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Monograph

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Revision of the genus *Sulciclivina* Balkenohl, 2022 from Asia (Coleoptera, Carabidae, Clivinini)

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Abstract. The Oriental genus *Sulciclivina* is revised based on 770 specimens. *Sulciclivina attenuata attenuata* (Herbst, 1806), *S. bhamoensis* (Bates, 1892), *S. striata striata* (Putzeys, 1846), *S. sulcigera* (Putzeys, 1866), and *S. sagittaria sagittaria* (Bates, 1892) are redescribed. In order to maintain stability of the nomenclature, lectotypes have been designated for *S. attenuata attenuata*, *S. bhamoensis*, *S. striata striata*, and *S. sagittaria sagittaria*. The following twelve new taxa are described: *S. attenuata semireticulata* subsp. nov., *S. striata kottea* subsp. nov., *S. coxisetosa* sp. nov., *S. basiangusta* sp. nov., *S. splendida* sp. nov., *S. mikirensis* sp. nov., *S. karelkulti karelkulti* sp. nov., *S. karelkulti medanensis* subsp. nov., *S. curvata* sp. nov., *S. oculiangusta* sp. nov., *S. andrewesi* sp. nov., and *S. sagittaria singaporensis* subsp. nov. An identification key to the species is provided which includes the characterization of the two new species groups *attenuata* and *sagittaria*. All taxa are figured including male and female genitalia, if available. The available faunistic information is provided, and distribution records are displayed on a map.

Keywords. Ground beetles, Scaritinae, Oriental region, alpha-taxonomy, key to species.

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Introduction

Among the members of the Oriental genus *Clivina* Latreille, 1802, there is a group of species, of which external morphological characters are extraordinarily different from the other members of the genus. Kult (1951) already recognized some of the outstanding characters, treated them on a separate group level, and called it the *Clivina* “*attenuata*-group”.

A recent investigation of the external female reproductive tract (Balkenohl 2022) confirmed the outstanding position, which resulted in the description of the separate genus *Sulciclivina* Balkenohl, 2022.

In the same contribution, it was realized that some of the specific external characters are shared with three other groups of Clivinini from the Oriental region and Africa. The grouping is not only strongly supported by the different characters of the habitus but also by specific exclusive characters of the external female reproductive tract and by ecological preferences. The finds lead to changes in the systematics of the Clivinini Rafinesque, 1815 at a suprageneric level. For the four groups concerned (*Thliboclivina*

Kult, 1959, *Physoclivina* Kult, 1959, *Eoclivina* Kult, 1959, and *Sulciclivina* Balkenohl, 2022) the subtribe Thliboclivinina was erected and the four genera were delimited in an identification key (Balkenohl 2022).

Members of *Sulciclivina* have not been revised for over ninety years with the last available treatment at species level by Andrewes (1929).

Therefore, this contribution has the goal to revise the taxa of the genus at an α -taxonomic level including their distribution.

Material and methods

With the exception of one species, the genus is not well represented in collections. In total, 770 specimens were located and investigated simultaneously. This includes newly collected material as well as historic specimens. The type material is spread over several museums across Europe. From all formerly described species, type material was located and made available. Lectotypes have been designated in cases where there was more than one syntype (sometimes labelled as ‘cotype’) available, but no indication of the holotype. These new designations were carried out in order to maintain stability of the nomenclature and this is specifically mentioned in each case under ‘type material’ and/or ‘remarks’. The method of investigating type and other material simultaneously minimizes interpretation and memory errors.

External characters of the species are not striking in general (with the exception of the *S. sagittaria*-species group). However, the male and female genitalia often provide distinct differences, requiring dissection for most of the specimens if series are not available.

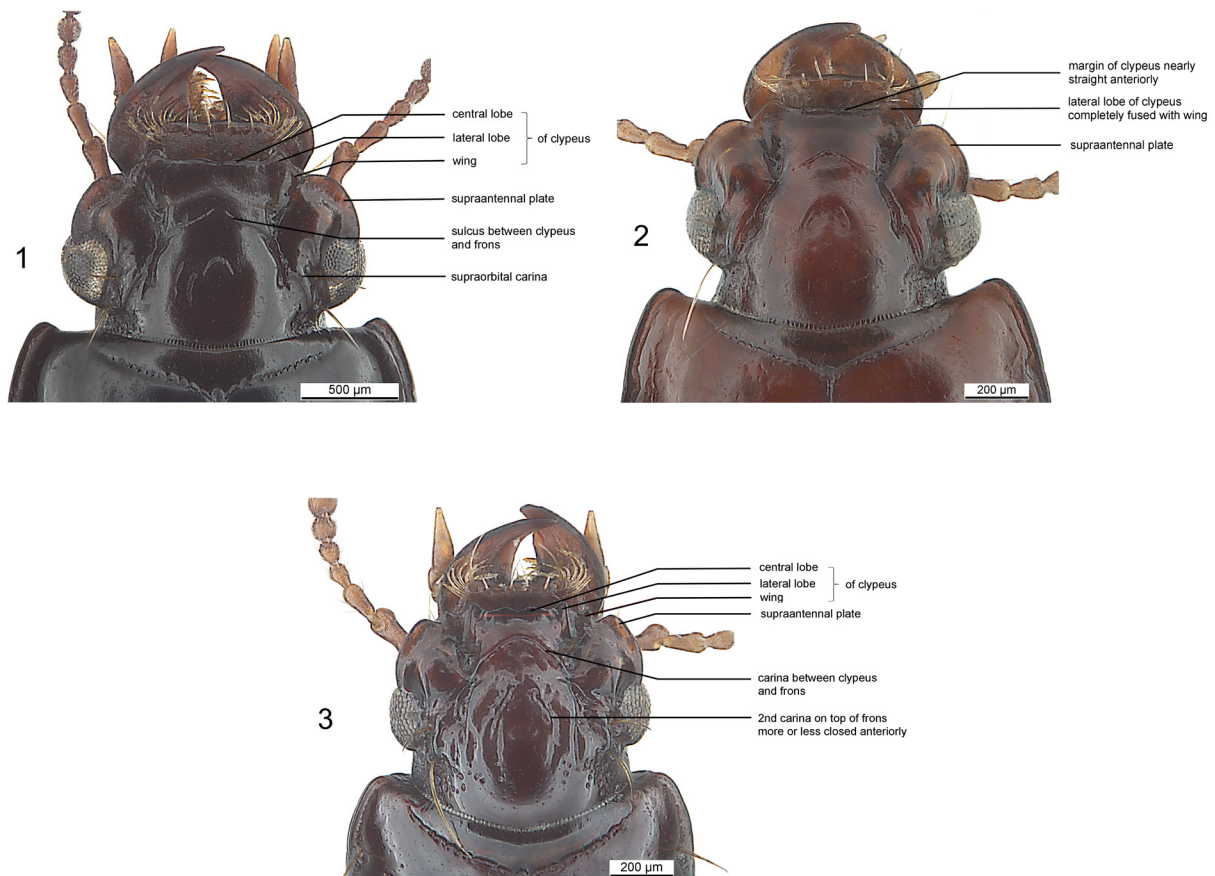
The complete information on labels is given verbatim in the description chapters, including original spacing, capitalization, and punctuation. The data is displayed in quotation marks. Different labels are separated by a slash. In many cases, the historic material is not in good condition. It was carefully cleaned, remounted on new cards after dissection, and all original supportive material like the original cards and pins were kept together with the specimen on the same pin. In a few cases, the specimens were broken with fragments deposited separately on the card or in gelatin capsules. To get a realistic picture of the specimen, it was remounted as well as possible.

In general, terms, descriptions of characters, microscopy, measurements, and imaging conditions are based on Balkenohl (2021a). The different development of the clypeus in *Sulciclivina* is explained in Figs 1–3.

As in many genera of Clivinini, members of the genus *Sulciclivina* show specific reticulation (usually isodiametric) on the external surface, e.g., on the elytron. Consequently, a completely cleaned surface is mandatory. Persistent dirt was treated by placing specimens in a glass cleaner overnight. This anionic tenside solution also removes particles out of the pubescence of antennomeres. The abdominal sternites often show specific patterns of punctuation and a different degree of reticulation. Therefore, it is recommendable to mount the specimens in a way allowing full visibility of the sternites. The same is true for the mentum.

The dissected genitalia were mounted and investigated as described in detail in Balkenohl (2021a). In the descriptions and figure legends, the position (dorsal, lateral) of the genitalia is described as it is positioned in the soaked but not yet dissected specimen in dorsal view. Female gonocoxites and epipleurites are sometimes fully or partly everted in dry non-dissected specimens and allow a certain understanding of their natural position when everted. In all of these cases, the apical tips of the gonocoxites are pointed upright dorsally. This has been considered when displaying the coxites on the pictures with the apical tip directed upwards. Dissected specimens are indicated separately under ‘material’ as males and females, respectively. These specimens were also assessed for the status of the alae.

Mounting of the female gonocoxites requires much care. In *Sulciclivina*, the gonocoxites are around 50–60% smaller in relation to body size than it is the case in all the twenty genera with falciform gonocoxites (see catalogue of gonocoxites in Balkenohl 2022). In older and especially in historic material, the surrounding tissue is often rotten, black-crumbly, and with muscles, fat body and connecting tissue evidently hardened. The rotten material glues on the coxites and often in the basal oroficium. In addition, the gonocoxites and epipleurites are more brittle than in fresh material. In those cases and during cleaning, setae or the complete gonocoxite and epipleurite tend to break. Usually, the number of setae can be assessed by identifying the setae generating (setigerous) punctures. The female gonocoxites one and two are completely fused in general (monomeric). They are flattened, foliaceous, and basally with a large lateral oval opening where muscles and connecting tissue is passing through. The shape is leaf-like and partly more or less hyaline. In the majority of the species, there is one long apical seta and three, four or five additional lateral setae present. The epipleurite is always aseptose. Its articulation is reduced to two joints. The shape of the gonocoxites and epipleurites and the different number of setae is species specific. The specific terms used for describing these parts of the female reproductive tract are described in detail in Balkenohl (2022).



Figs 1–3. *Sulciclivina* Balkenohl, 2022, head in dorsal view, showing the specific terms used. **1.** *Sulciclivina attenuata attenuata* (Herbst, 1806), ♀, lectotype (MFNB). **2.** *S. splendida* sp. nov., ♂, holotype (NHMB). **3.** *S. sagittaria sagittaria* (Bates, 1892), ♂, paralectotype (NHMUK).

Repositories

- CADW = Collection Alexander Dostal (including collection Karel Kult), Vienna, Austria
CMBB = Collection Michael Balkenohl (including collection Jochen-P. Saltin), Bonstetten, Switzerland (formerly CBA)
ETHZ = Entomological Collection of the Eidgenössische Technische Hochschule Zürich, Switzerland
MFNB = Museum für Naturkunde Berlin, Germany
MNHN = Muséum national d'histoire naturelle, Paris, France
MSNF = Museo di Storia Naturale Firenze, Italy
MTMB = Magyar Természettudományi Múzeum, Budapest, Hungary
NHMB = Naturhistorisches Museum Basel, Switzerland
NHMP = Natural History Museum, Prague, Czech Republic
NHMUK = Natural History Museum, London, United Kingdom
NHMW = Naturhistorisches Museum, Vienna, Austria
NKME = Naturkundemuseum Erfurt, Erfurt, Germany
OUMNH = Oxford University Museum of Natural History, Oxford, United Kingdom
RBINS = Royal Belgian Institute of Natural Sciences, Brussels, Belgium
SMNS = Staatliches Museum für Naturkunde, Stuttgart, Germany
UMMZ = University of Michigan, Museum of Zoology, Ann Arbor, USA

Abbreviations

- [...] = in brackets: additional information by the author
[sic] = inserted to indicate verbatim quotation
hswd = historic specimen without further data
HT = holotype
LT = lectotype
L/W = ratio length divided by width (used for the pronotum, elytra, and antennomeres)
n = number of specimens
PLT = paralectotype
PT = paratype
 \bar{x} = arithmetic mean (used in the measurements for the descriptive statistics)

Results

The genus *Sulciclivina* Balkenohl, 2022 has been described including diagnostic differentiation and an identification key to the four genera of the subtribe Thliboclivinina in Balkenohl (2022). Four genera are included in the subtribe: *Thliboclivina* Kult, 1959, *Eoclivina* Kult, 1959, *Physoclivina* Kult, 1959, and *Sulciclivina* Balkenohl, 2022. In this monograph, the five known species of the genus *Sulciclivina* are redescribed, eight new species and four new subspecies are described and an identification key for all seventeen taxa is provided.

Taxonomy

Class Insecta Linnaeus, 1758
Order Coleoptera Linnaeus, 1758
Family Carabidae Latreille, 1802
Subfamily Scaritinae Bonelli, 1810
Tribe Clivinini Rafinesque, 1815
Subtribe Thliboclivinina Balkenohl, 2022

Genus *Sulciclivina* Balkenohl, 2022

Type species: *Scarites attenuatus* Herbst, 1806, by original designation.

Identification key to the species of the genus *Sulciclivina* Balkenohl, 2022

1. Frons of head with two long and sharp carinae, both of them in form of an inverted letter V. Anterior margin of clypeus with clypeal wings distinctly developed. Eyes small, embedded in dorsal view. Body cylindrical. Elytron fuscous*S. sagittaria*-species group ...11
 - Frons of head with a long and engraved sulcus in form of an obtuse inverted letter V. Anterior margin of clypeus with clypeal wings indistinct. Eyes usually semi-hemispherical projecting postero-laterally. Body not cylindrical. Elytron piceous *S. attenuata*-species group ...2
2. Pronotum subquadratic or subglobose, wider than long. Elytra distinctly shorter-oval, intervals of elytron without reticulation or with only a smaller strip of reticulation beside lateral channel 3
 - Pronotum peltate, longer than wide or as long as wide. Elytra long-oval, elongate, or subparallel, intervals of elytron reticulated on interval eight or more intervals 5
3. Elytra in lateral view distinctly vaulted, distinctly oval throughout, all intervals distinctly convex, all intervals carinate apically; interval eight with strip of reticulation beside lateral channel. Pronotum with base extraordinarily narrow (less than a fifth of width of pronotum). Clypeal wings indistinctly visible. Body length 6.6 mm. Meghalaya, North of India *S. basiangusta* sp. nov.
 - Elytra in lateral view indistinctly convex or flattened in anterior half, long-oval, interval one to four moderately convex; all intervals convex apically or interval eight carinate at apex; interval eight smooth. Pronotum with base regularly sized (about a fourth of width of pronotum). Clypeal wings not visible 4
4. Elytra in lateral view flattened in anterior half; interval eight of elytron convex apically, half as wide as interval seven; shape of elytra oval throughout. Pronotum subglobose with deeply carved median line, with longitudinal cloud of smaller-sized punctures paralaterally in basal part, with paramedian group of few punctures. Body length 5.7 mm. Nepal: Danda Pakhar *S. coxisetosa* sp. nov.
 - Elytra in lateral view slightly convex in anterior half; interval eight of elytron carinate apically, narrow; shape of elytra long-oval with straight and diverging part in anterior half. Pronotum subsquare with median line regularly engraved and slightly punctured, with circular group of medium-sized punctures basolateral, with paramedian impression basally. Body length 5.2–5.6 mm. India: Barway, Nagpur *S. splendida* sp. nov.
5. Large-sized species (7.4–9.4 mm). Pronotum with lateral margin more or less attenuating anteriorly 6
 - Smaller-sized species (6.1–7.6 mm). Pronotum with lateral margin subparallel or convex 8
6. Elytron with interval eight reticulated, only. Striae of elytron distinctly punctured. Proepisternum in dorsal view slightly swollen laterally or distinctly visible and appearing more edged. Lobe of mentum without carinae. Venter with sternites at middle punctured or smooth 7
 - Elytron with interval eight and up to half of width of interval seven reticulated. Striae of elytron with shallow punctures. Proepisternum distinctly swollen laterally (dorsal view). Pronotum with semi-circular group of basolateral punctures and longitudinal group of paramedian punctures. Lobe of mentum with askew carinae. Venter with sternites at middle smooth. Aedeagus moderately long and slender, with spoon-like spatula. Gonocoxites not tuberculate, with attenuated apical tip. Body length 7.4–8.3 mm. Myanmar and Assam *S. bhamoensis* (Bates, 1892)
7. Shape of elytra long-oval. Lateral margin of pronotum slightly convex. Pronotum basolaterally without or with small group of punctures (around 2–4 punctures), without group of paramedian punctures. Proepisternum slightly swollen laterally in dorsal view. Gonocoxites with seta-generating punctures tuberculate, with protuberance at apex. Body length 7.8–9.4 mm. North of Pakistan, North of India,

- Nepal, Bhutan, and Arunachal Pradesh, up to the middle parts of India
*S. attenuata attenuata* (Herbst, 1806)
- Specimen from Java: pronotum with lateral margin nearly straight, slightly concave in anterior third. Interval seven hanging over laterally behind humerus, covering interval eight nearly completely in dorsal view. Reticulation on interval eight indistinct, covers only half of width of the interval. Body length 8.8 mm. Indonesia: Java *S. attenuata semireticulata* subsp. nov.
 - Shape of elytra elongate. Lateral margin of pronotum distinctly straight. Pronotum basolaterally with impression and elongated group of punctures (around 25–30 punctures), with longitudinal cloud of medium-sized punctures situated paramedially and reaching from middle of pronotum up to base. Proepisternum distinctly visible in dorsal view and appearing more edged. Gonocoxites somewhat jolted, rounded at apex, seta-generating punctures not tuberculate. Body length 7.7 mm. Assam, Mikir Hills*S. mikirensis* sp. nov.
8. Distinctly slender species. Clypeus indistinctly bilobed, nearly straight. Eyes less protruding laterally. Pronotum longer than wide, lateral margin subparallel, with paramedian longitudinal group of punctures in basal half. Elytra subparallel, twice as long as wide, stria five hardly punctate. Aedeagus with apical lateral hump and distinct dorsal bulge, apex with short flattened spatula. Gonocoxites leaf-shaped, long narrowed basally. Body length 6.1–6.9 mm. North of India (Uttar Pradesh) up to the South of Kerala and Tamil Nadu*S. striata striata* (Putzeys, 1846)
- Specimen from Sri Lanka: clypeus with blunt carina in front of sulcus, sulcus undulated. Anterior angles of pronotum distinctly acutely advanced, anterior transverse line reaching anterior margin at declivity, disk with distinct circular group of impressed punctures located paramedian in basal half. Reticulation on interval eight covers only half of width of the interval. Proepisternum distinctly visible in dorsal view. Body length 6.5 mm. Kotte, Sri Lanka*S. striata kottea* subsp. nov.
 - Wider species. Clypeus distinctly bilobed. Eyes distinctly protruding laterally. Pronotum with lateral margin convex (but see *S. karelkulti* sp. nov. with straight parts), indistinctly wider than long or as wide as long, with missing or indistinct paramedian group of punctures in basal half. Elytra long-oval, less than twice as long as wide 9
9. Elytron with reticulation on intervals 6–8, humerus reticulated up to interval five, whole apex of elytron reticulated by one-fifth of elytron (distinctly less in males). Pronotum with straight parts at lateral margin, disk with slight paramedian group of punctures (in addition to the general basolateral group). Lateral lobe of clypeus with longitudinal carina at middle. Sternites of abdomen with distinct reticulation at middle, opaque. Gonocoxites diamond-shaped. Body length 6.6–7.6 mm. Malayan peninsula*S. karelkulti karelkulti* sp. nov.
- Specimens from Sumatra: sternites of abdomen without reticulation at middle, glossy, but with a small transverse band of reticulation at apical margin (ventral strigae). Body length 6.5–7.2 mm. North of Sumatra*S. karelkulti medanensis* subsp. nov.
 - Elytron with reticulation on interval 8 or 8 and half of width of 7, humerus reticulated up to interval seven, apex of elytron almost smooth with traces sometimes at extreme tip of apex or with reticulation on interval seven at apex (females of *S. sulcigera* exhibit some reticulation close to apex – in case of doubt, the reticulation character on the sternites should be followed). Pronotum more or less convex at lateral margin, disk without paramedian group of punctures (the general basolateral group is present). Lateral lobe of clypeus almost smooth. Sternites of abdomen without reticulation at middle, glossy. Gonocoxites acuminate with apex pointed or gently elongated and distorted 10
10. Elytron with reticulation on half or slightly more than half of the width of interval 8, reticulation wanly. Proepisternum hardly visible in dorsal view. Interval 8 of elytron convex and fading at apex. Gonocoxites at apex gently elongated and distorted. Median lobe of aedeagus more massive, with dorsal bulge in apical half. Body length 6.1–7.1 mm. Java *S. curvata* sp. nov.

- Elytron with reticulation covering interval 8 completely and often also half of width of interval 7, reticulation distinct. Proepisternum distinctly visible in dorsal view. Interval 8 of elytron carinate up to tip of apex. Gonocoxites at apex acuminate with apex somewhat pointed. Median lobe of aedeagus slender, without dorsal bulge. Body length 6.4–7.6 mm. Vietnam, Laos, Cambodia, Thailand, Malaysia, and Indonesia (Sumatra, Java) *S. sulcigera* (Putzeys, 1867)
- 11. Larger-sized (6.6–7 mm); mandibles distinctly elongated and falcate; wings of clypeus distinct but rounded off; anterior carina on frons developed as distinctly obtuse inverted V; pronotum distinctly longer than wide with margins parallel; elytron elongate with margins parallel. Body length 6.6–6.9 mm. Bihar, India *S. andrewesi* sp. nov.
- Smaller-sized (4.6–5.2 mm); mandibles slightly falcate; wings of clypeus developed as sharp teeth or rounded off; anterior carina on frons developed as nearly right-angled inverted V; pronotum as long as wide or slightly longer than wide. Body length 4.6–5.2 mm 12
- 12. Head a quarter narrower than pronotum; wings of clypeus developed as sharp teeth; eyes somewhat constricted but not reduced; lateral margin of the pronotum distinctly attenuated anteriorly, disk of pronotum with a paralateral impression basally formed by impressed punctures and with a paramedian cloud-like longitudinal group of punctures of moderate size; proepisternum moderately well visible in dorsal view. Body length 4.7–5 mm. Myanmar *S. sagittaria sagittaria* (Bates, 1892)
- Specimens from the Malayan peninsula: frons of the head more rugose. Antennae shorter with antennomeres slightly longer than wide. Pronotum with lateral margin straighter as in the nominotypical subspecies, nearly concave in most of the specimens. Disk with a paralateral and a paramedian group of cloud-like punctures. The shape of the elytron is more elongate and parallel, slightly more than two times longer than wide. The crenulation behind the humerus is more distinct. The female gonocoxite are angular at base. Body length 4.6–5.1 mm. Malayan peninsula *S. sagittaria singaporensis* subsp. nov.
- Head a third narrower than pronotum; wings of clypeus rounded off; eyes reduced to a small band; lateral margin of the pronotum indistinctly attenuated anteriorly, disk of pronotum with an extended paralateral and a paramedian longitudinal cloud-like group of punctures of moderate size; proepisternum distinctly visible in dorsal view, conspicuously angled. Body length 5.2 mm. Kaziranga, Assam (North of India) *S. oculiangusta* sp. nov.

