Distal part of right forewing. H. First discal cell of right forewing. I. Tergites 1-3. J. Pterostigma of right forewing. K. Head in dorsal view.

tip of wing. First discal cell usual in form, *1-M* twice as long as *m-cu* and not parallel, *1-SR-M* almost straight and 1.3 times as long as *1-M* (Fig. 48H).

TERGITES. First tergite (Fig. 48I) somewhat longer than broad behind, beyond pair of spiracles parallel-sided, together with further tergites polished. Second tergite 2.8 times as broad as long laterally, third tergite one-fifth longer than second tergite laterally, suture between them bisinuate, smooth. Ovipositor sheath short, as long as hind tarsomeres 1-2 combined.

COLOUR. Ground colour of body dark brown to black(ish). Oral part brownish yellow, palpi light brown. Orbit faintly reddish. Tegula black. Tergites dark brown to black, tergites 2-5 laterally yellow. Legs blackish to black, fore femur + tibia, hind femur apically and hind tibia proximally yellow. Wings faintly brownish fumous, pterostigma and veins brown to light brown.

One ♀ paralectotype “var. 1.” (by Wesmael) is identical with the ♀ lectotype (also assigned as “var. 1.” by Wesmael).

Deviating features of the two ♀ paralectotypes of *Bracon terebella* (Fig. 48J)

Similar to the ♀ lectotype + one ♀ paralectotype. Body 2.9-3 mm long. Antenna with 26 and 28 antennomeres. Pterostigma 3.3 times as long as wide and issuing *r* somewhat more proximally from its middle (Fig. 48J). Dark colour of body brown to light brown, legs with more yellow pattern.

Variable features of the ♀ (43 ♀♀) (Figs 48K; 49A-E; 50B)

Body 2.7-3.5 mm long. Antenna 26-32 antennomeres. Temple rather receded (Fig. 49A) or head rarely 1.7 times as broad as long and temple less rounded (Fig. 48K). Pterostigma wide, 2.5 times as long as wide (Fig. 50B), second submarginal cell long, *3-SR* 1.3 times as long as *2-SR* (Fig. 49B). Hind femur 2.9 times as long as broad medially (Fig. 49C). First tergite broadening posteriorly, laterally uneven-rugulose (Fig. 49D) or scutum apically uneven-rugulose, laterally at most uneven (Fig. 49E). Tergites, beyond first one, with a median dark (dark brown to black) streak, laterally rusty to reddish yellow.

Variable features of the ♂ (18 ♂♂) (Figs 49F-G; 50B)

Similar to the ♀. Body 2.5-3.5 mm long. Flagellomeres 1.7-2 times longer than broad. Second submarginal cell either long: *3-SR* 1.4 times as long as *2-SR* (Fig. 49F) or short and fairly broad: *3-SR*

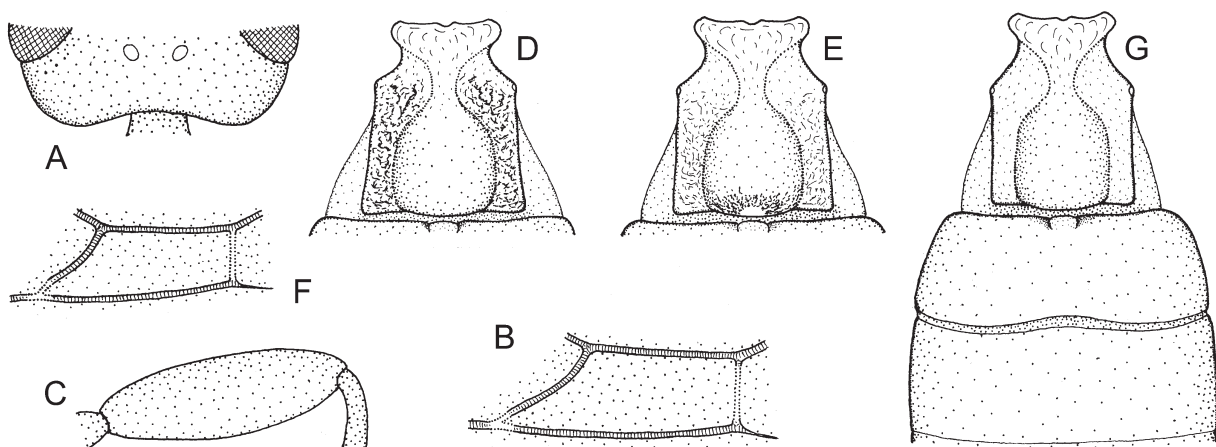


Fig. 49. *Bracon (Glabrobracon) terebella* Wesmael, 1838 (A-E: ♀, F-G: ♂). **A.** Hind half of head in dorsal view. **B.** Second submarginal cell of right forewing. **C.** Hind femur. **D-E.** First tergite. **F.** Second submarginal cell of right forewing. **G.** Tergites 1-3.

about 1.2 times as long as 2-SR (Fig. 50B). First tergite clearly longer than broad behind, tergites 2-3 equal in length (Fig. 49G).

Hosts

COL. Curculionidae: *Miarus campanulae* Linnaeus, *Sibinia femoralis* Germar. — HYM. Cephidae: *Cephus cinctus* Norton, *C. pygmaeus* Linnaeus, *Trachelus tabidus* Fabricius.

Distribution

Palearctic Region, in Europe fairly frequent.

Taxonomic position

Within the subgenus *Glabrobracon* the species *B. terebella* is nearest to *B. minutator* (Fabricius) (Europe) and *B. curticaudis* Szépligeti (sporadic in Europe and Turkey) viewing their short ovipositor sheath, (almost) polished tergites and dark corporal colour; they are separated by the features keyed:

- 1 (2) First tergite as long as broad behind, second tergite polished (Fig. 50C) or at least (and exceptionally) antero-medially uneven-subrugulose (Fig. 50D). Claw slightly less downcurved (Fig. 50E). Tergites reddish yellow to rusty, medially with a dark brown to black(ish) maculae or with a median streak. ♀: 4-5 mm, ♂: (3.2-)3.5-4 mm*B. (Gl.) minutator* (Fabricius, 1798)
- 2 (1) First tergite not as long as broad behind, second tergite either rugulose or polished (Figs 48I; 49D-E, G). Claw slightly more downcurved (Fig. 50A, G). Colour of tergites other.
- 3 (4) First tergite somewhat broader behind than long, beyond pair of spiracles with slightly broadening sides; suture between tergites 2-3 distinct, bisinuate, deep, second tergite antero-

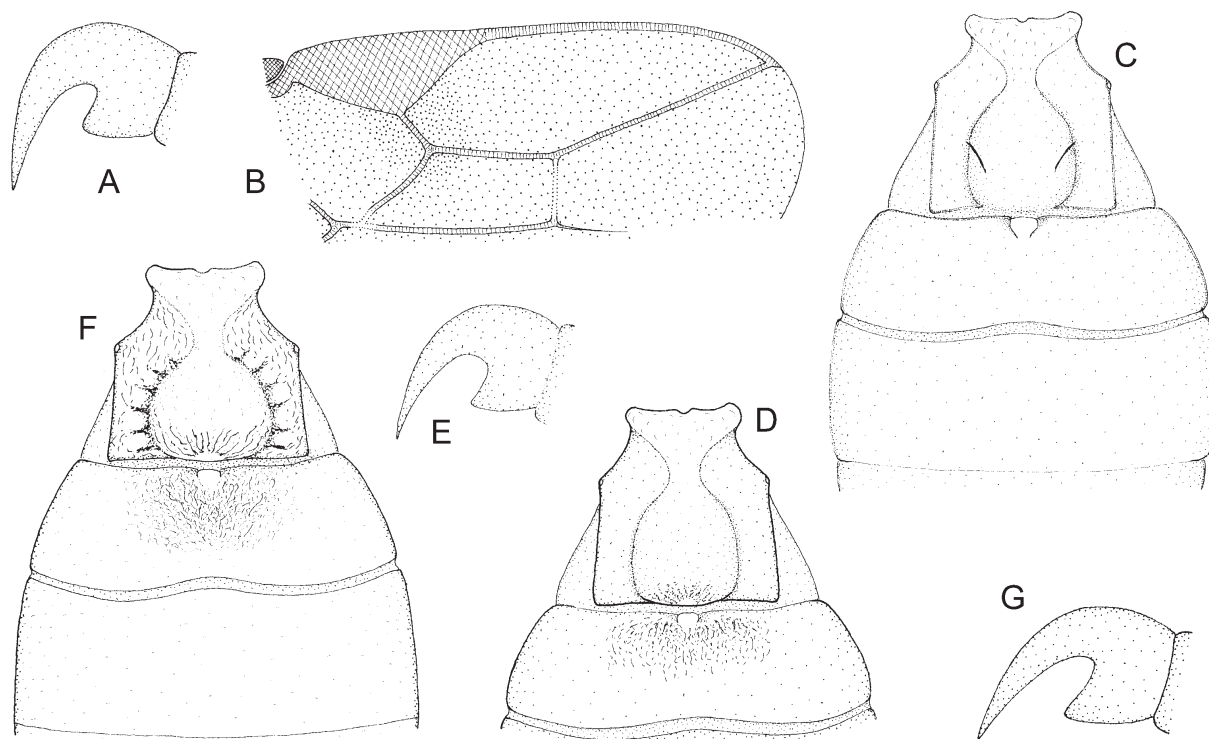


Fig. 50. — A-B. *Bracon (Glabrobracon) terebella* Wesmael, 1838 (A: ♀ lectotype, B: ♀ / ♂). A. Claw. B. Distal part of right forewing. — C-E. *Bracon (Glabrobracon) minutator* (Fabricius, 1798), ♀. C. tergites 1-3. D. Tergites 1-2. E. Claw. — F-G. *Bracon (Glabrobracon) curticaudis* Szépligeti, 1901, ♀ lectotype. F. Tergites 1-3. G. Claw.

medially rugulose (Fig. 50F). Basal lobe of claw more distinct (Fig. 50G). Metasoma reddish yellow, first tergite entirely and tergites 5-6 almost entirely black. ♀: 3-4.5 mm, ♂: 3.4 mm

-*B. (Gl.) curticaudis* Szépligeti, 1901
4 (3) First tergite longer than broad behind, beyond pair of spiracles parallel-sided, or rarely with broadening sides, suture between tergites 2-3 less distinct, weakly bisinuate to almost straight, less deep; second tergite polished (Figs 48I; 49D-E, G). Basal lobe of claw less distinct (Fig. 50A). Tergites widely dark brown to black. ♀♂: (2-)3-3.5 mm
.....*B. (Gl.) terebella* Wesmael, 1838

***Bracon (Glabrobracon) titubans* Wesmael, 1838**

Fig. 51A-L

Bracon titubans Wesmael, 1838: 43 ♀ (type material: 2 ♀♀), type locality: “environs de Bruxelles” (Belgium), ♀ lectotype (and one ♀ paralectotype, present designations) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon fuscipennis Wesmael, 1838: 40 ♀ (type material: 2 ♀♀), type locality: “environs de Bruxelles” (Belgium), ♀ lectotype (and one ♀ paralectotype, present designations) in the Royal Belgian Institute of Natural Sciences, Brussels; examined, **syn. nov.**

Bracon tarsator Thomson, 1894: 1837 “♂♀” (type material: 2 ♀♀, ♂ not seen), type locality: “Funnen vid Pålsjö i Skåne” (Sweden), ♀ lectotype (and one ♀ paralectotype, present designation) in Zoologisk Museum, Lund; examined, Papp 1969b: 203 (as new synonym).

Bracon terebrator Szépligeti, 1901: 265 (in key), 279 (description) (in Hungarian); 1904 (1901): 177 (in key), 181 (description) (in German), (type material: 1 ♀), type locality: “Budapest” (Hungary), ♀ lectotype in Magyar Természettudományi Múzeum, Budapest; examined.

Bracon titubans – Szépligeti 1901: 263 (in key, in Hungarian); 1904 (1901): 176 (in key, in German) ♀.

Bracon (Bracon) titubans – Tobias 1986: 129 (in key, in Russian).

Bracon (Orthobracon) titubans – Fahringer 1927: 274 (in key), 417 (redescription), assigned to “Section *Orthobracon*”, ♀. — Telenga 1936: 172 (in key), 280 (redescription) (in Russian) and 375 (in key, in German), ♀. — Papp 1971: 203 (synonymy, redescription, taxonomy). — Shenefelt 1978: 1649 (literature up to 1974).

Bracon fuscipennis – Szépligeti 1901: as valid species 265 (in key, in Hungarian); 1904 (1901): as valid species 178 (in key, in German), ♀.

Bracon (Orthobracon) fuscipennis – Fahringer 1927: as valid species 271 (♀), 279 (♂) (in key) and 394 (redescription), assigned to “Section *Orthobracon*”, ♀♂. — Telenga 1936: as valid species 175 (♀), 178 (♂) (in key), 290 (redescription) (in Russian) and 377 (♀), 381 (♂) (in key, in German), ♀♂. — Shenefelt 1978: as valid species 1634 (literature up to 1974).

Bracon tarsator – Szépligeti 1901: as valid species 264 (in key, in Hungarian); 1904 (1901): as valid species 179 (in key, in German), ♀♂.

Bracon (Orthobracon) tarsator – Fahringer 1927: as valid species 274 (♀), 281 (♂) (in key) and 424 (redescription), assigned to “Section *Orthobracon*”, ♀♂. — Telenga 1936: as valid species 171 (♀), 178 (♂) (in key), 273 (redescription) (in Russian) and 373 (♀), 381 (♂) (in key, in German), ♀♂. — Shenefelt 1978: as valid species 1649 (literature up to 1969).

Bracon (Lucobracon) terebrator – Fahringer 1927: as valid species 253 (♀, in key), 370 (redescription), assigned to “Section *Lucobracon*”, ♀. — Telenga 1936: as valid species 174 (♀, in key), 286 (redescription) (in Russian) and 376 (♀, in key, in German), ♀. — Shenefelt 1978: as valid species 1625 (literature up to 1936). — Papp 2004: 182 (synonymization, type designation and depository), 2008: 1797 (synonymization).

Designation of the ♀ lectotype of *Bracon titubans*

(First label, printed) "Coll. Wesmael"; (second label, printed) "2056"; (third label) "Braco ♀ titubans mihi" (handwritten) "dét. C. Wesmael" (printed); (fourth label, printed red) "Type"; (fifth label, with my handwriting) "Belgique / Bruxelles / VII leg. Wesmael" (above) "teste J. Papp 1987" (reverse); sixth label is the lectotype card (labels 5-6 attached by me). Lectotype is in good condition: (1) micropinned; (2) left flagellum deficient.

Designation of the ♀ paralectotype of *Bracon titubans*

Labels identical those of the lectotype except paralectotype card. -- Paralectotype is in good condition: (1) micropinned; (2) left flagellum apically deficient; (3) missing: right flagellum, right fore leg (except coxa + trochanters) and tarsi of hind pair of legs.

Designation of the ♀ lectotype of *Bracon fuscipennis*

(First label, printed) "Coll. Wesmael"; (second label, printed) "2053"; (third label) "Braco ♀ fuscipennis mihi" (handwritten) / "dét. C. Wesmael" (printed); (fourth label, printed red) "Type"; (fifth label, with my handwriting) "Belgique / Bruxelles / VIII leg. Wesmael" (above) "teste J. Papp 1987" (reverse); sixth label is the lectotype card, seventh label is with the actual name *Bracon titubans* Wesmael given by J. Papp. Lectotype is in good condition: (1) right flagellum deficient; (2) left hind wing distally undulate-form creased; (3) missing: tarsomeres 2-5 of left middle and hind pair of legs (except coxae + trochanters).

Remark

The lectotype, herewith designated, was originally considered by Wesmael as "var. 1. ♀" of his species. This specimen is in much better condition than the paralectotype (see below) which is the nominate form after Wesmael (l.c.).

Designation of the ♀ paralectotype of *Bracon fuscipennis*

Labels identical to those of the lectotype except paralectotype card. -- Paralectotype is in poor condition: (1) left flagellum deficient; (2) missing: right antenna and metasoma.

Designation of the ♀ lectotype of *Bracon tarsator*

(First label, handwritten) "Pål" (=Pålsjö), Sweden; second label is the lectotype card; third label is with the actual name *Bracon titubans* given by J. Papp. - Lectotype is in good condition: (1) specimen glued direct to the pin; (2) flagelli apically deficient.

Designation of the ♀ paralectotype of *Bracon tarsator*

Labels identical with those of the lectotype except paralectotype card. -- Paralectotype is in good condition: (1) flagelli deficient; (2) missing: right middle leg (except coxa and trochanter) and tarsomeres 2-5 of left hind leg.

Material examined

49 ♀♀ + 13 ♂♂ from 14 countries: ENGLAND: 4 ♀♀ + 1 ♂ from five localities. THE NETHERLANDS: 8 ♀♀ + 1 ♂ from eight localities. FRANCE: 1 ♀. GERMANY: 1 ♀. SLOVAKIA: 2 ♀♀ + 1 ♂ from three localities. HUNGARY: 18 ♀♀ + 6 ♂♂ from 21 localities. ROMANIA (Transsylvania): 4 ♀♀ + 1 ♂ from five localities. BULGARIA: 3 ♀♀ + 3 ♂♂ from six localities. NORTH ITALY: 1 ♀. GEORGIA: 1 ♀. ARMENIA: 1 ♀. AFGHANISTAN: 1 ♀. MONGOLIA: 1 ♀. KOREA: 3 ♀♀ from three localities.

Redescription of the ♀ lectotype of *Bracon titubans* (Fig. 51A-H)

LENGTH. Body 3 mm long.

ANTENNAE. Right antenna somewhat shorter than body and with 27 antennomeres; left antenna deficient: with 8 antennomeres. First flagellomere twice and penultimate flagellomere 1.6 times as long as broad.

HEAD. In dorsal view less transverse (Fig. 51A), 1.75 times as broad as long, eye 2.4 times longer than temple, temple restricted, occiput moderately excavated. Oral opening: its horizontal diameter 1.25 times as long as shortest distance between opening and compound eye (Fig. 51B). Head polished.

MESOSOMA. In lateral view 1.4 times as long as high, polished. Propodeum polished, lunule emitting a keel up to its half, keel with oblique rugulae (Fig. 51C).

LEGS. Hind femur 2.8 times as long as broad medially (Fig. 51D). Claw downcurved, its basal lobe large and fairly pointed (Fig. 51E).

WINGS. Forewing about as long as body. Pterostigma (Fig. 51F) 2.6 times as long as wide and issuing *r* proximally from its middle, *r* 0.8 times as long as width of pterostigma. Second submarginal cell fairly long, 3-*SR* 1.25 times longer than 2-*SR*, *SRI* straight, 1.65 times as long as 3-*SR* and reaching tip of wing; 1-*RI* 1.6 times as long as pterostigma. First discal cell high, 1-*M* 1.7 times longer than *m-cu*, 1-*SR-M* bent and 1.5 times longer than 1-*M* (Fig. 51G).

TERGITES. First tergite (Fig. 51H) as long as broad behind, evenly and clearly broadening posteriorly, scutum laterally with a pair of carinula, its margin crenulate, scutum posteriorly rugulose-uneven. Second tergite 2.6 times as broad as long and slightly longer than third tergite, suture between them slightly bisinuate and subcrenulate. Second tergite medially with fine longitudinal striation, further tergites polished. Ovipositor sheath as long as hind tibia + half basitarsus.

COLOUR. Scape and pedicel brownish yellow, flagellum dark brown. Head dark brown with faint rusty tint. Mesosoma blackish. Oral part yellow, palpi pale yellow. Tegula yellow. First tergite dark brown, second tergite yellow, medially brown. Further tergites brown, laterally straw yellow. Legs yellow. Wings hyaline, pterostigma brown, veins yellowish brown.

Variable features of the ♀ (49 ♀♀) (Fig. 51I-K)

Body 2.8-3.2 mm long. Antenna with 26-28, usually with 27, antennomeres. Temple in dorsal view slightly more restricted (Fig. 51I). Hind femur 2.8-3.3 times as long as broad medially (Fig. 51J). Pterostigma usually wide, 2.6-2.8 times as long as wide. Second submarginal cell long, 3-*SR* 1.6 times as long as 2-*SR* (Fig. 51K). 1-*M* less long, 1.6 times as long as *m-cu*. Ovipositor sheath either long: as long as hind tibia + tarsomeres 1-3 combined or short: more or less shorter than hind tibia. Body more or less (dark) rusty brown.

Variable features of the ♂ (13 ♂♂)

Body 2.6-3 mm long. Antenna with (25-)28-34 antennomeres. Temple, second submarginal cell and hind femur variable similar those of the ♀. Tergites 1-3 medially to nearly entirely rugo-rugulose. Body and mesosoma black to blackish.

Hosts

COL. Chrysomelidae: *Gastroidea polygona* Linnaeus, *G. viridula* DeGeer.

Distribution

Europe, Mongolia. In Europe frequent to sporadic.

Taxonomic position

Within the subgenus *Glabrobracon* the species *Bracon titubans* Wesmael is nearest to *B. nigriventris* Wesmael (Palearctic Region) and *B. (Lucobracon) larvicida* Wesmael (Europe, Kazakhstan, Mongolia) considering their corporal structure, they are distinguished by a few features not easy to recognize:

- 1 (2) First discal cell of forewing elongate (Fig. 16G), marginal cell approaching tip of wing and second submarginal cell relatively wide (Fig. 16F), oral opening less large (Fig. 16B) (subgeneric features of *Lucobracon*). Temple in dorsal view rounded (Fig. 16A). Claw moderately downcurved (Fig. 16E). Propodeum medially either uneven (Fig. 16C) or rugulose (Fig. 16J). First tergite broadening posteriorly (Fig. 16H). Second tergite usually with lighter colour. ♀: 2.8-3.8 mm, ♂: 2.5-3.8 mm*B. (Lu.) larvicida* Wesmael, 1838
- 2 (1) First discal cell of forewing subquadrate (Figs 28G; 51G), marginal cell reaching tip of wing and second submarginal cell less wide (Figs 28F; 51F), oral opening usual in size (Figs 28B; 51B) (subgeneric features of *Glabrobracon*). Temple either rounded (Fig. 28A) or restricted (Fig. 51I). Claw downcurved (Figs 28E; 51E). Propodeum polished, above lunule with short rugae (Figs 28C; 51C). Metasoma black(ish) to rusty brown, second tergite usually yellow to brownish.

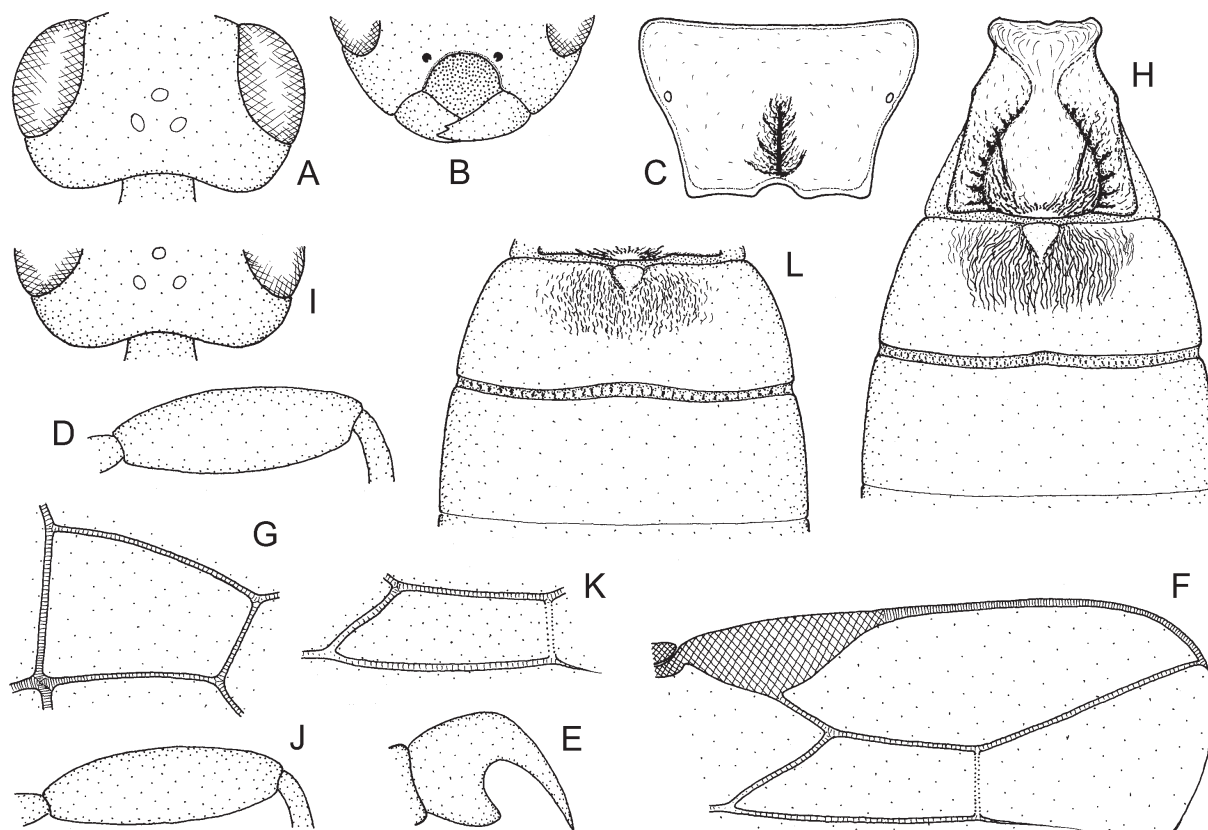


Fig. 51. *Bracon (Glabrobracon) titubans* Wesmael (A-H: ♀ lectotype, I-K: ♀, L: ♀ / ♂). A. Head in dorsal view. B. Head in frontal view. C. Propodeum. D. Hind femur. E. Claw. F. Distal part of right forewing. G. First discal cell of right forewing. H. Tergites 1-3. I. Hind half of head in dorsal view. J. Hind femur. K. Second submarginal cell of right forewing. L. Tergites 2-3.

- 3 (4) Temple in dorsal view rounded (Fig. 28A). First tergite beyond pair of spiracles subparallel-sided, tergite itself relatively large (Fig. 28J). Tergites (beyond first tergite) relatively wide, second tergite 3-3.2 times as wide behind as long (Fig. 29F). Pterostigma usually less wide, 3-3.3 times as long as wide (Fig. 28F). Body frequently with black to blackish colour. ♀♂: 3-3.4 mm
.....*B. (Gl.) nigriventis* Wesmael, 1838
- 4 (3) Temple in dorsal view restricted (Fig. 51A). First tergite beyond pair of spiracles with broadening sides, tergite itself usual in size (Fig. 51H). Tergites (beyond first tergite) relatively less wide, second tergite 2.6-2.8 times as wide behind as long (Fig. 51H). Pterostigma usually wide, 2.6-2.8 times as long as wide (Fig. 51F). Body rarely with black to blackish colour. ♀: 2.8-3.2 mm, ♂: 2.6-3 mm
.....*B. (Gl.) titubans* Wesmael, 1838

Part 2. Nees *sensu* Wesmael's *Bracon* species redescribed by Wesmael in 1838

In Wesmael's monograph (1838) seven *Bracon* species, originally described by Nees (1811, 1834), are included as occurring in Belgium. Every species by Nees (except *B. intercessor* here dealt with as senior synonym of *B. laetus*) has been redescribed by Wesmael similar to the species created by him. It is well-known that the Nees Collection (insects, lichens etc.) was housed in the Alexander König Museum (Bonn) and was, at the end of the Second World War, destroyed. To make clearly and unambiguously recognizable, the designations of the neotype for the species by Nees *sensu* Wesmael were evident for every species included in Wesmael's monograph (except *B. mediator* and *B. obscurator*). This taxonomic action is judged by the consideration that Wesmael was the first reviser of Nees' *Bracon* species and, consequently, denoted here as Nees *sensu* Wesmael's *Bracon* species. From among the series of the six valid species and one synonymous species names (*anthracinus* Nees, 1834 jun. syn. = *delibator* Haliday, 1833), housed in Wesmael's Collection, one specimen each was selected as the neotype (present designations) for the seven (6 + 1) species in question. Furthermore, the neotypes and the attached specimens in Wesmael's Collection served for the subsequent redescrptions of the seven (6 + 1) Nees *sensu* Wesmael's *Bracon* species. Under the valid seven species names a total of 20 synonymous names are listed, done by nine authors (the number of the synonymous names by them are given in brackets): Fahringer (1), Greese (2), Marshall (1), Nees (1), Panzer (1), Szépliget (4), Telenga (2), Thomson (3) and Wesmael (5).

The redescribed seven (6 + 1) Nees *sensu* Wesmael's *Bracon* species are as follows: *B. caudiger*, *B. delibator* (= *anthracinus*), *B. exhilarator*, *B. fulvipes*, *B. immutator*, *B. osculator*, *B. variator*; and status of *B. intercessor* var. *laetus*.

Remarks

1) Two species by Nees: *B. mediator* Nees, 1834 and *B. obscurator* Nees, 1811 were also redescribed in Wesmael's monograph and I have the privilege to examine their series in Wesmael's Collection. The specimens of the two species are in rather poor condition inappropriate for either neotype designation or for redescription.

2) The names *B. oostmaeli* Wesmael, 1838 and *B. regularis* Wesmael, 1838 are junior synonyms of *B. abbreviator* Nees, 1834 (Thomson 1894: 1815, Papp 2008: 1743).

Bracon (Glabrobracon) caudiger Nees, 1834

Figs 52A-K; 53E

Bracon caudiger Nees, 1834: 77 and 103 (described twice, the two descriptions are identical) ♀ (type material: one ♀, destroyed), type locality: "Silesiae quercu...prope Skarsin" (Poland).

Bracon (Lucobracon) scythus Greese, 1928: 155 ♀ (one ♀ syntype), type locality: “Mirgorod” (Ukraine), ♀ syntype in ?Saint Petersburg (Zoological Institute), in ?Kiev (Zoological Institute) or in ?; supposed synonymy considering its original description.

Braco caudiger – Wesmael 1838: 47 (first reviser), one ♀ (neotype: “J’ai pris une seule femelle de cette espèce,...” Wesmael l.c.), neotype locality: “environs de Bruxelles” (Belgique), ♀ neotype (present designation) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon caudiger – Szépligeti 1901: 267 (in key, in Hungarian); 1904 (1901): 186 (in key, in German) ♀.

Bracon (Glabrobracon) caudiger – Fahringer 1927: (♀) 286, 287, (♂) 301 (in key), 1928: 443 (redescription), assigned to “Section *Glabrobracon*”. — Telenga 1936: 149 (♀), 156 (♂) (in key), 205 (redescription) (in Russian) and 351 (♀), 358 (♂) (in key, in German). — Shenefelt 1978: 1560 (literature up to 1970).

Designation of the ♀ neotype of *Bracon caudiger*

(First label, printed) “Coll. Wesmael”; (second label, printed) “2061”; (third label) “Braco caudiger Nees ♀” (handwritten) “dét. Wesmael” (printed); fourth label with the inventory number “3.317”; (fifth label, with my handwriting) “Belgique / Bruxelles / VIII, leg. Wesmael” (above on label) “teste J. Papp 1987” (reverse on label); sixth label is the neotype card attached by me. Neotype is in good condition: (1) pinned by mesosoma (mesoscutum / prosternum); (2) right antenna damaged, with 27 antennomeres; (3) right hind leg (except coxa + trochanters) missing; (4) pair of ovipositor sheath damaged, present its proximal half.

Material examined

5 ♀♀ + 9 ♂♂ from six countries: FRANCE: 1 ♀. GERMANY: 1 ♀ + 1 ♂ from one locality. AUSTRIA: 1 ♂. ITALY: 1 ♀ + 1 ♂ from one locality. HUNGARY: 6 ♂♂ from two localities. TURKEY: 1 ♀.

Description of the ♀ neotype of *Bracon caudiger* (Fig. 52A-G)

LENGTH. Body 3.9 mm long.

ANTENNAE. Left antenna as long as body and with 31 antennomeres. First flagellomere 1.7 times, second flagellomere 1.6 times and penultimate flagellomere 1.3 times as long as broad.

HEAD. In dorsal view (Fig. 52A) subcubic, 1.6 times as broad as long, eye slightly longer than temple, temple moderately rounded, occiput excavated. OOL twice longer than POL. Oral opening: its horizontal diameter 1.5 times longer than shortest distance between opening and compound eye (Fig. 52B). Head polished, face below antennal socket finely granulose.

MESOSOMA. Elongated, in lateral view 1.5 times as long as high, polished. Notaulix weak.

LEGS. Hind femur 3.1 times as long as broad medially (Fig. 52C). Hind claw downcurved and with fairly short basal lobe (Fig. 52D).

WINGS. Forewing as long as body. Pterostigma (Fig. 52E) 2.8 times as long as wide and issuing *r* proximally from its middle; *r* almost 0.8 times as long as width of pterostigma; second submarginal cell fairly long, 3-SR almost 1.6 times as long as 2-SR, SR1 straight, 1.5 times as long as 3-SR and reaching tip of wing. First discal cell fairly high, 1-M 1.75 times as long as *m-cu*, 1-SR-M weakly bent and 1.25 times as long as 1-M (Fig. 52F).

TERGITES. First tergite (Fig. 52G) 1.25 times as long as broad behind, beyond pair of spiracles parallel-sided; margin of scutum finely crenulated, lateral part of tergite narrow, together with further tergites

polished. Second tergite transverse, 3.5 times as broad behind as long laterally; suture between tergites 2-3 bisinuate, deep, smooth; tergites 2-3 of equal length. Hypopygium pointed, ovipositor sheath long, as long as meta- and mesosoma combined (after Wesmael l.c.).

COLOUR. Body bicoloured. Antenna dark brown. Head black, orbit and cheek testaceous, mandible yellow, palpi dark brown. Mesosoma and legs black. Metasoma yellow, first tergite brown, median streak of tergites 3-6 brown to blackish. Wings brown fumous, pterostigma and veins brown.

Variable features of the ♀ (4 ♀♀) (Fig. 52H-K)

Body 2.8-3.9 mm long. Antenna with 25 (1 ♀) and 30 (2 ♀♀) antennomeres. Head in dorsal view 1.65-1.75 times as broad as long (Fig. 52H). Hind femur 2.9-3.3 times as long as broad medially (Fig. 52I-J). Lateral part of first tergite (i.e. laterally from scutum) less narrow (Fig. 52K). Ovipositor sheath somewhat shorter to somewhat longer than body.

Description of the ♂ (9 ♂♂)

Similar to the ♀. Body 3-3.6 mm long. Antenna with 27-30 antennomeres. Head in dorsal view 1.6-1.7 times as broad as long. Second tergite either a bit longer than third tergite or tergites 2-3 of equal length. Yellow colour of metasoma usually more extended.

Hosts

COL. Curculionidae: *Rhabdorhynchus varius* Herbst. — LEP. Coleophoridae: *Coleophora virgaureae* Stainton; Tortricidae: *Cydia amplana* Hübner, *C. splendana* Hübner, *C. strobilella* Linnaeus, *Pamene splendidulana*; Noctuidae: *Hadena perplexa* Denis et Schiffermüller.

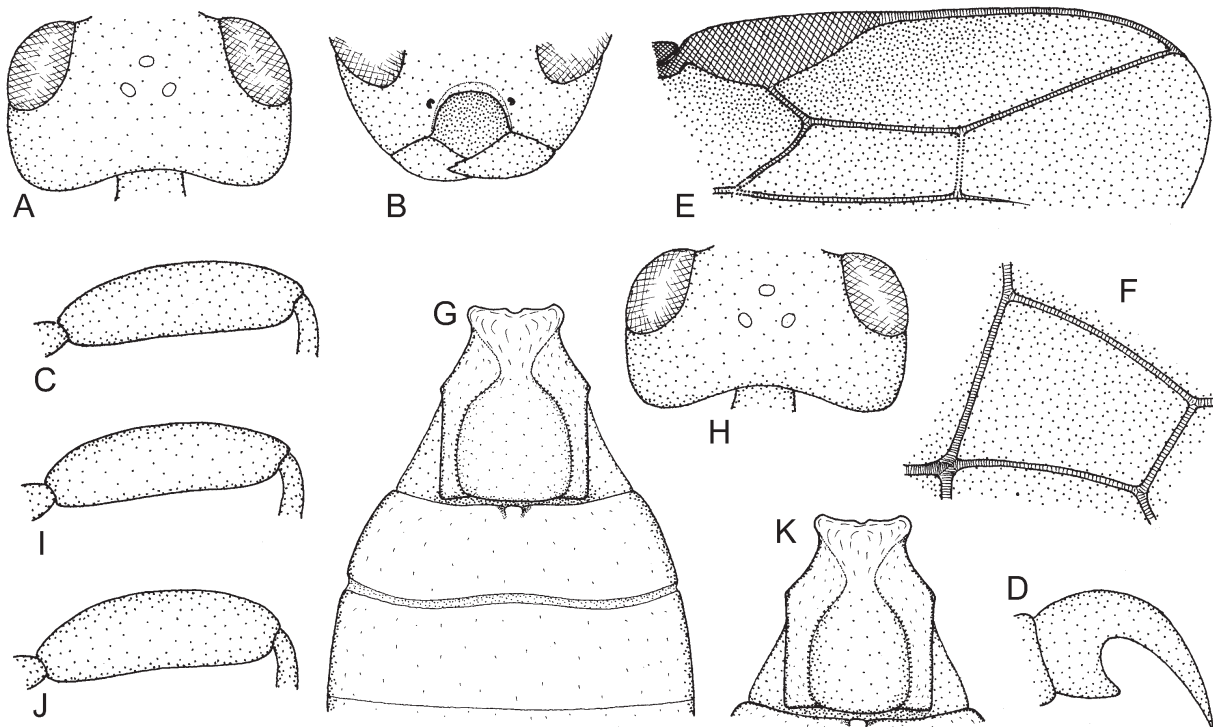


Fig. 52. *Bracon (Glabrobracon) caudiger* Nees, 1834 (A-G: ♀ neotype, H-K: ♀ / ♂). A. Head in dorsal view. B. Head in frontal view. C. Hind femur. D. Claw. E. Distal part of right forewing. F. First discal cell of right forewing. G. Tergites 1-3. H. Head in dorsal view. I-J. Hind femur. K. First tergite.

Distribution

Belgium, France, Germany, Austria, Italy, Hungary, Turkey.

Taxonomic position

Bracon caudiger is nearest to *B. pineti* and *B. xanthogaster*, within the subgenus *Glabrobracon* the three species (completed with further two species: *B. longulus* Thomson and *B. strobilorum* Ratzeburg here not discussed, cf. Papp 1992) forming a species-group viewing their common features: long ovipositor apparatus, dark coloured body and wings; the three species are distinguished by rather subtle features:

- 1 (2) Scutum of first tergite relatively short, i.e. at most reaching imaginary transverse line between spiracles; tergites 2-3 equal in length, suture between them clearly bisinuate (Fig. 53A). Eye in dorsal view 1.6-1.7 times longer than temple, head in dorsal view 1.75-1.8 times as broad as long (Fig. 53B). Eye in lateral view 1.3-1.4 times wider than temple (Fig. 53C, see arrows). Lobe of claw fairly wide as in Fig. 53D. Metasoma yellow, first tergite black, exceptionally tergites with narrow brown(ish) streak. ♀: 3.5-4 mm. (?=*B. caudatus* Ratzeburg, 1848*B. (Gl.) xanthogaster* Nees, 1834
- 2 (1) Scutum of first tergite not short, i.e. more or less exceeding above imaginary transverse line between spiracles; tergites 2-3 unequal in length, suture between them bisinuate (Figs 52G; 53F). Eye in dorsal view 1.2-1.3 times longer than temple, head in dorsal view 1.65-1.75 times as broad as long (Figs 52A; 53G). Eye in lateral view slightly wider than temple (Fig. 53E, see arrows).
- 3 (4) Temple in dorsal view somewhat more rounded (Figs 53H). Tergites 2-3 less transverse, i.e. second tergite 2.3-2.6 times as broad behind as long laterally; suture between them more bisinuate; first tergite 1.3-1.4 times as long as broad behind (Fig. 53F). Lobe of claw long (Fig. 53I). Metasoma yellow to brownish yellow, usually with a wide dark streak. ♀: 3.5-4 mm
.....*B. (Gl.) pineti* Thomson, 1892
- 4 (3) Temple in dorsal view somewhat less rounded (Fig. 52A, H). Tergites 2-3 more transverse, i.e. second tergite 3.2-3.5 times as broad behind as long laterally; suture between them less bisinuate, first

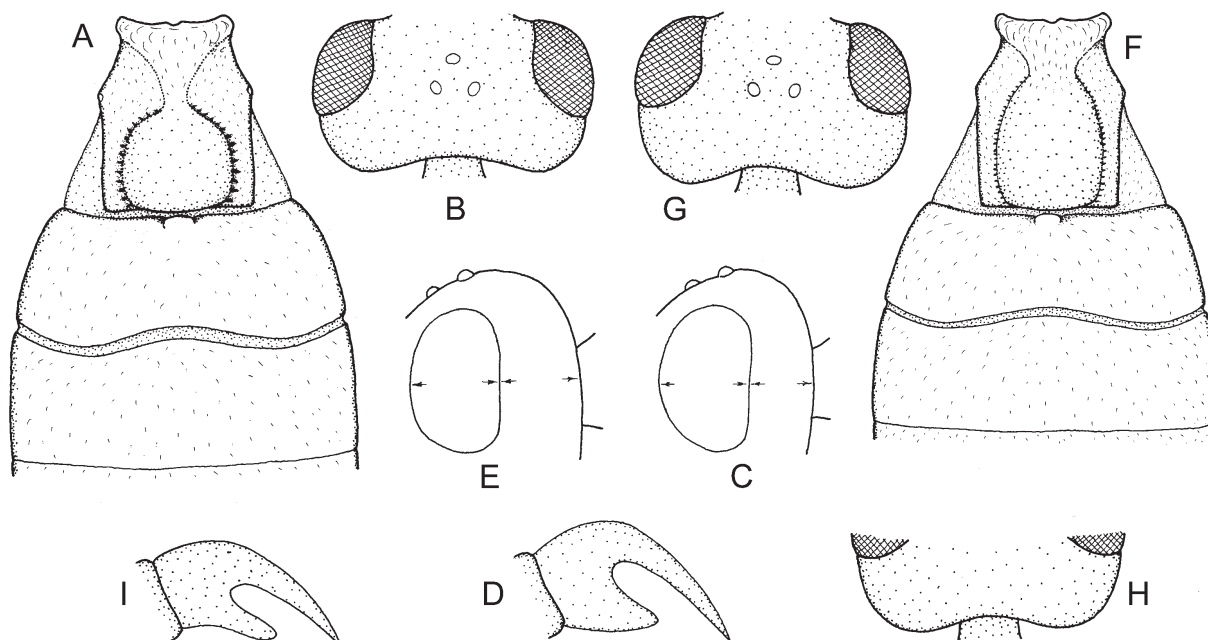


Fig. 53. — A-D. *Bracon (Glabrobracon) xanthogaster* Nees, 1834, ♀. A. Tergites 1-3. B. Head in dorsal view. C. Head in lateral view. D. Claw. — E. *Bracon (Glabrobracon) caudiger* Nees, 1834, ♀ / ♂, head in lateral view. — F-I. *Bracon (Glabrobracon) pineti* Thomson, 1894, ♀. F. Tergites 1-3. G. Head in dorsal view. H. Hind half of head in dorsal view. I. Claw.

tergite 1.25-1.3 times as long as broad behind (Fig. 52G). Lobe of claw finger-like (Fig. 52D). Metasoma lemon yellow, usually with narrow dark streak. ♀: 3.5-4.2 mm *B. (Gl.) caudiger* Nees, 1834

Description of the new subgenus *Palpibracon*

Genus *Bracon* Fabricius, 1804
Subgenus *Palpibracon* subgen. nov.
Figs 54E, H, K; 55J; 56B, E-F

Type species: *Bracon delibator* Haliday, 1833.

Diagnosis

Nearest to the subgenus *Glabrobracon* (Fahringer) Tobias considering the polished tergites of the species assigned to this subgenus. Maxillary palpi are unusually long, at least as long as height of head or (usually) longer (Figs 54E, K; 55J; 56F). *SRI* of fore wing more or less approaching (Figs 54H; 55I; 56B, E) (and not reaching) tip of wing. Rarely first tergite (scutum!) or, exceptionally, tergites 1-2 with weak sculpture.

Five *Bracon* species are assigned to the new subgenus *Palpibracon*:

B. (P.) atrator Nees, 1834 – Palearctic Region.

B. (P.) delibator Haliday, 1833 (= *B. anthracinus* Nees, 1834) – Holarctic Region.

B. (P.) megapalpus Quicke et Jervis, 2005 – Ethiopian Region (South Africa).

B. (P.) mongolicus Telenga, 1936 – Palearctic Region (Moldavia, European Russia, Kazakhstan, Mongolia, China).

B. (P.) tenuiceps (Muesebeck, 1925) (*Microbracon*) – Nearctic Region.

Bracon (Palpibracon) delibator Haliday, 1833

Figs 54A-M, 55A-G, 56G-I

Bracon delibator Haliday, 1833: 263 (in key). Further data after Van Achterberg (1997: 31): type locality: Portmarnock, near Dublin, Ireland; ♀ lectotype (designated by Van Achterberg) in National Museum of Ireland, Dublin; not examined.

Bracon anthracinus Nees, 1834: 81 ♀ (type material: at least two ♀♀, destroyed), type locality: “prope Sickershausen” (Germany).

Bracon delibator – Shenefelt 1978: 1479 (as valid species, literature up to 1904).

Braco anthracinus – Wesmael 1838: 54 ♀♂ (first reviser, according to Wesmael: “Je possède 18 femelles et 6 mâles ...”), locality: “environs de Bruxelles” (17 ♀♀ + 6 ♂♂) and “environs de Liège” (1 ♀) (Belgium), material currently existing: 17 ♀♀ + 5 ♂♂ in the Royal Belgian Institute of Natural Sciences, Brussels, one ♀ specimen designated as the neotype (present designation) of *Bracon anthracinus* Nees *sensu* Wesmael. Further specimens represent the following species (det. J. Papp 2006): (1) 14 ♀♀ (1 ♀ missing metasoma; however, on name label by Wesmael with the sign “♀”) + 4 ♂♂: *B. anthracinus* jun. name = *B. delibator* sen. name; (2) 1 ♀: *B. variator* Nees, 1811; (3) 1 ♂: *B. parvulus* Wesmael, 1838; (4) 1 ♀: *Dolichogenidea* sp?, *D. ?gracilariae* Wilkinson, 1940.

Bracon anthracinus – Szépligeti 1901: 270 (in key, in Hungarian); 1904 (1901): 190 (in key, in German).

Bracon (Glabrobracon) anthracinus – Fahringer 1927: 300 (♀), 310 (♂) (in key) and 436 (redescription), assigned to “Section *Glabrobracon*”. — Telenga 1936: 143 (♀), 153 (♂) (in key), 180 (redescription) (in Russian) and 345 (♀), 355 (♂) (in key, in German). — Papp 1968: 375 (in key) and 380 (redescription). — Tobias 1986: as valid species 130 (in key, in Russian). — Tobias & Belokobylskij 2000: as valid species 139 (in key, in Russian).

Designation of the ♀ neotype of *Bracon anthracinus*

(First label, printed) “Coll. Wesmael”; (second small label, printed) “2076”; (third label) “*Braco anthracinus* ♀ (handwritten) / dét. C. Wesmael” (printed); fourth label is the neotype card and fifth label is with the actual name *B. delibator* Haliday. The neotype is in good condition: micropinned by mesosoma (pin fairly thick).

Material examined

111 ♀♀ + 67 ♂♂ from twenty-seven countries: Palaearctic Region. IRELAND: 1 ♂. ENGLAND: 2 ♀♀ + 1 ♂ from three localities. SCOTLAND: 1 ♂. SWEDEN: 1 ♀. FRANCE: 2 ♀♀ from two localities. GERMANY: 10 ♀♀ from 9 localities. SWITZERLAND: 1 ♀ + 2 ♂♂ from three localities. CZECH REPUBLIC: 2 ♀♀ from two localities. SLOVAKIA: 3 ♀♀ from three localities. HUNGARY: 41 ♀♀ + 30 ♂♂ from 67 localities. ROMANIA (Transsylvania): 6 ♀♀ + 4 ♂♂ from seven localities. SPAIN: 4 ♀♀ + 3 ♂♂ from five localities. ALGERIA: 1 ♀. ITALY: 3 ♀♀ + 1 ♂ from four localities. CROATIA: 4 ♀♀ + 1 ♂ from four localities. MACEDONIA: 2 ♀♀ + 2 ♂♂ from three localities. SERBIA: 3 ♀♀ + 2 ♂♂ from three localities. BULGARIA: 4 ♀♀ + 3 ♂♂ from five localities. GREECE: 7 ♀♀ + 5 ♂♂ from 10 localities. TURKEY: 2 ♀♀ + 2 ♂♂ from four localities. SYRIA: 1 ♀ + 1 ♂ from two localities. UKRAINE: 1 ♀. ARMENIA: 4 ♀♀ + 4 ♂♂ from four localities. MONGOLIA: 2 ♀♀ from two localities. KOREA: 2 ♂♂ from one locality. — Nearctic Region. CANADA: 2 ♀♀ + 1 ♂ from three localities. U.S.A.: 3 ♀♀ + 1 ♂ from four localities.

Description of the ♀ neotype of *Bracon anthracinus* (conspecific with *B. delibator* Haliday, sen. syn.) (Fig. 54A-J)

LENGTH. Body 2.8 mm long.

ANTENNAE. Short, as long as head, mesosoma and tergites 1-2 combined and with 19 antennomeres. Flagellum indistinctly attenuating, first flagellomere 2.25 times and penultimate flagellomere 1.85 times as long as broad (Fig. 54A).

HEAD. In dorsal view transverse (Fig. 54B), 1.8 times as broad as long, eye just longer than temple, temple rounded, occiput weakly excavated. Eye in lateral view twice as high as wide and as wide as temple, temple beyond eye evenly wide (Fig. 54C). Horizontal diameter of oral opening 1.5 times as long as shortest distance between opening and eye (Fig. 54D). Maxillar palp long, its penultimate segment one-fifth longer than ultimate segment (Fig. 54E). Cheek in frontal view slightly more converging (Fig. 54D). Head polished.

MESOSOMA. In lateral view 1.3 times as long as high, polished. Notaulix indistinct. Propodeum polished.

LEGS. Hind femur 3.8 times as long as broad somewhat distally (Fig. 54F). Claw downcurved and with distinct albeit small basal lobe (Fig. 54G).

WINGS. Forewing somewhat longer than body. Pterostigma (Fig. 54H) fairly wide, 2.5 times as long as wide and issuing *r* proximally from its middle, *r* 0.85 times as long as width of pterostigma; 3-*SR* slightly longer than 2-*SR*; *SRI* straight, 2.2 times as long as 3-*SR* and approaching tip of wing. First discal cell fairly high, *I-M* twice as long as *m-cu*, *I-SR-M* 1.3 times as long as *I-M* (Fig. 54I).

TERGITES. First tergite (Fig. 54J) 1.25 times as long as broad behind, beyond pair of spiracles subparallel-sided, margin of scutum smooth and less narrow. Third tergite almost 1.5 times longer than second tergite, suture between them distinct, bisinuate and smooth (Fig. 54J). Every tergite polished. Hypopygium pointed, ovipositor sheath long, i.e. somewhat shorter than body or as long as hind femur + tibia + tarsi combined.

COLOUR. Body and antenna blackish with brownish tint, tergites brownish black. Palpi dark brown. Legs proximo-distally blackish, dark brown to brown. Wings subhyaline, pterostigma and veins light opaque brown.

Variable features of the 14 ♀♀ of *Bracon anthracinus* identified by Wesmael (in Wesmael's Collection, Brussels) (Fig. 54K-M)

Similar to the ♀ neotype. Body 2.8-3 mm long. Antenna with (18-)19-20 antennomeres. Head in dorsal view 1.8-1.9 times as broad as long. Penultimate segment of maxillar palp one-fifth to one-sixth longer than ultimate segment (Fig. 54K). Hind femur 3.6-3.8 times as long as broad distally (Fig. 54L). Pterostigma (2.2-)2.5-2.6 times as long as wide. First tergite 1.2-1.3 times as long as broad, beyond pair of spiracles usually subparallel- to parallel-sided or with converging sides (Fig. 54M). Ovipositor sheath more or less shorter than body. Body black to blackish with faint brownish tint.

Features of the four ♂♂ of *Bracon anthracinus* identified by Wesmael (in Wesmael's Collection, Brussels)

Similar to the ♀. Body 2-2.8 mm long. Antenna with 16-19 antennomeres. Head in dorsal view 1.8-2 times as broad as long. Fore wing: 3-SR 0.9 (1 ♂) as long as to slightly longer than 2-SR (3 ♂♂). First tergite 1.3 times as long as broad behind, beyond pair of spiracles either parallel- (3 ♂♂) or converging-sided (1 ♂).