The species and subspecies of the genus Sulciclivina

Sulciclivina attenuata attenuata (Herbst, 1806)

Figs 1, 4–5, 24–26, 36–37, 53

Scarites attenuatus Herbst, 1806: 264 (original description).

Clivina picipes Bonelli, 1813: 481 (original description).

Clivina melanaria Putzeys, 1846: 586 (original description).

Scarites attenuatus – Putzeys 1846: 626 (observation); 1863: 51 (comparaison).

Clivina picipes – Putzeys 1846: 623 (redescription); 1863: 51 (additional description); 1867: 110 (first list of synonyms). — Bates 1889: 262 (list of synonyms); 1891: cccxxv (enumeration of synonyms); 1892: 275 (enumeration of synonyms). — Andrewes 1922: 393 (whereabouts of types); 1926: 374 (whereabouts of types); 1927: 98 (whereabouts of types); 1929: 355 (catalogue of synonymies); 1930: 111 (catalogue). — Balkenohl 1994: 25 (list of synonyms); 2001: 14 (catalogue); 2017: 255 (catalogue). — Csiki 1927: 497 (catalogue).

Clivina melanaria – Putzeys 1863: 51 (faunistics); 1867: 110 (first list of synonyms). — Bates 1889: 262 (list of synonyms); 1891: cccxxv (enumeration of synonyms); 1892: 275 (enumeration of

synonyms). — Andrewes 1919: 206 (whereabouts of types); 1922: 393 (whereabouts of types); 1926: 374 (whereabouts of types); 1927: 98 (whereabouts of types); 1929: 355 (catalogue of synonymies); 1930: 111 (catalogue). — Balkenohl 1994: 25 (list of synonyms); 2001: 14 (catalogue); 2017: 255 (catalogue). — Csiki 1927: 497 (catalogue).

Clivina attenuata – Putzeys 1867: 110 (catalogue). — Bates 1889: 262 (faunistics); 1891: cccxxv (faunistic enumeration); 1892: 275 (redescription and faunistics). — Andrewes 1919: 206 (whereabouts of types); 1921: 340 (faunistics); 1922: 393 (whereabouts of types); 1924: 11 (faunistics); 1926: 374 (whereabouts of types); 1927: 98 (whereabouts of types); 1929: 355 (redescription); 1930: 111 (catalogue). — Balkenohl 1994: 25 (faunistics); 2001: 14 (catalogue); 2017: 255 (catalogue). — Choi *et. al.* 2022: 190 (catalogue). — Csiki 1927: 497 (catalogue); 1933: 639 (catalogue). — Kult 1951: 25 (enumeration).

Clivina (Eoclivina) attenuata – Lorenz 2005: 145 (catalogue); 2022: 5ZB8C (catalogue).

Sulciclivina attenuata – Balkenohl 2022: 108, figs 2, 6, 46 (figures of gonocoxites and habitus, anatomy and new combination).

Diagnosis

A large-sized species with a peltate pronotum, with interval eight of the elytra reticulated, and the proepisternum slightly swollen laterally. It is the largest-sized species of the genus and differs from the most similar species *S. bhamoensis* by the pronotum, which shows basolaterally only a very small group of punctures or no punctures at all. In addition, the clypeal wings are slightly visible. Distinguished from all species of the genus by the gonocoxites with the seta-generating punctures tuberculate and with a protuberance at apex.

Type material of *S. attenuata*

Lectotype (by present designation)

INDIA • ♀; with grey black-framed, handwritten data in green ink: “attenuata n. Scarit. att. Ht.* Cl. picipes Dej. Bengal.” / white, black printed “4045” / white, black framed, handwritten in black ink and black printed “Hist.-Coll. 4045 Bengalen Zool. Mus. Berlin” / yellow, black-framed, printed “Hist.-Coll. Coleoptera Nr. 4045 Clivina attenuata n. Scarit. att. Ht.* Cl. picipes Dej. Bengalen Zool. Mus. Berlin” / white, black printed crossed, signed, dated in black ink “Pseudoclivina attenuata HBST. det. Balkenohl, 1996” / red, black printed “LECTOTYPE Sulciclivina attenuata attenuata (Herbst, 1806) des. M.Balkenohl 2023”; MFNB.

Paralectotypes

INDIA • 2 ♀♀, 1 ♂; same data as for lectotype but without first two labels; MFNB.

Remarks. For the lectotype, the specimen with the most complete number of labels and specifications has been selected which is also the most complete specimen. Nevertheless, the following parts are missing: left front leg with two terminal tarsomeres, right intermediate and left hind leg with four terminal tarsomeres, right hind leg completely missing. In the paralectotypes, antennomeres, palpomeres, tarsomeres and legs are missing. All four specimens show a pinhole on the right side with more or less cracked elytron and parts of the lower surface. Acronyms and symbols written on labels of the type material of Herbst are explained in Kuntzen (1912).

Other type material

Type of *S. picipes*

COUNTRY UNKNOWN • 1 ♂; with light grey, small labels and data handwritten in black ink: “picipes Bon. Dej.” / “picipes Bon.” / “C. Dejean”; MNHN.

Remarks. Half of the left hind tibia and tarsomeres one to five are missing. According to Putzeys (1846), the type material of *C. picipes* consists of one specimen indicated to be from “Amérique boréale”. It should be in the Collection Dejean. According to Andrewes (1926) it should be deposited in the “Turin Zool. Mus.”. He also emphasized that the specimen there is “doubtfully the type” (Andrewes 1926). In 1922, Andrewes already described an exchange of coloured labels including those for *C. picipes* and with “America”. However, Andrewes did not see the type of *Scarites attenuatus* Herbst (Andrewes 1922, 1926). The specimen listed above was located in MNHN among specimens of *Clivina* belonging to a different species group and I am convinced it also presents type material.

Types of *S. melanaria*

INDIA • 1 ♂; with white printed label and data: “Assam.” / “*Clivina indica* Putz. Teste Jun.1918, H. E. Andrewes.” / handwritten in black ink “*melanaria* Hope” / white, large, black framed, printed and handwritten in black ink “TYPE COL : 775 2/2 *Clivina melanaria* Putzeys HOPE DEPT.OXFORD”; OUMNH.

Remark. The following parts are missing: right front leg and in the right intermediate leg four apical tarsomeres.

COUNTRY UNKNOWN • 1 ♂; with identical labels as for the preceding specimen but additional small handwritten label “XIV” and large label “TYPE COL : 775 1/2 *Clivina melanaria* Putzeys HOPE DEPT. OXFORD”; OUMNH.

Remark. The following parts are missing: left maxillary palpomere, right antennomeres from pedicellus onwards, right hind tibia and tarsomeres, and left hind tarsomeres three to five.

COUNTRY UNKNOWN • 1 ♀; with light grey labels and data: handwritten in black ink “*Melanaria* Putz. Inde Type” / printed, black framed “Ex-Musæo Mniszech”; MNHN.

Remarks. The following parts are missing: three apical right antennomeres, four apical left antennomeres, left terminal tarsomere of hind leg, and all tarsomeres of right hind leg. In the description of *C. melanaria*, Putzeys (1846) mentioned one specimen from Assam in Coll. Hope. However, in the Hope collection (OUMNH) there are two specimens. Andrewes (1926) uses for *C. melanaria* and *C. striata* the term “types” (in plural), indicating that there is more than one specimen which seems to be correct. The name “*C. melanaria*” in Andrewes (1927: 98) is obviously a typing error.

Taxonomic remarks

The type material investigated consists of eight specimens belonging to the three available names *attenuata*, *melanaria* and *picipes*. The eight specimens are conspecific. This result also reflects the comparison of the aedeagi and the external reproductive tracts of females. It confirms the findings of Putzeys (1867), Andrewes (1929), and the catalogue listings in Csiki (1927), Balkenohl (2001, 2017) and Lorenz (2005, 2022).

Additional material

BHUTAN • 1 ♂; “Phuntsholing 2” / “400 m; 5 May 1972” / “Nat.-Hist, Museum Basel – Bhutan Expedition” / “*Clivina attenuata* Hbst. det. Balkenohl XI 1991”; NHMB • 1 ♀, 1 spec. [one without pronotum and head]; “Bootan; Dr. Templeton” / “Ind. Mus. 79.64.” / “*Clivina attenuata* Herbst H.E.Andrewes det.”; NHMUK.

INDIA • 1 spec.; “India Orient” / “Fry Coll. 1905.100” / “9630” / “*attenuata* Herbst” / “*Clivina attenuata* Herbst *picipes* Bon. *melanaria* Putzeys (Putz) India or-”; NHMUK • 1 spec.; same data as for preceding

but “*Clivina Indica* Putzeys (Putz); India or-” / “*Clivina attenuata* Hbst. det. Dr. A. Dostal 1994”; NHMUK • 1 ♂, 2 specs; “N. India 77.15” / “india”; NHMUK • 1 ♀; “Assam; W.Wittmer C.Baroni U. 1976” / “Kaziranga 75m 7-9 May 1975” / “CLIVINA (*Eoclivina*) sp. P.Bulirsch det. 2016”; NHMB • 1 ♀; “Konba” / “*Clivina attenuata* Herbst”; RBINS • 3 ♀♀; “Dacca; Stev.” / “melanaria” / “Soc. Ent. Belg. Coll Putzeys”; one of the specs with additional label “Ces exemplaires sont par les Types rev. H.E.Andrewes 1920”; RBINS • 1 ♀; “India: Dacca; 6 Aug. 1945; D.Leston. B.M. 1945-86” / “Carabides Dacca 6.8.45” / “*Clivina attenuata* Hbst. det. Dr. A. Dostal 1986”; NHMUK • 1 ♀; “India or. Calcutta.” / “*attenuata* Herbst H.E.Andrewes det.” / “COLLECTIO KAREL KULT COLL. A.DOSTAL, 1999”; CADW • 1 ♀; “India or. Calcutta.” / “*Clivina attenuata* Hbst. Andr.” / “Zool Mus. Berlin” / “*Clivina attenuata* det. Balkenohl 1996”; MFNB • 1 spec.; “Ind. or. (Atkins)” / “Calc.” / “*attenuata* Herbst” / “Zool. Mus. Berlin” / “*Clivina attenuata* det. Balkenohl 1996”; MFNB • 3 specs; “Calc.” / “Zool. Mus. Berlin” / “*Clivina attenuata* det. Balkenohl 1996”; MFNB • 1 ♂; “Calcutta India” / “*Clivina attenuata* Herbst H.E.Andrewes det.” / “C. *attenuata* Hbst. 44 det. K. Kult”; ETHZ • 1 ♂, 1 ♀; “Calcutta”; MNHN • 1 spec.; “Calcutta maidan. F.H.G.; Ind. Mus.; at light; 25 Jul. 1916; Ind. Mus. Calcutta” / “H.E.Andrewes Coll. B.M. 1945-97.”; NHMUK • 1 spec. [received without pronotum and head]; “Calcutta; Mus. Collr.; 24 Aug. 1907” / “Indian Mus. Calcutta” / “H.E.Andrewes Coll. B.M.1945-97.”; NHMUK • 1 ♂, 1 spec.; “Kierpur Purneah dist. Bihar; 21 Sept. 1915; C. Paiva.” / “Indian Mus. Calcutta” / “H.E.Andrewes Coll. B.M.1945-97.”; NHMUK • 1 ♂; “INDIA, Palarnaj Nat. Park Bihar; Jul. 1992; Werner leg.” / “*Clivina attenuata* det. Balkenohl XI. 94”; CMBB • 1 ♀; “Panna Nat.Park; C-INDIA MP; Aug. 1988; Werner leg.” / “*Clivina attenuata* HBST. det. Balkenohl 1988”; CMBB • 1 spec.; “Lachiwala Dehra Dun Sal Bark; 20 Jun. 1911” / “For. Res. Inst. Dehra Dun” / “H.E.Andrewes Coll. B.M. 1945-97.”; NHMUK • 1 ♀; “India: Rawalpindi; July 1944; D.Leston. B.M.1946-365.” / “Coleoptera RWP. ?/7/44” / “*Clivina attenuata* Hbst. det. Dr. A. Dostal 1986”; NHMUK • 1 ♂; “CHAPRA BENGAL MACKENZIE” / “H.E.Andrewes Coll. B.M. 1945-97.”; NHMUK • 1 spec.; “NAGPUR C.P.INDIA; 1,000 ft.; 18 May 1919; E. A. D’ABREU” / “Central Mus. Nagpur, C.P.” / “H.E.Andrewes Coll. B.M. 1945-97.” / “*Clivina attenuata* Herbst H.E.Andrewes det.”; NHMUK • 3 ♀♀, 1 ♂, 1 spec.; “NAGPUR C.P.INDIA; 1,000 ft.; 29 Jun- 1917, 23 Aug 1917, 5 Sept. 1917, and 14 Sept. 1920; E. A. D’ABREU” / “under stone /and under flower pot” / “Central Mus. Nagpur, C.P.” / “H.E.Andrewes Coll. B.M. 1945-97.”; NHMUK • 1 spec.; “NAGPUR C.P.INDIA; 1,000 ft.; 4 Feb- 1921; E. A. D’ABREU” / “Central Mus. Nagpur, C.P.” / “Figured specimen” / “H.E.Andrewes Coll. B.M. 1945-97.” / “*Clivina picipes* Bon. Compared with type H.E.A.”; NHMUK • 1 spec.; “NAGPUR INDIA; 16 June. 1917; D’Abreu” / “Central Mus. Nagpur, C.P.” / “H.E.Andrewes Coll. B.M. 1945-97.” / “*Clivina melanaria* Putz. Compared with type H.E.A.”; NHMUK • 3 specs; “NAGPUR C.P.INDIA; 1,000 ft.; 30 Oct. 1916 E. A. D’ABREU; under stone” / “Central Mus. Nagpur, C.P.” / “Figured specimen” / “H.E.Andrewes Coll. B.M. 1945-97.” / “*Clivina attenuata* Herbst H.E.Andrewes det.”; one of them with additional label: “*attenuata* Bon. [sic] 52 det. K. Kult”; NHMUK • 1 spec. [received with empty abdomen]; “NAGPUR C.P.INDIA; 1,000 ft.; 27 Jul. 1919; E. A. D’ABREU” / “Central Mus. Nagpur, C.P.” / “*Clivina attenuata* Herbst H.E.Andrewes det.” / “C. *attenuata* Hbst. 44 det. K. Kult”; ETHZ • 1 ♀; “Sitapur, U.P. India; Jul. 1917; HGC” / “1362a” / “H.G. Champion Coll. B.M. 1953-156” / “*Clivina attenuata* Hbt.”; NHMUK • 1 ♀; “C. Almora Dn. Kumaon, U.P.; July 1920; HGC.” / “3569” / “narie” [sic] / “H.G. Champion Coll. B.M. 1953-156”; NHMUK • 1 spec.; “Sitapur, W. Almora, India; H.G.C.” / “H.E.Andrewes Coll. B.M. 1945-97.”; NHMUK • 1 spec.; “Pusa 2112” / “H.E.Andrewes Coll. B.M. 1945-97.”; NHMUK • 1 spec.; “Pusa At Light Bihar; 1 Oct. 1915; U.Bahadur” / “Agric. Res. Inst. Pusa” / “H.E.Andrewes Coll. B.M. 1945-97.”; NHMUK • 1 spec.; “Among Dabhi Rarhi and Batri roots Pusa; Haq. Coll: 8 Sept. 1917” / “Agric. Res. Inst. Pusa” / “H.E.Andrewes Coll. B.M. 1945-97.” / “*Clivina attenuata* Herbst H.E.Andrewes det.”; NHMUK • 1 ♀; “N.W.India 84.19” / “Ex Coll. Brit. Mus.” / “H.E.Andrewes Coll. B.M. 1945-97.” / “*Clivina attenuata* Herbst H.E.Andrewes det.”; NHMUK • 1 ♂; “H. INDIEN or. Berrar: C. Plason” / “Sammlung H. HESSE SMNS 1995”; SMNS • 1 ♂; “Madras India” / “*Clivina attenuata* Herbst H.E.Andrewes det.” / “C. *attenuata* Hbst. 44 det. K. Kult”; ETHZ • 1 ♀; “Bacon” [unclear term, possibly a name] / “melanaria Putzeys”; MNHN.

NEPAL • 1 ♀; “Nepal, Trisuli; 1998; Bhakta B.Ch.” / “*Clivina attenuata* HBST. det. Balkenohl XI 1991”; CMBB • 1 spec.; “Nepal Prov. Bheri Nepalganj; Hotel Sneha; light trap; 28°02’41”N, 81°37’17”E; 15.VI.2007; F. Creutzburg leg.”; NKME.

PAKISTAN • 1 ♂; “SWAT: Kalam; 2200-3000m; 26-28 Jul. 1978; A Richter leg”; CMBB.

Specimens with unclear locality

COUNTRY UNSPECIFIC • 1 ♂; “Inde” / “Collection P Dupuis” / “Clivina Parryi P. Dupuis det. 1913”; RBINS.

COUNTRY UNKNOWN • 1 ♂, 1 ♀; [hswd]; MNHN; 1 ♂; “C. picipes Bon. Am. bor.” [The abbreviation Am. bor. is interpreted as America boreale and is considered a label error.] / “Soc. Ent. Belg. Coll Putzeys”; RBINS • 1 spec.; “284”; NHMUK.

Redescription

MEASUREMENTS. Lectotype: body length 8.81 mm, width 2.44 mm; L/W of pronotum 0.99; L/W of elytra 1.88. Other material: body length 7.84–9.42 mm (\bar{x} : = 8.55 mm*), width 2.23–2.64 mm (\bar{x} : = 2.44 mm*), L/W of pronotum 0.99–1.01 (\bar{x} : = 1.0*), L/W of elytra 1.82–1.89 (\bar{x} : = 1.85*); (*n = 10).

COLOUR. Glossy. Piceous. Labrum, intermediate and hind leg fuscous, antenna and tarsomeres of front leg fuscous. Supraantennal plate at the margin translucent-fuscous.

HEAD. A third narrower than pronotum. Clypeus with central part distinctly bilobed anteriorly; lateral lobe distinctly projecting, wing indistinct but visible (Fig. 1) and not separated from lateral lobe by notch; supraantennal plate laterally regularly convex, laterally somewhat less projecting than eye; clypeus, wing, and supraantennal plate reflexed margined. Supraantennal plate overlapping eye anteriorly by a quarter (dorsal view), with supraorbital keel extended up to mid-eye level, separated from wing by sharp notch. Clypeus transverse, slightly convex, separated from frons by distinct sharp step and sulcus, step and sulcus in form like an inverted flat V. Frons moderately convex, with small but distinct arch-like impression at middle, with supraorbital carina up to posterior eye-level. Clypeus smooth, frons with minute scattered punctures basolaterally, separated from supraantennal plate and supraorbital carina by deep moderately wide furrow, furrow splitting at posterior end into two furrows; with two supraorbital setigerous punctures at posterior third of the eye. Neck constriction missing. Eye moderately convex in dorsal view. Main part of eye situated ventrally where it is globose. Due to the overlapping supraantennal plate, the eye resembles in lateral view the shape of a kidney. Gena distinct, moderately convex, covering a quarter of posterior eye in ventral view. Antenna relatively short, reaching middle of pronotum, antennomeres five to ten elongate (L/W around 1.3). Labrum slightly trilobed anteriorly, with isodiametric reticulation, six setose. Mentum with transverse reticulation at middle, with lobe slightly concavely hollowed out, shape of lobe oval, with isodiametric reticulation, with long carina at middle, median tooth wide, not as protruding anteriorly as lobe, hollowed out and obtusely angled anteriorly.

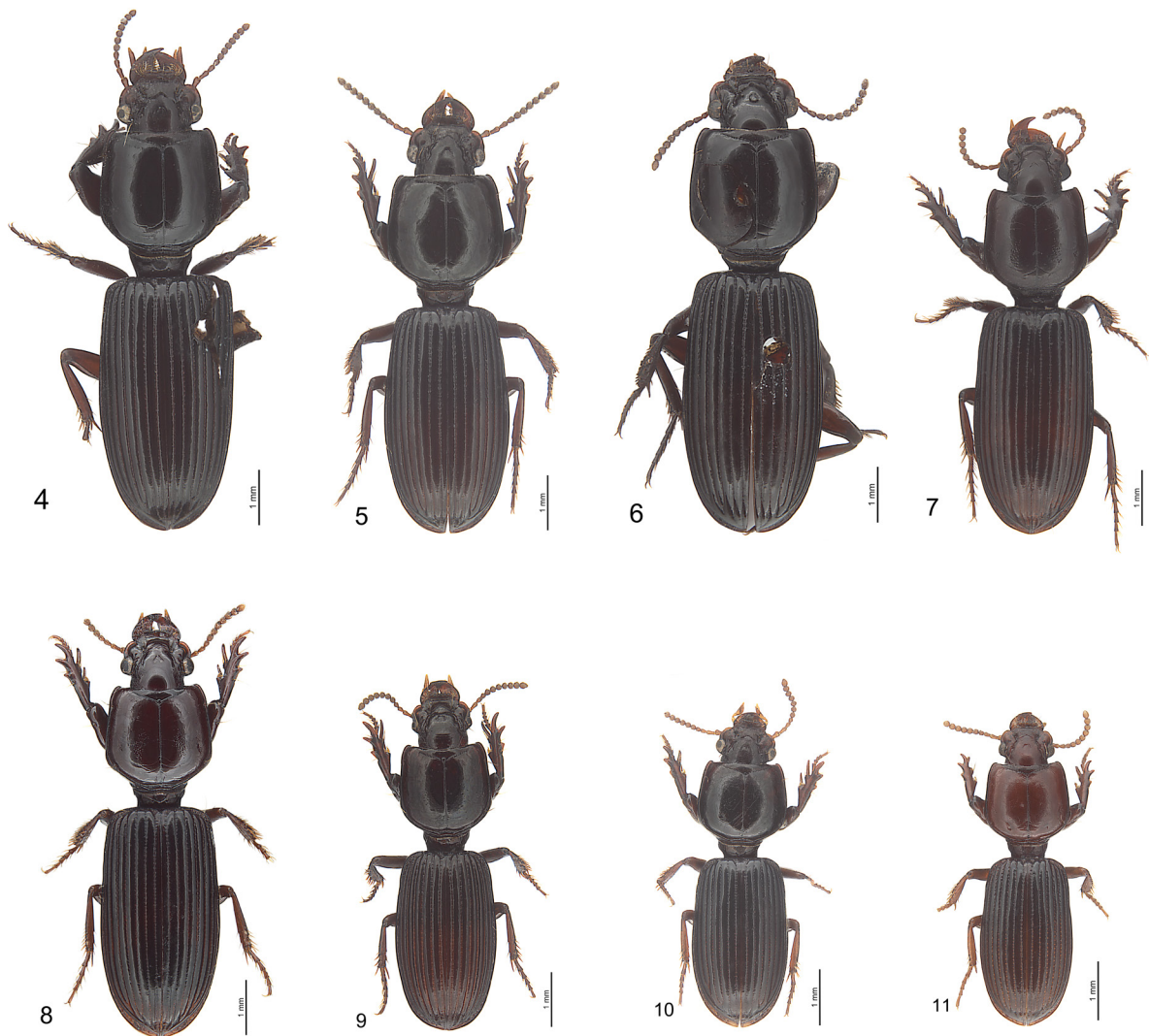
PRONOTUM. Disk moderately convex in lateral and distinctly convex in frontal view. As long as wide. Reflexed lateral margin nearly smooth, slightly convex attenuating in anterior half, widest behind middle; anterior angle distinct, slightly projecting, posterior angle missing; lateral channel narrow, laterally slightly crenulated, completely and regularly rounded off at level of posterior setigerous puncture and continuing up to base. Median line sharp, narrow, complete. Anterior transverse line punctured, joining median line, not joining anterior margin. Surface glossy, basolaterally with group of two to three punctures of moderate size, with a few transverse wrinkles, whole disk covered with microscopic punctures. Base distinctly marked, twice as wide as lateral channel. Proepisternum slightly visible in dorsal view.