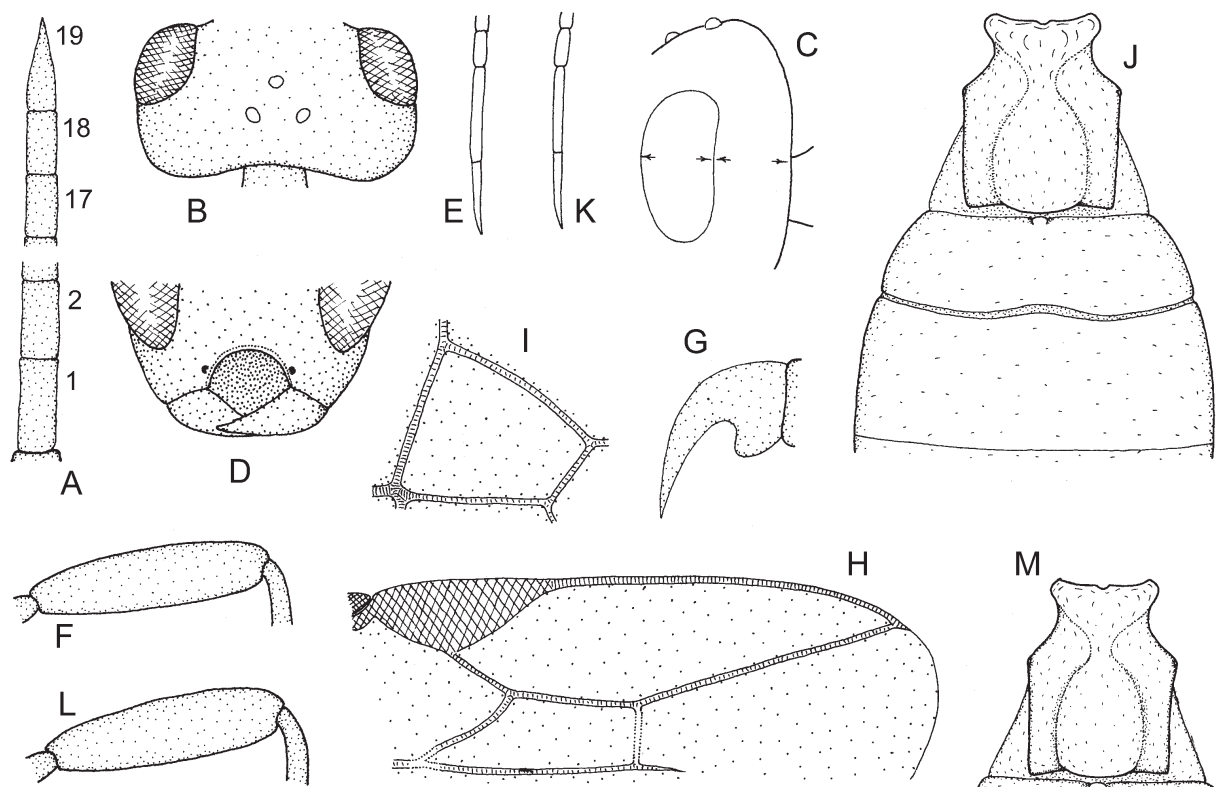


Fig. 54. *Bracon (Palpibracon) delibator* Haliday, 1833 (A-J: ♀ neotype, K-M: ♀). A. Flagellomeres 1-2 and 17-19. B. Head in dorsal view. C. Head in lateral view. D. Head in frontal view. E. Ultimate three segments of maxillar palp. F. Hind femur. G. Claw. H. Distal part of right forewing. I. First discal cell of right forewing. J. Tergites 1-3. K. Ultimate three segments of maxillar palp (♀ / ♂). L. Hind femur. M. First tergite.

Variable features of the ♀♀ (111 ♀♀) (Figs 54J; 55A-D; 56G-I)

Body 2-)2.2-3 mm long. Antenna with 16-22(-24) antennomeres, flagellomeres 1.8-2 times as long as broad. Temple in dorsal view more rounded (Fig. 56G, 13 ♀♀). Forewing: second submarginal cell either long: 3-SR 1.5 times as long as 2-SR (Fig. 56H, 6 ♀♀) or short: 3-SR as long as 2-SR (Fig. 56I, 2 ♀♀); first discal cell somewhat less high, *l-m* 1.8-1.9 times as long as *m-cu* (Fig. 55A, 3 ♀♀). First tergite long, 1.33 times as long as broad behind (Fig. 55B, 14 ♀♀). Tergites 2-3 variably transverse, usually second tergite 3-3.5 times and third tergite 2.5-3 times wider behind than long (cf. Fig. 54J); exceptionally either tergites more transverse: second tergite 4-4.5 times and third tergite 3.7 times as broad as long (Fig. 55C, 6 ♀♀); or third tergite 1.7-1.9 times longer than second tergite (Fig. 55D, 11 ♀♀). Ovipositor sheath as long as hind femur + half tibia (16 ♀♀).

Variable features of the ♂♂ (67 ♂♂) (Figs 55E-G; 56G)

Body 2-3 mm long. Antenna with (15-)16-20 antennomeres, flagellomeres 1.9-2.2 times as long as broad. Temple in dorsal view more rounded (Fig. 56G, 4 ♂♂ (♀!)). First tergite long: 1.3 times as long as broad behind and with parallel sides (Fig. 55E, 6 ♂♂) or 1.5 times longer than broad behind (Fig. 55F, 8 ♂♂); pair of spiracles of first tergite exceptionally medially (Fig. 55E, 2 ♂♂). Third tergite hardly longer than second tergite (Fig. 55G, 2 ♂♂). Maxillar palp yellowish (1 ♂), tergites 1-3 brownish (2 ♂♂).

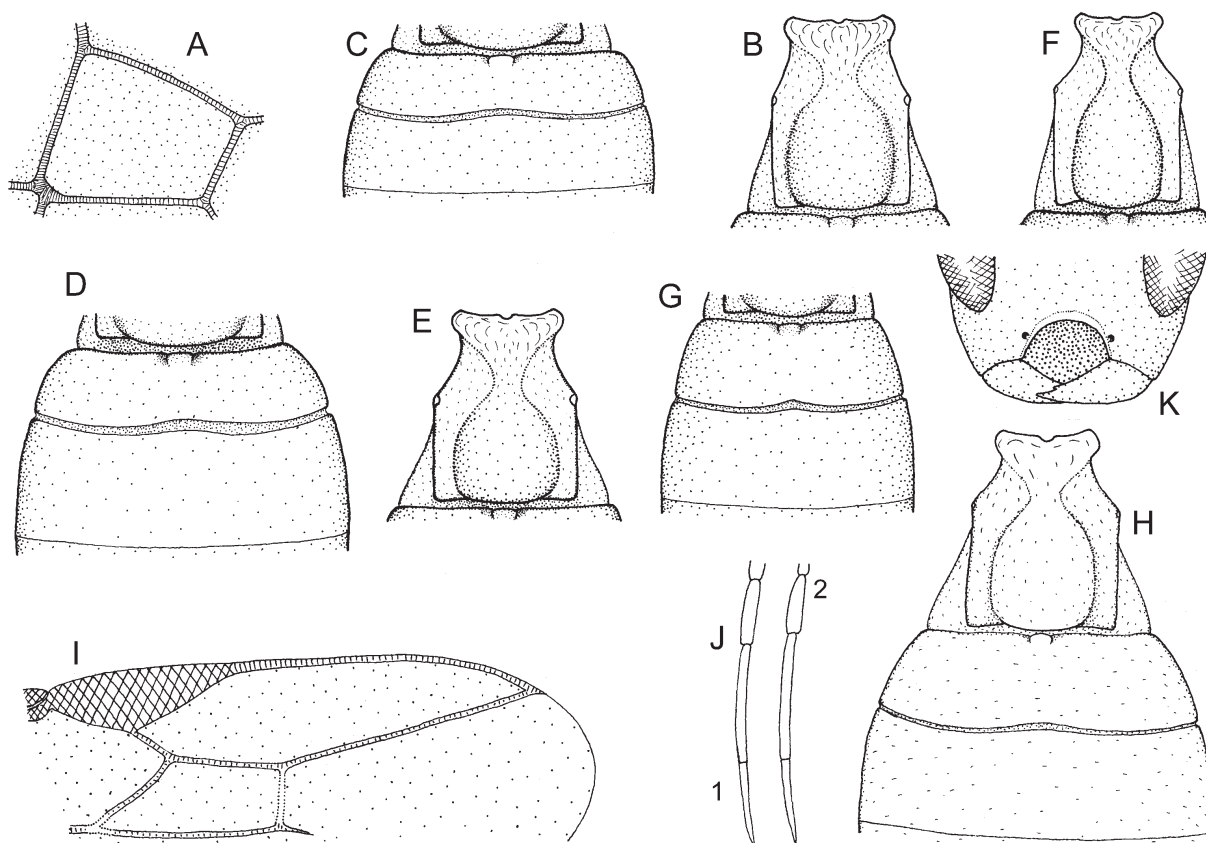


Fig. 55. — A-G. *Bracon (Palpibracon) delibator* Haliday, 1833 (A-D: ♀, E-G: ♂). A. First discal cell of right forewing. B. First tergite. C-D. Tergites 2-3. E-F. First tergite. G. Tergites 2-3. — H-K. *Bracon (Palpibracon) atrator* Nees, 1834, ♀ neotype. H. Tergites 1-3. I. Distal part of right forewing. J. Ultimate three segments of maxillar palp (1 = neotype, 2 = ♀ / ♂), K. Head in frontal view.

Hosts

COL. Apionidae: !*Omphalapion buddebergi* (Bedel). Curculionidae: *Ceutorhynchus campanulae* Fabricius, *Hylobius piceus* DeGeer, *Miarus campanulae* Linnaeus. Phalacridae: !*Olibrus aeneus* Fabricius. — LEP. Tortricidae: *Cydia strobilella* Linnaeus. — DIPT. Agromyzidae: !*Napomyza lateralis* Fallén. Tephritidae: !*Terellia serratulae* Linnaeus, *Urophora cuspidata* Meigen.

Distribution

Holarctic Region, frequent to common.

Taxonomic position

The four species assigned to the new subgenus *Palpibracon* are highly similar to each other, they are distinguished by a few and rather subtle features, see key:

- 1 (2) Tergites 2-3 equal in length (Fig. 56A), tergites usually polished, less usually more or less uneven to (sub-) rugulose. Ovipositor sheath at most as long as metasoma. Forewing: second submarginal cell long, 3-SR 1.4-1.5 times as long as 2-SR (Fig. 56B). Face wide, twice wider than high, cheek in frontal view converging (Fig. 56C, see arrows). Body and legs brownish yellow to yellow, pterostigma opaque yellow. ♀♂: (2.1-)2.5-4 mmB. (*P.*) *mongolicus* Telenga, 1936
- 2 (1) Tergite 3 more or less longer than tergite 2 (Figs 54J; 55H; 56D), first (and second) tergite(s) at most exceptionally uneven to subrugulose. Ovipositor sheath more or less longer than metasoma.

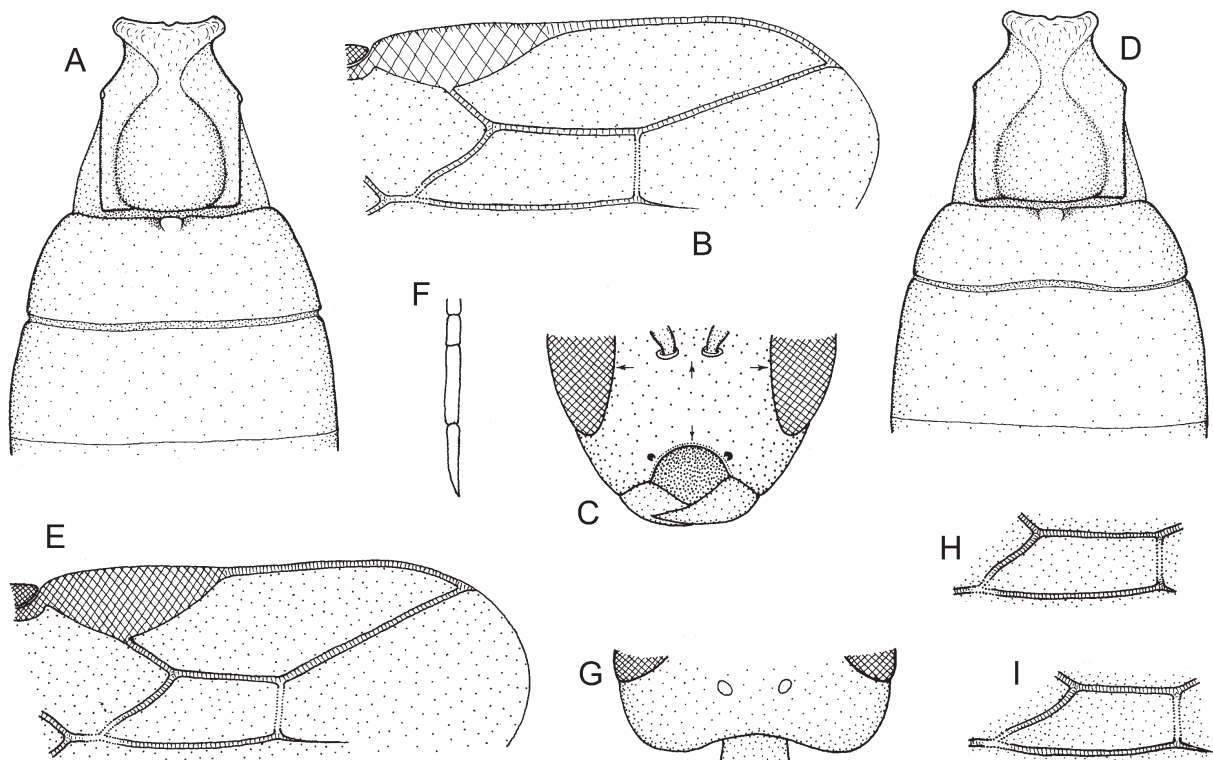


Fig. 56. — A-C. *Bracon (Palpibracon) mongolicus* Telenga, 1936, ♀. A. Tergites 1-3. B. Distal part of right forewing. C. Head in frontal view. — D-F. *Bracon (Palpibracon) tenuiceps* Muesebeck, 1925, ♀. D. Tergites 1-3. E. Distal part of right forewing. F. Ultimate three segments of maxillar palp. — G-I. *Bracon (Palpibracon) delibator* Haliday, 1833 (G: ♀ / ♂, H-I: ♀). G. Hind half of head in dorsal view. H-I. First submarginal cell of right forewing.

- Forewing: second submarginal cell short, 3-SR 1.2-1.3 times as long as 2-SR (Figs 54H; 55I; 56E). Face less wide, i.e. less than twice as wide as high. Body and legs black to dark brown.
- 3 (4) Third tergite 1.8 to 2 times longer than second tergite (Fig. 56D). Forewing: *SRI* ending before tip of wing (Fig. 56E). Maxillar palp short, just as long as height of head, its penultimate segment slightly longer than ultimate segment (Fig. 56F). ♀: 2-3 mm*B. (P.) tenuiceps* (Muesebeck, 1925)
- 4 (3) Third tergite 1.2-1.3 times, exceptionally 1.4 times, longer than second tergite (Figs 54J; 55H). Forewing: *SRI* more or less approaching tip of wing (Figs 54H; 55I). Maxillar palp long, as long as to longer than height of head, its penultimate segment clearly longer than ultimate segment (Figs 54E, K; 55J).
- 5 (6) Maxillar palp long: distinctly longer than height of head, its penultimate segment 1.4-1.5 times longer than ultimate segment (Fig. 55J 1-2). Cheek in frontal view slightly less converging (Fig. 55K). Forewing: *SRI* slightly and usually less approaching tip of wing, pterostigma 2.8-3.2 times as long as wide (Fig. 55I). ♀♂: 2.5-3.5 mm*B. (P.) atrator* Nees, 1834
- 6 (5) Maxillar palp less long: about as long as height of head, its penultimate segment at most one-fifth (1.25 times) to one-sixth (1.2 times) longer than ultimate segment (Figs 54E; 54K). Cheek in frontal view slightly more converging (Fig. 54D). Forewing: *SRI* slightly and usually more approaching tip of wing, pterostigma (2.2-)2.5-2.6 times as long as wide (Fig. 54H). ♀♂: (2-)2.2-3 mm. (= *B. anthracinus* Nees, 1834)*B. (P.) delibator* Haliday, 1833

***Bracon (Glabrobracon) exhilarator* Nees, 1834**

Figs 57A-L, 58A-J, 59A-C

Bracon exhilarator Nees, 1834: 83 ♀♂ (type material: several ♀♀ and ♂♂, destroyed), type locality: "prope Sickershausen" (Germany).

Braco satanas Wesmael, 1838: 30 ♀♂ (type series: "15 individus": 8 ♀♀ + 7 ♂♂), type locality: "environs de Bruxelles" (Belgium), ♀ lectotype (and nine ♀ + seven ♂ paralectotypes, present designations) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon striolatus Thomson, 1894: 1835 ♀, type locality: "Yddinge i Skåne" (Sweden), ♀ lectotype (designated by J. Papp in 1969) in Zoologisk Museet, Lund; examined.

Bracon exhilarator – Szépligeti 1901: 269 (in key, in Hungarian); 1904 (1901): 179 (in key, in German) as "Br. exhilarator".

Bracon (Glabrobracon) exhilarator – Fahringer 1927: 263 (♀), 275, 306, 310 (♂) (in key) and 383 (redescription), assigned to "Section Orthobracon" and "Section Glabrobracon". — Telenga 1936: 170 (♀), 177 (♂) (in key), 271 (redescription) (in Russian) and 373 (♀), 380 (♂) (in key, in German). — Tobias 1986: 129 (in key, in Russian). — Tobias & Belokobylskij 2000: 136 (in key, in Russian).

Bracon satanas – Thomson 1894: 1834 (as synonym of *B. exhilarator*). — Szépligeti 1901: as valid species 266 (in key, in Hungarian) and 1904 (1901): as valid species 179 (in key, in German). — Fahringer 1927: 383 (as synonym of *B. exhilarator*). — Telenga 1936: 271 (as synonym of *B. exhilarator*). — Papp 1969b: 198 (as synonym of *B. exhilarator*). — Shenefelt 1978: 1632 (as synonym of *B. exhilarator*).

Bracon striolatus – Marshall 1888: 165 (listed in "Espèces de *Bracon* douteuses ou imparfaitement décrites"). — Szépligeti 1901: as valid species 266 (in key, in Hungarian) and 1904 (1901): 179 (as synonym of *B. satanas*). — Fahringer 1927: as valid species 264 (♀, in key), 421 (redescription), assigned to "Section Orthobracon". — Telenga 1936: as valid species 170 (♀), 177 (♂) (in key), 272 (redescription) (in Russian) and 373 (♀), 380 (♂) (in key, in German). — Papp 1969b: 198 (as new synonym of *B. exhilarator*). — Shenefelt 1978: 1632 (as synonym of *B. exhilarator* after Papp l.c.).

Designation of the ♀ neotype of *Bracon exhilarator*

(identical with the ♀ lectotype of *Bracon satanas* Wesmael): (first label, printed) "Coll. Wesmael"; (second label, printed) "2036"; (third label) "Braco ♀ / satanas mihi" (handwritten) "dét. C. Wesmael"

(fourth label, red) “Type”; fifth label is with the locality Bruxelles after Wesmael, sixth label is the lectotype card and seventh label is the neotype card (the labels 5-7 were attached by me). -- Neotype (or lectotype) is in good condition: (1) micropinned (pin thick); (2) right flagellum deficient, i.e. with 10 flagellomeres; (3) right hind leg (except coxa + trochanter) missing; (4) left hind wing torn and edificant medially.

Designation of the nine ♀ and seven ♂ paralectotypes of *Bracon satanas*

Labels 1-5 are identical with those of the lectotype except the second label with numbers 2036-2038; sixth labels are the paralectotype cards and seventh labels are with the actual name *B. exhilarator* (labels 6-7 are attached by me). One ♀ and one ♂ are representing the nominate form. Varieties by Wesmael (l.c.): var. 1: one ♀ + three ♂♂, var. 2: four ♀♀, var. 3: two ♀♀ (the var. 3. in Wesmael’s labels are “var. 2.”, certainly a slip of pen). One ♀ paralectotype is *Habrobracon hebetor* (Say, 1836) (= *H. brevicornis* Wesmael, 1838). One ♂ paralectotype (“var. 1.”) is *Bracon (Lucobracon) sphaerocephalus* Szépligeti and two ♂ paralectotypes (“var. 1.”) are *B. (Lu) ?subhylobii* Tobias, they are labelled accordingly. -- The paralectotypes are in good condition: (1) micropinned (pin thick); (2) flagelli partly deficient or missing.

Material examined

147 ♀♀ + 52 ♂♂ from twenty-four countries: SCOTLAND: 9 ♀♀ + 2 ♂♂ from ten localities. ENGLAND: 15 ♀♀ + 2 ♂♂ from thirteen localities. DENMARK: 4 ♀♀ + 1 ♂ from three localities. NORWAY: 1 ♂. SWEDEN: 6 ♀♀ + 3 ♂♂ from nine localities. FINLAND: 7 ♀♀ + 1 ♂ from eight localities. FRANCE: 1 ♀. BELGIUM: 2 ♀♀ from two localities. THE NETHERLANDS: 4 ♀♀ + 1 ♂ from four localities. GERMANY: 9 ♀♀ + 4 ♂♂ from twelve localities. SWITZERLAND: 4 ♀♀ + 2 ♂♂ from five localities. AUSTRIA: 5 ♀♀ + 1 ♂ from six localities. BOHEMIA: 3 ♀♀ + 1 ♂ from three localities. SLOVAKIA: 9 ♀♀ + 2 ♂♂ from six localities. HUNGARY: 36 ♀♀ + 11 ♂♂ from fortyone localities. ROMANIA (Transsylvania): 7 ♀♀ + 2 ♂♂ from six localities. ITALY: 2 ♂♂ from two localities. BULGARIA: 5 ♀♀ + 2 ♂♂ from six localities. TURKEY: 1 ♀. EUROPEAN RUSSIA: 1 ♀ + 1 ♂ from two localities. GEORGIA: 2 ♂♂ from two localities. ARMENIA: 1 ♂. MONGOLIA: 7 ♀♀ + 4 ♂♂ from eleven localities. KOREA: 12 ♀♀ + 6 ♂♂ from thirteen localities.

Description of the ♀ neotype of *Bracon exhilarator* Nees (identical with the ♀ lectotype of *B. satanas* Wesmael) (Fig. 57A-K)

LENGTH. Body 3.6 mm long.

ANTENNAE. As long as body and with 33 antennomeres. First flagellomere 2.2 times, further flagellomeres faintly attenuating so that penultimate flagellomere 1.75 times as long as broad (Fig. 57A).

HEAD. In dorsal view transverse (Fig. 57B) almost 1.9 times as broad as long, eye almost 1.7 times as long as temple, temple rather receded, occiput weakly excavated. Eye in lateral view 1.5 times as high as wide and almost 1.3 times wider than temple (Fig. 57C, see arrows). Horizontal diameter of oral opening 1.5 times longer than shortest distance between opening and compound eye; cheek converging (Fig. 57D). Head polished.

MESOSOMA. In lateral view 1.25 times as long as high, polished. Notaulix weakly distinct. Propodeum along medio-longitudinal line with rugae-rugulae, carina indistinct, otherwise polished (Fig. 57E).

LEGS. Hind femur 2.8 times as long as broad distally, almost parallel-sided (Fig. 57F). Claw fairly thick, less curved and its basal lobe small (Fig. 57G).

WINGS. Forewing as long as body. Pterostigma (Fig. 57H) four times as long as wide and issuing *r* just proximally from its middle, *r* a bit longer than width of pterostigma. Second submarginal cell long and

narrowing distally, 3-SR one-sixth (or 1.3 times) longer than 2-SR; SR1 straight, almost twice as long as 3-SR and reaching tip of wing. First discal cell fairly wide, 1-M 1.5 times as long as *m-cu*; 1-SR-M bent and almost 1.5 times as long as 1-M (Fig. 57I).

TERGITES. First tergite (Fig. 57J) 1.2 times as long as broad behind, evenly broadening posteriorly, scutum behind uneven-rugulose, margin of scutum crenulate. Second tergite 2.3 times as broad as long laterally, antero-medially with longitudinal striateform sculpture, otherwise together with further tergites polished. Tergites 2-3 of equal length, suture between them weakly bisinuate, smooth. Hypopygium less pointed, ovipositor sheath somewhat shorter than hind tibia (Fig. 57K).

COLOUR. Ground colour of body dark brown to black. Palpi brown. Antenna dark brown. Tegula brown. Second tergite latero-posteriorly with a pair of brownish yellow maculae. Distal two-thirds of fore femur and tibia yellow. Proximal third of hind tibia brownish yellow. Tarsi yellow with brownish fumous tint. Wings subfumous, pterostigma and veins brown.

Redescription (or variabilities) of the eight ♀ paralectotypes of *B. satanas* (junior synonym of *B. exhilarator*) (Figs 57F, L; 58A-C)

Similar to the ♀ neotype of *B. exhilarator*. Body 3-4.1 mm long (3: 2 ♀♀, 3.2: 1 ♀, 3.6: 3 ♀♀, 4: 1 ♀, 4.1: 1 ♀). Antenna with 26 and 32 antennomeres. Temple rather rounded (2 ♀♀, Fig. 57L). Propodeum with a weak medio-longitudinal carina (Fig. 58A). Hind femur 2.8-3.1 times as long as broad medially or distally (Figs 57F; 58B). Pterostigma issuing *r* clearly proximally from its middle (1 ♀, Fig. 58C).