ELYTRON. Disk flattened in anterior half in lateral view, distinctly convex in frontal view. Less than twice as long as wide, with maximum width slightly behind middle. Reflexed lateral margin smooth. Scutellar stria missing; setigerous tubercle at base of first stria, with small but distinct tubercle at base of third interval. Humeral tooth situated at base of fourth stria. Striae moderately deep, distinctly punctuate-striate, one to three free at base, four reaching humerus, one and two, three and four, and five and six joining apically. Intervals moderately convex, more convex laterally, interval eight with blunt carina apically. Setigerous punctures missing on intervals. Surface of intervals glossy, interval eight with isodiametric

reticulation, in females interval seven with isodiametric reticulation at humerus and apex, in males interval seven smooth.

HIND WINGS. In the type material, there are no alae visible. In other material, there are forms with reduced alae up to half of the length and width of the elytron looking like a longitudinal spatula. In few specimens, the alae are fully developed.

LOWER SURFACE. Proepisternum covered in lateral half with distinct isodiametric reticulation and with distinct transverse wrinkles. Sternite of abdomen laterally with moderately large punctures, smooth at middle but with microscopic punctures; in females in addition with distinct isodiametric reticulation laterally.



Figs 4–11. *Sulciclivina* Balkenohl, 2022, habitus, dorsal view. **4–5.** *S. attenuata attenuata* (Herbst, 1806). **4.** ♀, lectotype (MFNB). **5.** ♂ from Swat (CMBB). **6.** *S. attenuata semireticulata* subsp. nov., ♂, holotype (MNHN). **7.** *S. bhamoensis* (Bates, 1892), ♀, paralectotype (RBINS). **8.** *S. mikirensis* sp. nov., ♀, holotype (NHMB). **9.** *S. basiangusta* sp. nov., ♂, holotype (NHMB). **10.** *S. coxisetosa* sp. nov., ♀, holotype (NHMB). **11.** *S. splendida* sp. nov., ♂, holotype (CADW).

LEGS. Tibia covered with isodiametric reticulation. Protibia with three spines of moderate length, not sulcate dorsally, movable spur apically distinctly arcuate.

MALE GENITALIA (Figs 24–26). Median lobe massive, relatively short in comparison to body size, moderately arcuate at middle, apex with flattened, widened, and slightly distorted and slightly asymmetric spatula, with dorsal bulge in apical half, with no visible microtrichia on the surface. Endophallus densely folded. Ventral paramere with velum-like apophysis, somewhat distorted, apex with four long setae. Dorsal paramere sinus-like arcuate, with robust apophysis, apex with four long setae.

FEMALE GONOCOXITES AND EPIPLEURITE (Figs 36–37). Gonocoxites foliform, widened, flattened dorsally and ventrally, with three or four long nematiform setae positioned at the median side and arising from tubercles, with one long apical nematiform seta arising from the top of a protuberance. Epipleurite semi-rectangular, with conspicuously widened angulated rod.

Variation

In addition to the hind wings, variation was observed in the isodiametric reticulation of interval eight, which is less distinct in some specimens in half of interval eight and extends distinctly to the whole interval in most of the material and the lectotype. The impression on the frons of the head is more or less deeply developed. On the abdominal sternites, the number of lateral punctures varies slightly as well as the extension of the reticulation.

Sexual dimorphism

In males, only interval eight is reticulated. Females show reticulation in addition on interval seven at the humerus and apex. On the sternites, males show less punctuation and less reticulation than the females.

Distribution

Known to occur from the North of Pakistan over the North of India, Nepal, Bhutan, and Arunachal Pradesh, and southward up to the middle parts of India (Maharashtra).

Sulciclivina attenuata semireticulata subsp. nov.

[urn:lsid:zoobank.org:act:02E61455-C50B-4400-AABE-83F99A14C256](https://zoobank.org/urn:lsid:zoobank.org:act:02E61455-C50B-4400-AABE-83F99A14C256)

Figs 6, 27, 53

Diagnosis

The subspecies differs from the nominotypical subspecies mainly by interval seven hanging over laterally behind the humerus and covering interval eight nearly completely in dorsal view. In addition, the reticulation on interval eight is indistinct in general and covers only half of the width of the interval, and the lateral lobe of the clypeus is completely fused with the clypeal wing.

Etymology

The name refers to the reticulation on interval eight of the elytron which covers half of the interval by contrast to the nominate subspecies.

Type material

Holotype

INDONESIA • ♂; with two yellow labels, both handwritten in black ink and data: “Java” / “Reiche”; MNHN.

Remark. The left front leg and in the right front leg the four terminal tarsomeres are missing. The right elytron and the pronotum show pinholes and the pronotum a substantial crack. The specimen is very brittle and rotten inside.

Description

MEASUREMENTS. Holotype. Body length 8.83 mm, width 2.49 mm; L/W of pronotum 1.01; L/W of elytra 1.9.

The subspecies differs from the nominotypical subspecies mainly in the following characters:

HEAD. Clypeal wing completely fused with lateral lobe of the clypeus.

PRONOTUM. Lateral margin of pronotum nearly straight, slightly concave behind anterior setigerous puncture. Anterior transverse line more distinctly punctured than in the nominate subspecies.

ELYTRON. Interval seven hanging over laterally behind the humerus and covering interval eight nearly completely in dorsal view. The reticulation on interval eight covers only half of the width of the interval and is generally indistinct.

HIND WINGS. In the HT, the alae are completely missing.

LOWER SURFACE. Sternites of abdomen less densely punctured including the apical segment.

MALE GENITALIA (Fig. 27). The median lobe distinctly and long acuminate in the apical third, the apical lamella parallel sided.

FEMALE GONOCOXITE AND EPIPLEURITE. Unknown.

Distribution

Known from Java, Indonesia.

Sulciclivina bhamoensis (Bates, 1892)

Figs 7, 28, 38, 53

Clivina attenuata Herbst var. *bhamoensis* Bates, 1892: 275 (original description).

Clivina attenuata var. *bhamoensis* – Andrewes 1929: 356 (catalogue); 1930: 111 (catalogue).

Clivina bhamoensis – Kult 1951: 25 (catalogue). — Balkenohl 2001: 14 (catalogue). — Lorenz 2005: 145 (catalogue); 2022: 5ZB8D (catalogue).

Sulciclivina bhamoensis – Balkenohl 2022: 108 (anatomy and new combination).

Diagnosis

A larger-sized species with a peltate-like pronotum and interval eight of the elytra and parts of interval seven reticulated. It can be distinguished from the most similar species *S. attenuata attenuata* by the completely fused lateral lobe of the clypeus with the clypeal wing, the presence of a second group of punctures on the pronotum, which is located paramedially, the more distinctly swollen proepisternum, and less punctate striae of the elytra. The lobe of the mentum shows askew carinae and the median tooth is wide and nearly as far protruding anteriorly as the lobe whereas in *S. mikirensis* sp. nov., the lobe of the mentum is flattened with a small carina at middle and the median tooth is wide, distinctly less projecting

anteriorly than the lobe, flattened apically and rounded off. In addition, the male and female genitalia are uniquely different.

Type material

Lectotype (by present designation)

MYANMAR • ♂; with beige, black framed black printed and handwritten with black ink label and data: “Birmaniam Bhamo Fea XI 1886” / “Clivina v. bhamoensis Bts.” / circle, green framed and black printed “Cotype” / white, black printed “H.E.Andrewes Coll. B.M.1945-97” / white, handwritten in black ink and black printed “Clivina Bhamoensis Bat. 57 det. K. Kult” / red, black printed “LECTOTYPE *Sulciclivina bhamoensis* (Bates, 1892) des. M.Balkenohl 2023”; NHMUK. [received with missing left hind leg and four terminal tarsomeres of the right leg].

Paralectotypes

MYANMAR • 2 ♀♀; with beige, black framed black printed and handwritten with black ink label and data: “Bhamo Birmania Fea VIII 1885” / “attenuata v. bhamoensis n.” / white, black framed and red printed “Syntype”; RBINS • 1 ♂; with beige, black framed black printed and handwritten with black ink label and data: “Bhamo Birmania Fea VII 1886” / “Bought from Janson, 1917” / white, black printed “COLLECTIO KAREL KULT COLL. A.DOSTAL, 1999” / white, handwritten with black ink and printed “*Eoclivina bhamoensis* (Bts.) det. Dr. A. Dostal 2000” [received with median lobe of the aedeagus dissected and dry glued, with missing parameres, with three missing sternites]; CADW.

Remark. Bates (1892) mentioned in the description “numerous examples”. There is no indication by any author where other specimens went, but they may be in MNHN.

Additional material

INDIA • 1 ♀; “NE INDIA, ASSAM, Bhalukpong; 16-18 May 2007; 27°02' N 92°35' E; 150m; P.Pacholátko leg.” / “CLIVINA (*Eoclivina*) sp. P.Bulirsch det. 2016”; NHMB • 1 spec.; “NE India: ASSAM Barpeta distr., Barpeta Road; 23-24 Jun. 1995” / “L. Bartolozzi & K. Werner legit (di note all luci) (num. mag. 1715)”; MSNF.

Redescription

MEASUREMENTS. Lectotype: body length 8.25 mm, width 2.36 mm; L/W of pronotum 0.97; L/W of elytra 1.99. All material: body length 7.4–8.25 mm (\bar{x} = 7.98 mm*), width 2.17–2.36 mm (\bar{x} = 2.27 mm*), L/W of pronotum 0.94–1.02 (\bar{x} = 0.97*), L/W of elytra 1.84–1.99 (\bar{x} = 1.91*); (*n = 5).

COLOUR. Glossy. Piceous. Labrum, intermediate and hind leg dark-fuscous, antenna and tarsomeres of front leg fuscous. Supraantennal plate at the extreme margin translucent-fuscous.

HEAD. A third narrower than pronotum. Clypeus with central part slightly bilobed anteriorly; lateral lobe distinctly projecting and completely fused with clypeal wing; convexity of supraantennal plate laterally less dominantly developed, distinctly less projecting laterally than eye; clypeus, wing, and supraantennal plate reflexed margined. Supraantennal plate overlapping eye anteriorly by around twenty percent (dorsal view), with supraorbital keel extended up to mid-eye level, separated from wing by sharp notch. Clypeus transverse, slightly convex, separated from frons by distinct sharp step and sulcus, step and sulcus in form like an inverted slightly rounded flat V. Frons moderately convex, with small but distinct arch-like impression at middle, with supraorbital carina up to posterior eye-level. Clypeus smooth, frons with minute scattered punctures basolaterally, separated from supraantennal plate and supraorbital carina by deep moderately wide furrow, furrow slightly widening at the posterior end; with two supraorbital setigerous punctures at posterior third of eye. Neck constriction missing. Eye semi-hemispherical projecting postero-laterally in dorsal view. Main part of eye situated ventrally where it is also globose.

Due to the overlapping supraantennal plate, the eye resembles in lateral view the shape of a kidney. Gena distinct, moderately convex, covering a quarter of posterior eye in ventral view. Antenna relatively short, reaching middle of pronotum, antennomeres five to ten of moderate length (L/W around 1.2). Labrum slightly trilobed anteriorly, with isodiametric reticulation, six setose. Mentum with transverse reticulation at middle, lobe slightly concavely hollowed out, shape of lobe oval, with isodiametric reticulation, with askew carinae, with long and sharp carina at middle, median tooth wide, nearly as far protruding anteriorly as lobe, hollowed out and obtusely angled anteriorly.

PRONOTUM. Disk moderately convex in lateral and distinctly convex in frontal view. As long as wide. Reflexed lateral margin nearly smooth, straight to indistinctly concave attenuating in anterior half, widest behind middle; anterior angle distinct, slightly projecting, posterior angle missing; lateral channel narrow, laterally indistinctly crenulated, completely and regularly rounded off at level of posterior setigerous puncture and continuing up to base. Median line sharp, narrow, complete. Anterior transverse line indistinctly punctured, joining median line, not joining anterior margin. Surface glossy, basolaterally with semi-circular group of eight to ten punctures of moderate size, paramedially with longitudinal cloud of punctures of moderate size, with a few transverse wrinkles, whole disk covered with microscopic punctures. Base distinctly marked, twice as wide as lateral channel. Proepisternum distinctly visible in dorsal view.

ELYTRON. Shape elongate. Disk flattened in anterior half in lateral view, distinctly convex in frontal view. Less than twice as long as wide, with maximum width slightly behind middle. Reflexed lateral margin smooth. Scutellar striole missing; setigerous tubercle at base of first stria, with small but distinct tubercle at base of third interval. Humeral tooth situated at base of fourth stria. Striae moderately deep, punctuation of striae slightly impressed, one to three free at base, four reaching humerus, one and two, three and four, and five and six joining apically. Intervals moderately convex, more convex laterally, interval eight with carina apically. Setigerous punctures missing on intervals. Surface of intervals glossy, interval eight with isodiametric reticulation, in females all intervals with isodiametric reticulation at apex, in males smooth.

HIND WINGS. Alae fully developed (on the basis of five specimens).

LOWER SURFACE. Proepisternum covered with distinct isodiametric reticulation and with dense transverse wrinkles. Sternite of abdomen covered with moderately large punctures, smooth at middle but with microscopic punctures; in females in addition with distinct isodiametric reticulation laterally.

LEGS. Tibia covered with isodiametric reticulation. Protibia with three spines of moderate length, not sulcate dorsally, movable spur apically distinctly arcuate.

MALE GENITALIA (Fig. 28). Median lobe moderately slender, regularly arcuate, apex with flattened, slightly distorted, and slightly asymmetric spoon-like spatula, with no visible microtrichia on the surface. Endophallus longitudinally folded. Ventral paramere with velum-like apophysis, slightly distorted, apex with two long setae. Dorsal paramere sinus-like arcuate, hollowed out and with elongated apophysis, apex with two robust setae.

FEMALE GONOCOXITES AND EPIPLEURITE (Fig. 38). Gonocoxites foliform, widened, flattened dorsally and ventrally, with four long nematiform setae positioned at the median side, seta generating punctures not tuberculate, with one apical nematiform seta arising from attenuated tip. Epipleurite elongate-rectangular, with less widened angulated rod.

Variation

In some of the paralectotypes, the genae are nearly straight posteriorly. In the lectotype, striae one and two ending free at apex, in the paralectotypes they are joining at apex.

Sexual dimorphism

In males, only interval eight is reticulated. Females show reticulation in addition on the apex of the elytra on all intervals.

Distribution

Known to occur in Myanmar (Bhamo) and India (Assam).

Sulciclivina mikirensis sp. nov.

[urn:lsid:zoobank.org:act:32AC25F6-7416-475D-A8D7-8942944D531B](https://zoobank.org/urn:lsid:zoobank.org:act:32AC25F6-7416-475D-A8D7-8942944D531B)

Figs 8, 39, 53

Diagnosis

A larger-sized species with a peltate-like pronotum, with interval eight of the elytra reticulated. The proepisternum is swollen laterally but appears more edged than in the other species. Mainly distinguished from the similar species *S. bhamoensis* by the reticulation on the elytron, which is restricted to interval eight (females). In *S. mikirensis* sp. nov., the lobe of the mentum is flattened with a small carina at the middle. The median tooth is wide, distinctly less projecting anteriorly than the lobe, flattened apically and rounded off. In *S. bhamoensis* however, the lobe of the mentum shows askew carinae, the median tooth is wide and nearly as far protruding anteriorly as the lobe. Distinguished from *S. attenuata attenuata* by the pronotum with a distinctly straight lateral margin, the basolateral impression with an elongated group of numerous punctures, and with the paramedially situated longitudinal cloud of medium-sized punctures reaching from middle of pronotum up to base. In addition, the gonocoxites are different.

Etymology

The name refers to the Mikir Hills in Assam, the collection locality of the holotype.

Type material

Holotype

INDIA • ♀; with white, black printed label and data: “ASSAM, Kaziranga nördl. Mikir-Hills Brahmaputra, V. 1961, leg.G.Scherer” / white, black printed “Museum Frey Tutzing” / white, black printed and handwritten in black ink “Clivina attenuata Hbst. det. ING.JEDLIČKA”; NHMB.

Remark. Three terminal antennomeres at the left side and two apical tarsomeres of the right intermediate leg are missing.

Description

MEASUREMENTS. Holotype: body length 7.69 mm, width 2.2 mm; L/W of pronotum 0.98; L/W of elytra 1.94.

COLOUR. Glossy. Piceous. Labrum, intermediate and hind leg dark-fuscous, antenna and tarsomeres of front leg fuscous. Supraantennal plate translucent-fuscous up to the top of the convexity.

HEAD. A third narrower than pronotum. Clypeus with central part moderately bilobed anteriorly; lateral lobe almost fused with wing, wing indistinctly traceable; supraantennal plate laterally with less convex margin, distinctly less projecting laterally than eye; clypeus and wing slightly, and supraantennal plate distinctly reflexed margined. Supraantennal plate overlapping eye anteriorly by around ten percent (dorsal view), with supraorbital keel extended up to the anterior third of the eye, separated from wing by sharp notch. Clypeus transverse, moderately convex, separated from frons by distinct step and deepened sulcus,

step and sulcus in form like an inverted slightly rounded flat V. Frons moderately convex, with two small and distinct askew impressions at middle, with supraorbital carina up to posterior eye-level. Clypeus smooth, frons with minute and medium-sized punctures at gena-level, punctures larger laterally; frons separated from supraantennal plate and supraorbital carina by deep moderately wide furrow, furrow slightly widening at the posterior end; with two supraorbital setigerous punctures at middle and posterior end of the eye. Neck constriction missing. Eye semi-hemispherical projecting in dorsal view. Main part of eye situated ventrally where it is also globose. Due to the overlapping supraantennal plate and the gena, the globosity of the eye appears in lateral view somewhat narrowed. Gena distinct, slightly convex, covering less than a quarter of posterior eye in ventral view. Antenna relatively short, reaching middle of pronotum, antennomeres five to ten of moderate length (L/W around 1.2). Labrum straight anteriorly, with isodiametric reticulation, six setose. Mentum with transverse reticulation at middle, lobe flattened, shape of lobe semi-ovoid, with isodiametric reticulation, with small carina at middle, median tooth wide, distinctly less projecting anteriorly as lobe, flattened apically and rounded off.

PRONOTUM. Disk slightly convex in lateral and distinctly convex in frontal view. Indistinctly wider than long. Reflexed lateral margin smooth, attenuating in anterior two-thirds with lateral margin extraordinarily straight, widest behind middle; anterior angle slightly projecting, posterior angle missing; lateral channel moderately narrow, irregularly reticulated, completely and regularly rounded off at level of posterior setigerous puncture and continuing up to base. Median line sharp, crenulated, complete. Anterior transverse line indistinctly punctured, joining median line, finely joining anterior margin. Surface glossy, anterior margin reticulated laterally, basolaterally with impression and elongated group of distinct punctures, paramedially with distinct long-oval group of dense punctures of moderate size reaching from middle of pronotum up to base, with smaller group of punctures in continuation of the paramedian group posteriorly to the anterior transverse line, with few transverse wrinkles and with microscopic punctures on whole disk. Base distinctly marked, slightly wider than lateral channel. Proepisternum distinctly visible in dorsal view, appearing more edged as in other species where it is more rounded.

ELYTRON. Shape elongate. Disk flattened in anterior third in lateral view, distinctly and regularly convex in frontal view. Less than twice as long as wide, with maximum width slightly behind middle. Reflexed lateral margin smooth. Scutellar striole missing; setigerous tubercle at base of first stria, with small but distinct tubercle at base of third interval. Humeral tooth situated at base of fourth stria. Striae moderately deep, punctuation of striae distinctly impressed, one to three free at base, four reaching humerus, one and two, three and four, and five and six joining apically. Intervals moderately convex, more convex laterally, interval eight carinate apically. Setigerous punctures missing on intervals. Surface of intervals glossy, interval eight with isodiametric reticulation, tip of apex with interval seven smooth.

HIND WINGS. Alae fully developed (on the basis of the holotype).

LOWER SURFACE. Proepisternum covered laterally with distinct isodiametric reticulation, with dense transverse wrinkles and medium-sized punctures. Sternite of abdomen covered nearly completely with moderately large punctures, with caudal margin smooth; with isodiametric reticulation laterally.

LEGS. Tibia covered with isodiametric reticulation. Protibia with three spines of moderate length, not sulcate dorsally, movable spur apically gently arcuate.

MALE GENITALIA. Unknown.

FEMALE GONOCOXITES AND EPIPLEURITE (Fig. 39). Gonocoxites foliform, distinctly widened and somewhat jolted, flattened dorsally and ventrally, with four long and one small nematiform setae positioned at the median side, seta generating punctures not tuberculate, with one apical nematiform seta arising from rounded apex. Epipleurite elongate-rectangular, with distinctly widened angulated rod.

Variation

The number of moderately-sized punctures on the disk of the pronotum varies on both sides. Intraspecific variation unknown.

Sexual dimorphism

Unknown.

Distribution

Known from the type locality north of the Mikir-Hills in Assam, India.

Sulciclivina basiangusta sp. nov.

[urn:lsid:zoobank.org:act:F940799A-2ECD-4785-B9C4-872F3F96BF56](https://zoobank.org/urn:lsid:zoobank.org:act:F940799A-2ECD-4785-B9C4-872F3F96BF56)

Figs 9, 29, 40, 53

Diagnosis

A medium-sized species with oval shape of the elytron and isodiametric reticulation present as a narrow strip on interval eight of the elytron close to the lateral channel. This is the only species of the genus with all intervals of the elytron distinctly convex and carinate apically. In addition, the base of the pronotum is extraordinarily narrow.

Etymology

The name refers to the extraordinarily small base of the pronotum and is combined from the Latin noun for base (*'basis'*) and the Latin adjective for narrow in the feminine form (*'angusta'*).

Type material

Holotype

INDIA • ♂; with labels and data: white, black printed “Meghalaya 1976 Wittmer, Baroni U.” / “Mawphlang 15.5. 1850 m”; NHMB.

Paratypes

INDIA • 1 ♂, 2 ♀♀; same data as for holotype, one of the females with additional label “Clivina sagittaria Bates v. typ. Mus. Genova A. Casale det.”; NHMB, CMBB.

Description

MEASUREMENTS. Holotype: body length 6.91 mm, width 2.12 mm; L/W of pronotum 0.94; L/W of elytra 1.77. All material: body length 6.3–6.93 mm (\bar{x} : = 6.67 mm*), width 1.9–2.12 mm (\bar{x} : = 2.0 mm*), L/W of pronotum 0.91–0.97 (\bar{x} : = 0.94*), L/W of elytra 1.76–1.78 (\bar{x} : = 1.77*); (*n = 4).

COLOUR. Glossy. Piceous. Labrum, intermediate and hind leg fuscous, antenna and tarsomeres of front leg fuscous. Supraantennal plate at the margin translucent-fuscous.

HEAD. A third narrower than pronotum. Clypeus with central part distinctly bilobed anteriorly with the lobes bent dorsally; lateral lobe prominent, distinctly projecting anteriorly, clypeal wings indistinct, visible as slight convexity; supraantennal plate laterally regularly convex, laterally nearly as far projecting as eye; clypeus, wing and supraantennal plate reflexed margined. Supraantennal plate overlapping eye anteriorly by about a fifth (dorsal view), with the widened supraorbital keel extended up to mid-eye level, separated from wing by sharp notch. Clypeus transverse, with raising convexity posteriorly, separated from frons by distinct sharp carina and sulcus, carina and sulcus in form like an inverted flat V. Frons moderately convex,

with two small impressions at middle, with supraorbital carina up to posterior eye-level. Clypeus smooth, frons with few transverse rugae at anterior eye-level, clypeus and frons separated from supraantennal plate and supraorbital carina by deep moderately wide furrow; with two supraorbital setigerous punctures at middle of the eye and end of gena-level. Neck constriction missing. Eye slightly convex in dorsal view, reduced, main part situated ventrally where it is convex. Gena enlarged, distinctly convex, covering half of posterior eye in ventral view. Due to the overlapping supraantennal plate and the genae, the eye is reduced to a strip in lateral view. Antenna moderately short, reaching just over middle of pronotum, antennomeres five to ten distinctly longer than wide (L/W around 1.3). Labrum indistinctly trilobed anteriorly, with isodiametric-irregular reticulation, six setose. Mentum with isodiametric reticulation, with lobe flattened, carinae on surface, shape of lobe asymmetric oval, with long median carina. Median tooth moderately wide, not as protruding anteriorly as lobe, flattened and rounded anteriorly.

PRONOTUM. Disk moderately convex in lateral and distinctly convex in frontal view. Slightly wider than long, subsquare. Reflexed lateral margin nearly smooth, indistinctly convex at middle, widest behind middle; anterior angle distinct, slightly projecting, posterior angle missing; lateral channel narrow, subcrenulated, completely and regularly rounded off at level of posterior setigerous puncture and continuing up to base. Median line deep, sharp, complete. Anterior transverse line consisting of longitudinal connected punctures, joining median line, not joining anterior margin. Surface glossy, covered densely with small punctures, with paralateral and paramedian group of punctures of moderate size, with few transverse wrinkles. Base distinctly marked, three times as wide as lateral channel, extraordinary narrow with less than a fifth of width of pronotum. Proepisternum distinctly visible in dorsal view.

ELYTRON. Shape oval. Disk moderately and completely convex in lateral view, distinctly convex in frontal view with increasing convexity to lateral margin. About 1.7 times as long as wide, with maximum width behind middle. Reflexed lateral margin smooth. Scutellar striole missing; setigerous tubercle at base of first stria, with distinct tubercle at base of third interval, basal declivity with isodiametric reticulation. Humeral tooth situated at base of fourth stria. All striae distinctly deepened, punctuate-striate, two and three finely punctate, one to three free at base, four reaching humerus, one and two ending free at apex, three and four, and five and six joining apically. Intervals distinctly convex, more convex laterally, all carinate apically. Setigerous punctures missing on intervals. Surface of intervals glossy, interval eight with small strip of reticulation close to lateral channel.

HIND WINGS. Alae reduced to a small, short rudiment (on the basis of the four type specimens).

LOWER SURFACE. Proepisternum covered in lateral half with distinct isodiametric reticulation and with some deep transverse wrinkles. All sternites of abdomen covered with moderately large punctures, with slightly less density at middle.

LEGS. Protibia covered with isodiametric reticulation, with three spines of moderate length, not sulcate dorsally, movable spur robust, in apical half moderately arcuate. Intermediate and hind tibia covered with irregular reticulation.

MALE GENITALIA (Fig. 29). Median lobe moderately slender, relatively short in comparison to body size, moderately arcuate at middle, with slight dorsal bulge, apex with moderately long, flattened, widened, and distorted spatula, with few microtrichia on the surface. Endophallus longitudinally folded. Ventral paramere with wide velum-like apophysis, somewhat distorted, apex with three setae. Dorsal paramere robust, attenuated up to apex, with four apical setae.

FEMALE GONOCOXITE AND EPIPLEURITE (Fig. 40). Gonocoxite triangle-shaped, flattened dorsally and ventrally, with four nematiform setae positioned at the median side, with one preapical long nematiform seta. Epipleurite semi-rectangular, with conspicuously widened angulated rod.

Variation

In addition to the sexual dimorphism, the following variations are observed: the sulcus between the carina of the clypeus and the frons is more or less widely impressed and in the impression irregularly structured. The lateral margin of the pronotum shows in two of the four specimen a few slight notches. The paramedian group of punctures in the basal half of the pronotum varies in the number of punctures from two to ten. Striae one and two of the elytron are joining at the apex in two of the paratypes. The intervals of the elytron are more or less carinate apically.

Sexual dimorphism

In males, the punctuation on the abdominal sternites is less dense at middle. Females show in addition isodiametric reticulation at the apical margins of the sternites.

Distribution

Known from the type locality Mawphlang, Meghalaya, in the North of India.

Sulciclivina coxisetosa sp. nov.

[urn:lsid:zoobank.org:act:24EB45DE-C11F-47A3-84D7-5D0BA3DB1664](https://zoobank.org/urn:lsid:zoobank.org:act:24EB45DE-C11F-47A3-84D7-5D0BA3DB1664)

Figs 10, 41, 53

Diagnosis

A small-sized species with short-oval elytra, all intervals of the elytra smooth, and the lateral lobe of the clypeus completely fused with the wings. Distinguished from the other two small species, *S. splendida* sp. nov. and *S. basiangusta* sp. nov., which as well have the pronotum slightly wider than long, by the subglobose shape of the pronotum with a deeply carved median line. In *S. basiangusta*, the clypeal wings are slightly developed but completely missing in *S. coxisetosa* sp. nov. and *S. splendida*. In contrast to *S. splendida*, the disk of the pronotum of *S. coxisetosa* shows a different pattern of the puncture groups. Moreover, in *S. coxisetosa* the female gonocoxites are extraordinarily different from all other species of the genus.

Etymology

The name refers to the high number of setae on the female gonocoxites.

Type material

Holotype

NEPAL • ♀; with white black printed and handwritten with black ink label and data: “Danda Pakhar 1600-2500m 1.6.” / “Nepal, 1977 M.Brancucci” / “CLIVINA (Eoclivina) sp. P.Bulirsch det. 2016”; NHMB.

Remark. The terminal segment of the left antenna is missing.

Description

MEASUREMENTS. Holotype: body length 5.63 mm, width 1.72 mm; L/W of pronotum 0.92; L/W of elytra 1.77.

COLOUR. Glossy. Piceous. Labrum, intermediate and hind leg fuscous, antenna and tarsomeres of front leg fuscous. Supraantennal plate at the margin and anterior part of lateral margin of pronotum translucent-fuscous.

HEAD. A third narrower than pronotum. Clypeus with central part nearly straight, indistinctly bilobed anteriorly; lateral lobe distinctly projecting and completely fused with wing. Supraantennal plate laterally less convex at middle, laterally somewhat less projecting than eye; clypeus and wing slightly reflexed margined, supraantennal plate distinctly reflexed margined. Supraantennal plate overlapping eye anteriorly nearly by a quarter (dorsal view), with supraorbital keel extended up to gena level with slight interruption at middle by anterior supraorbital seta, separated from wing by sharp notch. Clypeus transverse, slightly convex, separated from frons by distinct sharp step and sulcus, step and sulcus in form like an inverted flat V. Frons moderately convex, with two small longitudinal impressions at middle, with supraorbital carina up to posterior eye-level. Clypeus and frons smooth, separated from supraantennal plate and supraorbital carina by deep moderately wide furrow, furrow slightly widening at the posterior end; with two supraorbital setigerous punctures at posterior third of the eye. Neck constriction missing. Eye convex in dorsal view. Main part of eye situated ventrally where it is globose. Due to the overlapping supraantennal plate, the eye resembles in lateral view an oval band. Gena distinct, moderately convex, covering more than a quarter of posterior eye in ventral view. Antenna relatively short, reaching middle of pronotum, antennomeres five to ten moniliform (L/W around 1.1). Labrum nearly straight anteriorly, with isodiametric-irregular reticulation, six setose. Mentum with transverse reticulation, with lobe flattened, shape of lobe long-oval, with short carina at median tooth. Median tooth moderately wide, not as protruding anteriorly as lobe, hollowed out and rounded anteriorly.

PRONOTUM. Disk distinctly convex in lateral and frontal view. Slightly wider than long, subglobose. Reflexed lateral margin nearly smooth, slightly convex attenuating in anterior half, widest behind middle; anterior angle distinct, slightly projecting, posterior angle missing; lateral channel narrow, completely and regularly rounded off before posterior setigerous puncture and continuing up to base. Median line deeply embedded, sharp, narrow, complete. Anterior transverse line consisting of longitudinal connected punctures, joining median line, finely joining anterior margin. Surface glossy, laterally with longitudinal group of punctures of moderate size, with few transverse wrinkles, with very few microscopic punctures on disk. Base distinctly marked, three times as wide as lateral channel. Proepisternum just visible in dorsal view.

ELYTRON. Disk slightly flattened in anterior half in lateral view, distinctly and regularly convex in frontal view. About 1.8 times as long as wide, shape oval with maximum width slightly behind middle. Reflexed lateral margin smooth. Scutellar striole missing; setigerous tubercle at base of first stria, with small but distinct tubercle at base of second stria, basal declivity with slight isodiametric reticulation. Humeral tooth situated at base of fourth stria. Striae moderately deep, distinctly and regularly punctuate-striate, one to three free at base, four reaching humerus, one and two, three and four, and five and six joining apically. Intervals convex, more convex laterally, interval eight convex at apex. Setigerous punctures missing on intervals. Surface of intervals glossy, interval eight smooth, intervals smooth at apex.

HIND WINGS. Alae reduced to a small rudiment (on the basis of the HT).

LOWER SURFACE. Proepisternum covered in lateral half with distinct isodiametric reticulation and with some transverse wrinkles. Sternite of abdomen laterally with limited number of moderately large punctures, smooth posteriorly, smooth at middle but with microscopic punctures, apical segment smooth.

LEGS. Protibia covered with fine longitudinal reticulation, with three spines of moderate length, not sulcate dorsally, movable spur apically moderately arcuate. Intermediate tibia covered with isodiametric-irregular reticulation.

MALE GENITALIA. Unknown.

FEMALE GONOCOXITE AND EPIPLEURITE (Fig. 41). Gonocoxite foliform, slender, flattened dorsally and ventrally, with seven long nematiform setae positioned at the median side, with one long apical and one long subapical nematiform seta arising from the apex of the gonocoxite. Epipleurite semi-rectangular, with conspicuously widened angulated rod.

Variation

Unknown.

Sexual dimorphism

Unknown.

Distribution

Known from the type locality in Danda Pakhar, Nepal.

Sulciclivina splendida sp. nov.

[urn:lsid:zoobank.org:act:3D27B342-B894-4710-98CF-487D261D1D20](https://zoobank.org/act:3D27B342-B894-4710-98CF-487D261D1D20)

Figs 2, 11, 30, 42, 53

Diagnosis

A small-sized species with long-oval elytra with straight and diverging part of the lateral margin, all intervals of elytra smooth, and the lateral lobe of the clypeus completely fused with the wing. Distinguished from the most similar species *S. basiangusta* sp. nov. by the much less convexity of the elytron, the completely missing clypeal wing, and the regularly sized base of the pronotum. It differs from *S. coxisetosa* sp. nov. in the long-oval elytron with straight and diverging part of the lateral margin, the different puncture pattern on the disk of the pronotum, and the different shape of the gonocoxites.

Etymology

The name refers to the smooth and glossy interval eight and apex of the elytron by the Latin adjective for smooth and shiny in the feminine form (*'splendida'*).

Type material

Holotype

INDIA • ♂; with white black printed and handwritten with black ink label and data: "INDIA Barway" [INDIA Barway = India, Chattisgarh state, Jashpur district, Chainpur env.]/ "C. andrewesi Kult 47 det. K. Kult" / red, black framed and black printed "TYPE" / white, black printed and black handwritten in black ink "in litteris V. att.-Gr. det. Dr. A. Dostal 2000" / "COLLECTIO KAREL KULT COLL. A.DOSTAL, 1999" / white, black printed "Coll. Dostal"; CADW.

Remark. The following parts are missing: apical segment of the left antennae, tarsomeres two to five and movable spur of the left front leg, tarsomeres four and five of the left intermediate leg, and complete right hind leg. The specimen was received with empty hind body with the median lobe of the aedeagus dry mounted beside the specimen and without parameres.

Paratypes

INDIA • 1 ♀; with white handwritten with black ink and black printed labels and data: "Nagpore" / "T.R.S.N.COLL." / "Coll. J. Saltin in Coll. CBA 1997"; CMBB • 1 spec.; "Pegu India" / "Bought from Staudinger & Bang – Haas, 1923" / "Clivina andrewesi Kt. det. K. Kult, 1948" / "Compared with TYPE K. Kult, 1948" / "H.E.Andrewes Coll. B.M.1945-97."; NHMUK.

Remark. The following parts are missing: segments three to eleven of the left antennae. The second specimen was received with an empty abdomen, obviously due to a dissection attempt. The two hind legs, two terminal antennomeres of the right antennae, and the three terminal tarsomeres of the intermediate legs are missing.

Taxonomic remark

Kult already recognized the form as being a new species and added a red type label and a name to the specimens. However, it was never described and the name was never published. The name assigned to the specimen by Kult is therefore not valid for this form.

Description

MEASUREMENTS. Holotype: body length 5.15 mm, width 1.57 mm; L/W of pronotum 0.95; L/W of elytra 1.82. Paratype: body length 5.61 mm, width 1.67 mm; L/W of pronotum 0.94; L/W of elytra 1.84.

COLOUR. Glossy. Piceous. Labrum, intermediate and hind leg fuscous, antenna and tarsomeres of front leg fuscous. Supraantennal plate at the margin and anterior part of lateral margin of pronotum translucent-fuscous.

HEAD. A third narrower than pronotum. Clypeus with central part nearly straight, indistinctly bilobed anteriorly; lateral lobe distinctly projecting, wing completely fused with lateral lobe. Supraantennal plate laterally less convex at middle, laterally somewhat less projecting than eye; clypeus and wing slightly reflexed margined, supraantennal plate distinctly reflexed margined. Supraantennal plate overlapping eye anteriorly by less than a fifth (dorsal view), with supraorbital keel extended nearly continuously up to gena level, separated from wing by sharp notch. Clypeus transverse, slightly convex, separated from frons by distinct sharp sulcus, sulcus in form of convex arch. Frons moderately convex, with two small longitudinal impressions at middle, with supraorbital carina up to posterior eye-level. Clypeus and frons with few scattered micro punctures, separated from supraantennal plate and supraorbital carina by deep moderately wide furrow; with two supraorbital setigerous punctures at middle and posterior end of the eye. Neck constriction missing. Eye convex in dorsal view. Main part of eye situated ventrally where it is globose. Due to the overlapping supraantennal plate and the gena, the eye resembles in lateral view compressed. Gena distinct, moderately convex, covering a quarter of posterior eye in ventral view. Antenna moderately short, reaching basal third of pronotum, antennomeres five to ten moniliform (L/W around 1.1). Labrum nearly straight anteriorly, with isodiametric-irregular reticulation, six setose. Mentum with isodiametric reticulation at middle, with lobe flattened, shape of lobe semi-ovoid and gently bent medially, irregularly to isodiametrically reticulated, with short carina at median tooth. Median tooth moderately wide, not as protruding anteriorly as lobe, carinate at base, bluntly rounded anteriorly.

PRONOTUM. Disk moderately convex in lateral and distinctly convex in frontal view. Wider than long, subsquare. Reflexed lateral margin smooth, attenuating in anterior half with straight part, widest behind middle; anterior angle distinct, slightly projecting, posterior angle missing; lateral channel moderately narrow, completely and regularly rounded off before posterior setigerous puncture and continuing up to base. Median line finely engraved, somewhat punctured, complete. Anterior transverse line consisting of longitudinal connected punctures, joining median line, indistinctly joining anterior margin. Surface with micro punctures, with circular group of medium-sized punctures basolateral, with paramedian impression basally, with few transverse wrinkles. Base distinctly marked, three times as wide as lateral channel, with width a quarter of pronotum. Proepisternum well visible in dorsal view but not enlarged.

ELYTRON. Disk slightly convex in lateral view in anterior half, distinctly and regularly convex in frontal view. About 1.8 times as long as wide, shape long-oval with straight and diverging part in anterior half, with maximum width slightly behind middle. Reflexed lateral margin smooth. Scutellar striole missing;

setigerous tubercle at base of first stria, with small but distinct tubercle at base of third interval, basal declivity with irregular reticulation. Humeral tooth situated at base of fourth interval. Striae moderately deep, distinctly and regularly punctuate-striate, one to three free at base, four reaching humerus, one and two ending free at apex, three and four, and five and six joining apically. Intervals convex, more convex laterally, interval eight narrow and carinate at apex. Setigerous punctures missing on intervals. Surface of intervals glossy, interval eight smooth, intervals smooth at apex.

HIND WINGS. In the HT, the alae are reduced to a small rudiment, the PT is fully winged.

LOWER SURFACE. Proepisternum laterally with small stripe of indistinct irregular reticulation, with some transverse wrinkles, and with scattered small punctures. Sternite of abdomen laterally with limited number of moderately large punctures and with small wrinkles, smooth posteriorly, smooth at middle but with microscopic punctures, apical segment with medium-sized punctures, small wrinkles, and flat impression laterally in the HT; in the PT with distinctly less punctures.

LEGS. Protibia covered with distinct longitudinal reticulation, with three spines of moderate length, not sulcate dorsally, movable spur apically slightly arcuate. Intermediate tibia nearly smooth.

MALE GENITALIA (Fig. 30). Median lobe robust, arcuate in basal third, in apical two-thirds indistinctly bisinuate elongated; apically with indistinct dorsal bulge, with slightly distorted spoon-like spatula, with no visible microtrichia on the surface. Endophallus longitudinally folded, with group of strong bristles at middle.

FEMALE GONOCOXITE (Fig. 42). Gonocoxite foliform, slender, flattened dorsally and ventrally, with three long nematiform setae positioned at the median side, with one apical nematiform seta arising from the pointed and somewhat distorted apex of the gonocoxite.

Variation

Beside the different development of the alae, the two longitudinal impressions at the middle of the frons are more or less deeply impressed. The HT is somewhat paler in colour and is considered as a slightly immature stage.

Sexual dimorphism

In the female (PT), each of the sternites of the abdomen show apically less punctures than in the male (HT). The apical segment shows in total less punctures in the female.

Distribution

Known from the type localities in Barway and Nagpur, India.

***Sulciclivina striata striata* (Putzeys, 1846)**

Figs 3, 12–13, 32, 43–44, 53

Clivina striata Putzeys, 1846: 592 (original description).

Clivina striata – Putzeys 1867: 110 (redescription). — Andrewes 1919: 206 (type location); 1924: 115 (faunistics); 1926: 375 (diagnostic comparison); 1929: 357 (redescription); 1930: 117 (catalogue). — Balkenohl 2001: 16 (catalogue); 2021b: 35 (faunistics). — Csiki 1927: 511 (catalogue). — Kult 1951: 25 (catalogue).

Clivina (Eoclivina) striata – Lorenz 2005: 145 (catalogue); 2022: 5ZCCV (catalogue).

Sulciclivina striata – Balkenohl 2022: 108 (anatomy and new combination).

Diagnosis

A medium-sized distinctly slender species with subparallel shape, interval eight of the elytron reticulated, and with a completely fused lateral lobe of the clypeus and the wing. Distinguished from the most similar species *S. sulcigera* by the pronotum, which is longer than wide and with the margins subparallel, the indistinctly bilobed median part of the clypeus, and the male median lobe of the aedeagus with its apical lateral hump and the dorsal bulge, as well as the uniquely different shape of the gonocoxites.