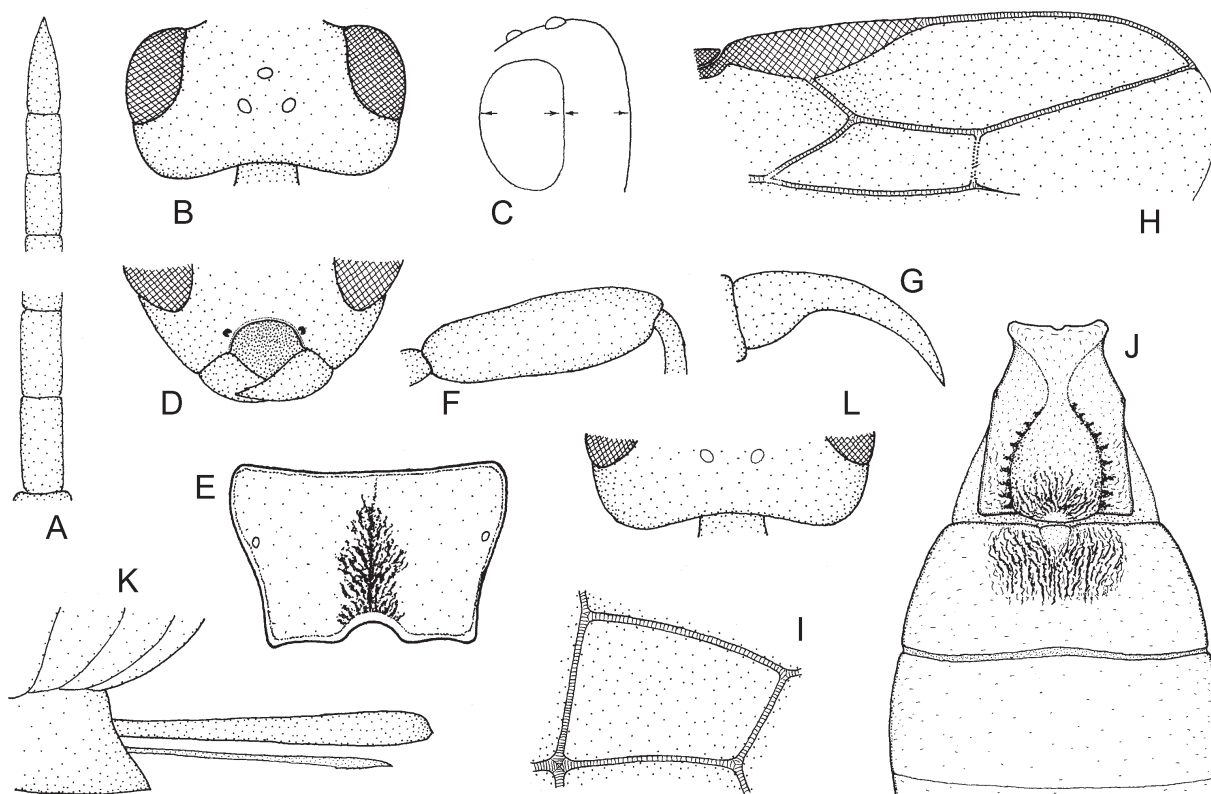


Fig. 57. *Bracon* (*Glabrobracon*) *exhilarator* Nees, 1834 (A-K: ♀ neotype, L: ♀ paralectotype of *B. satanas*). A. Flagellomeres 1-2 and ultimate three flagelomeres. B. Head in dorsal view. C. Head in lateral view. D. Head in frontal view. E. Propodeum. F. Hind femur. G. Claw. H. Distal part of right forewing. I. First discal cell of right forewing. J. Tergites 1-3. K. Hind end of ♀ metasoma. L. Hind half of head in dorsal view.

First tergite 1.2-1.3 times as long as broad behind. Legs with much light colour (“var. 3” by Wesmael): brownish yellow: fore leg (except coxa), middle and hind tibiae; rusty brown: middle and hind femora.

Redescription (or variabilities) of four ♂ paralectotypes of *B. satanas* (Fig. 58A, E-G)

(further three ♂ paralectotypes representing three other species, see designation of the paralectotypes) Similar to the ♀ types. Body 2.8-3.8 mm long (2.8: 1 ♂, 3: 2 ♂♂, 3.8: 1 ♂). Antenna somewhat longer than to as long as body and with 38 (1 ♂), 31 (1 ♂) and 30 (1 ♂) antennomeres. Propodeum with carina (2 ♀♀, cf. Fig. 58A) or only around lunule with short rugae (Fig. 58E). Hind femur 3.3 times as long as broad dorsally (1 ♂, Fig. 58F). First tergite parallel-sided (1 ♂) and 1.5 times as long as broad behind; second tergite less transverse, 1.6 times as broad behind as long laterally; third tergite somewhat shorter than second tergite, suture between them almost straight (Fig. 58G). Corporal colour similar to the nominate form.

Variable features of the ♀ (147 ♀♀) (Figs 8B; 12C, F; 49A; 58I-J; 59A-B)

Body 3.4-4 mm long, usually 3.5-3.8 mm, long. Antenna with 23-37, usually with 27-34, antennomeres. Head in dorsal view (1.7-)1.75-1.85 times as broad as long (cf. Fig. 8B), temple somewhat receded (6 ♀♀, cf. Fig. 49A). Propodeum polished with more or less distinct carina to rugo-rugulosity of variable extent (Fig. 58H, cf. Fig. 12C). Pterostigma 3.3 times to 4 times as long as wide, issuing *r* just from its middle (cf. Fig. 12F). Fore wing: second submarginal cell fairly long, 3-SR 1.3-1.5 times as long as 2-SR (Fig. 58I-J). First tergite less narrowing anteriorly, rugosity of second tergite of variable extent and strength (Figs 57J; 59A); third tergite rugulose basally (18 ♀♀, Fig. 59B). Ovipositor sheath more or

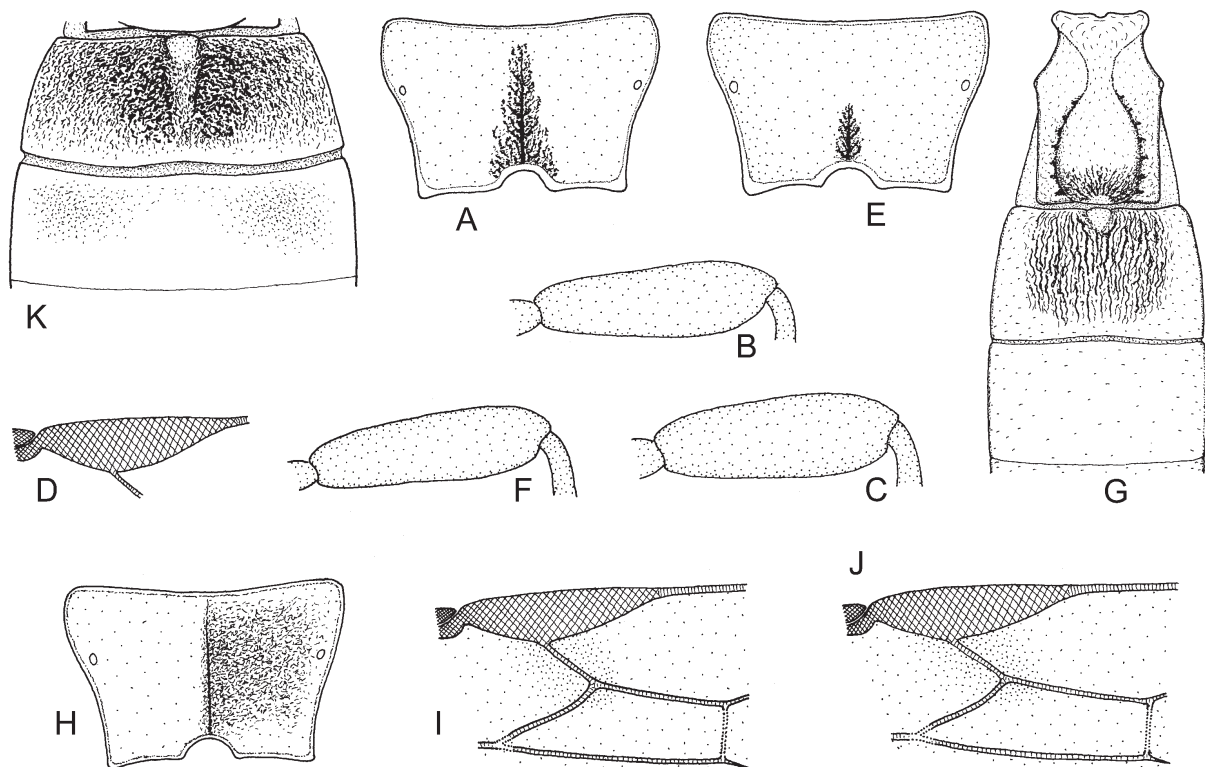


Fig. 58. — A-J. *Bracon* (*Glabrobracon*) *exhilarator* Nees, 1834 (= *B. satanas* Wesmael, 1838, A-D: ♀ paralectotype and E-G: ♂ paralectotype; *B. exhilarator* H-J: ♀ / ♂). A. Propodeum. B-C. Hind femur. D. Pterostigma of right forewing. E. Propodeum. F. Hind femur. G. Tergites 1-3. H. Propodeum. I-J. Pterostigma, *r* and second submarginal cell (I: 3-SR 1.3 times and J: 3-SR 1.5 times as long as 2-SR). — K. *Bracon* (*Lucobracon*) *erraticus* var. *superciliosus* (Wesmael, 1838), ♀ holotype, tergites 2-3.

less longer than hind tibia. Second (and third) tergite(s) more or less brownish to yellow. Femora and tibiae variably brownish to brownish yellow.

Variable features of the ♂ (52 ♂♂) (Figs 57H; 58G, I-J; 59C)

Body 3-4 mm long. Antenna longer than body and with 27-39, usually 30-36, antennomeres. Flagellomeres (1.5-)2-2.3 times as long as broad. Head in dorsal view (1.6-)1.7 (Fig. 59C) to 1.8 times as broad as long. Hind femur 2.7-3 times as long as broad distally. Fore wing: second submarginal cell long as in ♀ (Figs 57H; 58I-J). First tergite frequently (sub)parallel-sided and 1.3-1.5 times longer than than broad behind and second tergite less broad (Fig. 58G). Either second tergite or second and third tergites brownish yellow. Legs more or less with brownish to yellow pattern.

Hosts

COL. Curculionidae: *Omphalapion hookeri* Kirby. — LEP. Tortricidae: *Acleris rhombana* Denis & Schiffermüller. — DIPT. Scatophagidae: *Nanua* (= *Amaurosoma*) *sp.*, Tephritidae: *Platyptera poeciloptera* Schrank. Every host needs to be confirmed.

Distribution

Palearctic Region, a frequent to common species in Europe.

Taxonomic position

Within the subgenus *Glabrobracon* the species *Bracon exhilarator* Nees is nearest to *B. curticaudis* Szépligeti and *B. terebella* Wesmael viewing their short ovipositor sheath and less sculptured to smooth tergites; the three species are distinguished by the following features:

- (2) Propodeum medio-longitudinally with a more or less distinct carina, otherwise propodeum rugo-rugulose to variable extent (Figs 57E; 58A, E, H). Claw with weak basal lobe and moderately curved (Fig. 57G). Pterostigma less wide, 3.3-4 times as long as wide, second submarginal cell relatively narrow (Figs 57H; 58I-J). Female and ♂ tergites 1-3 as in Figs 57J; 58G; 59A. Black, tergites 2-3

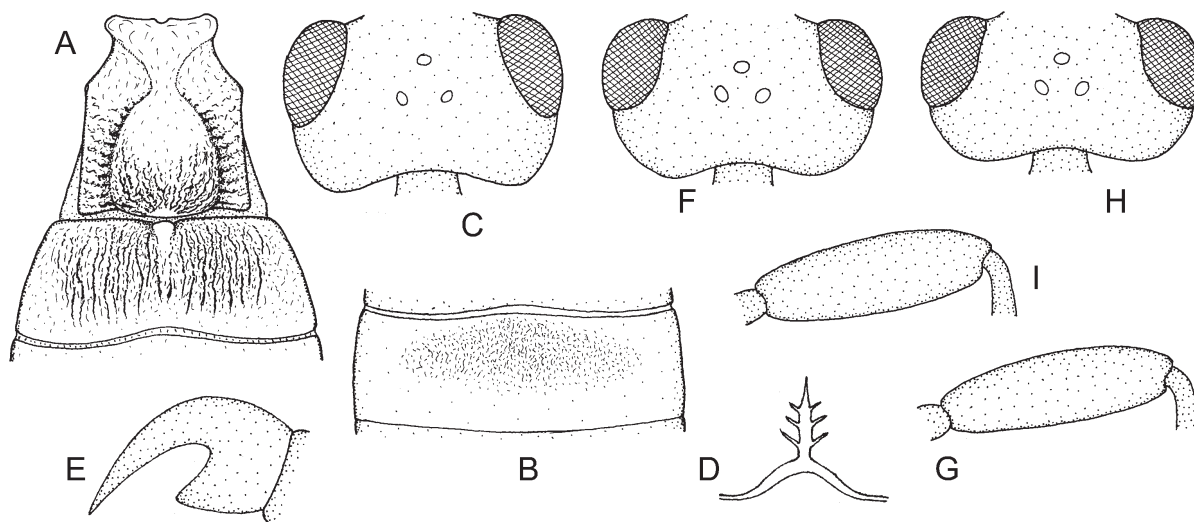


Fig. 59. — A-C. *Bracon (Glabrobracon) exhilarator* Nees, 1834, ♀. A. Tergites 1-2. B. Second tergite. C. Head in dorsal view. — D-E. *Bracon (Glabrobracon) curticaudis* Szépligeti, 1901, ♀ lectotype. D. Lunule and carina of propodeum. E. Claw. — F-I. *Bracon (Bracon) intercessor* Nees, 1834 var. *laetus* (Wesmael, 1838) (F-G: nominiae form, H-I: var. *laetus*). F. Head in dorsal view. G. Hind femur. H. Head in dorsal view. I. Hind femur.

- laterally with brownish to brownish yellow maculae of variable extent. Legs blackish to brown with much yellowish pattern. ♀♂: 3-4 mm*B. (Gl.) exhilarator* Nees, 1834
- 2 (1) Propodeum without medio-longitudinal carina, at most above lunule with a short keel (Figs 48E; 59D). Claw with basal lobe and clearly curved (Figs 50A; 59E). Pterostigma wide, 2.3-2.6 times as long as wide, second submarginal cell relatively wide (Figs 48G; 59B). The distinction of *B. curticaudis* and *B. terebella* see at the latter species
.....*B. (Gl.) curticaudis* Szépligeti, 1901 and *B. (Gl.) terebella* Wesmael, 1838

Taxonomic remark

Bracon exhilarator resembles *B. longicollis*; however, the latter species is assigned to the subgenus *Bracon s. str.*, i.e. tergites 1-4 to 1-7 with sculpture of variable strength. Sometimes the rugo-rugolosity of the tergites of *B. longicollis* extremely weakens so that beyond the (second or) third tergites the metasoma is either chagreened-uneven or smooth; i.e. these specimens are transitional to the subgenus *Glabobracon*. These weakly sculptured specimens of *B. longicollis* are hard to separate from *B. exhilarator* (the ovipositor sheath of both species are short):

- 1 (2) Claw downcurved and with large basal lobe (Fig. 18F). Second tergite medially rugose, laterally rugo-rugulose, third tergite rugulose to uneven (Figs 18I; 20A, K). Hind femur thickening, i.e. its contour somewhat less parallel (Figs 18E; 19B, D). Cheek in frontal view weakly converging (Fig. 18C). Black with much light colour on head, meso- and metasoma. ♀♂: 3-5 mm.....
.....*B. (B.) longicollis* Wesmael, 1838
- 2 (1) Claw weakly curved and with small basal lobe (Fig. 57G). Second tergite with longitudinal striateform sculpture, third tergite smooth (Figs 57J; 58G; 59A). Hind femur less thickening, i.e. its contour nearly parallel (Figs 57F; 58B-C, F). Cheek in frontal view converging (Fig. 57D). Black with less light pattern on tergites 2-3. ♀♂: 3-4 mm.....*B. (Gl.) exhilarator* Nees, 1834

Bracon (Bracon) fulvipes Nees, 1834

Figs 60A-J, 61A-E

Bracon fulvipes Nees, 1834: 74 ♀♂ (number of type specimens uncertain), type locality: “prope Sickershausen” (Germany), type series destroyed.

Bracon (Striobracon) kiritshenkoi Telenga, 1936: 159 (in key), 235 (description) (in Russian) and 361 (in key), 393 (description) (in German) ♀, type locality: “Dagestan” (European Russia), type series in Zoological Institute, Saint Petersburg; not examined.

Bracon (Striobracon) sylvanus Greese, 1928: 154 ♀, type locality: “Darniza (Bezirk Kiew)” (Ukraine), type series in ?Zoological Institute, Kiew or ?Zoological Institute, Sankt Petersburg; not examined.

Bracon fulvipes – Wesmael 1838: 26 ♀♂ (first reviser, redescription). — Szépligeti 1901: 183 (in key, in Hungarian); 1904 (1901): 159 (♀), 163 (♂) (in key, in German).

Bracon (Orthobracon) fulvipes – Fahringer 1927: 265, 266 (♀), 276 (♂) (in key) and 389 (redescription), assigned to “Section *Orthobracon*” — Tobias 1961: 165 (redescription).

Bracon (Striobracon) fulvipes – Telenga 1936: 159 (♀), 167 (♂) (in key), 236 (redescription) (in Russian) and 361 (♀), 369 (♂) (in key, in German), assigned to “Section *Striobracon*” (= *Bracon s. str.*).

Bracon (Bracon) fulvipes – Papp 1968: 193 (in key), 198 (taxonomy, assigned first to subgenus *Bracon*). — Shenefelt 1978: 1485 (literature up to 1974). — Tobias 1986: 127 (in key, in Russian). — Tobias & Belokobylskij 2000: 130, 135 (in key, in Russian).

Bracon (Striobracon) kiritshenkoi – Tobias 1986: 127 (in key, synonymization).

Bracon (Striobracon) sylvanus – Tobias 1961: 165 (synonymization).

Taxonomic remarks

1) On the basis of the description the name *B. parvus* Niezabitowski, 1910: 12 (56) and 18 (62) (type locality: "Rytró", Poland) seems to be a junior synonym of *B. fulvipes*.

2) *Bracon fulvipes* Nees: Wesmael 1838: 26 ♀♂. Wesmael's series (22 ♀♀ + 11 ♂♂) of this species was taken in Belgium: 19 ♀♀ + 11 ♂♂ in the environment of Brussels (in the original description this locality is not indicated; however, it is well-known that Wesmael's collecting site was "environs de Bruxelles" frequently visited) and 3 ♀♀ in the environment of Liège. I have examined 16 ♀♀ and 3 ♂♂ of this series (one ♀ with the name label det. Wesmael and the rest of ♀♀ with the name label det. Marshall). The single ♀ with the name label *Bracon fulvipes* det. Wesmael was selected and designated here as the ♀ neotype of *B. fulvipes*, its locality is Liège, Belgium. 11 ♀♀ (+ 1 ♀ missing from the micropin)) + 3 ♂♂ received the name *B. fulvipes* and, furthermore, 1 ♀ proved to represent *B. erraticus* as well as 2 ♀♀ proved to represent *B. intercessor* Nees. Supposedly this series (12 + 1 + 2 ♀♀ and 3 ♂♂) belong to the original series (19 ♀♀ + 11 ♂♂) by Wesmael (indicated before); however, labelled as "det. Marshall" of unknown reason.

Designation of the ♀ neotype of *Bracon fulvipes* Nees sensu Wesmael

(first label, printed) "Coll. Wesmael"; (second label, printed) "2048"; (third label) "Braco fulvipes" (handscript) "dét. C. Wesmael" (printed); fourth label is the locality "Belgique / LiègeLiège / leg. M. Carlier" and the fifth label is the neotype card (fourth and fifth labels were attached by me). Neotype is in good condition: (1) pinned by mesosoma (hind half of mesoscutum invisible owing to the thick

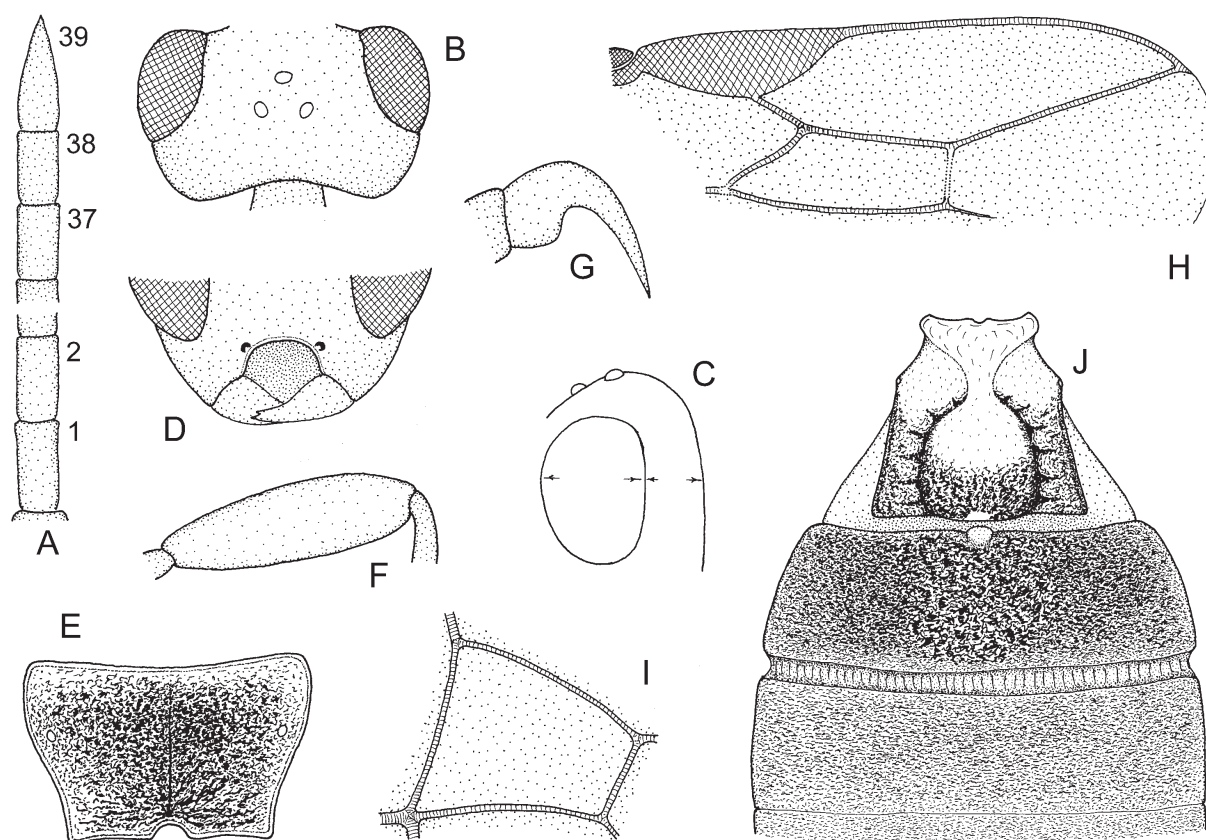


Fig. 60. *Bracon (Bracon) fulvipes* Nees, 1834, ♀ neotype. **A.** First two and ultimate three flagellomeres. **B.** Head in dorsal view. **C.** Head in lateral view. **D.** Head in frontal view. **E.** Propodeum. **F.** Hind femur. **G.** Claw. **H.** Distal part of right forewing. **I.** First discal cell of right forewing. **J.** Tergites 1-3.

pin, pin somewhat covered with copper vitriol crystals); (2) left antenna apically deficient, i.e. with 31 antennomeres; (3) fifth tarsomere of right hind leg missing.

Material examined

103 ♀♀ + 55 ♂♂ from 27 countries: IRELAND: 1 ♀. SCOTLAND: 2 ♀♀ from two localities. ENGLAND 4 ♀♀ + 3 ♂♂ from five localities. THE NETHERLANDS: 8 ♀♀ + 2 ♂♂ from five localities. SWEDEN: 1 ♀. DENMARK: 1 ♀ + 1 ♂ from two localities. GERMANY: 5 ♀♀ + 4 ♂♂ from six localities. SWITZERLAND: 1 ♀. POLAND: 1 ♂. BOHEMIA: 4 ♀♀ + 1 ♂ from five localities. SLOVAKIA: 3 ♀♀ + 1 ♂ from four localities. HUNGARY: 55 ♀♀ + 19 ♂♂ from 62 localities. ROMANIA: 5 ♀♀ + 8 ♂♂ from ten localities. SPAIN: 2 ♀♀ from two localities. ITALY: 1 ♀. KOSOVO: 2 ♂♂ from one locality. MACEDONIA: 1 ♂. SERBIA: 1 ♀. BULGARIA: 2 ♀♀ + 2 ♂♂ from four localities. TURKEY: 1 ♂. ALGERIA: 2 ♀♀ from two localities. TUNISIA: 3 ♀♀ + 3 ♂♂ from one locality. UKRAINE: 1 ♂. EUROPEAN RUSSIA: 1 ♂. GEORGIA: 1 ♂. IRAN: 2 ♂♂ from two localities. KOREA: 2 ♀♀ + 1 ♂ from two localities.

Description of the ♀ neotype of *B. fulvipes* (Figs 60A-J; 61A)

LENGTH. Body 4.8 mm long.

ANTENNAE. (right one) Shorter than body and with 38 antennomeres. First flagellomere twice and penultimate flagellomere 1.6 times as long as broad (Fig. 60A).