Type material

Lectotype (by present designation)

INDIA • ♂; with two pins, first pin: small mounting card, with labels and data: pale grey, handwritten in black ink “Mysore” / “1” / “Hope” / “striata Hope Mysore” / black printed and handwritten in black ink “Civina sp. allied to *C. indica* Putz. Teste Jun. 1918, H.E.Andrewes.” / black framed, handwritten in black ink and printed “TYPE COL : 776 *Clivina striata* Putzeys HOPE DEPT.OXFORD” / red, black printed “LECTOTYPE *Sulciclivina striata striata* (Putzeys, 1846) des. M.Balkenohl 2023”; Second pin with two semi-transparent galatine capsules and white black printed label “TYPE COLE 0776 *Clivina striata* Putzeys HOPE ENT. COL. OUMNH”; OUMNH.

Remarks. The specimen is broken in four parts and was deposited in two galatine capsules. It has been remounted and glued on a paper card to get a realistic impression of the specimen. The following damage is noted: the right elytron shows a pinhole. The following parts are missing: antennae with three terminal segments on the right and nine on the left side, legs, and the right intermediate tibia and tarsomeres as well as the left intermediate tarsomeres two to five.

Putzeys (1846) described the species on the basis of two specimens, one from Mysore deposited in the Hope Collection, and one from Coromandel deposited in the Reiche collection. He later indicated the specimen from Coromandel should be deposited in the “(Coll. de Chaudoir)” (Putzeys 1867). A careful search revealed there is one specimen from Coromandel in the Chaudoir collection, checked personally in November 2021 (MNHN). Although it is not labelled as a type, I strongly believe it is the second specimen Putzeys used for the description. It is conspecific with the holotype (lectotype in this case) and has been red labelled as paralectotype.

Paralectotype

INDIA • 1 ♂; with labels and data: yellow, handwritten in black ink “Coromandel” / pale grey, handwritten in black ink “2”; MNHN.

Remark. The following damages are noted: the right elytron shows a pinhole. The following parts are missing: the left intermediate leg and all tarsomeres from the left hind leg.

Additional material

INDIA • 1 ♀; “Himalaya” / “*Clivina striata* Putz dét J. Putzeys” / “Soc. Ent. Belg. Coll. PUTZEYS” / “*Clivina striata* Putz. H.E.Andrewes det. 1928”; RBINS • 1 ♀; “India, Kaziranga Bagori, V. 1961 Mikir Hills” / “*Clivina attenuata*-group det. M.Balkenohl, 2017”; MFNB • 1 ♂; “W. Almora Div. Kumaon, U.P. Oct.’19.H.G.C.” / handwritten: “attenuata H. Small Ex. afs. broad? striata P.” / “H.G. Champion Coll. B.M. 153-156”; NHMUK • 1 spec.; “Dehra Dun, U.P. G.D. Pant.24,VI.1928,” / “2044” / “For. Res. Inst. Dehra Dun” / “H.E.Andrewes Coll. B.M.1945-97.”; NHMUK • 1 ♀; “INDIA. U.P. Dehara Dun 1932. H.G.Champion” / “H.G. Champion Coll. B.M. 1953-156” / “*Clivina attenuata*-group det. Balkenohl, 2017”; NHMUK • 1 ♀; “Barway P.Cardon.” / “*Clivina sulcigera* Putz. det M Maindron 1916”; RBINS • 1 ♀; “NAGPUR C.P.INDIA 1,000 ft. 22-8-1920 E. A. D’ABREU” / “Central Mus. Nagpur, C.P.” / “*Clivina striata* Putz. H.E.Andrewes det.” / “*C. striata* Putz.. 57 det. K. Kult”; ETHZ • 1 ♂; “NAGPUR C.P.INDIA 1,000 ft. 17-11-1917 E. A. D’ABREU” / “under flower pot” / “Central Mus. Nagpur, C.P.” /

“striata” / “H.E.Andrewes Coll. B.M.1945-97.”; NHMUK • 1 ♀; “NAGPUR C.P.INDIA 1,000 ft. 9-6-1918 E. A. D’ABREU” / “Central Mus. Nagpur, C.P.” / “striata Putz.” / “Gesch. 8. 1938 von Andrewes” / “Clivina striata Putz. H.E.Andrewes det.” / “F. van Emden Bequest. B.M. 1960-129”; NHMUK • 1 ♀; “India or. Nagpore” / “Clivina attenuata-group det. M.Balkenohl, 2017”; MFNB • 1 spec.; same data as for preceding but “2-7-17”; NHMUK • 1 ♂; “Bandra. India. Dr. Jayakar. 1905-152.” / “Clivina striata Putz. H.E.Andrewes det.”; NHMUK • 1 spec.; “Poona” / “Clivina striata Putz. Compared with type H.E.A.”; NHMUK • 1 spec.; “INDIA: Poona. 3.ix.1944. D.Leston. B.M.1946-365” / “Coleoptera Poona 3.9.44” / “Clivina striata Putz. det. Dr. A. Dostal 1984”; NHMUK • 1 spec.; “Madras Eing. 1925 Nr. 10” / “Ex Mus. Hamburg” / “Cliv. striata Putz.” / “H.E.Andrewes Coll. B.M.1945-97.”; NHMUK • 1 ♀; “E. Ind” / “48 22”; NHMUK • 1 ♂; “3 specs, India” / “Bowring 63.47*” / one of them with additional label “Fenapore N. Decca”; NHMUK • 1 spec. [received with empty abdomen]; “India mer. Tanjore Distr. Nedungadu” / “Compared with COTYPE K. Kult 1946” / “C. striata Putz 38 DET ANDREWES” / “COLLECTIO KAREL KULT COLL. A.DOSTAL, 1999”; CADW • 1 ♂; “Nilgerries Bates” / “Clivina striata Putz. dét. J. Putzeys” / “Soc.Ent.Belg. Coll. PUTZEYS” / “Clivina striata Putz. H.E.Andrewes det.”; RBINS • 1 ♀; “Nilgerries” / “Clivina striata Pz. teste Putzeys”; MNHN • 4 specs; “Trichinopoly”; RBINS • 11 ♀♀, 27 specs; “SOUTH INDIA Kerala State Trivandrum Dt. 3000 Ft. Poonmudi Range VI.89 at light T.R.S. Nathan.Coll.” / “Coll. J. Saltin in Coll.CBA 1997” / “Clivina striata PUTZ. det. Balkenohl, Jan. 94”; CMBB • 1 ♀, 29 specs; “South India Kerala State, Quilon distr. Thenmala, T.R.S.N. Coll. VI. 93” / “Coll. J. Saltin in Coll. CBA 1997” / “Clivina striata PUTZ. det. Balkenohl, Jan. 94”; CMBB • 1 ♀; “Travancore 74.19” / “attenuata group / Clivina striata Putz. det. K. Kult 57”; MNHN.

Redescription

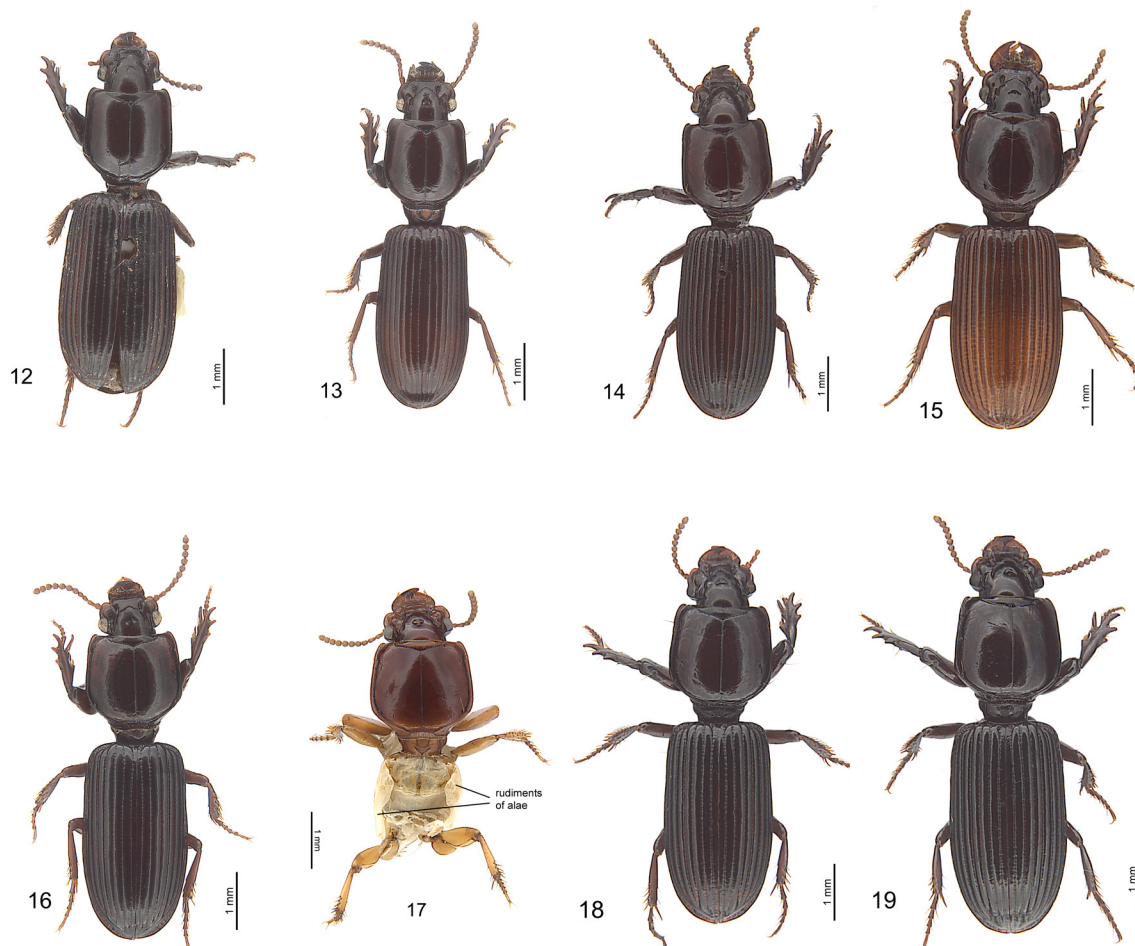
MEASUREMENTS. Lectotype: body length 6.4 mm, width 1.84 mm; L/W of pronotum 1.06; L/W of elytra 1.91. Other material: body length 6.13–6.88 mm (\bar{x} : = 6.49 mm*), width 1.7–1.9 mm (\bar{x} : = 1.81 mm*), L/W of pronotum 1.01–1.06 (\bar{x} : = 1.3*), L/W of elytra 1.88–2.03 (\bar{x} : = 1.95*); (*n = 10).

COLOUR. Glossy. Piceous. Labrum, intermediate and hind leg fuscous, antenna and tarsomere fuscous. Supraantennal plates at the margin slightly translucent-fuscous.

HEAD. Less than a third narrower than pronotum. Clypeus with central part slightly bilobed anteriorly; lateral lobe distinctly projecting, wing completely fused with lateral lobe. Supraantennal plate laterally less convex at middle, laterally somewhat less projecting than eye; clypeus and wing reflexed margined. Supraantennal plate distinctly reflexed margined. Supraantennal plate overlapping eye anteriorly by a quarter (dorsal view), with supraorbital keel extended up to mid-eye level, separated from wing by sharp notch. Clypeus transverse, slightly convex, separated from frons by distinct sharp step and somewhat widened sulcus, step and sulcus in form like an inverted flat V. Frons moderately convex, with small but distinct arch-like impression at middle which is separated in two parts, with supraorbital carina up to posterior eye-level. Clypeus smooth, frons with minute and medium-sized scattered punctures basolateral, separated from supraantennal plate and supraorbital carina by deep moderately wide furrow, furrow wide at the posterior end, with two supraorbital setigerous punctures, one situated at mid-eye level and one at gena level. Neck constriction missing. Eye moderately convex, less protruding laterally in dorsal view. Main part of eye situated ventrally where it is globose. Due to the overlapping supraantennal plate and the gena, the eye resembles in lateral view the shape of a kidney. Gena distinct, moderately convex, covering a quarter of posterior eye in ventral view. Antenna relatively short, reaching slightly over middle of pronotum, antennomeres five to ten of moderate length (L/W around 1.2). Labrum straight anteriorly, with isodiametric reticulation, six setose. Mentum with isodiametric reticulation, with lobe flattened, shape of lobe asymmetric oval, slightly carinate at middle, median tooth parallel sided, not as protruding anteriorly as lobe, slightly hollowed out and obtusely angled anteriorly.

PRONOTUM. Disk moderately convex in lateral and distinctly convex in frontal view. Longer than wide. Reflexed lateral margin smooth, subparallel, widest behind middle; anterior angle distinctly projecting, posterior angle missing; lateral channel narrow, smooth, completely and regularly rounded off at level posterior to setigerous puncture and continuing up to base. Median line moderately narrow, complete. Anterior transverse line punctured, joining median line, not joining anterior margin. Surface glossy, basolaterally with group of few impressed punctures of moderate size, with paramedian longitudinal group of punctures in basal half, with few transverse wrinkles, whole disk covered with microscopic punctures. Base distinctly marked, twice as wide as lateral channel. Proepisternum just visible in dorsal view.

ELYTRON. Disk flattened in anterior half in lateral view, distinctly convex in frontal view with increasing convexity towards lateral margin. Twice as long as wide, subparallel, with maximum width slightly behind middle. Reflexed lateral margin smooth. Scutellar striole missing; setigerous tubercle at base of first stria, with small but distinct tubercle at base of second stria. Humeral tooth situated at base of



Figs 12–19. *Sulciolivina* Balkenohl, 2022, habitus, dorsal view. 12–13. *S. striata striata* (Putzeys, 1846). 12. ♂, lectotype, [specimen not cleaned], (OUMNH). 13. ♂ from Bandra, India (NHMUK). 14. *S. striata kottea* subsp. nov., ♀, holotype (NHMUK). 15. *S. curvata* sp. nov., ♂ from Java (ETHZ). 16–17. *S. sulcigera* (Putzeys, 1867). 16. ♂ from Nakhon, Thailand (NHMUK). 17. ♀ from Siem Reap, Cambodia, showing the reduced alae (RBINS). 18. *S. karelkulti karelkulti* sp. nov., ♀, holotype (MFNB). 19. *S. karelkulti medanensis* subsp. nov., ♀, holotype (SMNS).

fourth interval. Striae moderately deep, distinctly punctuate-striate, stria five distinctly less punctate, one to three free at base, four reaching humerus, one and two, three and four, and five and six joining apically. Intervals moderately convex, more convex laterally, interval eight with carina apically. Setigerous punctures missing on intervals. Surface of intervals glossy, interval eight with isodiametric reticulation, in females interval seven with isodiametric reticulation at humerus and apex, in males smooth.

HIND WINGS. In the type material, the length is two thirds of the elytron. In the other material, the length reaches from half to three fourth of the elytron, and also fully developed alae are observed in few specimens.

LOWER SURFACE. Proepisternum covered in lateral half with isodiametric reticulation and with distinct transverse wrinkles. Sternite of abdomen laterally with moderately large punctures, apical margins smooth laterally, completely smooth at middle but with microscopic punctures, apical segment with dense moderately large punctures, less dense basally; in females in addition with isodiametric reticulation laterally at the third and fourth sternite.

LEGS. Tibiae covered with isodiametric reticulation. Protibia with three spines of moderate length, not sulcate dorsally, movable spur robust, apically distinctly arcuate.

MALE GENITALIA (Fig. 32). Median lobe moderately slender, relatively short in comparison to body size, moderately arcuate at middle, with apical lateral hump and distinct dorsal bulge, apex with short, flattened, and slightly distorted and slightly asymmetric spatula, with no visible microtrichia on the surface. Endophallus transverse and askew folded. Ventral paramere with velum-like apophysis, somewhat distorted, apex with two setae. Dorsal paramere elongated sinus-like, with robust apophysis, with apical and preapical seta.

FEMALE GONOCOXITE AND EPIPLEURITE (Figs 43–44). Gonocoxite partly hyaline, oval-foliform, long-narrowed basally, flattened dorsally and ventrally, with three long nematiform setae positioned at the median side, with one very long nematiform seta apically. Epipleurite nearly square, with conspicuously widened angulated rod.

Variation

In addition to the alae, the following variations are observed. In some specimens, the clypeus is more distinctly bilobed anteriorly. In the majority of the specimens, the eye is posteriorly more pointed laterally. In some specimens and in addition to stria five, stria four of the elytron is less punctate. Often, stria one and two are not joining at the apex of the elytron. The reticulation of interval eight of the elytron covers in some cases only half of the interval. In specimens from the Kerala State, Trivandrum District, and from Travancore, the anterior margin of the clypeus is nearly straight. The sulcus on the frons is shallow and the clypeus is transverse, bulging anterior to the sulcus. In addition, the paramedian group of punctures on the pronotum is indistinct and consists of 2–3 punctures only, and on interval eight of the elytron, the reticulation is more distinctly developed. In addition, the gonocoxites are slightly wider. There are no males from Trivandrum and Travancore available and the material is internally rotten. If the form represents an own taxon has to be determined when more material is available.

Sexual dimorphism

In males, only interval eight is reticulated. Females show reticulation in addition on interval seven at the humerus and at the apex.

Distribution

Known to occur from the North of India (Uttar Pradesh) to Tamil Nadu in the South.

Sulciclivina striata kottea subsp. nov.

[urn:lsid:zoobank.org:act:0563EA6E-5ED1-4AB9-83E4-9EDA0C5D4EEA](https://doi.org/10.21203/rs.3.rs-2811111/v1)

Figs 14, 45, 53

Diagnosis

The subspecies differs mainly from the nominotypical subspecies by the additional blunt carina in front of the clypeal sulcus, by the not completely fused lateral lobe of the clypeus with the wing, by interval eight, which is reticulated by half of the width of the interval, and by the more distinctly advanced anterior angles of the pronotum.

Etymology

The name is a noun and refers to the type locality of the subspecies, Kotte, near Colombo in the West of Sri Lanka.

Type material

Holotype

SRI LANKA • ♀; with labels and data: white, handwritten in black ink “Kotte Ceylon At Light 30-XI-21” / white, printed “Colombo Museum.” / white, printed “H.E.Andrewes Coll. B.M.1945-97.” white, printed and handwritten in black ink “Clivina striata Putz. H.E.Andrewes det.”; NHMUK.

Remark. The right front leg is broken and the claws of the left hind leg are missing.

Description

MEASUREMENTS. Holotype: body length 6.53 mm, width 1.84 mm; L/W of pronotum 1.04; L/W of elytra 1.92.

The subspecies differs from the nominotypical subspecies mainly in the following characters:

HEAD. Clypeus with blunt carina in front of sulcus, sulcus undulated. Wing of the clypeus traceable, visible by slight convexity and slight notch between wing and lateral lobe. Impression on the frons of the head more elongated, appearing as being two impressed diverging lines.

PRONOTUM. Base of pronotum longer, narrow. Anterior angles distinctly acutely advanced, anterior transverse line reaching anterior margin at declivity, disk basolaterally with group of few impressed punctures of moderate size, with paramedian circular group of punctures in basal half. Proepisternum distinctly visible in dorsal view.

ELYTRON. Striae one to three distinctly punctate up to apex. Intervals more distinctly convex as in the nominate subspecies. Reticulation on interval eight covers only half of width of the interval.

HIND WINGS. The alae fully developed (only HT available).

LOWER SURFACE. Sternites of abdomen laterally covered completely and densely with moderately large punctures, smooth at middle but with microscopic punctures, apical segment with dense moderately large punctures surrounding margin, smooth at middle.

MALE GENITALIA. Unknown.

FEMALE GONOCOXITE AND EPIPLEURITE (Fig. 45). Gonocoxite partly hyaline, foliform, long-narrowed basally, flattened dorsally and ventrally, with one long nematiform setae positioned at the median side, with

two preapical long nematiform setae preapically and one very long nematiform seta at apex. Epipleurite nearly square, with conspicuously widened angulated rod.

Distribution

Known from the type locality Kotte, Sri Lanka.

Sulciclivina sulcigera (Putzeys, 1867)

Figs 16–17, 33, 47, 53

Clivina sulcigera Putzeys, 1867: 110 (original description).

Clivina sulcigera – Bates 1889: 262 (faunistics). — Andrewes 1926: 375 (diagnostic comparison); 1929: 357 (redescription); 1930: 111 (catalogue). — Balkenohl 2001: 16 (catalogue); 2017: 255 (catalogue). — Choi 2022: 190 (catalogue). — Csiki 1927: 511 (catalogue); 1933: 639 (catalogue).

Clivina (Eoclivina) sulcigera – Lorenz 2005: 145 (catalogue); 2022: 5ZCD7 (catalogue).

Sulciclivina sulcigera – Balkenohl 2022: 108 (anatomy and new combination).

Diagnosis

A medium-sized species with a long-oval shape of the elytron, interval eight of the elytron covered with distinct reticulation, often extending to half of interval seven, and the wing of the clypeus nearly fused with the lateral lobe. The most similar species are *S. curvata* sp. nov. and *S. striata striata*. *Sulciclivina curvata* shows by contrast the reticulation on the intervals reduced to half of interval eight with indistinct reticulation. In addition, the proepisternum is indistinctly visible in dorsal view, and interval eight of the elytron is convex and fading at the apex. In *S. striata striata* the pronotum is longer than wide and with the margins subparallel, the median part of the clypeus is indistinctly bilobed and nearly straight. Moreover, the aedeagi and the gonocoxites of these species all show unique characters.

Type material

Holotype

VIETNAM • ♀; small mounting card with small pin, with labels and data: cream white, handwritten in black ink “Saigon” / “Sulcigera Chaud.”; MNHN.

Remarks. The right elytron shows a pinhole. Putzeys (1867) described the species based on one specimen. He indicated “Siam” and “(Coll. de Chaudoir.)”. In the Chaudoir collection, checked personally in November 2021 (MNHN), there is only one specimen of this species group. There is no direct information on the label identifying the specimen as the type. It is the only specimen there and it matches with the description. It is therefore inferred to be the type. However, the label shows “Saigon” and not “Siam” as indicated by Putzeys. Bates (1889), however, indicated “Saigon” as the type locality. It is therefore considered this specimen represents the holotype. A red type label has been added to the pin.

Taxonomic remark

Andrewes considered the species to be a “local form” and a variety of *S. attenuata* (Andrewes 1929, 1930) followed by Csiki (1933). In Balkenohl (2001) as well as in subsequent catalogues, *S. sulcigera* Putzeys is listed as a valid species (Lorenz 2005, 2022; Choi 2022). Therefore, the species status is already confirmed and does not have to be formally reinstated.