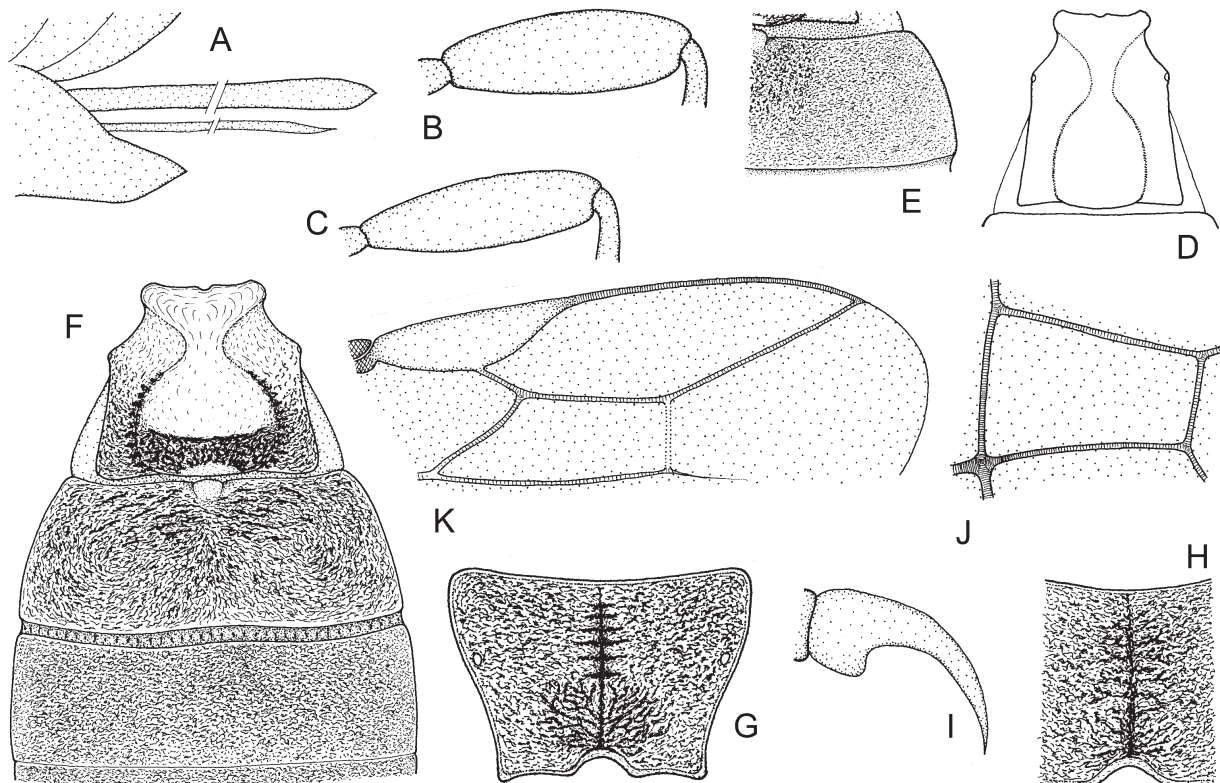


Fig. 61. — A-E. *Bracon (Bracon) fulvipes* Nees, 1834 (A: ♀ neotype, B-C, E: ♀, D: ♀ / ♂). A. Hind end of metasoma. B-C. Hind femur. D. First tergite. E. Right half of second tergite. — F-K. *Bracon (Bracon) schmidti* Kokujev, 1912, ♀ lectotype. F. Tergites 1-3. G. Propodeum. H. Middle part of propodeum. I. Claw. J. First discal cell of right forewing. K. Distal part of right forewing.

HEAD. In dorsal view transverse (Fig. 60B), 1.7 times as broad as long, eye 1.8 times longer than temple, temple receded, occiput weakly excavated. OOL almost twice as long as POL. In lateral view eye 1.4 times as high as wide and 1.7 times wider than temple, temple ventrally somewhat broadening (Fig. 60C). Oral opening: its horizontal diameter 1.3 times as long as shortest distance between opening and compound eye (Fig. 60D). Head polished, face and frons shagreened and dull.

MESOSOMA. In lateral view elongated, 1.5 times as long as high, polished. Notaulix distinct. Propodeum rugulo-rugose, medio-longitudinal carina less distinct (Fig. 60E).

LEGS. Hind femur 3.1 times as long as broad distally (Fig. 60F). Claw downcurved, its basal lobe less distinct (Fig. 60G).

WINGS. Forewing as long as body. Pterostigma (Fig. 60H) 2.8 times as long as wide and issuing *r* distally from its middle, *r* 0.7 times as long as width of pterostigma. Second submarginal cell fairly long, *3-SR* 1.4 times longer than *2-SR*, *SR1* straight, 1.7 times as long as *3-SR* and reaching tip of wing. First discal cell usual in size, *1-M* twice as long as *m-cu*, *1-SR-M* bent anteriorly and somewhat longer than *1-M* (Fig. 60I).

TERGITES. First tergite quadrate in form (Fig. 60J), just broader behind than long, beyond pair of spiracles moderately broadening, scutum behind rugose, margin of scutum with crenulae. Second tergite nearly 2.8 times as broad as long medially, suture between tergites 2-3 straight, deep and finely crenulated. Third tergite somewhat shorter than second tergite. Second tergite rugose, further tergites transversely rugulose (Fig. 60J). Hypopygium pointed, ovipositor sheath long, as long as hind tibia + hind tarsomeres 1-2 combined (Fig. 61A).

COLOUR. Ground colour of head and metasoma with black pattern, mesosoma black. Scape blackish brown, pedicel reddish, flagellum greyish brown. Ocellar field widely black. Mandible yellow, apically blackish, palpi with brownish tint. Lateral part of pronotum and pair of antero-lateral maculae on declivous part of mesoscutum yellow. Tegula pale yellow. First tergite entirely and median maculae of tergites 2-4 black to blackish. Legs yellow, fifth tarsomeres brownish. Wings faintly brownish fumous, pterostigma and veins brown.

Variable features of eleven ♀♀ det. Marshall in Wesmael's Collection (Fig. 61B-E)

Body 4-5 mm long. Antenna with 30-38 antennomeres (1 ♀: 30, 1 ♀: 31, 1 ♀: 32, 1 ♀: 33, 1 ♀: 38). Hind femur 2.7 times (1 ♀, Fig. 61B) and 3.3 times (1 ♀, Fig. 61C) as long as broad distally. First tergite slightly longer than broad behind (2 ♀♀, Fig. 61D). Tergites with weak sculpture: first tergite rugose, second tergite antero-medially rugulose, otherwise together with third tergite weakly granulose (2 ♀♀, Fig. 61E). Mesosoma with much reddish yellow pattern.

Variable features of the ♀ (103 ♀♀) (Fig. 61D, F)

Body (2.5-)3-5(-5.5) mm long. Antenna about as long as body and with 26-41, usually 30-37, antennomeres. Flagellum attenuating distally, flagellomeres (1.5-)1.7-1.8 times as long as broad. Head in dorsal view 1.7-1.85, usually 1.75-1.8, times as broad as long. Hind femur 2.6-3(-3.4) times as long as broad distally. First tergite somewhat broader behind than long (6 ♀♀, cf. Fig. 61F), or somewhat longer than broad behind (Fig. 61D). Tergites 3-6 weakly rugulose (16 ♀♀) to uneven (7 ♀♀). Ovipositor sheath short, i.e. as long as hind tibia (18 ♀♀) to long, i.e. as long as hind tibia + tarsus combined (11 ♀♀).

Variable features of the ♂ (55 ♂♂) (Fig. 61D, F; 64G)

Similar to the ♀. Body 2.3-4.5(-5) mm long. Antenna somewhat longer than body and with 27-42, usually 34-39, antennomeres. Flagellum just attenuating distally, flagellomeres 1.7-2 times as long as broad. Head in dorsal view 1.6-1.8 times as broad as long, temple rather rounded (14 ♂♂, cf. Fig. 64G). Hind femur 2.5-3 times as long as broad distally. First tergite usually somewhat longer than broad behind (Fig. 61D). Second tergite longer than third tergite (cf. Fig. 61F). Sculpture of tergites 2-6 variable: rugose to uneven. Body usually with much dark, i.e. dark brown to black, colour pattern.

Bracon (Bracon) fulvipes var. *carinatus* (Szépligeti, 1901)

Bracon carinatus Szépligeti, 1901: 183 (in key), 272 (description) (in Hungarian), 1904 (1901): 159 (in key), 166 (description) (in German) ♀, type locality: “Budapest” (Hungary), ♀ lectotype (designated by Papp in 1968) in Magyar Természettudományi Múzeum, Budapest; examined.

Bracon carinatus – Tobias 1961: 165 (synonymization: “a form” of *B. fulvipes*). — Papp 2004: 172 (type depository, synonymization as *B. fulvipes* var. *carinatus* Szépligeti, stat. nov), 2008: 1785 (taxonomy).

Material examined

24 ♀♀ + 8 ♂♂ from five countries: SPAIN: 1 ♀ + 1 ♂ from one locality. GREECE: 3 ♀♀ from two localities. HUNGARY: 18 ♀♀ + 7 ♂♂ from fifteen localities. EUROPEAN RUSSIA: 1 ♀. MONGOLIA: 1 ♀.

The var. *carinatus* (Szépligeti) deviates from the nominate form by the colour pattern

nominate form

ground colour of body reddish yellow to testaceous with much dark brown to black pattern on head, meso- and metasoma of variable extent; hind femur usually reddish yellow, sometimes variably darkening.

variate form

ground colour of body reddish yellow to testaceous with a few dark, i.e. brown to blackish, pattern on ocellar field, propodeum, first tergite; mesoscutum either entirely light coloured or antero-median dark macula more or less present.

Hosts

COL. Apionidae: *Cistapion cyanescens* Gyllenhal, *Melanapion minimum* Herbst. Attelabidae: *Byctiscus populi* Linnaeus. Rhynchites *betuleti* Linnaeus. Curculionidae: *Curculio villosus* Fabricius. Mononychus *punctumalbum* Herbst. — LEP. Coleophoridae: *Coleophora coronillae* Zeller. Glyphipterigidae: !*Glyphipteryx simpliciella* Stephens. Aegeriidae: *Paranthrene tabaniformis* Rottemburg. Noctuidae: *Coenobia rufa* Haworth. — DIPT. Cecidomyiidae: !*Giraudiella inclusa* Herrich-Schäffer. Lonchaeidae: *Lonchaea lonchaeoides* Zetterstedt. — HYM. Eurytomidae: *Tetramesa brevicollis* Walker, *T. hyalipennis* Walker, *T. maritima* Hedicke. Cynipidae: ?*Andricus terminalis* Fabricius, ?*Biorhiza pallida* Olivier.

Taxonomic position

Within the subgenus *Bracon* s. str. the species *B. fulvipes* is nearest to *B. alutaceus* Szépligeti (Europe, China: “Turkestan”) and *B. schmidtii* Kokujev (Azerbaijan, Uzbekistan, Iran, Cyprus) viewing their common features: propodeum rugose, strong sculpture of tergites 1-2 and legs yellow or reddish yellow (head and metasoma with rich reddish yellow pattern); the three species are distinguished as follows:

- 1 (2) First tergite just broader behind than long (Fig. 60J), minute deviations feasible. Propodeum rugose with scrobiculate elements, its medio-longitudinal carina weak (Fig. 60E). Claw clearly downcurved

(Fig. 60G). First discal cell high, *l-m* twice as long as *m-cu* (Fig. 60I). Pterostigma brown (Fig. 60H). Mesosoma black, exceptionally with few reddish yellow or rusty pattern; body with much reddish yellow to testaceous pattern (var. *carinatus* Szépligeti). ♀♂: (2.5-)3-5 mm

.....*B. (B.) fulvipes* Nees, 1834

2 (1) First tergite 1.2-1.25 times broader behind than long, i.e. clearly broadening posteriorly (Figs 61F; 62A). Propodeum with striate elements, its medio-longitudinal carina distinct (Fig. 61G-H). Claw less clearly downcurved (Figs 61I; 62C). First discal cell less high, *l-m* 1.6-1.7 times as long as *m-cu* (Fig. 61J; 62D). Pterostigma yellow (Figs 61K; 62E)

3 (4) Propodeum densely rugose, its medio-longitudinal carina issuing anteriorly short and transverse carinulae (Fig. 61G-H). Claw faintly curved, its basal lobe small (Fig. 61I). Second tergite with a characteristic "circular" rugosity (Fig. 61F). Forewing: *SRI* approaching tip of wing (Fig. 61K). Body reddish yellow, propodeum and tergites 1-2 with black(ish) pattern. ♀: 3.5 mm

.....*B. (B.) schmidtii* Kokujev, 1912

4 (3) Propodeum uneven to smooth, its medio-longitudinal carina issuing curved and long striate elements (Fig. 62B). Claw curved, its basal lobe large (Fig. 62C). Second tergite antero-medially rugose, otherwise rugulose (Fig. 62A). Forewing: *SRI* reaching tip of wing (Fig. 62E). Body reddish yellow, propodeum and tergites medially blackish to black; body with much black pattern (var. *polonicus* Fahringer). ♀: (2.8-)3-4 mm, ♂: 2.5-3 mm..... *B. (B.) alutaceus* Szépligeti, 1901

***Bracon (Glabrobracon) immutator* Nees, 1834**

Figs 63A-I, 64A-F

Bracon immutator Nees, 1834: 76 ♀♂ (type material: several ♀♀ and ♂♂, destroyed), type locality: "prope Sickershausen" (Germany).

Braco brevisculus Wesmael, 1838: 21 ♀ (type material: "deux femelles"), type locality: "dans le bois de la Cambre près de Bruxelles" (Belgique), ♀ lectotype (+ one ♀ paralectotype, present designations) in the Royal Belgian Institute of Natural Sciences, Brussels; examined, **syn. nov.**

Bracon efoveolatus Thomson, 1894: 1819 ♀♂ (type material: one ♀ and one ♂), type locality: "Yddingen" (Sweden), ♂ lectotype (and one ♀ paralectotype, designated by Papp l.c.) in Zoological Museum, Lund; examined.

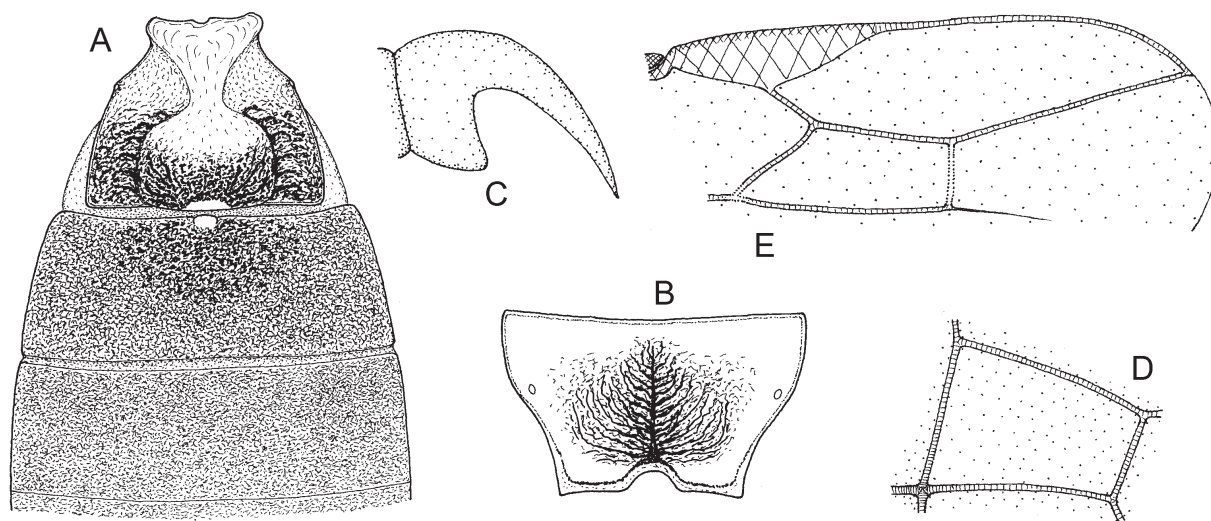


Fig. 62. *Bracon (Bracon) alutaceus* Szépligeti, 1901, ♀ lectotype. **A.** Tergites 1-3. **B.** Propodeum. **C.** Claw. **D.** First discal cell of right forewing. **E.** Distal part of right forewing.

Bracon hemirugosus Szépligeti, 1901: 261 (in key), 275 (description) (in Hungarian) and 1904 (1901): 160 (in key), 168 (description) (in German), type locality: “Budapest” (Hungary), ♀ lectotype (and two ♀ + one ♂ paralectotypes) in Magyar Természettudományi Múzeum, Budapest; examined.

Braco immutator – Wesmael 1838: 16 (first reviser, redescription), 9 ♀♀ and 9 ♂♂: one ♀ the neotype, neotype locality: “environs de Bruxelles” (Belgium), ♀ neotype (present designation) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon immutator – Szépligeti 1901: 265 (in key, in Hungarian); 1904 (1901): 177 (in key, in German). — Shenefelt 1978: 1636 (in subgenus *Orthobracon*, literature up to 1974).

Bracon (Lucobracon) immutator – Fahringer 1927: 256, 263 (♀), 258 (♂) (in key) and 358 (redescription), assigned to “Section Lucobracon”. — Telenga 1936: 174 (♀), 179 (♂) (in key), 289 (redescription) (in Russian) and 377 (♀), 382 (♂) (in key, in German).

Bracon (Bracon) immutator – Tobias 1986: 129 (in key, in Russian). — Tobias & Belokobylskij 2000: 136 (in key, in Russian).

Bracon brevisculus – Shenefelt 1978: 1628 (as valid species, literature up to 1971).

Bracon efoveolatus – Telenga 1936: as valid species 175 (in key), 290 (redescription) (in Russian) and 377 (in key, in German). — Papp 1969b: 199 (as synonym of *B. immutator*, type designations). — Shenefelt 1978: 1636 (as synonym of *B. immutator* after Papp l.c., literature up to 1941). Tobias 1986: not included.

Bracon hemirugosus – Papp 1968: 200 (one ♀ “type-specimen” synonymized with *B. intercessor* var. *fallaciosus* (Szépligeti), invalid. — Shenefelt 1978: 1491 (as valid species, literature up to 1974). — Tobias 1986: 125 (synonymized with *B. intercessor* Nees). — Papp 2004: 176 (types condition and depository), 2008: 1786 (synonymization).

Designation of the ♀ neotype of *B. immutator*

(First label, printed) “Coll. Wesmael”; (second label, printed) “2044”; (third label) “Braco immutator Nees ♂♀” (handwritten) “dét. C. Wesmael” (printed); (fourth label with my handwriting) “Belgique / Bruxelles V-VI / leg. Wesmael” (above on label) “teste J. Papp 1987” (reverse on label); fifth label is the neotype card. (Fourth and fifth labels were attached by me). Six ♀ and five ♂ specimens, identified by Wesmael as *Braco immutator* Nees with similar label data to that of the neotype, are without type status. Neotype is in good condition: (1) micropinned by mesosoma; (2) hind left leg, except coxa + trochanter, missing; (3) left antenna deficient, i.e. with 21 antennomeres. The designation of the neotype was needed because of (1) the destruction of the Nees Collection in Bonn (at the end of the Second World War) and (2) the clear distinction of the species standing near to *B. immutator*.

Designation of the ♀ lectotype of *B. brevisculus*

(First label, handwritten, the question-mark in brackets indicates that the number 7 is hardly legible) “29. mai Cambre [?]7”; (second label, printed) “Coll. Wesmael”; (third label, printed) “2046”; (fourth label) “Braco brevisculus mihi ♀” (handwritten) “dét. C. Wesmael” (printed); (fifth label, printed red) “Type”; (sixth label with my handwriting) “Belgique / Bruxelles / 29 V leg. Wesmael” (above on label) “teste J. Papp 1987” (reverse on label); seventh label is the lectotype card. -- Lectotype is in fairly good condition: (1) pinned with thick needle hence mesoscutum partly ad scutellum invisible; (2) flagelli deficient: right flagellum with seven and left flagellum with nineteen flagellomeres; (3) left fore leg (except coxa + trochanter) and tarsomeres 2-5 of left hind leg missing.

One ♀ paralectotype of *B. brevisculus* with similar label data except first label: “29 M” (handwritten). Paralectotype in poor condition: (1) pinned like the lectotype; (2) head and left fore leg (except coxa + trochanter) missing; (3) right fore wing medially (proximal from pterostigma) torn.

Designation of the ♀ lectotype of *B. efoveolatus*

(First small label, handwritten) “Y” (=Yddingen); (second label, attached by me) “Sweden” (printed) “Yddingen” (my handwriting); third label is the paralectotype card and fourth label is with the actual name *B. immutator* Nees given by me. -- Lectotype is in fairly good condition: (1) glued on a small card by left side of metasomal sternites (tarsus of left leg invisible owing to the mounting); (2) both flagelli deficient: right one with 18 and left one with 22 flagellomeres; (3) fifth tarsomere of right middle leg and tarsus of right hind leg missing; (4) pair of ovipositor sheaths missing (stub of left one present).

Designation of the ♂ paralectotype of *B. efoveolatus*

(First small label, printed) “Ö.” (=Öland); (second label attached by me) “Sweden” (printed) “Öland / Skåne” (my handwriting); third label is the paralectotype card and fourth label is with the actual name *B. immutator* var. *efoveolatus* (Thomson) given by me. Paralectotype is in fairly good condition: (1) glued on a small card by the lower part of right meso- and metapleuron; (2) left flagellum missing, right flagellum deficient: with 17 flagellomeres; (3) right fore wing distally torn; (4) tarsomeres 4-5 of left middle leg missing.

A slip of pen in type designations

In my paper (Papp 1969b: 199-200) the designations of the lectotype and paralectotype of *B. efoveolatus* were made by me in reverse sense concerning their localities: the lectotype's locality was assigned as “Öland” and the paralectotype's locality was assigned as “Yddingen, Skåne”; herewith is presented my emendation.

Taxonomic remark

The ♂ paralectotype of *B. efoveolatus* represents the light (or albanic) and less sculptured form of *B. immutator*: lateral part of tergites 1-3 and legs + tegula are pale yellow, rugulosity of the second tergite restricting antero-medially, otherwise together with the third tergite polished (Fig. 64B); this light and weakly sculptured form received the name *B. immutator* var. *efoveolatus* (Thomson). The ♀ lectotype of *B. efoveolatus* is representing the nominate form of *B. immutator*. Further varieties of *B. immutator* see below.

Designation of the ♀ lectotype of *B. hemirugosus*

(First label, printed) “Budapest / Húvösvölgy”; (second label) [1]“900. VI. 14” (Szépliget's handwriting) / “Szépliget” (printed); third label is the lectotype card, fourth label is with the inventory number “371”; fifth label is with the valid name *B. immutator* given by me. Lectotype is in good condition: micropinned by mesosoma.

Designation of the three ♀ paralectotypes of *B. hemirugosus*

(First label, printed) 1 ♀ (no. 372): “Budapest / Húvösvölgy”; 1 ♀ (no. 373): “Budapest” / [leg.] “Kertész”, (reverse on label:) [19]“98. VIII. 14.”; 1 ♀ (no. 374): “Budapest / Zugliget”; (second label) 1 ♀ (no. 372): [1]“897. V. 30” (handwritten) / “Szépliget” (printed); 1 ♀ (no. 373): the second label is the paralectotype card; third label of the ♀♀ (nos 372 and 374) is the paralectotype card; third (no. 373) and fourth labels (nos 372 and 374, respectively) are with the inventory numbers 372-374; last labels are with the actual name *B. immutator* Nees given by me. Paralectotypes are in good condition: (1) micropinned by mesosoma; (2) flagelli partly deficient.

Remark

The three paralectotypes are all ♀♀ (and not two ♀♀ and one ♂, cf. Papp 2004: 176), present emendation.

Material examined

153 ♀♀ + 19 ♂♂ from 17 countries: SCOTLAND: 1 ♀. ENGLAND: 5 ♀♀ from five localities. DENMARK: 3 ♀♀ from three localities. SWEDEN: 5 ♀♀ + 1 ♂ from five localities. FINLAND: 1 ♀. THE NETHERLANDS: 26 ♀♀ from eleven localities. FRANCE: 3 ♀♀ from three localities. GERMANY: 19 ♀♀ from eight localities. SLOVAKIA: 1 ♀. HUNGARY: 61 ♀♀ + 15 ♂♂ from 69 localities. SERBIA: 1 ♂, BOSNIA-HERZEGOVINA: 1 ♀. MACEDONIA: 2 ♀♀ from two localities. BULGARIA: 8 ♀♀ from two localities. ITALY: 6 ♀♀ + 1 ♂ from six localities. EUROPEAN RUSSIA: 2 ♀♀ from one locality. KOREA: 7 ♀♀ + 1 ♂ from four localities.

Description of the ♀ neotype of *B. immutator* (Fig. 63A-I)

LENGTH. Body 2.8 mm long.

ANTENNAE. Right antenna as long as body and with 28 antennomeres. First flagellomere twice and penultimate flagellomere 1.5 times as long as broad.

HEAD. In dorsal view transverse (Fig. 63A), 1.9 times as broad as long, eye 1.6 times as long as temple, temple receded, occiput faintly excavated. Oral opening: its horizontal diameter almost three times as long as shortest distance between opening and compound eye (Fig. 63B). Head polished; face granulose, medially polished.

MESOSOMA. In lateral view 1.4 times as long as high, polished. Propodeum polished, above lunule with a short keel and along it rugose-rugulose (Fig. 63C).

LEGS. Hind femur 3.6 times as long as broad distally (Fig. 63D). Hind claw downcurved and with fairly large basal lobe (Fig. 63E).

WINGS. Forewing as long as body. Pterostigma (Fig. 63F) 2.6 times as long as wide and issuing somewhat proximally from its middle; r 0.8 times as long as width of pterostigma; second submarginal cell of usual length, 3-SR one-fifth longer than 2-SR, SRI almost twice as long as 3-SR, straight and reaching tip of wing. First discal cell of usual height, $I-M$ 1.6 times as long as $m-cu$, 1-SR- M just bent and 1.4 times length of $I-M$ (Fig. 63G).

TERGITES. First tergite (Fig. 63H) somewhat longer than broad behind, beyond pair of spiracles subparallel-sided, scutum behind rugose with rugulose elements, margin of scutum crenulate. Second tergite transverse, 2.8 times as broad behind as long and as long as third tergite, suture between tergites 2-3 faintly bisinuate and crenulate. Second tergite rugo-rugulose, third tergite medio-anteriorly rugulose-uneven to smooth, shiny. Further tergites polished. Hypopygium pointed, ovipositor sheath long, as long as hind tibia + tarsus combined (Fig. 63I).

COLOUR. Ground colour of body brown to dark brown. Antenna brown. Oral part yellow, palpi pale yellow. Tegula yellow. Second and third tergites laterally yellow. Sternites pale yellow. Legs yellow, coxae 2-3 almost entirely brown to blackish. Wings subhyaline, pterostigma opaque brown, veins light brownish.

Taxonomic remarks (Fig. 64D-F, I)

- 1) Originally the species *B. immutator* was based by Wesmael on a series of nine ♀ and nine ♂ specimens. Out of this series I could study eight ♀ (the first ♀ was selected as the neotype) and five ♂ specimens, all these were named by Wesmael. Furthermore, there are three specimens named by Wesmael also as *B. immutator*; however, they do not represent this species: one ♂ is without head hence unidentifiable, one ♂ seems to be a light coloured form of *B. ?obscurator* Nees (and labelled accordingly) and one specimen (sex?) labelled by Wesmael as “Braco immutator Nees ♂♀” is in

very poor condition: right pair of wings and metasoma entirely and legs partly missing, hence also unidentifiable. The seven ♀ and five ♂ specimens are identical with the neotype of *B. immutator*, although they show some deviations: (1) head in dorsal view 1.85-1.9 times as broad as long; (2) first tergite somewhat (1.25-1.1 times) longer than broad to as long as broad behind; (3) pterostigma 2.5-2.6(-2.8) times as long as wide and issuing *r* (rarely) proximally from its middle; (4) femora 2-3 variably brownish to brown.

- 2) The type-series of *B. brevisculus* Wesmael (♀ lectotype + one ♀ paralectotype) contains specimens, that are identical with the neotype of *B. immutator* Nees considering their corporal size, measurements, sculpture of tergites and colour pattern. The two names refer to the same species hence the name *B. brevisculus* is the junior synonym name.
- 3) Deviating features of the nominate form of ♀♀: Body 2.7-3.5 mm long. Antenna with 26-32 antennomeres. Temple variably receded (Fig. 64D-E). Hind femur 3.3-3.6 times as long as broad distally (Figs 63D; 64F). Posterior two-thirds of scutum of first tergite rugose. Deviating features of the nominate form of ♂♂: Similar to the ♀. Body 2.6-3.3 mm long. Antenna with 25-34 antennomeres. Hind femur usually 3.3 times as long as broad distally (Fig. 64I).

Varieties

Studying the named series (153 ♀♀ + 19 ♂♂) of *B. immutator* the species proved to be highly variable viewing the sculpture of the tergites 2-4.

- (1) Var. *hemirugosus* (Szépligeti): an extremity is the sculptured tergites 2-3 with posteriorly weakening strength (Fig. 64A).
- (2) *Nominate form*: the usual form (Fig. 63H) is the evenly sculptured second tergite and the weakening sculpture of the third tergite, otherwise tergites polished.
- (3) Var. *efoveolatus* (Thomson): the other extremity is the polished tergites 2-4, at most second tergite with (very) weak sculpture anteriorly or antero-medially (Fig. 64B).

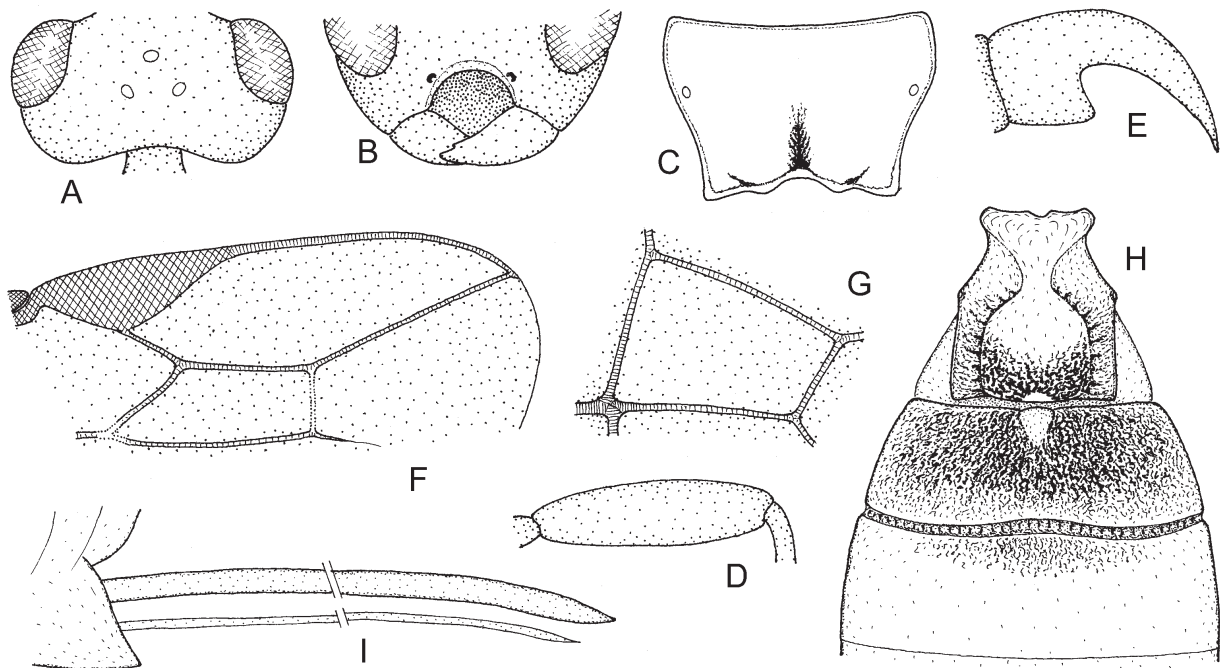


Fig. 63. *Bracon (Glabrobracon) immutator* Nees, 1834, ♀ neotype. **A.** Head in dorsal view. **B.** Head in frontal view. **C.** Propodeum. **D.** Hind femur. **E.** Claw. **F.** Distal part of right forewing. **G.** First discal cell of right forewing. **H.** Tergites 1-3. **I.** Hind end of ♀ metasoma.

- (4) Var. *nitens* var. nov.: the fourth variety is a colour one: middle and hind legs with blackish to black pattern, tergites almost entirely black, tergites beyond first tergite polished, at most second tergite antero-medially (sub-)rugulose (Fig. 64C).

Hosts

HOM. Kermidae: *Kermes quercus* (Linnaeus), Coccidae: *Parthenolecanium corni* (Bouché). — COL. Curculionidae: !*Anthonomus rubi* Herbst, *Ceutorhynchus pleurostigma* (Marsham), *C. sulcicollis* (Paykull), !*Cryptorhynchus lapathi* Linnaeus, !*Curculio crux* Fabricius, *C. villosus* Fabricius, !*Miarus campanulae* Linnaeus, !*Nanophyes* sp., *Pissodes notatus* Fabricius, !*Tychius squamulatus* Gyllenhal. — LEP. Tortricidae: *Cydia aurana* Fabricius. — DIPT. Trypetidae: *Phagocarpus permundus* Harris. — HYM. Tenthredinidae: !*Euura nigratarsis* Cameron, !*Pontania bella* (Zaddach), !*P. bridgmanni* (Cameron), !*P. gallarum* (Hartig), !*P. proxima* (Serville).

Distribution

Palearctic Region, in Europe frequent to common.

Taxonomic position

Within the subgenus *Glabrobracon* the species *B. immutator* is nearest to *B. pulcher* Bengtsson considering their yellow legs, sculptured second tergite and delicate body; the distinction between the two species is presented subsequently:

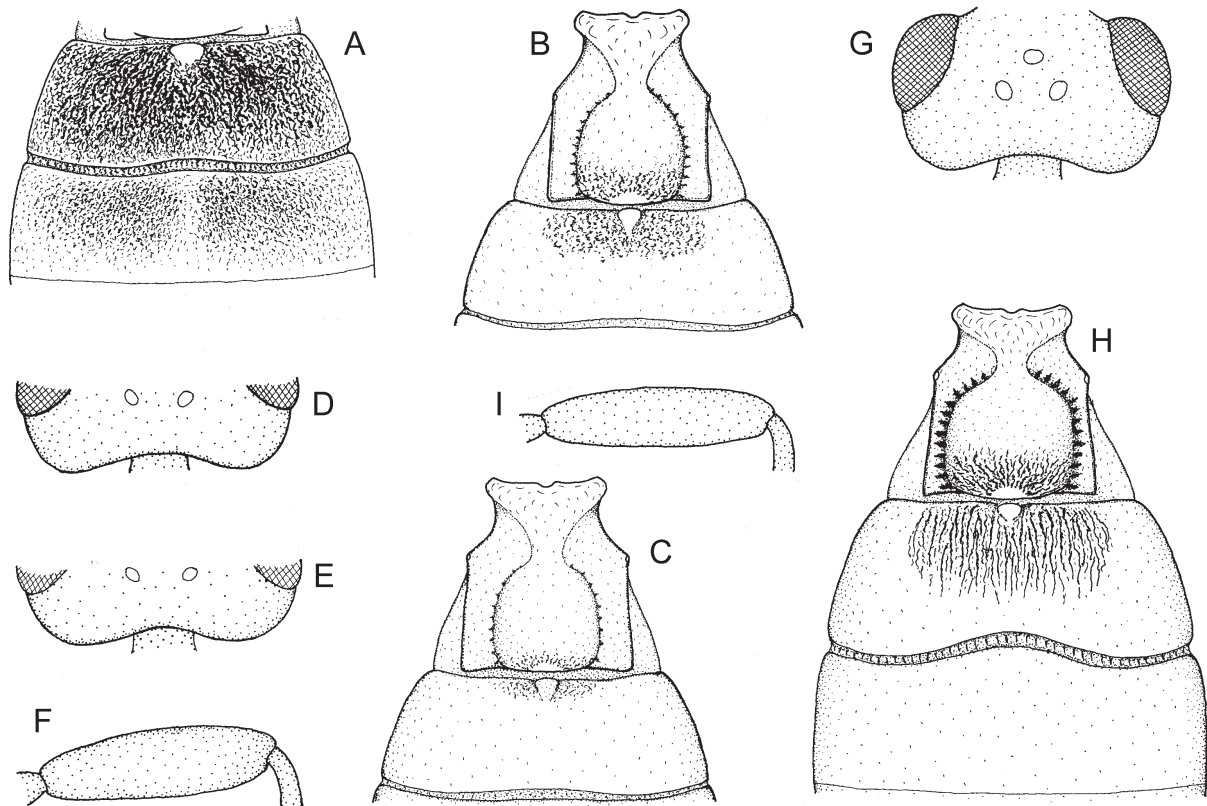


Fig. 64. — A-F. *Bracon* (*Glabrobracon*) *immutator* Nees, 1834 (A-B, D-F: ♀ / ♂, C: ♀). A. Tergites 2-3. B-C. Tergites 1-2. D-E. Hind half of head in dorsal view. F. Hind femur. — G-I. *Bracon* (*Glabrobracon*) *pulcher* Bengtsson, 1924, ♀ / ♂ paralectotype. G. Head in dorsal view. H. Tergites 1-3. I. Hind femur.

- 1 (2) Temple in dorsal view receded (Figs 63A; 64E-F). Scutum of first tergite less wide, its margin crenulate, tergites 2-3 equal in length, sculpture of second tergite relatively rough, rugose (Figs 63H; 64A). Hind femur 3.6-3.3 times as long as broad distally, less parallel-sided (Figs 63D; 64F). Ovipositor sheath as long as hind tibia + tarsus combined. ♀♂: 2.6-3.5 mm*B. (Gl.) immutator* Nees, 1834
- 2 (1) Temple in dorsal view rounded (Fig. 64G). Scutum of first tergite wide, its margin strongly crenulated, second tergite a bit longer than third tergite, sculpture of second tergite relatively fine, striate (Fig. 64H). Hind femur 3.8-4 times as long as broad medially, parallel-sided (Fig. 64I). Ovipositor sheath long, as long as hind femur + tibia + tarsus combined. ♀♂: 2.5-3.5 mm*B. (Gl.) pulcher* Bengtsson, 1924

***Bracon (Bracon) intercessor* Nees var. *laetus* (Wesmael, 1838)
Fig. 59H-I**

Bracon intercessor Nees, 1834: 71 ♀♂ (type material: several ♀♀ and ♂♂, destroyed), type locality: ♀ specimen(s) taken “prope Sickershausen” (Germany) and ♂ specimen(s) taken in Italy.

Braco laetus Wesmael, 1838: 13 ♀ (type material: 1 ♀), type locality: “environs de Liège” (Belgium), ♀ holotype (“la seule femelle que je possède...” Wesmael l.c., present designation) in the Royal Belgian Institute of Natural Sciences, Brussels; examined, **syn. nov.**

Bracon intercessor – Szépligeti 1901: 261 (♀), 263 (♂) (in key), 275 (description of *B. intercessor* “var. ♀”) (in Hungarian); 1904 (1901): 160 (♀), 163 (♂) (in key) (in German).

Bracon (Bracon) intercessor – Fahringer 1927: 241 (♀), 245 (♂) (in key) and 320 (redescription), assigned to “Section *Striobracon*” (= *Bracon* s. str.). — Telenga 1936: 164 (♀), 167 (♂), 254 (redescription) (in Russian) and 366 (♀), 370 (♂) (in key, in Russian). — Shenefelt 1978: 1494 (synonyms, literature up to 1974). — Tobias 1986: 125 (in key, synonyms, in Russian), assigned to subgenus *Bracon*. — Papp 2008: 1786 (synonyms of Szépligeti's names).

Bracon laetus – Szépligeti 1901: 184 (♀) (in key, in Hungarian); 1904 (1901): 160 (♀) (in key, in German).

Bracon (Bracon) laetus – Fahringer 1927: as valid species 234 (♀, in key) and 322 (redescription), assigned to “Section *Striobracon*” (= *Bracon* s. str.). — Telenga 1936: as valid species 162 (♀, in key), 247 (redescription) (in Russian) and 364 (♀, in key, in German). — Shenefelt 1978: 1498 (as valid species, literature up to 1974).

Designation of the ♀ holotype of *B. laetus*

(First label, printed) “Coll. Wesmael”; (second label, printed) “2025”; (third label) “Braco / Laetus mihi ♀” (handwriting) “dét. C. Wesmael”; (fourth label, printed red) “Type”; (fifth label) “Belgique” (printed) / “Liège/ leg. Carlier” (handwriting); sixth label is the holotype card and seventh label is with the actual name *B. intercessor* var. *laetus* (Wesmael) (sixth and seventh labels attached by me). - Holotype is in good condition: (1) micropinned, pin fairly thick, i.e. hind half of mesoscutum and prescutellar furrow invisible; (2) left flagellum deficient: with ten antennomeres.

Material examined

74 ♀♀ + 4 ♂♂ from 21 countries: FRANCE: 2 ♀♀ from two localities. SPAIN: 3 ♀♀ from three localities. ITALY: 1 ♀. HUNGARY: 23 ♀♀ from fifteen localities. CROATIA: 3 ♀♀ from three localities. ROMANIA: 6 ♀♀ from three localities. BOSNIA-HERZEGOVINA: 1 ♀. KOSOVO: 1 ♀. SLOVENIA: 1 ♀. BULGARIA: 1 ♀. GREECE: 2 ♀♀ from two localities. CYPRUS: 5 ♀♀ from two localities. TURKEY: 1 ♀. ISRAEL: 9 ♀♀ + 2 ♂♂ from eleven localities. EUROPEAN RUSSIA: 2 ♀♀ and ASIATIC RUSSIA: 3 ♀♀ from five localities. GEORGIA: 2 ♀♀ from two localities. KAZAKHSTAN:

1 ♀ + 1 ♂ from one locality. UZBEKISTAN: 1 ♀. IRAN: 3 ♀♀ + 1 ♂ from two localities. KOREA: 1 ♀. CHINA: 1 ♀.

Taxonomic remarks

1) Considering the variability of *B. intercessor* I quote my previous relevant note (Papp 2008: 1787): “*Br. intercessor* is a highly variable species viewing its body length, several corporal measurements, sculpture of tergites and colour pattern. This variability is well indicated by the fact that different deviating forms were described as many as twenty species by a few authors (mostly by Szépligeti: Papp 2008: 1786-1787). The Nees Collection (braconids etc.) was destroyed at the end of the Second World War; in the case of the species *B. intercessor* is particularly needed the designation of the neotype to promote its unambiguous specific distinction from its nearest allies.”

2) The species described by Wesmael (l.c.) under the name *B. laetus* is a light-coloured (or albanic) deviation of the nominate form (*B. intercessor*) and received the new status *B. intercessor* var. *laetus* (Wesmael) **syn. nov.** and **comb. nov.** This variety is identical with the junior variety names *B. intercessor* var. *concolor* Fahringer, 1927 **syn. nov.**, *B. intercessor* var. *elegans* (Szépligeti, 1901) and *B. intercessor* var. *subtilis* (Szépligeti, 1901) (cf. Papp 2004: 152, 2008: l.c.).

3) Distinction of *B. intercessor* var. *laetus* from the nominate form:

- 1 (2) Head in dorsal view transverse, 1.9-2 as broad as long (Fig. 59H). Hind femur slightly thick, 3.1-3.2 as long as broad medially (Fig. 59I). Ground colour of body testaceous, black pattern on mesosternum and propodeum medially. Coxae 2-3 testaceous. Pterostigma yellow
.....*B. intercessor* var. *laetus* (Wesmael, 1838)
- 2 (1) Head in dorsal view usually slightly less transverse, 1.7-1.8 times as broad as long (Fig. 59F). Hind femur less thick, 3.3-3.5 times as long as broad medially (Fig. 59G). Body testaceous to reddish yellow with more or less black(ish) pattern on head, meso- and metasoma. Coxae 2-3 usually black(ish). Pterostigma brown*B. intercessor* Nees nominate form

Variability

The dark pattern on mesosternum, propodeum and tergites are variable in extent in a few specimens.

Hosts

COL. Curculionidae: *Lixus incanescens* Boheman, *Magdalis nitida* Gyllenhal. — LEP. Yponomeutidae: *Prays citri* Millière, *P. oleae* Bernard.

Hyperparasitoid

HYM. Pteromalidae: *Gyrinophagus* sp. (Moreno, Falco & Jiménez 1990).

Distribution

Sporadic to frequent in the western Palearctic Region.

Bracon (Osculobracon) osculator Nees, 1811

Fig. 65A-J

Taxonomic remark on the subgenus *Osculobracon*

The subgenus was described recently (Papp 2008: 1749-1750), type species is *Bracon osculator* Nees, 1811. The subgenus is nearest to the subgenus *Glabrobracon*, it can be distinguished from the latter by

the following features: second tergite antero-laterally and tergites 3-4(-5) posteriorly membranous (or desclerotized). Chitinized part of tergites polished, rarely uneven to (sub-)rugulose in variable extent.

Bracon osculator Nees, 1811: 10 ♀ (type material: several ♀♀, destroyed), type locality: ?Sickershausen (Germany).

Bracon bisignatus Wesmael, 1838: 56 ♀ (type material: 6 ♀♀ taken in Brussels: 5 ♀♀ and Oostmael: 1 ♀), type locality: “environs de Bruxelles” (Belgium), ♀ lectotype (and two ♀ paralectotypes, present designations, further three ♀♀ not seen) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon (Glabrobracon) coniferarum Fahringer, 1927 (Schmiedeknecht in litt.): 287 (in key) and 1928: 449 (description), ♀ (type material: 4 ♀♀), type locality: Blankenburg, Thüringen, Germany, ♀ lectotype (designated by Quicke in 1988) in Zoologisches Museum, Berlin, examined; two ♀ paralectotypes (with similar locality by Schmiedeknecht) in Zoologisches Museum, Berlin (1 ♀ paralectotype) and in Naturhistorisches Museum, Wien (1 ♀ paralectotype), examined.

Bracon degenerator Marshall, 1885: 44 ♀ (type material: 1 ♀), type locality: “Leicestershire” (England), depository of the ♀ syntype unknown (cf. Shenefelt l.c.).

Bracon minutus Szépligeti, 1901: 262 (in key) and 277 (description) (in Hungarian) ♀, 1904 (1901): 162 (in key), 173 (description) (in German) ♀ (type material: 1 ♀), type locality: “Budapest” (Hungary), ♀ lectotype (designated by Papp in 2004) in Magyar Természettudományi Múzeum, Budapest; examined.

Bracon (Glabrobracon) venustus Telenga, 1936: 145 (♀), 155 (♂) (in key), 191 (description) (in Russian) and 347 (♀), 357 (♂) (in key), 385 (description) (in German) ♀♂ (number of type material not given), type locality: Crimea (Yalta), Daghestan (Kislyar), Georgia and “Heptapotamien” (lectotype and paralectotype designations needed), syntype series (supposedly) in Zoologicheskii Institut, Sankt Petersburg; not examined.

Bracon osculator – Nees 1834: 84 (♀♂, detailed redescription). Szépligeti 1901: 267 (in key, in Hungarian); 1904 (1901): 185 and 186 (in key, in German).

Bracon (Glabrobracon) osculator – Fahringer 1927: 298 (♀), 308 (♂) (in key), 1928: 475 (redescription), assigned to “Section *Glabrobracon*”. — Telenga 1936: 146 (♀), 156 (♂) (in key), 198 (redescription) (in Russian) and 348 (♀), 359 (♂) (in key, in German). — Papp 1966: 377 (in key) and 387 (redescription). — Shenefelt 1978: 1577 (literature up to 1974). — Tobias 1986: 135 (in key, in Russian). — Tobias & Belokobylskij 2000: 146 (in key, in Russian).

Bracon bisignatus – Marshall 1897: 85 (synonymization). — Szépligeti 1901: as valid species 269 (in key, in Hungarian), 1904 (1901): as valid species 189 (in key, in German). — Fahringer 1927: 298 (in key), 1928: 475 (as synonym of *B. osculator*). — Telenga 1936: 198 (as synonym of *B. osculator*). — Shenefelt 1978: 1577 (as synonym of *B. osculator*).

Bracon (Glabrobracon) coniferarum – Telenga 1936: as valid species 145 (in key), 192 (redescription) (in Russian) and 347 (in key, in German). — Shenefelt 1978: 1564 (as valid species, literature up to 1962).

Bracon degenerator – Szépligeti 1901: as ?valid species 269 (in key, in Hungarian), 1904 (1901): as ?valid species 189 (in key, in German). — Szépligeti 1904: Genera Insectorum 22: 28 (as synonym of *B. osculator*). — Fahringer 1927: 298 (in key) and 1928: 475 (synonym as *B. osculator* var. *degenerator*). — Shenefelt 1978: 1577 (as *B. osculator* var. *degenerator* (Marshall) after Fahringer l.c.).

Bracon minutus – Fahringer 1927: as valid species 239 (in key) and 327 (redescription), assigned to “Section *Striobracon*” (= *Bracon* s. str.). — Telenga 1936: as valid species 161 (in key), 245 (redescription) (in Russian) and 364 (in key, in German). — Papp 1966: 387 (as synonym of *B. osculator*), 2004: 178 (type designation and depository).

Bracon (Glabrobracon) venustus – Tobias 1958: as valid species 97 (in key), 1959: as valid species 894, 1976: 77 (first synonymization with *B. osculator*, in key) and 1986: 135 (as synonym of *B. osculator*). — Tobias & Belokobylskij 2000: 146 (as synonym of *B. osculator*).

Taxonomic remark on *B. coniferarum*

The species name “*Bracon coniferarum*” was created by Schmiedeknecht; however, the species was never described by him, i.e. it remained *in litteris*. Fahringer (l.c.) applied Schmiedeknecht’s name to validate this taxon, his description is based on three ♀♀ of which the ♀ lectotype (designated by Quicke in 1988) and one ♀ paralectotype (designated by J. Papp) are deposited in the Zoological Museum, Berlin and, furthermore, one ♀ paralectotype (designated by J. Papp) deposited in the Naturhistorisches Museum, Wien; the ♀ lectotype is identical with *B. osculator*, the two ♀ paralectotypes are representing *B. cingulator* Szépligeti, 1901, named accordingly by me. Two ♂ specimens (one ♂ in Berlin Museum, one ♂ in Natur Museum, Coburg) were also labelled as *B. coniferarum* by Schmiedeknecht; however, they did not serve for the original description by Fahringer (l.c.).

Designation of the ♀ lectotype of *B. bisignatus* Wesmael and the ♀ neotype (identical specimen to the lectotype of *B. bisignatus*) of *B. osculator* Nees

(First label, printed) “Coll. Wesmael”; (second small label, printed) “2080”; (third label, printed red) “Type”; (fourth label) “Braco bisignatus mihi ♀” (handwritten) “dét. C. Wesmael” (printed); fifth label is the lectotype card (of *B. bisignatus*) and sixth label is the neotype card (of *B. osculator*) attached by me; seventh label is with the (?) inventory number “3317”. Lecto- or neotype is in good condition (1) micropinned by mesosoma (micropin thick); (2) left flagellum apically deficient, i.e. left antenna with 23 antennomeres; (3) mesoscutum close to micropin shortly splitted; (4) left hind leg (except coxa + trochanter) missing.

Taxonomic remark on the neotype designation

In the neotype designation of *B. osculator* the respective statutes of the International Code of Zoological Nomenclature are taken into consideration: to stabilize the taxonomic status as well as to distinguish the nearest allies of *B. osculator*.

Designation of the two ♀ paralectotypes of *Bracon bisignatus*

First four and the seventh labels are identical to those of the ♀ lectotype (or ♀ neotype); fifth label is the paralectotype card attached by me; sixth label is with the actual name *B. osculator* Nees given by me in 1982. The two paralectotypes are in good condition: (1) micropinned by mesosoma (micropin thick); (2) left hind leg (except coxa + trochanter) of one paralectotype missing; (3) right fore leg (except coxa + trochanter) of one paralectotype also missing.

Material examined

194 ♀♀ + 104 ♂♂ from 27 countries: ENGLAND: 4 ♀♀ + 2 ♂♂ from six localities. FRANCE: 1 ♀ + 2 ♂♂ from three localities. DENMARK: 1 ♀ + 1 ♂ from two localities. SWEDEN: 2 ♀♀ + 2 ♂♂ from four localities. FINLAND: 3 ♂♂ from three localities. THE NETHERLANDS: 2 ♀♀ from two localities. GERMANY: 8 ♀♀ + 5 ♂♂ from eleven localities. SWITZERLAND: 3 ♀♀ from two localities. LIECHTENSTEIN: 1 ♀. AUSTRIA: 3 ♀♀ from two localities. HUNGARY: 108 ♀♀ + 62 ♂♂ from 149 localities. SLOVAKIA: 3 ♀♀ + 1 ♂ from four localities. ROMANIA: 7 ♀♀ + 4 ♂♂ from ten localities. PORTUGAL: 1 ♂. SPAIN: 2 ♀♀ + 2 ♂♂ from three localities. ITALY: 6 ♀♀ + 3 ♂♂ from seven localities. CROATIA: 1 ♀ + 1 ♂ from two localities. SERBIA: 2 ♀♀ from two localities. KOSOVO: 1 ♀. MACEDONIA: 5 ♀♀ + 4 ♂♂ from seven localities. GREECE: 1 ♀. BULGARIA: 14 ♀♀ + 7 ♂♂ from eighteen localities. TURKEY: 3 ♀♀ + 2 ♂♂ from three localities. EUROPEAN RUSSIA: 2 ♀♀ from two localities. ASIATIC RUSSIA: 1 ♂. ARMENIA: 3 ♀♀ from three localities. MONGOLIA: 8 ♀♀ + 1 ♂ from eight localities. KOREA: 3 ♀♀ from two localities.

Description of the ♀ neotype of *Bracon osculator* (Fig. 65A-I)

LENGTH. Body 2.9 mm long.

ANTENNAE. Right antenna slightly longer than body and with 27 antennomeres. First flagellomere twice and penultimate flagellomere almost twice as long as broad, flagellum indistinctly attenuating distally (Fig. 65A).