Additional material

CAMBODIA • 1 ♂, 1 ♀, 1 spec.; “Cambodge; Collection P. Dupis”; [hswd]; RBINS • 2 ♀♀, 1 spec.; “CAMBODIA, Siem Reap; 22 May 2003; Light trap; leg. J.Constant & K.Smets, Coll. I.R.Sc.N.B.”;

RBINS • 3 ♂♂, 2 ♀♀; “CAMBODIA, Siem Reap; 24 Jun. 2005; Hand catch garden; J.Goossens leg.; Coll. I.R.Sc.N.B.”; RBINS • 1 ♂, 2 ♀♀; “CAMBODIA, Siem Reap; 25-27 Apr. 2003; Light trap; S.Degreef lgt.; Coll. I.R.Sc.N.B.”; RBINS • 1 spec.; “Cambodia, Siem Reap town area; N 013°21'17.8", E 103°51'18.6"; 4 Jan 1998”; NHMB • 1 ♀; “CAMBODIA (Siem Reap Prov.) Angkor Thom Day Catch, Forest 09.VI.2005 Leg. Var & Hagebaert, Coll. I.R.Sc.N.B.”; RBINS • 1 ♂, 9 ♀♀, 1 spec., “CAMBODIA: Pursat prov. Phnom Samkos W.S. Temple Hill; 18 Apr. 2005; Grassland, bamboo forest, Light trap; K.Smets, I.Var leg.; Coll. I.R.Sc.N.B.”; RBINS • 1 ♀; “Cambodia, Kompong Kedey; March-May 1914; R.V.de Salvaza.” / “COLLECTIO KAREL KULT COLL. A.DOSTAL, 1999”; CADW • 3 specs; “Cambodia, Kompong Kedey; April 1914; R.V.de Salvaza.” / “*Clivina attenuata* Herbst H.E.Andrewes det.” / “Gesch. 8. 1938 von Andrewes” / “F. van Emden Bequest. B.M. 1960-129.”; NHMUK • 1 spec.; “Tonkin; June 1917; R.V.de Salvaza.” / “1918-1”; NHMUK • 1 spec.; “Indo Chin. Cuarao; May 1917; R.V.de Salvaza” / “1918-1” / “*C. sulcigera* Putz. det. K. Kult 57”; NHMUK.

CHINA • 12 specs; “China, S-Yunnan; Prov. Xishuangbanna; 20km NW Jinghong Man Dian (NNNR)” / “22°07.80'N 100°40.05'E; 720m; 25/26 May 2008; A. Weigel leg.” / “*Clivina attenuata* (Herbst, 1806) P. Bulirsch det. 2008”; NKME.

INDONESIA – **Sumatra** • 1 ♂; “Sumatra” / “Coll. Kraatz” / “Ex Deutsch. Ent. Mus.” / “H.E.Andrewes Coll. B.M.1945-97”; NHMUK • 1 spec.; same data as for preceding and with additional label: “*C. sulcigera* Putz. det. K. Kult 1948”; NHMUK • 1 ♂; “Sumatra” / “Coll. Kraatz” / “*Clivina attenuata* Herbst H.E.Andrewes det.” / “H.E.Andrewes Coll. B.M.1945-97” / “*Clivina sulcigera* Putz. det. K. Kult 1948”; NHMUK • 1 ♀; “Sumatra” / “*Clivina lata* Putz. dét. J. Putzeys” / “*Soc.Ent.Belg. Coll. PUTZEYS*”; RBINS. – **Java** • 1 ♀; “Java, Boemi Ajoë” / “Ex Coll G. Hauser” / “H.E.Andrewes Coll. B.M.1945-97.” / “very small ex.” / “*C. sulcigera* Putz. det. K. Kult, 1948”; NHMUK.

LAOS • 1 spec.; “LAO, Phongsaly prov.; 21°41-2'N, 102°06-8'E, 28 May – 20 June. 2003; PHONGSALY env.; ~1500m; Brancucci leg.”; NHMB • 1 spec.; “LAOS n., 15km NW Louang Namtha; alt. 750-1000m; N21°07.5', E101°21.0'GSP; 13-24 May 1997; E.Jendek & O.Săusă leg.”; NHMP • 1 spec.; “LAOS, Louangnamtha pr., LOUANG NAMTHA; 21°00'N, 101°25'E; 31 May 1997; 600m; Vít Kubáň leg.”; NHMB • 1 spec.; “LAOS, Louang Namtha prov., MUANG SING town; 700m; 21°11'N, 101°09'E; 29-30 Apr. 2011; M. Geiser leg.”; NHMB • 7 specs; “LAOS, Houa Phan Prov.; 20°42.40'N, 104°23.70'E; Muang Sop Bao; 300 m; 6-8 Jun. 2009; M. Geiser & D. Hauck leg.”; NHMB • 1 spec.; “LAOS, Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve; 500-700 m; 20°27-28'N, 100°45'E; 4-18 May 2011; NHMB Basel, Laos 2011 Expedition, M. Brancucci, M. Geiser, D. Hauck, Z. Kraus, A. Phantala & E. Vongphachan”; NHMB • 2 ♂♂, 1 ♀, 4 specs; “N-LAOS, Prov. Lg. Nam Tha Muang Sing; at light; 9-13 Jun. 1996; 600m; leg. Schillhammer”; NHMW • 29 specs; “LAOS: S-UDOMXAI Prov. PAK BENG; 450 m; N 19°53'37", E 101°07'51"; 18-25 May 2001; JIŘÍ KOLIBÁČK leg.”; NHMB • 13 specs; “N-Laos, Khan River, 5km E Luang Prabang; at light; 21 Apr. 1999; leg. K.W. Anton”; CMBB • 2 specs; “LAOS, Luang Prabang prov., Luang Prabang town, 280m, 19°52'N, 102°08'E; 1 May 2011” / “NHMB Basel, Laos 2011 Expedition, M. Brancucci, M. Geiser, D. Hauck, Z. Kraus, A. Phantala & E. Vongphachan”; NHMB • 215 specs; “LAOS-N (Louangphrabang), THONG KHAN, ~750m; 19°35'N, 101°58'E; 11-21 May 2002; Vít Kubáň leg.” / “Collection Naturhistorisches Museum Basel”; NHMB • 1 ♂, 3 specs; “Laos, Vientiane; May 1916 and May 1917 and 1918; R.V.de Salvaza” / “1981-1”; NHMUK • 1 spec.; “LAOS: N-VIENTIANE Prov. VANG-VIENG; 300m; N 18°55'23", E 102°26'55"; 10-15 May & 1-6 Jun. 2001; JIŘÍ KOLIBÁČK leg.”; NHMB • 2 specs; “LAOS. N-SAINYABULI Prov. PAK HANON; 330 m; N 19°49'43", E 101°28'48"; 17 May 2001; JIŘÍ KOLIBÁČK leg.”; NHMB • 1 spec.; “LAOS-NE, Xieng Khouang prov., Phonsavan (30 km NE), Phou Sane Mt., 1400-1700 m; 19°37-8'N, 103°20-1'E; 10-30 May 2009; D. Hauck leg.”; NHMB • 1 spec.; “C-LAOS, Prov. Viangchan, Phou Khao Khouay NP env, Tad Leuk Waterf.; 200m; 1-8 Jun. 1996; leg. Schillhammer (15)”; NHMW.

MALAYSIA • 1 ♀, 7 spec.; “MALAY PENIN. WEST COAST.; LANGKAWI IS.; 14, 15, 16, 19, 21, 26 Apr. 1928” / “H. M. Pendlebury Coll. F.M.S. Museums.” / “Ex F.M.S. Museum. B.M.1955-354.” [one of them received with abdomen only]; NHMUK • 1 spec.; “Selangor F.M.S., Kuala Lumpur, Light, 10 Jan 1924; E. Seismund” / “334” / “sulcigera Putz. det. K. Kult 52” / “H.E.Andrewes Coll. B.M. 1945-97”; NHMUK • 4 specs; “Malaya Penins: Selangor, F.M.S. Semenyek; 30 Dec. 1915 and 25 Mar. 1925” / “Labelled at Sel. Mus. K.L.” / “Ex F.M.S. Museum. B.M.1955-354.” / “331, 332, 333, and 335”; NHMUK • 1 spec.; “Malaya, Kuala Lumpur; at light; 27 Apr. 1932” / “H.M.Pendlebury Coll: F.M.S. Museums.” / “Clivina attenuata Herbst H.E.Andrewes det.” / “Ex F.M.S. Museum. B.M.1955-354.”; NHMUK • 1 ♀; “MALAYA, Kuala Lumpur; At light; 22 Feb. 1931” / “Clivina attenuata Herbst H.E.Andrewes det.” / “OX.UNI.MUS.NAT. HIST. (OUMNH) G.Dexter-Allen Coll.”; OUMNH • 1 spec.; “Malay Penin: Ex. Coll. Agr. Defal. K.L.Maxwell Road 10 Jan. 1916 C. B. Halman Hunt.” / “Labelled at Sel. Mus. K.L.” / “Clivina attenuata Herbst H.E.Andrewes det.” / “Ex F.M.S. Museum. B.M.1955-354.” / “342”; NHMUK • 1 ♂; “Malacca; Prof. Fischer”; MFNB • 1 spec.; “MALAYSIA, Negri Sembilan Pasoh Forest Reserve; 29-31 Dec. 1979; M. Wong & P. Becker (548)”; UMMZ.

THAILAND • 1 ♀; “SIAM, Paknomphoh; Nov. 1933; W.R.S.Ladell T.701.” / “Pres. By Com. Inst. Ent. B.M. 1948-529” / “Clivina attenuata Hbst. v. sulcigera Ptz. H.E.Andrewes det.”; NHMUK • 1 ♀; “THAI, PAI City; 29 Apr. 1993; Pacholatko & Dembicky leg.”; CADW • 1 spec.; “THAI, SOPPONG, 750m; 19.29N, 98.18E; 13 May 1993; Vít Kubáň leg.”; CMBB • 1 spec.; “Thai, CHIANG DAO, 600m; 10-16 May 1991; 19°24'N, 98°55'E; David Král leg.”; CMBB • 2 specs; “THAILAND bor., CHIANG DAO env.; 17-19 Jun. and 21 May – 4 Jun. 1995 M. Snizek leg.”; CMBB • 2 specs; “Thai, CHIANG DAO, 600m; 19°24'N, 98°55'E; 10-16 May 1991; David Král leg.” / “Thailand 1991 Thanon Tong Chai D. Král & V. Kubáň”; NHMB • 5 ♀♀, 53 specs; “THAI, CHIANG DAO, 350m; 19°22'N, 98°57'E; 9-14 May 1991; Vít Kubáň leg.” / “Thailand 1991 Thanon Tong Chai D. Král & V. Kubáň”; NHMB • 1 spec.; “N.W.THAILAND, Chiang Mai Prov., Queen Sirikit Botanic Gardens 300-700m; N18 53.306, E98 51.432; At light; Jun.-Jul. 2006; M.Isenstadt leg.” / “BMNH(E) 2006-128 MVL Barclay & H. Mendel” / “CLIVINA cfr. sulcigera Putzeys 1866 P.Bulirsch det. 2010”; NHMUK • 1 ♂, 1 ♀, 16 specs; “THAI, PALONG, 750m; 19°55'N, 99°06'E; 26-28 May 1991; Vít Kubáň leg.” / “Thailand 1991 Thanon Tong Chai D. Král & V. Kubáň”; NHMB • 7 specs; “THAI, FANG 300m; 19°55'N, 99°12'E; 25 May 1991; Vít Kubáň leg.” / “Thailand 1991 Thanon Tong Chai D. Král & V. Kubáň”; NHMB • 2 spec.; “NW Thailand, Chom Tong; 18.26 N, 98.41 E; 24-27 Apr. 1991; L.Dembický leg.”; NHMW • 3 ♂♂, 4 ♀♀, 11 specs; “THAILAND (loei) Na-Haeo (field res stat); 5-12 May 2001 and 15-19 May 2003; Light trap; leg. J.Constant & P.Grootaert Coll. I.R.Sc.N.B.”; RBINS, CMBB • 1 ♀; “Thai, UMPHANG, 500m; 16°04'N, 98°53'E; 24 Apr. – 6 May 1991; David Král lgt.”; NHMB • 1 ♂; “W-THAILAND, Sangkhlaburi; Nov. 1994; leg. J.REJSEK”; SMNS • 1 ♂; “Thailand 12 km SW Pak-Chong, 130 km NO Bangkok, Mischobstplantage, 400m, Lichtfang, 9 Nov. 1992; Thielen leg.”; CMBB • 1 ♀, 3 specs; “Thailand, Chumphon prov., Pha To env. 9°48', 98°47'; 14-21 Mar. 1996; P.Prudek leg.”; CMBB • 1 spec.; “THAILAND, r. Surtthani, Ko-Phangan – Island; 10-16 May 1995; M. Hrdý (547)”; CMBB • 1 ♂; “THAI 20.5.1993 NAKHON THAI Pacholatko & Dembiky leg.”; CADW • 1 spec., “THAILAND Khao Pra-Bang Khram 7°N 99°E A.G.Duff Coll. 28.-29.iii.1994” / “BMNH(E) 1996-21” / “CLIVINA cfr. sulcigera Putzeys 1866 P.Bulirsch det. 2010”; NHMUK • 1 spec. [received with empty abdomen]; “S Thailand, Betong, Gunung Cang dun vill. Yala dist., 25.3.-22.4.1993 J. Strnad leg.”; CADW.

VIETNAM • 1 spec.; “VIETNAM-N, Tuyen Quang pr. SE – E env. of Na Hang; 22°17'30"-22°30'N 105°26'-28'E; 200-700m; 1-12 May 2010; L.Dembický leg.”; NHMB; • 1 ♂, 1 ♀, 2 specs; “Vietnam bor. Pr. Moang lien son, YEN BAI; May 1990; J. Picka leg.”; NHMB • 1 ♂; “TONKIN (North-VIETNAM); Ex. Coll. OBERTHÜR IG 18.293” / “Clivina sulcigera PUTZ. det. Balkenohl, 2007”; CMBB • 2 specs; “N VIET NAM (Tonkin), pr. Hoang Lien Son YEN BAI; 10 May 1990; L.Dembický leg.”; NHMB • 2 specs; “VIETNAM NORTH YEN BAI; 6-25 May 1990; O. SÄUSÄ leg.”; NHMB • 1 ♂, 1 ♀; “Vietnam bor. Pr. Moang lien son YEN BAI; May 1990; J. Picka leg.”; NHMB • 1 ♂; “Vietnam, Xuan dinh NW of

Hanoi; 26-29 Apr. 1966; Exp. Gy.TOPAL” / “Nr. 198 sifted litter”; MTMB • 2 specs; “Tonkin. Than Moi. Apr 1917; R.V.de Salvaza.” / “Clivina sulcigera Putz. det. K. Kult 52”; NHMUK • 1 spec.; “Annam Phuc Son”; RBINS • 1 ♂; “S-VIETNAM Nam, Cat Tien Nat.Park; 1-15 May 1994; Pacholatko & Dembiky”; NHMW • 1 spec.; “Vietnam, Dong Nai Bien Hoa, Hiep Hoa; 38m; 10°56.148’N, 106°50.148’E; Garten; 10 Jul. 2014; leg. GÖRN”; SMNS • 1 spec.; “Hoa-Binh Tonkin” / “Bought Donkier” / “Clivina sulcigera Putz. Compared with type H.E.A.”; NHMUK.

Specimen with unclear locality due to contradictory labels

COUNTRY UNSPECIFIC • 1 spec.; with blue label and handwritten in black ink “China” / with white black printed labels “India” / “Bowring 63.47*” / white and handwritten in black ink, circle “807 9/6/52” / square “attenuata group” / handwritten in black ink and black printed “C. sulcigera Putz. det. K. Kult 47”; NHMUK. The specimen is not considered for the indication of the distribution.

Specimen with missing location and empty hind body

COUNTRY UNKNOWN • 1 spec.; “Clivina alternata” [C. alternata is not a valid name.] / “Clivina alternata L. Burgeon det.” / “Collection L. Burgeon”; RBINS.

Redescription

MEASUREMENTS. Holotype: body length 6.6 mm, width 1.92 mm; L/W of pronotum 0.99; L/W of elytra 1.92. Other material: body length 6.38–7.64 mm (\bar{x} : = 6.74 mm*), width 1.85–2.15 mm (\bar{x} : = 1.95 mm*), L/W of pronotum 0.97–0.99 (\bar{x} : = 0.98*), L/W of elytra 1.84–1.92 (\bar{x} : = 1.88*); (*n = 10).

COLOUR. Glossy. Piceous. Labrum, intermediate and hind leg fuscous, antenna pale fuscous. Supraantennal plates at the margin distinctly translucent-fuscous.

HEAD. Less than a third narrower than pronotum. Clypeus with central part distinctly bilobed anteriorly; lateral lobe prominent, wing still traceable but nearly fused with lateral lobe. Supraantennal plate nearly regularly convex laterally, laterally distinctly less projecting than eye; clypeus and wing reflexed margined. Supraantennal plate distinctly reflexed margined. Supraantennal plate overlapping eye anteriorly by a quarter (dorsal view), with supraorbital keel extended up to mid-eye level, separated from wing by right-angled notch. Clypeus transverse, moderately convex, separated from frons by distinct sharp step and furrow-like sulcus, step and sulcus in form like an inverted flat V. Frons moderately convex, with small but distinct arch-like impression at middle which is often separated in two parts, with supraorbital carina up to posterior eye-level. Clypeus smooth, frons with minute scattered punctures, separated from supraantennal plate and supraorbital carina by deep moderately wide furrow, furrow interrupted at mid-eye level, wide at the posterior part; with two supraorbital setigerous punctures, one situated at mid-eye level and one at gena level. Neck constriction missing. Eye distinctly convex in dorsal view, projecting laterally. Main part of eye situated ventrally where it is globose. Due to the overlapping supraantennal plate and the gena, the eye resembles in lateral view the shape of a kidney. Gena distinct, moderately convex, covering a quarter of posterior eye in ventral view. Antenna relatively short, reaching just to the middle of the pronotum, antennomeres five to ten elongate (L/W around 1.25). Labrum indistinctly trilobed anteriorly, with isodiametric reticulation, six setose. Mentum with isodiametric reticulation, with lobe moderately hollowed out, shape of lobe oval, distinctly carinate at middle, median tooth slightly dilated to apex, not as protruding anteriorly as lobe, slightly hollowed out and obtusely angled anteriorly.

PRONOTUM. Disk moderately convex in lateral view, in frontal view moderately convex at middle and distinctly convex laterally. Indistinctly wider than long. Reflexed lateral margin nearly smooth, with few slight notches anteriorly, slightly convex, widest behind middle; anterior angle slightly projecting, posterior angle missing; lateral channel narrow, reticulated, completely and regularly rounded off at level of posterior setigerous puncture and continuing up to base. Median line narrow, complete. Anterior

transverse line fine, nearly appearing as line, joining median line, just not joining anterior margin. Surface glossy, basolaterally with few punctures of moderate size, with distinct paralateral and indistinct paramedian group of punctures in basal half, with few transverse wrinkles, whole disk covered with microscopic punctures. Base distinctly marked, twice as wide as lateral channel. Proepisternum distinctly visible in dorsal view.

ELYTRON. Disk flattened in anterior half in lateral view, distinctly convex in frontal view with increasing convexity towards lateral margin. Distinctly less than twice as long as wide, outline long-oval, with maximum width behind middle. Reflexed lateral margin smooth. Scutellar striole missing; setigerous tubercle at base of first stria, with small but distinct tubercle at base of second stria. Humeral tooth situated at base of fourth interval. Striae moderately deep, distinctly punctuate-striate, striae three to five less distinctly punctate, one to three free at base, four just not reaching humerus, one and two ending free at apex, three and four, and five and six joining apically. Intervals moderately convex, more convex laterally, interval eight with carina apically. Setigerous punctures missing on intervals. Surface of intervals glossy, interval eight with isodiametric reticulation (in the holotype), reticulation extending to half of the width of interval seven in the majority of the specimens, in females interval seven with isodiametric reticulation at humerus and apex, in males smooth.

HIND WINGS. The holotype is fully winged. In the other material, the length reaches from fully developed alae to a length and width of half of the elytron.

LOWER SURFACE. Proepisternum covered in lateral half with isodiametric reticulation and with distinct transverse wrinkles, medially in addition with punctures. Sternite of abdomen laterally with moderately large and dense punctures, smooth at middle but with microscopic punctures, apical segment with dense moderately large punctures, less dense basally at middle; in females in addition with isodiametric reticulation laterally at the third and fourth sternite.

LEGS. Tibiae covered with isodiametric reticulation. Protibia with three spines of moderate length, not sulcate dorsally, movable spur robust, apically distinctly arcuate.

MALE GENITALIA (Fig. 33). Median lobe moderately slender, moderately arcuate at middle, elongated to apex, with complex, hollowed out and distorted apical lamella, with some microtrichia on the surface. Endophallus longitudinally folded, with bristles towards apex. Ventral paramere with velum-like apophysis, somewhat distorted, apex with two setae. Dorsal paramere elongated sinus-like, with long and robust apophysis, with two apical setae.

FEMALE GONOCOXITE AND EPIPLEURITE (Fig. 47). Gonocoxite less sclerotized, foliform, rhombic shaped, flattened dorsally and ventrally, with five long nematiform setae positioned at the median side, with one very long nematiform seta situated at elongated apical tip. Epipleurite oblong-rectangular, with moderately widened angulated rod.

Variation

In addition to the different degree of the alae size and the reticulation on the elytron, the following variations are observed. The sulcus between the clypeus and frons of the head is more or less curved. The minute scattered punctures on the frons and the clypeus are more or less dense, depending on the subpopulations seen. The eye is more or less pointed posteriorly in many specimens. The anterior angles of the pronotum are more or less projecting. The paramedial group of punctures in the basal half of the pronotum vary substantially in the number of punctures from ten up to zero. In one male specimen, half of the width of the sternites of the abdomen is reticulated at middle. Subpopulations from the very North of Vietnam show a slightly more subquadratic shape of the pronotum. In addition, the moderately

sized punctures on the sternites, which are in all populations dense laterally, have the tendency in this subpopulation to extend in females more or less slightly to the middle as a small band. It seems, this tendency is continuous, increasing towards the North and most distinct in specimens from Yen Bai, and pointing to a cline.