HEAD. In dorsal view transverse (Fig. 65B), almost 1.9 times as broad as long, eye nearly 1.7 times longer than temple, temple rounded, occiput weakly excavated. Eye in lateral view 1.6 times as high as wide and 1.3 times wider than temple, temple ventrally faintly broadening (Fig. 65C, see arrows). Oral opening: its horizontal diameter as long as shortest distance between opening and compound eye (Fig. 65D). Head polished.

MESOSOMA. In lateral view 1.4 times as long as high, polished. Notaulix distinct, uneven. Propodeum polished.

LEGS. Hind femur 3.3 times as long as broad distally (Fig. 65E). Claw less downcurved, its basal lobe as in Fig. 65F.

WINGS. Forewing about one-fourth longer than body. Pterostigma (Fig. 65G) 2.6 times as long as wide and issuing *r* just proximally from its middle, *r* a bit shorter than width of pterostigma. Second submarginal cell usual in size, 3-*SR* nearly 1.3 times as long as 2-*SR*, *SRI* straight, nearly 1.7 times as long as 3-*SR* and approaching tip of wing. First discal cell fairly high, 1-*M* 1.6 times longer than *m-cu*, 1-*SR-M* 1.25 times longer than 1-*M* (Fig. 65H).

TERGITES. First tergite (Fig. 65I) 1.4 times as long as broad behind, beyond pair of spiracles sides slightly converging posteriorly, margin of scutum smooth, tergite polished. Second tergite five times broader behind than long laterally (Fig. 65I). Third tergite one-third longer than second tergite, suture between them bisinuate, chitinized part of tergites polished, membraneous hind part of tergites 3-6 gradually narrowing (Fig. 65I). Hypopygium hardly visible (owing its shrinking), ovipositor sheath less long, as long as tibia of middle leg.

COLOUR. Antenna dark brown. Head black with weak brownish tint, orbit just pale reddish, palpi brown. Mesosoma black, tegula brown. First tergite brownish black, chitinized part of tergites 2-6 antero-posteriorly brown to light brown, antero-lateral part of second tergite yellow, membraneous part of tergites 3-6 yellowish. Sternites with yellow maculae. Legs brown, femora distally and tibiae proximally yellow(ish). Wings subhyaline, pterostigma and veins brown.

Deviating features of the two ♀ paralectotypes of *B. bisignatus* (= *B. osculator*) (Fig. 65J)

Body 2.8-3 mm long. Antenna with 25-26 antennomeres. Head in dorsal view almost 1.9 times as broad as long. Pterostigma 2.8 times as long as wide and issuing *r* close before its middle or just beyond its middle. First tergite beyond pair of spiracles parallel sided (Fig. 65J). Hypopygium small and less pointed, ovipositor sheath somewhat longer than middle tibia (1 paralectotype).

Taxonomic remark

In the original description (Nees 1811) and redescription (Nees 1834) of *B. osculator* the describer emphasized the variabilities of this species. This variability mainly extends to the corporal colour and partly to the size and sculptural features, each variable feature was signed by him with Latin and Greek letters.

Variable features of the ♀ (194 ♀♀)

Body (1.5-)2.2-3.5 mm long. Antenna as long as to somewhat longer (rarely somewhat shorter) than body and with 19-30, usually with 24-29, antennomeres. Flagellomeres 1.5-2 times longer than broad.

Head in dorsal view (1.8-)1.9-2(-2.2) times broader than long, eye 1.6-1.7 times as long as temple, temple rarely receded. Hind femur 3.2-3.5 times as long as broad medially to distally. Pterostigma 2.4-2.8(-2.9) times as long as wide; 3-SR 1.3-1.4(-1.5) times longer than 2-SR, SRI usually approaching, sometimes almost reaching, tip of wing. First tergite (1.3-)1.4-1.5 times as long as broad behind. Ovipositor sheath rarely (almost) as long as hind tibia.

Variable features of the ♂ (104 ♂♂)

Similar to the ♀. Body (1.3-)1.8-3.2(-3.5) mm long. Antenna somewhat longer than body and with 17-30, usually with 25-29, antennomeres. Flagellomeres (1.5-)1.8-2.2 times longer than broad.

***Bracon (Osculobracon) osculator* var. *temporalis* (Telenga, 1936)**

Bracon (Glabrobracon) temporalis Telenga, 1936: 145 (in key), 193 (description) (in Russian) and 347 (in key), 386 (description) (in German) ♀ (number of type material not given), type locality: “Turkmenien, Ashabad” (Turkmenistan), syntype series (supposedly) in Zoologicheskiy Institut, Sankt Petersburg; not examined.

Bracon (Glabrobracon) temporalis – Tobias 1959: 894 and 1976: 77 1986: 135 (as synonym of *B. osculator*, in key). Tobias & Belokobylskij 2000: 146 (as synonym of *B. osculator*).

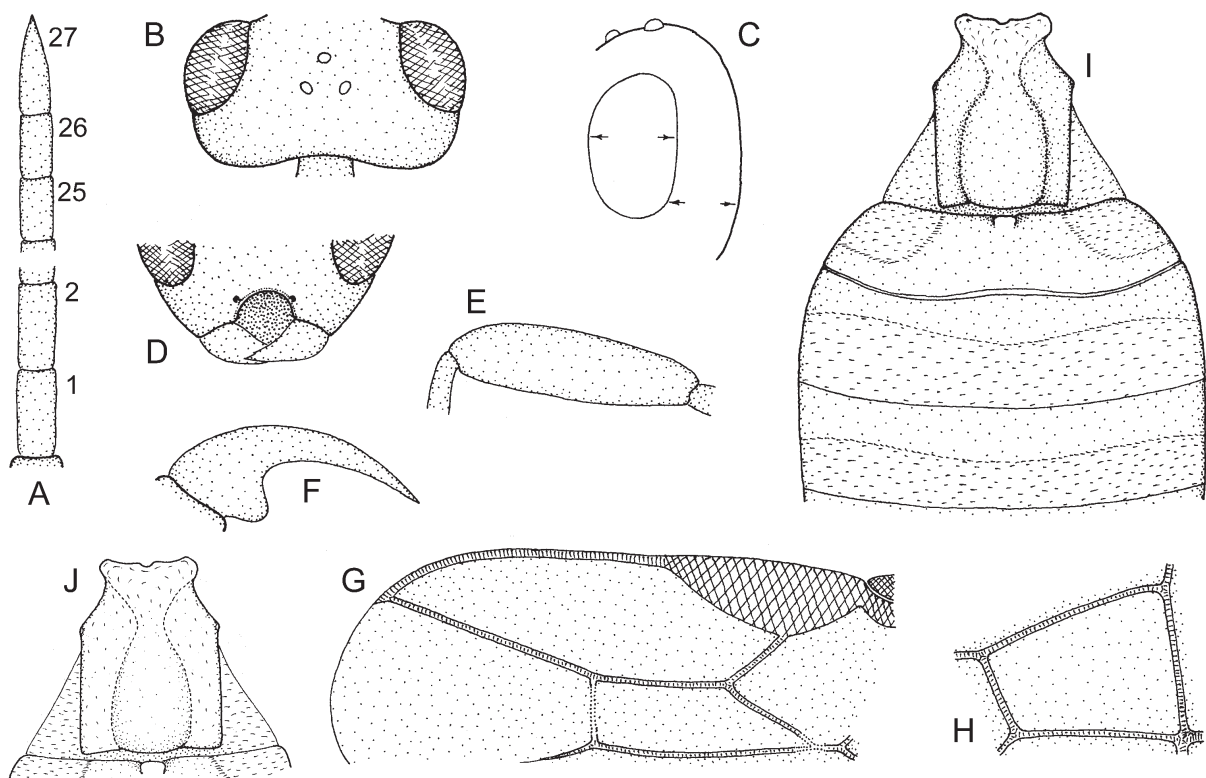


Fig. 65. *Bracon (Osculobracon) osculator* Nees, 1811 (A-I: ♀ neotype, *B. bisignatus* Wesmael, 1838, J: ♀ paralectotype). A. Flagelomeres 1-2 and 25-27. B. Head in dorsal view. C. Head in lateral view. D. Head in frontal view. E. Hind femur. F. Claw. G. Distal part of left forewing. H. First discal cell of left forewing. I. Tergites 1-4. J. First tergite.

Material examined

8 ♀♀ + 5 ♂♂ from seven countries: FRANCE: 1 ♀. GERMANY: 1 ♀. CROATIA: 1 ♀ + 1 ♂ from two localities. GREECE: 1 ♀. BULGARIA: 3 ♀♀ + 3 ♂♂ from four localities. ARMENIA: 1 ♀. IRAN: 1 ♂.

Description

The name *temporalis* represents a light coloured (or albanic) form of the nominate *B. osculator* - *nominata* form: head and mesosoma brownish black to black, at most orbit with rusty pattern, legs dark coloured; var. *temporalis*: head and mesosoma with more or less brownish, testaceous to reddish yellow pattern, legs more or less yellow to brownish.

Hosts (nominata form + var. *temporalis*)

COL. Buprestidae: !*Trachys problematicus* Obenberger. Bruchidae: !*Bruchidius pusillus* Germar. — LEP. Gracillariidae: !*Aspilapteryx tringipennella* Zeller. Coleophoridae: !*Coleophora albicostella* Duponchel, *C. alcyonipennella* Kollar, !*C. alticolella* Zeller, *C. anatipennella* Hübner, !*C. argentua* Stephens, !*C. coronillae* Zeller, *C. discordiella* Zeller, !*C. echinella* Staudinger, *C. flaviella* Mann, *C. frischella* Linnaeus, !*C. gallipennella* Hübner, !*C. lutipennella* Zeller, !*C. milvipennis* Zeller, !*C. ochrea* Haworth, !*C. ochripennella* Zeller, !*C. paripennella* Zeller, !*C. saponariella* Heeger, !*C. serenella* Duponchel, !*C. serratella* Linnaeus, *C. solitariella* Zeller, !*C. spiraeella* Rebel, *C. spissicornis* Haworth, *C. tadhikiella* Danilewski, !*C. trifariella* Zeller, *C. trifolii* Curtis, *C. vibicella* Hübner, !*C. vicinella* Zeller, !*C. virgatella* Zeller, *C. virgaureae* Stainton, !*C. vulpecula* Zeller. Cosmopterigidae: !*Cosmopteryx zieglerella* Hübner. Momphidae: *Mompha conturbatella* Hübner. Choreutidae: !*Millieria dolosana* Herrich-Schäffer.

Taxonomic position

Within the subgenus *Osculobracon* the species *B. osculator* is nearest to *B. cingulator* Szépligeti. Considering their long vein *SRI* approaching to reaching tip of forewing, the two species differ by the following features:

- 1 (2) First tergite 1.3-1.4(-1.6) times as long as broad behind, third tergite one-third longer than second tergite (Fig. 65I). Temple in dorsal view rounded (Fig. 65B). Mesosoma in lateral view 1.4 times

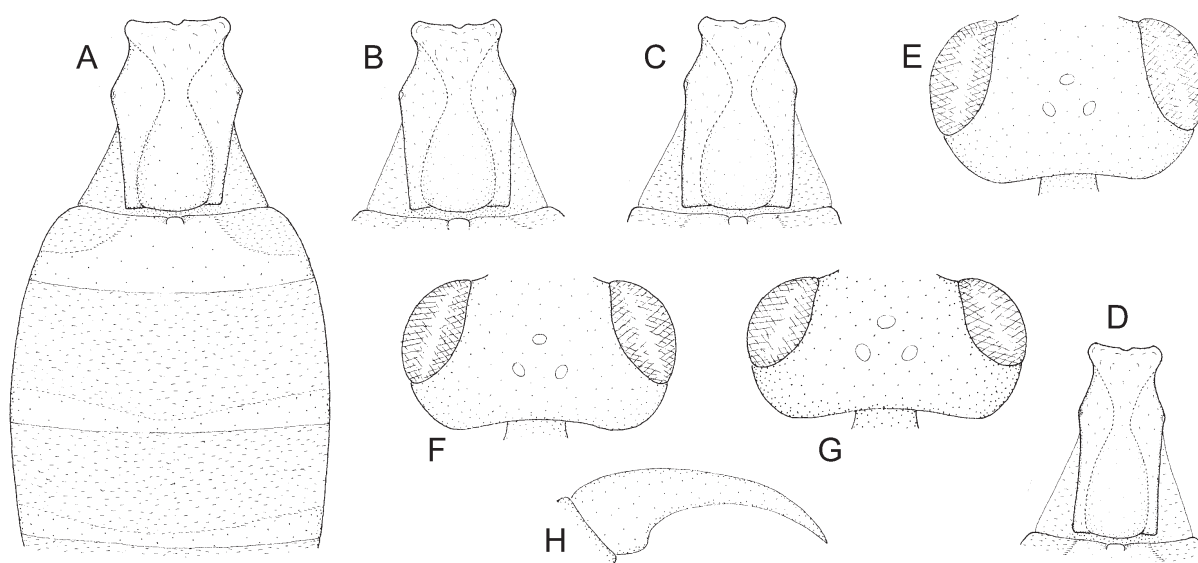


Fig. 66. — *Bracon (Osculobracon) cingulator* Szépligeti, 1901 (A, E, H: ♀ holotype, B, F: ♀, C-D, G: ♂). A. Tergites 1-4. B-D. First tergite. E-G. Head in dorsal view. H. Claw.

- as long as high. Claw slightly more downcurved and its basal lobe more distinct (Fig. 65F). Legs brown with yellow(ish) pattern. Body black (nominate form). Head and mesosoma with more or less brownish to reddish yellow colour pattern, legs more or less yellow (var. *temporalis* Telenga). ♀: (1.5-)2.2-3.5 mm*B. (Osc.) osculator* Nees, 1811
- 2 (1) First tergite 1.8-2 times as long as broad behind, third tergite twice longer than second tergite (Fig. 66A, D). Temple in dorsal view receded (Fig. 66E-G). Mesosoma in lateral view 1.5-1.8 times as long as high. Claw less downcurved and its basal lobe less distinct (Fig. 66H). Legs yellow. ♀: (1.8-)2.4-3(-3.5) mm*B. (Osc.) cingulator* Szépligeti, 1901

***Bracon (Glabrobracon) variator* Nees, 1811**

Fig. 67A-J

Bracon variator Nees, 1811: 7 ♀♂ (type material: several ♀♀ and ♂♂, destroyed), type locality: ?Sickershausen (Germany).

Braco bipartitus Wesmael, 1838: 51 ♀ (type material: one ♀), type locality: supposedly LiègeLiège in Belgium, ♀ holotype (“Je ne possède de cette espèce qu’un seul individu,” Wesmael l.c., present designation) in the Royal Belgian Institute of Natural Sciences, Brussels; examined.

Bracon collinus Szépligeti, 1896: 292 (in Hungarian) and 366 (in German) ♀ (type material: two ♀♀), type locality: “Budapest” (Hungary), ♀ lectotype (and one ♀ paralectotype, present designations) in Magyar Természettudományi Múzeum, Budapest; examined.

Bracon guttator Panzer, 1805: no. 92.8 ♀ (type material latent), type locality: Germany; *nomen obliteratum*.

Bracon variator – Nees 1834: 77 (detailed redescription). — Széplige...ti 1901: 269 (in key, in Hungarian); 1904 (1901): 190 (in key, in German).

Braco variator Nees *sensu* Wesmael, 1838: 52 ♀♂ (19 ♀♀ + 6 ♂♂, according to Wesmael “J’ai pris 25 individus de cette espèce...”), locality of the neotype: “environs de Bruxelles” (Belgium), material currently existing: 16 ♀♀ (1 ♀: *B. delibator* Haliday) + 6 ♂♂ + two exemplars without metasoma in the Royal Belgian Institute of Natural Sciences, Brussels, one ♀ designated (from among the 16 ♀♀) as the neotype of *Bracon variator* Nees *sensu* Wesmael.

Bracon (Glabrobracon) variator – Fahringer 1927: 296 (♀), 307 (♂) (in key), 1928: 496 (redescription), assigned to “Section *Glabrobracon*”. — Telenga 1936: 152 (♀), 156 (♂) (in key), 224 (redescription) (in Russian); 355 (♀), 359 (♂) (in key, in German). — Tobias 1961: 162 (synonyms, redescription, in Russian). — Papp 1966: 378 (in key) and 392 (synonyms, redescription). — Shenefelt 1978: 1584 (synonyms, literature up to 1974). — Tobias 1986: 134 (in key, synonyms, in Russian). — Tobias & Belokobylskij 2000: 143 (in key, in Russian).

Bracon bipartitus – Szépligeti 1901: as valid species 269 (in key, Hungarian), 1904 (1901): 190 (in key, in German).

Bracon (Glabrobracon) bipartitus – Fahringer 1927: as valid species 295 (♀, in key), 439 (redescription), assigned to “Section *Glabrobracon*”. — Telenga 1936: as valid species 152 (♀, in key), 222 (redescription) (in Russian) and 354 (♀, in key, in German). — Shenefelt 1978: 1559 (as valid species, literature up to 1971). — Tobias 1986: 134 (in key as new synonym of *B. variator*).

Bracon collinus – Szépligeti 1901: as valid species 270 (♀♂, in key, in Hungarian), 1904 (1901): 190 (♀♂, in key, in German).

Bracon (Glabrobracon) collinus – Fahringer 1927: as valid species 254 (♀), 258 (♂) (in key) and 348 (redescription), assigned to “Section *Glabrobracon*”. — Telenga 1936: as valid species 176 (♀), 178 (♂) (in key), 298 (redescription) and 379 (♀), 381 (♂) (in key, in German). — Papp 1966: 392 (first synonymization). — Shenefelt 1978: 1585 (as synonym of *B. variator* after Papp l.c., literature up to 1974). — Papp 2004: 172 (type designations, depository, synonymy).

Bracon guttator – Nees 1834: 81 (as synonym of *B. variator*). Shenefelt 1978: 1570 (as valid species, literature up to 1936).

Designation of the neotype of *Bracon variator* Nees

(First label, printed) “Coll. Wesmael”; (second label) “Braco variator N. ♀” (handwriting) / “dét. Wesmael” (printed); (third label, with my handwriting) “Belgium / Bruxelles” (after Wesmael l.c.); fourth label is the neotype card (attached by me). Neotype is in good condition: (1) micropinned by mesosoma (micropin thick); (2) right flagellum apically deficient; (3) right hind wing missing.

The designation of the neotype was necessary to distinguish unambiguously *B. variator* from its nearest allies: *B. obscurator* Nees, *B. otiosus* Marshall, *B. piger* Wesmael and *B. praecox* Wesmael. It is well-known that the Nees Collection, containing the type material of a series of species, was destroyed at the end of the Second World War; hence no type specimens designated by Nees exist any more. Wesmael (l.c.) was the first reviser of *B. variator*, consequently it was reasonable to select the neotype from the series identified by him on this name.

Designation of the ♀ holotype of *B. bipartitus* Wesmael

(First label, printed) “Coll. Wesmael”; (second label, printed) “2066”; (third label, printed red) “Type”; (fourth label) “Braco bipartitus ♀ mihi” (handwritten) / “dét. C. Wesmael” (printed); fifth label is the holotype card (attached by me); sixth label is with the actual name *B. variator* var. *bipartitus* (Wesmael) given by me in 2006; seventh label is with the (?)inventory number “3.317”.

Material examined

333 ♀♀ + 448 ♂♂ from 38 countries: SCOTLAND: 1 ♀. ENGLAND: 5 ♀♀ + 3 ♂♂ from seven localities. SWEDEN: 5 ♀♀ + 1 ♂ from five localities. DENMARK: 2 ♂♂ from one locality. FINLAND: 1 ♀. THE NETHERLANDS: 1 ♀. FRANCE: 7 ♀♀ + 1 ♂ from seven localities. GERMANY: 15 ♀♀ + 9 ♂♂ from 18 localities. SWITZERLAND: 4 ♀♀ + 2 ♂♂ from six localities. AUSTRIA: 1 ♀ + 2 ♂♂ from three localities. BOHEMIA: 14 ♀♀ + 3 ♂♂ from thirteen localities. SLOVAKIA: 14 ♀♀ + 2 ♂♂ from eleven localities. HUNGARY: 143 ♀♀ + 109 ♂♂ from 216 localities. SLOVENIA: 2 ♀♀ + 2 ♂♂ from three localities. ROMANIA: 36 ♀♀ + 14 ♂♂ from 42 localities. CROATIA: 10 ♀♀ + 1 ♂ from seven localities. SERBIA: 2 ♀♀ + 1 ♂ from three localities. MACEDONIA: 5 ♀♀ + 2 ♂♂ from six localities. KOSOVO: 1 ♀. ALBANIA: 2 ♀♀ + 4 ♂♂ from six localities. BULGARIA: 9 ♀♀ + 4 ♂♂ from thirteen localities. GREECE: 6 ♀♀ + 4 ♂♂ from ten localities. PORTUGAL: 2 ♀♀ from two localities. SPAIN: 8 ♀♀ + 3 ♂♂ from eight localities. ITALY: 7 ♀♀ + 13 ♂♂ from twelve localities. ALGERIA: 1 ♀ + 2 ♂♂ from three localities. TUNISIA: 2 ♀♀ from two localities. SYRIA: 1 ♂. TURKEY: 12 ♀♀ + 3 ♂♂ from fifteen localities. JORDAN: 1 ♀ + 2 ♂♂ from two localities. UKRAINE: 3 ♀♀ from three localities. ARMENIA: 3 ♀♀ + 5 ♂♂ from five localities. GEORGIA: 1 ♀ + 1 ♂ from one locality. EUROPEAN RUSSIA: 1 ♀. IRAN: 1 ♂. TURKMENISTAN: 3 ♀♀ + 6 ♂♂ from five localities. MONGOLIA: 2 ♀♀ + 5 ♂♂ from four localities. KOREA: 3 ♀♀ + 2 ♂♂ from two localities.

Description of the ♀ neotype of *Bracon variator* Nees *sensu* Wesmael (Fig.67A-J)

LENGTH. Body 3.5 mm long.

ANTENNAE. Antenna somewhat shorter than body and with 27 antennomeres (left antenna; right antenna deficient: with 21 antennomeres). First flagellomere almost 1.6 times and penultimate flagellomere 1.75 times longer than broad, flagellum indistinctly attenuating (Fig. 67A).

HEAD. In dorsal view transverse (Fig. 67B), 1.9 times as broad as long, eye almost 1.6 times as long as temple, temple rather rounded, occiput weakly excavated. Eye in lateral view nearly 1.65 times as high as wide and one-third (or 1.45 times) wider than temple, temple beyond eye evenly wide (Fig. 67C, see arrows). Oral opening of usual size, its horizontal diameter somewhat longer than shortest distance between opening and compound eye. Cheek convergent ventrally as in Fig. 67D.

MESOSOMA. In lateral view 1.3 times as long as high, polished. Notaulix evenly deep and shallow. Propodeum entirely polished.

LEGS. Hind femur 3.1 times as long as broad distally (Fig. 67E). Claw downcurved and with a distinct and fairly large basal lobe (Fig. 67F).

WINGS. Forewing somewhat longer than body. Pterostigma (Fig. 67G) 2.5 times as long as wide and issuing *r* proximally from its middle, *r* almost 0.7 times as long as width of pterostigma. Second submarginal cell usual in size, 3-*SR* 1.28 times as long as 2-*SR*, *SRI* straight, 1.6 times longer than 3-*SR* and reaching tip of wing. First discal cell high, *I-M* 1.75 times as long as *m-cu* and two veins nearly parallel with each other, *I-SR-M* 1.25 times longer than *I-M* (Fig. 67H).

TERGITES. First tergite (Fig. 67I) 1.4 times as long as broad behind, beyond pair of spiracles parallel-sided, margin of scutum subcrenulate, otherwise smooth and shiny. Second tergite transverse, three times as broad behind as long laterally (Fig. 67I). Third tergite also transverse and as long as second tergite; suture between tergites 2-3 bisinuate, fairly deep and smooth. Tergites 2-7 polished. Hypopygium pointed, ovipositor sheath just shorter than hind tibia + tarsus combined (Fig. 67J).

COLOUR. Ground colour of body black. Antenna blackish brown. Oral organs brown, mandible testaceous. Tegula black, parategula black with brownish tint. Tergites 2-5 laterally and every sternite reddish yellow. Legs black: coxae, trochanters, femora 2-3 to brownish black: rest of legs. Wings brownish fumous, pterostigma brown, venation proximo-distally brown to light brown.

Taxonomic remarks

1) *Bracon variator* is a variable species concerning the length of its ovipositor sheath and colour pattern. The length of the ovipositor sheath of the nominate form (i.e. the neotype) is just shorter than the length of the hind tibia + tarsus combined and the ground colour of the nominate form is black, tergites laterally and sternites almost entirely reddish yellow.

Esenbeck ab Nees, the describer of *B. variator*, mentioned the high variability of his species (this is the reason, certainly, that he gave the name “variator” to his species). In its description (Nees 1811: 7-10) under the paragraph “Nota” as well as in its redescription (Nees 1834: 77-81) under the paragraphs “Varietates” and “Observatio” he presented a long series of colour-pattern groups signed with Latin and Greek letters. The variability of these features had already been noticed by Wesmael (l.c.) too. He described two species under the names *B. bipartitus* and *B. maculiger* although they differ only by the length of the ovipositor sheath and corporal colouration (*B. maculiger*) and by the shortest length of ovipositor sheath (*B. bipartitus*). One-and-a-half centuries later these names were placed in synonymy with *B. variator* by Tobias (1986: 134). I consider; however, these two forms as (1) the variety of the nominate form *B. variator* (var. *bipartitus*) and (2) as the variety of *B. dichromus* (var. *maculiger*, rectified variety).

2) In the series (16 ♀♀ + 6 ♂♂) of Wesmael’s Collection 9 ♀ and 2 ♂ specimens were identified and labelled by Wesmael which are considered as the nominate form of *B. variator sensu* Wesmael. The rest of the specimens (7 ♀♀ + 4 ♂♂) are divided among four colour varieties signed by Wesmael (l.c.) as var. 1 - 4, the four varieties cover the following specimens: var. 1.: 1 ♀ (metasoma, except black

first tergite, reddish yellow with a narrow black streak medially, ovipositor sheath as long as hind tibia + tarsus combined; var. 2.: 5 ♀♀ + 2 ♂♂ (metasoma almost entirely black, melanic form); var. 3.: 2 ♂♂ (tergites beyond first tergite darkening reddish yellow to dark brown, legs pale yellow, coxae + trochanters brown to brownish); var. 4.: 1 ♀ (metasoma colour similar to that of var. 1., ovipositor sheath just shorter than hind tibia + tarsus combined). From among the nominate form (9 ♀♀ + 2 ♂♂) 1 ♀ is the neotype, 3 ♀♀ + 2 ♂♂ are labelled as "dét. C. Wesmael" and 5 ♀♀ are labelled as "dét. T. A. Marshall"; the latter five ♀♀ were identified but not labelled by Wesmael, because the first labels "Coll. Wesmael" are attached on them indicating that these specimens belong also to the original series of *B. variator* Nees *sensu* Wesmael.

Varieties of the species *B. variator* Nees *sensu* Wesmael

Besides the nominate form four, mainly colour pattern, varieties are distinguished:

1) *B. variator* var. *bipartitus* (Wesmael, 1838) (= *ab. flavator* Fahringer, 1928, = *rotundulus* Szépligeti, 1901). (a) Ovipositor sheath almost as long as hind tibia + basitarsus combined, (b) metasoma light coloured: scutum of first tergite blackish to black (rarely partly), otherwise tergites reddish yellow to rusty. Basal half of hind tibia yellow. Tegula rarely yellow to brownish.

Material examined

74 ♀♀ + 19 ♂♂ from 21 countries: ENGLAND: 4 ♀♀ from three localities. FINLAND: 1 ♀. FRANCE: 10 ♀♀ + 1 ♂ from five localities. GERMANY: 5 ♀♀ from three localities. BOHEMIA: 1 ♂. HUNGARY: 14 ♀♀ + 5 ♂♂ from thirteen localities. ROMANIA: 4 ♀♀ from four localities. CROATIA: 2 ♀♀ + 1 ♂ from two localities. MACEDONIA: 1 ♀. BULGARIA: 1 ♀. GREECE: 5 ♀♀ + 3 ♂♂ from five localities. SPAIN: 7 ♀♀ from seven localities. ITALY: 9 ♀♀ + 2 ♂♂ from seven localities. CYPRUS:

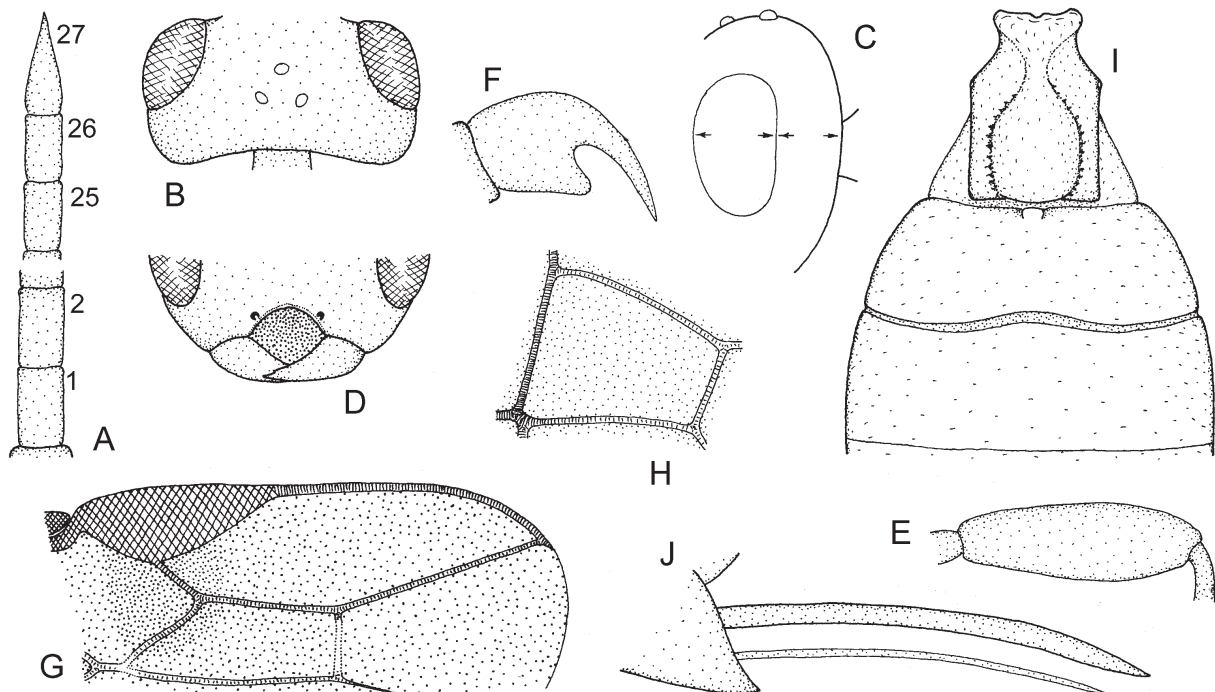


Fig. 67. *Bracon (Glabrobracon) variator* Nees, 1811, ♀ neotype. **A.** flagellomeres 1-2 and 25-27. **B.** Head in dorsal view. **C.** Head in lateral view. **D.** Head in frontal view. **E.** Hind femur. **F.** Claw. **G.** Distal part of right forewing. **H.** First discal cell of right forewing. **I.** Tergites 1-3. **J.** Hypopygium and ovipositor apparatus.

1 ♀. TURKEY: 4 ♀♀ + 2 ♂♂ from six localities. ALGERIA: 1 ♀ + 1 ♂ from two localities. SYRIA: 1 ♀ + 1 ♂ from two localities. EUROPEAN RUSSIA: 2 ♀♀ from two localities. UKRAINE: 1 ♂. TURKMENISTAN: 1 ♂. MONGOLIA: 2 ♀♀ from two localities.

2) *Bracon variator* var. *collinus* (Szépligeti, 1901) (= var. *nigerrima* Fahringer, 1928, = *ab. niger* Papp, 1966). A melanic form: body almost entirely, i.e. second tergite most laterally dark rusty to entirely black, legs also entirely black.

Material examined

29 ♀♀ + 9 ♂♂ from 12 countries: DENMARK: 1 ♀. AUSTRIA: 1 ♀. SWITZERLAND: 1 ♀. SLOVAKIA: 1 ♀. HUNGARY: 15 ♀♀ + 7 ♂♂ from twenty localities. ROMANIA (Transsylvania): 4 ♀♀ from three localities. BOSNIA-HERZEGOVINA: 1 ♀. KOSOVO: 2 ♀♀ from one locality. GREECE: 1 ♀ + 1 ♂ from two localities. ITALY: 1 ♀. UKRAINE: 1 ♀. TURKEY: 1 ♂.

3) *Bracon variator* var. *flavipes* Papp, 1966. Legs light coloured: yellow, at most coxae blackish to black, middle and hind femora sometimes darkening blackish or hind tibia sometimes darkening distally. Tegula frequently yellow, brownish yellow to brown. Wings less brownish fumous.

Material examined

9 ♀♀ + 6 ♂♂ from six countries: SLOVAKIA: 1 ♂. HUNGARY: 6 ♀♀ + 5 ♂♂ from ten localities. ROMANIA (Transsylvania): 4 ♀♀ from four localities. GREECE: 1 ♀. TURKEY: 2 ♀♀ from one locality. UKRAINE (Sub-Carpathian): 1 ♀.

4) *Bracon variator* var. *kotulai* (Niezabitowski, 1910). Ovipositor apparatus extremely long: nearly to fully as long as to just longer than body.

Material examined

4 ♀♀ from three countries: ENGLAND: 1 ♀. GERMANY: 2 ♀♀ from two localities. AUSTRIA: 1 ♀.

Remark

Fahringer's (1928: 498) "var. *dimidiata*" is identical with the nominate form of *B. variator* Nees.

Altogether the examined material (nominate form + four varieties) of *B. variator* is 449 ♀♀ + 482 from forty countries.

Variable features of both the nominate form and the four varieties of *B. variator*

Body (2.5-)3-4.5(-5) mm (♀) and 2.5-4(-4.5) mm (♂) long. Antenna somewhat shorter to somewhat longer than body (♀) or usually somewhat to distinctly longer than body (♂). Antenna with (22-)25-30(-37) antennomeres (♀) or with 23-32(-36) antennomeres (♂). Flagellomeres 1.3-1.7 times (♀) or 1.6-1.9(-2) times (♂) longer than broad, ♀ flagellomeres exceptionally subcubic. Head in dorsal view (1.6-)1.7-2 times as broad as long (♀♂). Hind femur 3-3.4 times as long as broad distally (♀♂); that of ♂ exceptionally four times longer. Forewing: pterostigma 2.2-2.8 times, usually 2.4-2.5 times, as long as wide. Second submarginal cell rather exceptionally long, 3-SR 1.4-1.5 times longer than 2-SR (♀♂). First tergite 1.3-1.5 times longer than broad behind (♀♂), exceptionally first tergite unusually broad, i.e. 1.1-1.2 times as long as broad (♀). Second tergite antero-medially rugulose (♀). Tergites 2-3 either equal in length or sometimes third tergite slightly longer (♀♂) or, rarely, second tergite longer than third tergite (♀). Ovipositor sheath as long as hind tibia (frequently somewhat shorter) to as long as hind tibia + basitarsus combined.

Hosts (n nominate form + four varieties)

COL. Anobiidae: *Ernobius nigrinus* Sturm. Bruchidae: *Bruchidius laticollis* Boheman, *B. lentis* Frölich, *B. lividimanus* Gyllenhal, *B. poupiliieri* Allman, *Bruchus atomarius* Linnaeus, *B. viciae* Olivier. Curculionidae: *Anthonomus pomorum* Linnaeus, *Baris chlorizans* Germar, *B. cuprirostris* Fabricius, *B. laticollis* Marsham, *Glocianus punctiger* Gyllenhal, *Gymnetron asellus* Gravenhorst, *G. tetrum* Fabricius, *Larinus jaceae* Fabricius, !*L. flavescens* Germar, *L. turbinus* Gyllenhal, *Magdalis rufa* Germar, !*Miarus campanulae* Linnaeus, *Microlarinus lareyniei* Jacquelin du Val, *Mononychus punctumalbum* Herbst, *Pissodes validirostris* C.R. Sahlberg et J. Sahlberg, *Sibinia viscaria* Linnaeus, *Sitona longulus* Gyllenhal. — LEP. Lithocolletidae: *Phyllonorycter mespiella* Hübner. Coleophoridae: *Coleophora coronillae* Zeller, *C. medelichennis* Knone. Sesiidae: *Synanthedon adrenaeformis* Laspeyres. Gelechiidae: *Mesophleps corsicellus* Herrich-Schäffer, *Pexicopia malvella* Hübner, *Platyedra subcinerea* Haworth. Tortricidae: *Barbara herrichiana* Obrotzov, *Dichrorampha petiverella* Linnaeus, *Eucosma cana* Haworth, *Grapholitha cerasana* Koz., *G. funebrana* Treitschke, *Laspeyresia capparidana* Zeller, *L. strobilella* Linnaeus, *Pandemis cerasana* Hübner, !*Retinia resinella* Linnaeus. Cochyliidae: *Cochylis epilinana* Duponchel. Phycitidae: !*Dioryctria abietella* Denis et Schiffermüller, *Etiella zinckenella* Treitschke, *Myelois cribrella* Hübner. Geometridae: *Cidaria lugilunaria* Hübner, *Perizoma lugdunaria* Herrich-Schäffer. Noctuidae: *Cucullia campanulae* Freyer, !*Hadena bicruris* Hufnagel. Pieridae: ?*Pieris brassicae* Linnaeus. Lycaenidae: *Lampides boeticus* Linnaeus. Nymphalidae: *Cynthia cardui* Linnaeus. — DIPT. Cecidomyiidae: *Contaniria fagi* Rübsaamen, *Dasineura senecionis* Rübsaamen. Syrphidae: !*Cheilosa albipila* Meigen, !*Ch. fraterna* Meigen. Tephritidae: *Noeëta pupillata* Fallén, *Phagocarpus permundus* Harris, *Sitarea scorzonera* Robineau-Desvoidy, *Sphenella marginata* Fallén. Tephritidae: *Tephritis cylindrica* Robineau-Desvoidy, *T. formosa* Loew, *T. leontodontis* DeGeer, *Urophora* sp. — HYM. Tenthredinidae: *Hoplocampa brevis* Klug, *H. flava* Linnaeus, *H. minuta* Christ. Cynipidae: ??*Biorhiza pallida* Olivier (= *Andricus terminalis*).

Taxonomic position

Within the subgenera *Glabrobracon* and *Pigeria* the species *B. variator* is nearest to *B. praecox* Wesmael and *B. piger* Wesmael, the three species are very similar to each other; however, they are differentiated by a few features keyed:

- 1 (2) Head in dorsal view transverse, 1.8-1.9 times as broad as long (Fig. 67B). First tergite 1.3-1.4 times as long as broad behind (Fig. 67I). ♀♂: 3-4.5 mm *B. (Gl.) variator* Nees, 1811
- 2 (1) Head in dorsal view less transverse to subcubic, 1.6-1.7 times as broad as long (Figs 40B; 41A; 42H). First tergite as long as to 1.2-1.3 times longer than broad behind (Figs 40K; 41C; 42F; 43H).
- 3 (4) Propleuron in lateral view concave, i.e. ventrally somewhat protruding (subgeneric feature of *Pigeria*, otherwise like *Glabrobracon*: cf. van Achterberg 1985; Fig. 41B). First tergite as long as broad behind (Fig. 40K; 41C). ♀♂: (2.5-)3.5-4.5 mm *B. (Pig.) piger* Wesmael, 1838
- 4 (3) Propleuron in lateral view not concave, i.e. usual in form, not protruding ventrally (Fig. 42A). First tergite 1.2-1.3 times as long as broad behind (Figs 42F; 43H). ♀♂: (2.5-)3.5-4.5 mm *B. (Gl.) praecox* Wesmael, 1838

Checklist of the *Bracon* species described by Wesmael and *Bracon* species Nees sensu Wesmael redescribed in 1838 with their synonymous names given in the present revision as well as two Fabricius' and one Spinola's *Bracon* species dealt with also by Wesmael (valid names in italics)

<i>abbreviator</i> Nees, 1834	=	<i>oostmaeli</i> Wesmael, 1838
(<i>amoenus</i> Ratzeburg, nom. nud.)	=	<i>regularis</i> Wesmael, 1838
(<i>anthracinus</i> Nees, 1834)	=	<i>picticornis</i> Wesmael, 1838
(<i>bellicosus</i> Papp, 1971)	=	<i>delibator</i> Haliday, 1833
(<i>biimpressus</i> Telenga, 1936)	=	<i>erraticus</i> Wesmael, 1838
(<i>bipartitus</i> Wesmael, 1838)	=	<i>megapterus</i> Wesmael, 1838
(<i>bisignatus</i> Wesmael, 1838)	=	<i>variator</i> Nees, 1834
(<i>brevicauda</i> Thomson, 1894)	=	<i>osculator</i> Nees, 1834
(<i>brevicornis</i> Wesmael, 1838)	=	<i>longicollis</i> Wesmael, 1838
(<i>breviusculus</i> Wesmael, 1838)	=	<i>Habrobracon hebetor</i> (Say, 1836)
(<i>carpaticus</i> Niezabitowski, 1910)	=	<i>immutator</i> Nees, 1834
<i>caudiger</i> Nees, 1834	?=	<i>dichromus</i> Wesmael, 1838
(<i>collaris</i> Telenga, 1936)	=	<i>scythus</i> Greese, 1928
(<i>collinus</i> Szépligeti, 1896)	=	<i>dichromus</i> Wesmael, 1838
<i>colpophorus</i> Wesmael, 1838	=	<i>variator</i> Nees, 1834
(<i>crassicauda</i> Thomson, 1894)	=	<i>mokrzekii</i> Niezabitowski, 1927
(<i>crassiusculus</i> Szépligeti, 1901)	=	<i>longicollis</i> Wesmael, 1838
(<i>crocatus</i> Schmiedeknecht, 1897)	=	<i>larvicida</i> Wesmael, 1838
(<i>degenerator</i> Marshall, 1885)	=	<i>fortipes</i> Wesmael, 1838
<i>delibator</i> Haliday, 1833	=	<i>osculator</i> Nees, 1834
<i>dichromus</i> Wesmael, 1838	=	<i>anthracinus</i> Nees, 1834
	=	<i>breviventris</i> Wesmael, 1838
	=	<i>carpaticus</i> Niezabitowski, 1910 syn. nov.
	=	<i>collaris</i> Telenga, 1936
	=	<i>discretus</i> Szépligeti, 1901
	=	<i>maculiger</i> Wesmael, 1838
	=	<i>ornatulus</i> Telenga, 1936
	=	<i>velbingeri</i> Fahringer, 1951
<i>discoideus</i> Wesmael, 1838	=	<i>dichromus</i> Wesmael, 1838
(<i>discretus</i> Szépligeti, 1901)	=	<i>immutator</i> Nees, 1838
(<i>efoveolatus</i> Thomson, 1894)	=	<i>bellicosus</i> Papp, 1971 syn. nov.
<i>erraticus</i> Wesmael, 1838	=	<i>confinis</i> Szépligeti, 1901
	=	<i>erythrostickus</i> Marshall, 1885
	=	<i>exarator</i> Marshall, 1885 syn. nov.
	=	<i>foveola</i> Thomson, 1894
	=	<i>hades</i> Papp, 1965
	=	<i>praetermissus</i> Marshall, 1885 syn. nov.
	=	<i>similis</i> Szépligeti, 1901
	=	<i>superciliosus</i> Wesmael, 1838
	=	<i>vectensis</i> Marshall, 1885 syn. nov.
	=	<i>ventricosus</i> Szépligeti, 1901
(<i>erythrostickus</i> Marshall, 1885)	=	<i>erraticus</i> Wesmael, 1838
(<i>exarator</i> Marshall, 1885)	=	<i>erraticus</i> Wesmael, 1838
<i>exhilarator</i> Nees, 1834	=	<i>satanas</i> Wesmael, 1838
	=	<i>striolatus</i> Thomson, 1894

(explorator Szépligeti, 1904)	=	<i>piger</i> Wesmael, 1838
<i>fortipes</i> Wesmael, 1838	=	<i>crocatu</i> s Schmiedeknecht, 1897
	=	<i>indubius</i> var. 2. Szépligeti, 1904
	=	<i>lautus</i> Szépligeti, 1901
	=	<i>semirugosus</i> Szépligeti, 1901
(foveola Thomson, 1894)	=	<i>erraticus</i> Wesmael, 1838
(fraudator Marshall, 1885)	=	<i>longicollis</i> Wesmael, 1838
<i>fulvipes</i> Nees, 1834	=	<i>kiritshenkoi</i> Telenga, 1936
	?=	<i>parvus</i> Niezabitowski, 1910
	=	<i>sylvanus</i> Greese, 1928
(fumigatus Szépligeti, 1901)	=	<i>pectoralis</i> Wesmael, 1838
(fumipennis Thomson, 1894)	=	<i>parvulus</i> Wesmael, 1838
<i>fuscicoxis</i> Wesmael, 1838	=	<i>levicarinatus</i> Niezabitowski, 1910 syn. nov.
(fuscipennis Wesmael, 1838)	=	<i>titubans</i> Wesmael, 1838
(gallarum Ratzeburg, 1852)	=	<i>picticornis</i> Wesmael, 1838
(guttator Panzer, 1805, nom. obl.)	=	<i>variator</i> Nees, 1834
<i>guttiger</i> Wesmael, 1838		
(hades Papp, 1965)	=	<i>erraticus</i> Wesmael, 1838
<i>immutator</i> Nees, 1834	=	<i>breviusculus</i> Wesmael, 1838 syn. nov.
	=	<i>efoveolatus</i> Thomson, 1894
(indubius var. 2. Szépligeti, 1904)	=	<i>fortipes</i> Wesmael, 1838
(indubius var. 1. Szépligeti, 1901)	=	<i>nigriventris</i> Wesmael, 1838
<i>intercessor</i> Nees, 1834	=	<i>laetus</i> Wesmael, 1838 syn. nov.
(juniperatae Ratzeburg, nom. nud.)	=	<i>picticornis</i> Wesmael, 1838
(kiritshenkoi Telenga, 1936)	=	<i>fulvus</i> Nees, 1834
(laetus Wesmael, 1838)	=	<i>intercessor</i> Nees 1834
(laevigatissimus Dalla Torre, 1898)	=	<i>picticornis</i> Wesmael, 1838
<i>larvicida</i> Wesmael, 1838	=	<i>crassiusculus</i> Szépligeti, 1901
(laticeps Telenga, 1936)	=	<i>nigriventris</i> Wesmael, 1838
(lautus Szépligeti, 1901)	=	<i>fortipes</i> Wesmael, 1838
(lencoranus Telenga, 1936)	=	<i>nigriventris</i> Wesmael, 1838
(levicarinatus Niezabitowski, 1910)	=	<i>fuscicoxis</i> Wesmael, 1838
<i>longicollis</i> Wesmael, 1838	=	<i>brevicauda</i> Thomson, 1894
	=	<i>crassicauda</i> Thomson, 1894
	=	<i>fraudator</i> Marshall, 1885
	=	<i>subcylindricus</i> Wesmael, 1838 syn. nov.
	=	<i>dichromus</i> Wesmael, 1838
(maculiger Wesmael, 1838)		
<i>mediator</i> Nees, 1834		
<i>megapterus</i> Wesmael, 1838	=	<i>biimpressus</i> Telenga, 1936 syn. nov.
<i>minutator</i> (Fabricius, 1798)		
(minutus Szépligeti, 1901)	=	<i>osculator</i> Nees, 1811
(mokrzekii Niezabitowski, 1927)	=	<i>colpophorus</i> Wesmael, 1838
<i>nigratus</i> Wesmael, 1838	=	<i>orbicularis</i> Niezabitowski, 1910 syn. nov.
<i>nigricollis</i> Wesmael, 1838		
<i>nigriventris</i> Wesmael, 1838	=	<i>indubius</i> var. 1. Szépligeti, 1901
	=	<i>laticeps</i> Telenga, 1936
	=	<i>lencoranus</i> Telenga, 1936
	=	<i>palpebator</i> Ratzeburg, 1844
	=	<i>persimilis</i> Telenga, 1936
	=	<i>subornatus</i> Szépligeti, 1901

- obscurator* Nees, 1811
 (ochrosus Szépligeti, 1896)
 (oostmaeli Wesmael, 1838)
 (orbicularis Niezabitowski, 1910)
 (ornatulus Telenga, 1936)
osculator Nees, 1811
- (palpebrator Ratzeburg, 1844)
parvulus Wesmael, 1838
 (parvus Niezabitowski, 1910)
pectoralis Wesmael, 1838
- (persimilis Telenga, 1936)
peroculatus Wesmael, 1838
picticornis Wesmael, 1838
- piger* Wesmael, 1838
- praecox* Wesmael, 1838
- (praetermissus Marshall, 1885)
 (regularis Wesmael, 1838)
roberti Wesmael, 1838
 (rotundatus Szépligeti, 1901)
 (rotundulus Szépligeti, 1904)
 (satanas Wesmael, 1838)
 (scutellaris Ratzeburg, 1848)
scutellaris Wesmael, 1838
 (scythus Greese, 1928)
 (semilunatus Dalla Torre, 1898)
 (semiluteus Walker, 1874)
 (semirugosus Szépligeti, 1901)
stabilis Wesmael, 1838
 (striolatus Thomson, 1894)
 (subcylindricus Wesmael, 1838)
 (subornatus Szépligeti, 1901)
 (superciliosus Wesmael, 1838)
 (sylvanus Greese, 1928)
 (tarsator Thomson, 1894)
- = *pectoralis* Wesmael, 1838
 = *abbreviator* Nees, 1834
 = *nigratus* Wesmael, 1838
 = *dichromus* Wesmael, 1838
 = bisignatus Wesmael, 1838
 = coniferarum Fahringer, 1927 (Schmiedeknecht *in litt.*)
syn. nov.
 = degenerator Marshall, 1885
 = minutus Szépligeti, 1901
 = temporalis Telenga, 1936
 = venustus Telenga, 1936
 = *nigriventris* Wesmael, 1838
 = fumipennis Thomson, 1894
 ?= *fulvipes* Nees, 1834
 = fumigatus Szépligeti, 1901
 = ochrosus Szépligeti, 1896
 = *nigriventris* Wesmael, 1838
- = amoenus Ratzeburg, nom. nud.
 = gallarum Ratzeburg, 1852
 = juniperatae Ratzeburg, nom. nud.
 = laevigatissimus Dalla Torre, 1898
 = scutellaris Ratzeburg, 1848
 = versicolor Szépligeti, 1901
 = vitripennis Ratzeburg, 1852 **syn. nov.**
 = explorator Szépligeti, 1904
 = rotundatus Szépligeti, 1901
 = rotundulus Szépligeti, 1904
 = semiluteus Walker, 1874
 = semilunatus Dalla Torre, 1898
 = *erraticus* Wesmael, 1838
 = *abbreviator* Nees, 1834
- = *piger* Wesmael, 1838
 = *piger* Wesmael, 1838
 = *exhilarator* Nees, 1834
 = *picticornis* Wesmael, 1838
- ?= *caudiger* Nees, 1834
 = *praecox* Wesmael, 1838
 = *piger* Wesmael, 1838
 = *fortipes* Wesmael, 1838
 = *Habrobracon stabilis* (Wesmael, 1838)
 = *exhilarator* Nees, 1834
 = *longicollis* Wesmael, 1838
 = *nigriventris* Wesmael, 1838
 = *erraticus* Wesmael, 1838
 = *fulvipes* Nees, 1834
 = *titubans* Wesmael, 1838

(temporalis Telenga, 1936)	=	<i>osculator</i> Nees, 1811
<i>tenuicornis</i> Wesmael, 1838		
<i>terebella</i> Wesmael, 1838		
(terebrator Szépligeti, 1901)	=	<i>titubans</i> Wesmael, 1838
<i>titubans</i> Wesmael, 1838	=	<i>fuscipennis</i> Wesmael, 1838 syn. nov.
	=	<i>tarsator</i> Thomson, 1894
	=	<i>terebrator</i> Szépligeti, 1901
<i>urinator</i> (Fabricius, 1798)		
<i>variator</i> Nees, 1811	=	<i>bipartitus</i> Wesmael, 1838
	=	<i>collinus</i> Szépligeti, 1896
	=	<i>guttator</i> Panzer, 1805 nom. obl.
<i>variegator</i> Spinola, 1808		
(vectensis Marshall, 1885)	=	<i>erraticus</i> Wesmael, 1838
(velbingeri Fahringer, 1951)	=	<i>dichromus</i> Wesmael, 1838
(venustus Telenga, 1936)	=	<i>osculator</i> Nees, 1811
(versicolor Szépligeti, 1901)	=	<i>picticornis</i> Wesmael, 1838
(vitripennis Ratzeburg, 1852)	=	<i>picticornis</i> Wesmael, 1838

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