Sexual dimorphism

In females interval seven shows isodiametric reticulation at the humerus and apex, in males these parts are smooth. The abdominal sternites are smooth at the middle in both sexes.

Distribution

Known to occur over Vietnam, Laos, Cambodia, Thailand, Malaysia, and Indonesia (Sumatra, Java).

Sulciclivina karelkulti karelkulti sp. nov.

[urn:lsid:zoobank.org:act:2776C7B3-A68C-42D3-ADAF-DB6FDA5162E8](https://zoobank.org/act:2776C7B3-A68C-42D3-ADAF-DB6FDA5162E8)

Figs 18, 48, 53

Diagnosis

A medium-sized species with a long-oval shape of the elytron, with extensive reticulation on the intervals of the elytron, and fused clypeal wings with the lateral lobes. Distinguished from the other species by the reticulation on the elytron, which covers laterally intervals six to eight, apically the whole apex of the elytron by one fifth, and basally it is extended on intervals one and two. The gonocoxites are pointed apically but not elongated at the apex as it is in the similar species *S. curvata* sp. nov.

Etymology

The name is a patronym in honour of the Czech entomologist Karel Kult, specialist in Scaritinae, who worked intensively on Clivinini between 1940 and 1960.

Type material

Holotype

MALAYSIA • ♀; with label and data: beige, handwritten in black ink “Malacca Prof. Fischer”; MFNB.

Paratypes

MALAYSIA • 7 ♀♀; “MALAY PENIN. WEST COAST.; LANGKAWI IS.; 14, 15, 16, and 21 Apr. 1928” / “H. M. Pendlebury Coll. F.M.S. Museums.” / “Ex F.M.S. Museum. B.M.1955-354.”; NHMUK • 1 ♀; “Pekan PAHANG 10. IX. '17 G.D.A.” / “Ex Mus. Coleoptera 34 Hope Ent. Coll. Oxford”; OUMNH • 1 ♀; “MALAYSIA, Pahang 40km W Rompin Selendang, 29.4.-6.6.1993 leg. I.Jenis”; NHMW • 1 ♀; “Kota Tinggi Jahore August 1917” / “Clivina attenuata Herbst H.E.Andrewes det.” / “OX. UNI. MUS. NAT. HIST (OUMNH) G.Dexter-Allen Coll.”; OUMNH • 1 ♀; “Jahore. April. H.N.Ridley. 99-127.” / “H.E.Andrewes Coll. B.M.1945-97”; NHMUK • 1 ♀; “Prac. Malacca” / “Clivina attenuata-group det. M. Balkenohl,2017”; MFNB • 1 ♀; “Sungkei 6.2.02” / “Ex Misc. Coleoptera 34 Hope Ent. Coll. Oxford”; OUMNH.

Remark. In the holotype, the right eight terminal antennomeres and the four terminal tarsomeres of the front leg are missing.

Description

MEASUREMENTS. Holotype: body length 6.66 mm, width 1.94 mm; L/W of pronotum 0.99; L/W of elytra 1.86. All material: body length 6.65–7.56 mm (\bar{x} : = 7.04 mm*), width 1.94–2.14 mm (\bar{x} : = 2.02 mm*), L/W of pronotum 0.98–1.02 (\bar{x} : = 1.0*), L/W of elytra 1.83–1.89 (\bar{x} : = 1.86*); (*n = 7).

COLOUR. Glossy. Piceous. Labrum, intermediate and hind leg fuscous, antenna pale fuscous. Supraantennal plates fuscous, translucent at the margin.

HEAD. A third narrower than pronotum. Clypeus with central part distinctly bilobed anteriorly; lateral lobe prominent, somewhat more protruding anteriorly than central part, with lateral lobe and wing fused, with longitudinal carina at middle. Supraantennal plate longitudinally convex laterally, laterally less projecting than eye. Lateral lobe slightly reflexed margined. Supraantennal plate distinctly reflexed margined. Supraantennal plate overlapping eye anteriorly by a fifth (dorsal view), with supraorbital keel ending before mid-eye level, separated from wing by obtuse-angled notch. Clypeus transverse, distinctly convex, separated from frons by distinct sharp step and wide furrow-like sulcus, step and sulcus in form like an inverted flat V. Frons moderately convex, with distinct arch-like impression at middle, which is step-like impressed laterally, with supraorbital carina up to posterior eye-level. Clypeus smooth, frons with few minute scattered punctures, separated from supraantennal plate and supraorbital carina by deep moderately wide furrow, furrow with small oblique carina posterior mid-eye level; with two supraorbital setigerous punctures, one situated posterior mid-eye level and one at the posterior end of the gena. Neck constriction missing. Eye distinctly convex in dorsal view, projecting laterally; main part of eye situated ventrally where it is globose; eye with narrow but distinct carina situated directly at the median margin. Due to the overlapping supraantennal plate and the gena, the eye looking in lateral view constricted. Gena distinct, indistinctly convex, covering a quarter of posterior eye in ventral view. Antenna relatively short, just reaching over the anterior third of the pronotum, antennomeres five to ten moniliform (L/W around 1.04). Labrum indistinctly trilobed anteriorly, with isodiametric reticulation, six setose. Mentum with isodiametric reticulation, with lobe flattened, shape of lobe asymmetric oval; distinctly carinate at middle, median tooth slightly dilated to apex, not as protruding anteriorly as lobe, slightly hollowed out and obtusely rounded anteriorly.

PRONOTUM. Disk slightly convex in lateral view, in frontal view regularly convex. As long as wide. Reflexed lateral margin smooth, slightly convex with straight part in anterior half, widest behind middle; anterior angle slightly projecting, posterior angle missing; lateral channel narrow, not deeply embedded, indistinctly reticulated, completely and regularly rounded off at level posterior setigerous puncture and continuing narrowly up to base. Median line moderately wide, complete. Anterior transverse line appearing as line, joining median line, just not joining anterior margin. Surface glossy, basolaterally with group of impressed punctures of moderate size, with distinct paramedian group of punctures in basal half, with few transverse wrinkles, disk with few microscopic punctures. Base distinctly marked, three times as wide as lateral channel. Proepisternum indistinct, just visible posteriorly in dorsal view.

ELYTRON. Disk slightly convex in lateral view, distinctly convex in frontal view with increasing convexity towards lateral margin. Distinctly less than twice as long as wide, outline long-oval, with short straight part posterior humerus, with maximum width posterior middle. Reflexed lateral margin smooth. Scutellar striole missing; setigerous tubercle at base of first stria, with small but distinct tubercle at base of second stria. Humeral tooth situated at base of fourth stria. Striae moderately deep, moderately punctuate-striate, one to three free at base, four reaching humerus, one and two ending free at apex, three and four, and five and six joining apically. Intervals moderately convex, more convex laterally, interval eight with carina apically. Setigerous punctures missing on intervals. Surface of intervals glossy, interval eight and seven completely, and interval six partly covered with isodiametric reticulation, base with reticulation, extending caudally on interval one and two. All intervals covered with reticulation at apical fifth starting on interval one in apical third (see also under variation).

HIND WINGS. In the 13 female specimens available the alae are fully developed.

LOWER SURFACE. Proepisternum covered in lateral two thirds with isodiametric reticulation and with distinct transverse wrinkles, medially in addition with punctures. Sternite of abdomen fully reticulated

from the basal to the apical margin, laterally with moderately large and dense punctures, apical segment completely covered with moderately large punctures; in females in addition with isodiametric reticulation laterally at the third and fourth sternite.

LEGS. Tibiae covered with isodiametric reticulation. Protibia with three spines of moderate length, not sulcate dorsally, movable spur slightly arcuate apically.

MALE GENITALIA. Unknown.

FEMALE GONOCOXITE AND EPIPLEURITE (Fig. 48). Gonocoxite less sclerotized, monomeric, elongate foliform, flattened dorsally and ventrally, with four long nematiform setae positioned at the median side, with one very long nematiform seta situated at the pointed apical tip. Epipleurite oblong-rectangular, with moderately widened angulated rod.

Variation

In all specimens, intervals six to eight of the elytron are covered with distinct isodiametric reticulation. From the base, the apex, and the lateral intervals, the reticulation extends to the disk more or less intensively. It becomes less distinct towards the disk. In one of the specimens, the disk is covered with indistinct reticulation. Some of the specimens show minute scattered punctures on the frons of the head.

Sexual dimorphism

Unknown.

Distribution

Known to occur on the Malayan peninsula.

Sulciclivina karelkulti medanensis subsp. nov.

[urn:lsid:zoobank.org:act:7174F79F-6AD2-4E38-906E-6AD261DA947D](https://zoobank.org/act:7174F79F-6AD2-4E38-906E-6AD261DA947D)

Figs 19, 49, 53

Diagnosis

The subspecies differs from the nominotypical subspecies mainly by the sternites of the abdomen, which are smooth at the middle. In addition, the antennomeres five to ten are elongate. The gonocoxites are less pointed apically.

Etymology

The name is a noun and refers to the city Medan in the North of Sumatra where many of the specimens were found.

Type material

Holotype

INDONESIA • ♀; with label and data: white, handwritten in black ink “N-SUMATRA: Gunung Malayu 12.I.1983 DIEHL”; SMNS.

Paratypes

INDONESIA • 1 ♀; “NORD-SUMATRA : Dolok Merangir 22.1.1973 DIEHL lg”; SMNS • 1 ♀; “NORD-SUMATRA : Dolok Ulu; Kora Kora,Lichtf. 20.9.1979 ERBER leg”; SMNS • 1 spec. [received with empty abdomen]; “Sumatra” / “Coll. Kraatz” / “Clivina attenuata Hbst det Andrewes” / “C. pseudoattenuata m. det. K. Kult 44” / red, black framed, black printed “COTYPE”; ETHZ • 6 ♀♀; “Sumatra” / “Coll. Kraatz” / “Andrewes det.” / one of them with handwritten label “Clivina attenuata Herbst”; NHMB • 2 ♀♀; “Sumatra” / “Coll. Kraatz” / “H.E.Andrewes Coll. B.M.1945-97” / “C. sulcigera Putz. det.

K. Kult 1948"; NHMUK • 1 ♀, 1 spec. [received with empty abdomen]; "Sumatra" / "Coll. Kraatz" / "Cl. attenuata Hbst." / "Andrewes det." / "Gesch. 12. 1934 von Prof. Noesske" / "F. van Emden Bequest B.M. 1960-129."; NHMUK • 1 ♀; "Sumatra" / "Coll. Kraatz" / "COLLECTIO KAREL KULT COLL. A.DOSTAL, 1999"; CADW • 1 ♀; "Medan Mjög." / „Ex Mus. Stockholm" / „H.E.Andrewes Coll. B.M.1945-97"; NHMUK • 1 ♀; "Sumatra: Medan Mjöberg" / "Ex Mus. Stockholm" / "Clivina attenuata from H.E.Andrewes Coll." / "COLLECTIO KAREL KULT COLL. A.DOSTAL, 1999"; CADW • 1 ♀; "N.O.Sumatra Deli L. Martin S." / "Clivina attenuata-group det. M. Balkenohl, 2017"; MFNB • 1 ♀; "I. B. CORPORAAL SUMATRA-Deli Bekassa 3-'12" / "Ex coll. B.H.Klynstra" / "H.E.Andrewes Coll. B.M.1945-97"; NHMUK.

Taxonomic remark

Kult already recognized the form as a new species. He added a red type label and a name to one of the specimens. However, the species was never described and the name was never published. The name provided to the specimen by Kult is therefore not valid.

Description

MEASUREMENTS. Holotype: body length 6.95 mm, width 2.08 mm; L/W of pronotum 0.99; L/W of elytra 1.84. Other material: body length 6.5–7.23 mm (\bar{x} : = 6.9 mm*), width 1.92–2.17 mm (\bar{x} : = 2.04 mm*), L/W of pronotum 0.95–0.99 (\bar{x} : = 0.98*), L/W of elytra 1.83–1.89 (\bar{x} : = 1.88*); (*n = 10).

The subspecies differs from the nominotypical subspecies mainly in the following characters:

HEAD. Antennomeres five to ten elongate (L/W around 1.3). Clypeal wing just traceable, not completely fused with lateral lobe.

PRONOTUM. Lateral margin with indistinct concave part in anterior half.

ELYTRON. Outline slightly more oval than in the nominative subspecies. Intervals at humerus and apex less intense reticulated. Reticulation restricted to intervals six to eight.

HIND WINGS. In all of the 18 female specimens available, the alae are fully developed.

LOWER SURFACE. Sternites of abdomen smooth at middle, glossy.

MALE GENITALIA. Unknown.

FEMALE GONOCOXITE AND EPIPLEURITE (Fig. 49). Epipleurite more elongated than in the nominative subspecies, with distinctly widened angulated rod.

Distribution

Known to occur in the North of Sumatra (Indonesia).

Sulci livina curvata sp. nov.

[urn:lsid:zoobank.org:act:47AF8CF1-C02B-4537-9826-B91C368A6A86](https://zoobank.org/act:47AF8CF1-C02B-4537-9826-B91C368A6A86)

Figs 15, 31, 46, 53

Diagnosis

A medium-sized species with a long-oval shape of the elytron, interval eight of the elytron covered by half of the width with indistinct reticulation, and the lateral lobe completely fused with the wing. The most similar species are *S. sulcigera* and *S. striata striata*. In *S. sulcigera*, the reticulation of interval

eight is distinct and very often extended to interval seven. In addition, the proepisternum is distinctly visible in dorsal view and interval eight is carinate up to the tip of the apex. In the more slender species *S. striata striata*, the pronotum is longer than wide and with the margins subparallel, the median part of the clypeus is indistinctly bilobed and nearly straight. Moreover, the aedeagi and the gonocoxites of these species all show unique characters.

Etymology

The name refers to the curved and distorted apical third of the gonocoxite by the Latin adjective for bent in the feminine form (*‘curvata’*).

Type material

Holotype

INDONESIA • ♂; with small mounting card, with labels and data: white, black printed and handwritten in black ink “Batoerraden G. Slam. Java F.C.Drescher. 10-12 VII 1926” / white, handwritten in black ink “*C. attenuata* Hbst Andr. det. 23.11.1933” / white, handwritten in black ink and black printed “*C. pseudoattenuata* m. det. K. Kult 44”; ETHZ.

Remark. The holotype is slightly immature.

Taxonomic remark

Kult recognized the form as being a new species and added a name to the specimens. However, it was never described and the name was never published. The name provided to the specimen by Kult is therefore not valid.

Paratypes

INDONESIA • 1 ♀; “F.C.DRESCHER Djeroeklegi Zuid-Banjoemas 9.XI.1930” / “*attenuata* Herbst Andr. det. 23.11.33”; ETHZ • 1 ♂; “F.C.DRESCHER Djeroeklegi Zuid-Banjoemas 9.XI.1930” / “*C. sulcigera* Putz. ?” / “*attenuata* Hbst Andr. det. 23.11.33” / “COLLECTIO KAREL KULT COLL. A.DOSTAL, 1999”; CADW • 1 ♂; “F.C.DRESCHER Djeroeklegi Zuid-Banjoemas 9.XI.1930” / “*attenuata* Herbst H.E.Andrewes det.” / “*C. pseudoattenuata* det. K. Kult 44”; ETHZ • 1 spec. [received with empty abdomen]; same data as for preceding; ETHZ • 1 ♂; “Java” / “Collection P. Dupuis” / “*Clivina*”; RBINS • 1 ♀; “Java Koller”; RBINS • 1 ♀; “Malang Java” / “Collection P. Dupuis”; RBINS • 1 ♀; “Java” / “*Clivina*” / “Collection P. Dupuis”; RBINS • 1 ♀; “Malang Java” / “*Clivina attenuata* Herbst H.E.Andrewes det. 21.XI.1925” / “*C. pseudoattenuata* m. det. K. Kult 44”; ETHZ • 1 ♀; “Mt. Oenganran Java central. KOLLER” / “*Clivina*” / “Collection P. Dupuis”; RBINS • 1 ♀; “Tjilatjap Java Drescher 15 XI 1926” / “*C. attenuata* Hbst Andr. Dte. 23.11.33”; ETHZ.

Description

MEASUREMENTS. Holotype: body length 6.99 mm, width 2.03 mm; L/W of pronotum 0.94; L/W of elytra 1.79. Other material: body length 6.11–7.09 mm (\bar{x} : = 6.4 mm*), width 1.84–2.07 mm (\bar{x} : = 2.0 mm*), L/W of pronotum 0.91–0.95 (\bar{x} : = 0.94*), L/W of elytra 1.79–1.89 (\bar{x} : = 1.83*); (*n = 10).

COLOUR. Glossy. Piceous. Labrum, intermediate and hind leg fuscous, antenna pale fuscous. Supraantennal plates distinctly translucent-fuscous at the margin and slightly at middle.

HEAD. A third narrower than pronotum. Clypeus with central part distinctly bilobed anteriorly, lateral lobe distinctly projecting, lateral lobe and wing fused. Supraantennal plate nearly regularly convex laterally, laterally distinctly less projecting than eye; clypeus indistinctly reflexed margined, clypeal wing moderately and supraantennal plate distinctly reflexed margined. Supraantennal plate overlapping eye anteriorly by a fifth (dorsal view), with supraorbital keel extended nearly up to mid-eye level, separated

from wing by right-angled notch. Clypeus transverse, moderately convex, separated from frons by slight step and furrow-like sulcus, sulcus in form like an inverted flat somewhat rounded V. Frons moderately convex, with two small but distinct arch-like impressions at middle, with supraorbital carina up to posterior eye-level. Clypeus smooth, frons with minute scattered punctures, separated from supraantennal plate and supraorbital carina by moderately deep and wide furrow, furrow interrupted at mid-eye level; with two supraorbital setigerous punctures, one situated at mid-eye level and one at gena level. Neck constriction missing. Eye globally projecting laterally. Main part of eye situated ventrally where it is globose. Due to the overlapping supraantennal plate and the gena, the eye looks in lateral view somewhat constricted. Gena distinct, moderately convex, covering a quarter of posterior eye in ventral view. Antenna of moderate length, reaching up to the middle of the pronotum, antennomeres five to ten elongate (L/W around 1.28). Labrum indistinctly trilobed anteriorly, with isodiametric reticulation, six setose. Mentum with isodiametric reticulation, with lobe flattened, shape of lobe asymmetric oval; distinctly carinate at middle, median tooth slightly dilated to apex, not as protruding anteriorly as lobe, flattened and obtusely rounded anteriorly.

PRONOTUM. Disk moderately convex in lateral view, in frontal view distinctly and regularly convex. Wider than long. Reflexed lateral margin smooth, nearly straight between middle and anterior setigerous puncture, widest behind middle; anterior angle slightly projecting, posterior angle missing; lateral channel moderately narrow, reticulated, completely and regularly rounded off at level posterior setigerous puncture and continuing as narrow channel up to base. Median line narrow, complete. Anterior transverse line moderately wide, formed by transverse punctures, joining median line, just not joining anterior margin. Surface glossy, basolaterally with impressed group of punctures of moderate size, with paramedian group of punctures, with few transverse wrinkles, whole disk covered with microscopic punctures. Channel at base relatively narrow. Proepisternum slightly visible in dorsal view.

ELYTRON. Disk flattened in anterior third in lateral view (in females slightly convex), distinctly convex in frontal view with increasing convexity towards lateral margin. Distinctly less than twice as long as wide, outline long-oval, lateral margin with straight part anteriorly to middle, with maximum width behind middle. Reflexed lateral margin smooth. Scutellar striole missing; setigerous tubercle at base of first stria, with small but distinct tubercle at base of second stria. Humeral tooth situated at base of fourth stria. Striae moderately deep, distinctly punctuate-striate, one to three free at base, one and two ending free at apex, three and four, and five and six joining apically. Intervals moderately convex, more convex laterally, interval eight carinate apically. Setigerous punctures missing on intervals. Surface of intervals glossy, interval eight with indistinct isodiametric reticulation covering about half of the width of the interval, in females interval seven with slight isodiametric reticulation directly at the humerus and the apical tip, in males smooth.

HIND WINGS. In the holotype, the alae are reduced by about 50%. Out of the other material, six specimens show fully developed alae, in the other material the alae are reduced up to a length and width of half of the elytron.

LOWER SURFACE. Proepisternum covered in lateral third with isodiametric reticulation and with distinct transverse wrinkles, medially with some punctures. Sternite of abdomen laterally with moderately large and dense punctures, smooth at middle but with microscopic punctures (in both sexes), apical segment with moderately large punctures, less dense basally; in females in addition with isodiametric reticulation laterally at the apical margin of the sternites three to five.

LEGS. Tibiae covered with isodiametric reticulation. Protibia with three spines of moderate length, the apical one distinctly curved ventrally, tibia not sulcate dorsally, movable spur robust, apically distinctly ventrally arcuate.

MALE GENITALIA (Fig. 31). Median lobe moderately massive, moderately arcuate at middle, with dorsal bulge in apical half, with complex, hollowed out and distorted apical lamella, with few microtrichia on the surface. Endophallus with around seven small teeth. Ventral paramere with velum-like apophysis, slightly distorted, apex with two setae. Dorsal paramere elongated sinus-like, with moderately developed apophysis, with two apical setae.

FEMALE GONOCOXITE AND EPIPLEURITE (Fig. 46). Gonocoxite less sclerotized, rhombic shaped, flattened dorsally and ventrally, with four long nematiform setae positioned at the median side, with one very long nematiform seta situated at the apical tip. Apical third pointed, curved and distorted in three dimensions. Epipleurite rectangular, slightly elongated, with distinctly widened angulated rod.

Variation

In some of the specimens, the anterior part of the pronotal lateral margin including the anterior angles is more or less translucent-fuscous. On the frons of the head, the arch-like impression varies in size. On the pronotum, the anterior transverse line is more or less formed by transverse punctures. Therefore, in some specimens it appears more as a line. The reticulation on interval eight of the elytron is in general indistinct. It consists of a small strip, which can reach half of the width of the interval in some of the specimens.

Sexual dimorphism

In females, the elytron is slightly convex in the anterior third in lateral view (flattened in males). In females, interval seven shows a slightly isodiametric reticulation directly at the humerus and at the apex, in males these parts are smooth.

Distribution

Known from the island of Java, Indonesia.

Sulciclivina sagittaria sagittaria (Bates, 1892)

Figs 3, 20, 34, 50, 53

Clivina sagittaria Bates, 1892: 275 (original description).

Clivina sagittaria – Csiki 1927: 510 (catalogue). — Andrewes 1929: 358 (redescription); 1930: 116 (catalogue). — Balkenohl 2001: 16 (catalogue). — Kult 1951: 25 (enumeration). — Lorenz 2005: 134 (catalogue); 2022: 5ZCD6 (catalogue).

Sulciclivina sagittaria – Balkenohl 2022: 108, fig. 46 (figures of gonocoxites and new combination).

Diagnosis

A small-sized species with the pronotum as long as wide or slightly longer than wide and distinct clypeal wings. Mainly distinguished from the other members of the *sagittaria*-species group by the clypeal wings, which are developed as sharp teeth. In addition, the lateral margin of the pronotum is more attenuated anteriorly as in the other members of the species group.

Type material

Lectotype (by present designation)

MYANMAR • ♂; with labels and data: white, black framed, printed and handwritten in black ink “Rangoon Birmania Fea VI 1887” / white, handwritten in black ink “Cl. sagittaria es. Tip. Bat.” / circle, green framed “Co-type” / white, printed “Bought from Janson, 1917.” / “H.E. Andrewes Coll. B.M. 1945-97.” / red, black printed “LECTOTYPE *Sulciclivina sagittaria sagittaria* (Bates, 1892) des. M. Balkenohl 2023”; NHMUK.

Paralectotypes

MYANMAR • 1 ♀; with labels and data: white, black framed, printed and handwritten in black ink “Rangoon Birmania Fea VI 1887” / circle, green framed “Co-type” / white, handwritten in black ink and printed “Clivina sagittaria Bates H.E. Andrewes det.” / white, handwritten and black printed “Gesch. 8. 1938 von Andrewes” / white, black printed “F. van Emden Bequest B.M. 1960-129.”; NHMUK • 1 ♂; with labels and data: white, black framed, printed and handwritten in black ink “Rangoon Birmania Fea VI 1887” / circle, green framed “Co-type” / beige, handwritten in black ink “Civina sagittaria Bts.”; ETHZ • 1 ♂; with labels and data: white, black framed, printed and handwritten in black ink “Rangoon Birmania Fea VI 1887” / white, handwritten in black ink “sagittaria Bates” / white, black printed “Zool. Mus. Berlin” / white, black printed “Clivina sagittaria BATES det. Balkenohl, 1996”; MFNB • 1 ♂, 1 ♀; on the same pin with labels and data: white, black framed, printed and handwritten in black ink “Rangoon Birmania Fea VI 1887” / white, handwritten in black ink “Cliv. sagittaria n.sp.” / white, black framed, red printed “Syntype”; RBINS.

Taxonomic remark

For the selection of the lectotype out of the series of six available cotypes, two considerations were applied. On the one hand, a complete male specimen, in good condition and not rotten inside, was selected. In addition, this specimen is the only one bearing the additional label in Italian language by Leonardo Fea “Cl. sagittaria es. tip. Bat.”, which is an abbreviation of ‘esempio tipo Bates’ and means ‘type specimen of Bates’. The material of *S. sagittaria* collected by L. Fea was distributed and even sold to several places (written information from M.V.L. Barclay, NHMUK). The type series including the lectotype of *S. bhamoensis* (Bates), also collected by L. Fea in Myanmar was deposited in NHMUK where Bates often worked.

Redescription

MEASUREMENTS. Lectotype: body length 4.87 mm, width 1.34 mm; L/W of pronotum 1.08; L/W of elytra 1.97. All material: body length 4.68–4.98 mm (\bar{x} : = 4.83 mm*), width 1.25–1.36 mm (\bar{x} : = 1.3 mm*), L/W of pronotum 1.03–1.11 (\bar{x} : = 1.08*), L/W of elytra 1.95–2.01 (\bar{x} : = 1.99*); (*n = 6).

COLOUR. Glossy. Piceous. Mouthparts, elytron, intermediate and hind leg, tarsomeres of front leg fuscous, antenna and palpomeres more pale fuscous. Anterior part of supraantennal plate at the margin translucent-fuscous.

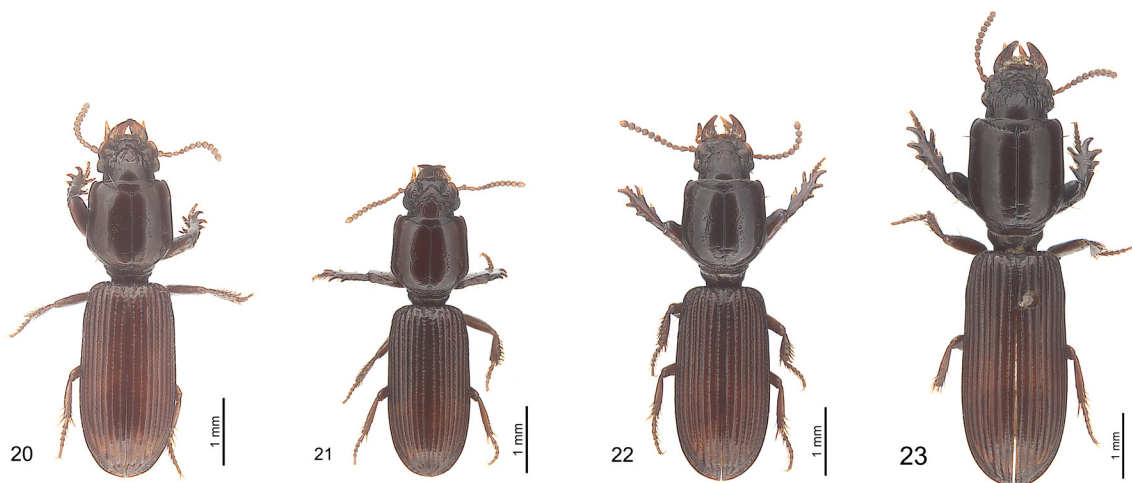
HEAD. A quarter narrower than pronotum. Clypeus with central part distinctly bilobed anteriorly; lateral lobe developed as acute teeth, slightly more projecting than central lobes, clypeal wings well developed, sharp, not as far projecting anteriorly as lateral teeth of clypeus, distinctly separated from clypeus by notch; supraantennal plate laterally moderately convex, laterally nearly as far projecting as eye; supraantennal plate finely reflexed margined. Supraantennal plate overlapping eye anteriorly by about a quarter (dorsal view), with the supraorbital carina keeled posteriorly and extended up to mid-eye level, separated from wing by sharp notch. Clypeus transverse, separated from frons by sharp carina in form like an inverted nearly right-angled V. Frons moderately convex, with another but smaller carina like an inverted V, with supraorbital carina short, extending up to posterior eye-level. Clypeus smooth, area between V-like carinae smooth, frons with two to three longitudinal rugae at middle to posterior eye-level, clypeus and frons separated from supraantennal plate and supraorbital carina by deep and moderately wide furrow; with two supraorbital setigerous punctures at middle of the eye and end of gena-level. With some moderately sized punctures laterally at level of neck, punctures less dense or missing at middle. Eye small, encased, moderately convex in dorsal view, main part situated ventrally where it is more distinctly convex. Gena moderately convex, covering around a sixth of posterior eye in ventral view. Eye somewhat constricted due to the overlapping supraantennal plate and the genae. Antenna moderately long, reaching distinctly over middle of pronotum, antennomeres five to ten distinctly longer than wide (L/W around 1.23). Labrum straight anteriorly, with isodiametric-irregular reticulation, six setose. Mandibles sub-falcate slightly bent up dorsally. Mentum with isodiametric reticulation at middle, with lobe flattened, with few fine carinae

on surface, shape of lobe asymmetric slightly longitudinal oval, with sharp median carina. Median tooth moderately wide, not as projecting anteriorly as lobe, rounded and hollowed out anteriorly.

PRONOTUM. Disk slightly convex in lateral and distinctly convex in frontal view. Slightly longer than wide, peltate. Reflexed lateral margin nearly smooth, straight in anterior half, widest behind middle; anterior angle distinct, slightly projecting, posterior angle indistinct; lateral channel moderately wide, crenulated, narrower before and behind posterior setigerous puncture, slightly curved upward at posterior setigerous puncture with small tooth (lateral view). Median line moderately deep, sharp, subcrenulated, complete. Anterior transverse line crenulated, slightly wider than median line, joining median line, joining declivity at anterior margin. Surface glossy, with micro-punctures, with paralateral impression basally formed by impressed punctures, with paramedian cloud-like longitudinal group of punctures of moderate size, with few transverse wrinkles laterally and basally. Base distinctly marked, channel two times as wide as lateral channel, width about a fifth of width of pronotum. Proepisternum moderately well visible in dorsal view.

ELYTRON. Shape long-oval, indistinctly clavate. Disk flattened in anterior half in lateral view, distinctly and regularly convex in frontal view. Nearly two times longer than wide, with maximum width distinctly behind middle. Reflexed lateral margin smooth, setigerous punctures in lateral channel with long yellow setae, interrupted at middle by one puncture. Scutellar striole missing; setigerous tubercle at base of first stria, with distinct tubercle at base of third interval, basal declivity with isodiametric reticulation. Humeral tooth situated at base of fourth interval. All striae distinctly deepened, punctuate-striate, one to three free at base, four reaching humerus, one and two, three and four, and five and six joining apically. Intervals distinctly convex, more convex laterally. Setigerous punctures missing on intervals. Surface of all intervals glossy, interval seven and eight with indistinct reticulation at humerus, interval eight at apex subcarinate and with indistinct reticulation.

HIND WINGS. In the lectotype, the alae are reduced to half of the length and width of the elytron looking like a longitudinal spatula. In two specimens, there are no alae visible and in another two the alae are as in the lectotype. In one specimen, the alae are fully developed.



Figs 20–23. *Sulciclivina* Balkenohl, 2022, habitus, dorsal view. 20. *S. sagittaria sagittaria* (Bates, 1892), ♂, paralectotype (NHMUK). 21. *S. sagittaria singaporensis* subsp. nov., ♀, holotype (NHMUK). 22. *S. oculiangusta* sp. nov., ♀, holotype (NHMUK). 23. *S. andrewesi* sp. nov., ♂, holotype (NHMB).

LOWER SURFACE. Proepisternum covered with dense moderately sized punctures, laterally with some irregular reticulation and with dense transverse wrinkles. All sternites of abdomen covered with moderately large punctures, with slightly less density at middle at middle.

LEGS. Protibia covered with longitudinal reticulation, sulcate dorsally at base, with three spines of moderate length, apical spine distinctly arcuate, movable spur robust, in apical half moderately arcuate.

MALE GENITALIA (Fig. 34). Median lobe moderately slender in dorsal view, relatively short in comparison to body size, regularly arcuate at middle, with moderate dorsal bulge, apex with moderately long, flattened, slightly widened, and distorted spatula, with few microtrichia on the surface. Endophallus at middle with longitudinal group of bristles. Ventral paramere with somewhat widened velum-like apophysis, apex with two setae. Dorsal paramere robust, attenuated to apex, with three apical setae.

FEMALE GONOCOXITE AND EPIPLEURITE (Fig. 50). Gonocoxite conical-shaped, flattened dorsally and ventrally, with three nematiform setae positioned at the median side, with one preapical long nematiform seta. Epipleurite semi-rectangular, with conspicuously widened angulated rod.

Variation

On the frons of the head, the posterior smaller carina is anteriorly not closed in some of the specimens. In about half of the specimens, there is a deep impression posterior to the smaller carina (not developed in the LT). On the pronotum, the lateral channel varies with the development of the crenulation. In addition, the number of punctures on the disk varies. In a third of the specimens, the lateral margin of the elytron is indistinctly crenulated behind the humerus, and in a few specimens stria one and two are not joining at apex respectively at one side, whereas the striae are joining at the other side.

Sexual dimorphism

Secondary sexual characters not observed.

Distribution

Known from the type locality in Rangoon, Myanmar.

Sulciclivina sagittaria singaporensis subsp. nov.

[urn:lsid:zoobank.org:act:2487CFA0-1157-4E1E-A406-B87C40F9D386](https://zoobank.org/act:2487CFA0-1157-4E1E-A406-B87C40F9D386)

Figs 21, 51, 53

Diagnosis

The subspecies differs from the nominotypical subspecies mainly by the distinctly sculptured frons of the head, and by the shape of the elytron, which is more elongate and parallel.

Etymology

The name refers to the city of Singapore where most of the specimens were found.

Type material

Holotype

SINGAPORE • ♀; with white labels and data: handwritten on the original mounting card with red ink "Spore" [Singapore] / printed in black "SINGAPORE: C.J. Saunders. B.M.1929-369" / handwritten in black ink "987 A" / handwritten in black ink and printed "Clivina sagittaria Bates H.E.Andrewes det."; NHMUK.

Paratypes

SINGAPORE • 1 ♀, 2 specs; same data as for holotype but with number “377” and “897 A”, and one of them with barcode “NHMUK015024561”; NHMUK • 1 ♀; “MALAY PENIN : Selangor, F.M.S. Kuala Lumpur at light april 6th 1927 H.M. Pendlebury”, reverse side “EX COLL: F.M.S. MUSEUM” / “H.E.Andrewes Coll. B.M.1945-97.”; NHMUK • 1 ♀; same data as for preceding but “April 20th 1927”; NHMUK • 1 ♀; “Singapore on Lizz bags” [sic] “1927 9 Ljiu” / “H.E.Andrewes Coll. B.M.1945-97.”; NHMUK • 1 ♀; “Singapore 1921-23” / “SINGAPORE: C.J. Saunders. B.M.1929-369.”; NHMUK • 1 ♀; same data as for preceding but with additional label: “B: 5/22 flur” [sic]; NHMUK • 1 ♀; “Singapore Saunders” / “sagittaria” / “From British Museum Collection” / “COLLECTIO KAREL KULT COLL. A.DOSTAL, 1999”; CADW.

Description

MEASUREMENTS. Holotype: body length 4.63 mm, width 1.23 mm; L/W of pronotum 1.04; L/W of elytra 2.06. All material: body length 4.63–5.1 mm (\bar{x} = 4.88 mm*), width 1.23–1.34 mm (\bar{x} = 1.26 mm*), L/W of pronotum 1.01–1.06 (\bar{x} = 1.04*), L/W of elytra 2.05–2.11 (\bar{x} = 2.09*); (*n = 8).

The subspecies differs from the nominotypical subspecies mainly in the following characters:

HEAD. The frons of the head is more rugose. This includes transverse rugae between the two arrow-like carinae. In addition, the head is much more punctured, mainly posteriorly. The antenna is moderately long, reaching just over the middle of the pronotum with antennomeres five to ten slightly longer than wide (L/W around 1.12).

PRONOTUM. Lateral margin of pronotum straighter than in the nominotypical subspecies, nearly concave in most of the specimens, crenulated. Disk with a paralateral and a paramedian group of cloud-like punctures, the paralateral cloud of punctures variable with its extension anteriorly. The proepisternum is slightly visible in dorsal view.

ELYTRON. The shape is more elongate and parallel. It is slightly more than twice as long as wide with maximum width at middle. The crenulation behind the humerus is more distinct.

HIND WINGS. In all of the eight female specimens, the alae are fully developed.

MALE GENITALIA. Unknown.

FEMALE GONOCOXITE (Fig. 51). The gonocoxites are angular at base.

Distribution

Known from the Malayan peninsula.

Sulciclivina andrewesi sp. nov.

[urn:lsid:zoobank.org:act:DF22D598-5910-4EA2-B4F1-6A5EF2506E7B](https://zoobank.org/urn:lsid:zoobank.org:act:DF22D598-5910-4EA2-B4F1-6A5EF2506E7B)

Figs 23, 52–53

Diagnosis

The species is the distinctly largest-sized one of the *sagittaria*-species group. Unique characters are in addition the elongated and falcate mandibles, the elongated and parallel-sided pronotum, and the elongate elytron with the lateral margins parallel.

Etymology

The name is a patronym in honour of Herbert Edward Andrewes (1863–1950) who provided a solid basis for the investigation of Asian Scaritinae.

Type material

Holotype

INDIA • ♀; with labels and data: white, black printed “8. IX. 17 1. Among Dabui Rarhi and Batri roots Pusa, Haq. Coll.” / “Agric. Res. Inst. Pusa” / handwritten in black ink and printed “*Clivina sagittaria* Bates (over) H.E.Andrewes det.” / “H.E.Andrewes Coll. B.M.1945-97.”; NHMUK.

Remark. In the left hind leg, all tarsomeres are missing and the right elytron shows a pinhole and a crack. The mandibles are not as sharp as in the paratype due to individual wear.

Paratype

INDIA • 1 ♀; with labels and data: white, black printed and handwritten in black ink “2110 Pusa Behar At Light” / “Agric. Res. Inst. Pusa” / “H.E.Andrewes Coll. B.M.1945-97.”; NHMUK.

Remarks. The left elytron and the left hind leg are missing, the right elytron shows a pinhole. The ventral surface shows cracks and in the left intermediate leg, three tarsomeres are missing. Andrewes (1929: 359) already mentioned some of the outstanding characters of these two specimens but did not describe them as a new taxon.

Description

MEASUREMENTS. Holotype/paratype: body length 6.94/6.57 mm, width 1.57/1.61 mm; L/W of pronotum 1.2/1.81; L/W of elytra 2.31/2.23.

COLOUR. Glossy. Piceous. Mouthparts, antenna, elytron, intermediate and hind leg, tarsomeres of front leg fuscous, palpomeres more pale fuscous. Anterior part of supraantennal plate at the margin slightly translucent-fuscous.

HEAD. A quarter narrower than pronotum. Clypeus with central part distinctly bilobed anteriorly; lateral lobe developed as acute tooth, nearly as projecting as central lobes, clypeal wing well developed, rounded, not as far projecting anteriorly as lateral tooth of clypeus, separated from lateral lobe by obtuse notch. Supraantennal plate laterally moderately convex, laterally somewhat less projecting than eye, indistinctly reflexed margined. Supraantennal plate overlapping eye anteriorly by about a fifth (dorsal view), with the supraorbital carina keeled posteriorly and extended up to mid-eye level, separated from wing by sharp notch. Clypeus transverse, separated from frons by sharp carina in form like an obtuse inverted V. Frons distinctly convex, with another but smaller carina like an inverted V which encloses elevated area, supraorbital carina short and tubercle-like, extending up to posterior gena-level. Clypeus rugose, area between V-like carinae with transverse rugae, supraantennal plates and frons rugose, posteriorly with distinct longitudinal rugae, clypeus and frons separated from supraantennal plate and supraorbital carina by deep and moderately wide furrow; with two supraorbital setigerous punctures situated at posterior eye and at end of gena-level. With some moderately sized punctures laterally posterior eye. Eye small, embedded, moderately convex in dorsal view, main part situated ventrally where it is more convex. Gena moderately convex, covering around a sixth of posterior eye in ventral view. Eye somewhat constricted due to the overlapping supraantennal plate and the genae. Antenna not reaching up to middle of pronotum, antennomeres five to ten moniliform (L/W around 1.1). Labrum straight anteriorly, with isodiametric-irregular reticulation, six setose. Mandibles distinctly falcate, bent up dorsally. Mentum with irregular fine wrinkles and indistinct isodiametric reticulation, shape of lobe wide-oval, flattened, with sub-marginal

carina, with long median carina. Median tooth moderately wide, not as protruding anteriorly as lobe, hollowed out, obtuse angled and bicarinate anteriorly.

PRONOTUM. Disk slightly convex in lateral and semicircular in frontal view. Distinctly longer than wide, peltate. Reflexed lateral margin nearly smooth, straight laterally, nearly parallel, anterior angle rounded off, posterior angle missing; lateral channel moderately narrow, narrower before and behind posterior setigerous puncture. Median line moderately deep, sharp, subcrenulated, complete. Anterior transverse crenulated, wider than median line, joining median line, joining declivity at anterior margin. Surface glossy, completely covered with small punctures, with paralateral indistinct group of moderately sized punctures, with few fine transverse wrinkles laterally and basally. Base distinct, channel two times as wide as lateral channel, width about a quarter of width of pronotum. Proepisternum distinct, well visible in dorsal view.

ELYTRON. Shape elongate with margin nearly parallel. Disk flattened in anterior half in lateral view, semicircular in frontal view. More than two times longer than wide, with maximum at middle. Reflexed lateral margin smooth, setigerous punctures in lateral channel with regularly long setae, punctures widely interrupted at middle. Scutellar striole missing; setigerous tubercle at base of first stria, with tubercle at base of third interval, basal declivity with isodiametric reticulation. Humeral tooth situated at base of fourth interval. All striae distinctly deepened, punctuate-striate, one to three free at base, four reaching humerus, one and two ending free at apex, three and four, and five and six joining apically. Intervals distinctly convex, more convex laterally. Setigerous punctures missing on intervals. Surface of all intervals glossy, interval four to eight with indistinct reticulation at humerus, interval eight at apex sub-carinate and with indistinct reticulation.

HIND WINGS. Alae fully developed (based on two specimens).

LOWER SURFACE. Proepisternum covered in lateral half with dense and deep transverse wrinkles, with some moderately sized punctures, at the lateral margin with isodiametric reticulation. Sternite of abdomen smooth at middle but with micropunctures, covered laterally with moderately large punctures.

LEGS. Protibia covered with longitudinal reticulation, with three spines of moderate length, apical spine distinctly arcuate, movable spur robust, regularly arcuate.

MALE GENITALIA. Unknown.

FEMALE GONOCOXITE AND EPIPLEURITE (Fig. 52). Gonocoxite fir-cone shaped, flattened dorsally and ventrally, with three wide nematiform setae positioned in the apical half at the median side, with one preapical nematiform seta. Epipleurite semi-square, with long widened angulated rod.

Variation

The carina on the frons of the head is arch-like rounded in the HT and obtuse-angled in the PT. The punctures on disk of the pronotum are different in intensity and density between the two specimens.

Sexual dimorphism

Unknown.

Distribution

Known from the type locality Pusa, Bihar, in India.

Sulciclivina oculiangusta sp. nov.

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Figs 22, 35, 53

Diagnosis

A small-sized species with a long-oval shape of the elytron and distinct but rounded off clypeal wings. Mainly distinguished from all other species of the *sagittaria*-species group by the reduced eyes, the conspicuously angled proepisternum, and the disk of the pronotum with an extended paralateral and a paramedian longitudinal cloud-like group of punctures. In addition, interval eight of the elytron is reticulated.

Etymology

The name refers to the small eyes and is combined by the Latin noun for eye in plural (*'oculi'*) and the Latin adjective for narrow in the feminine form (*'angusta'*).

Type material

Holotype

INDIA • ♂; with labels and data: white, black printed “Kaziranga 75m 7.-9.5.1976” / “Assam, W.Wittmer C.Baroni U. 1976” / “Clivina attenuata-group det.Balkenohl XI. 1991”; NHMB.

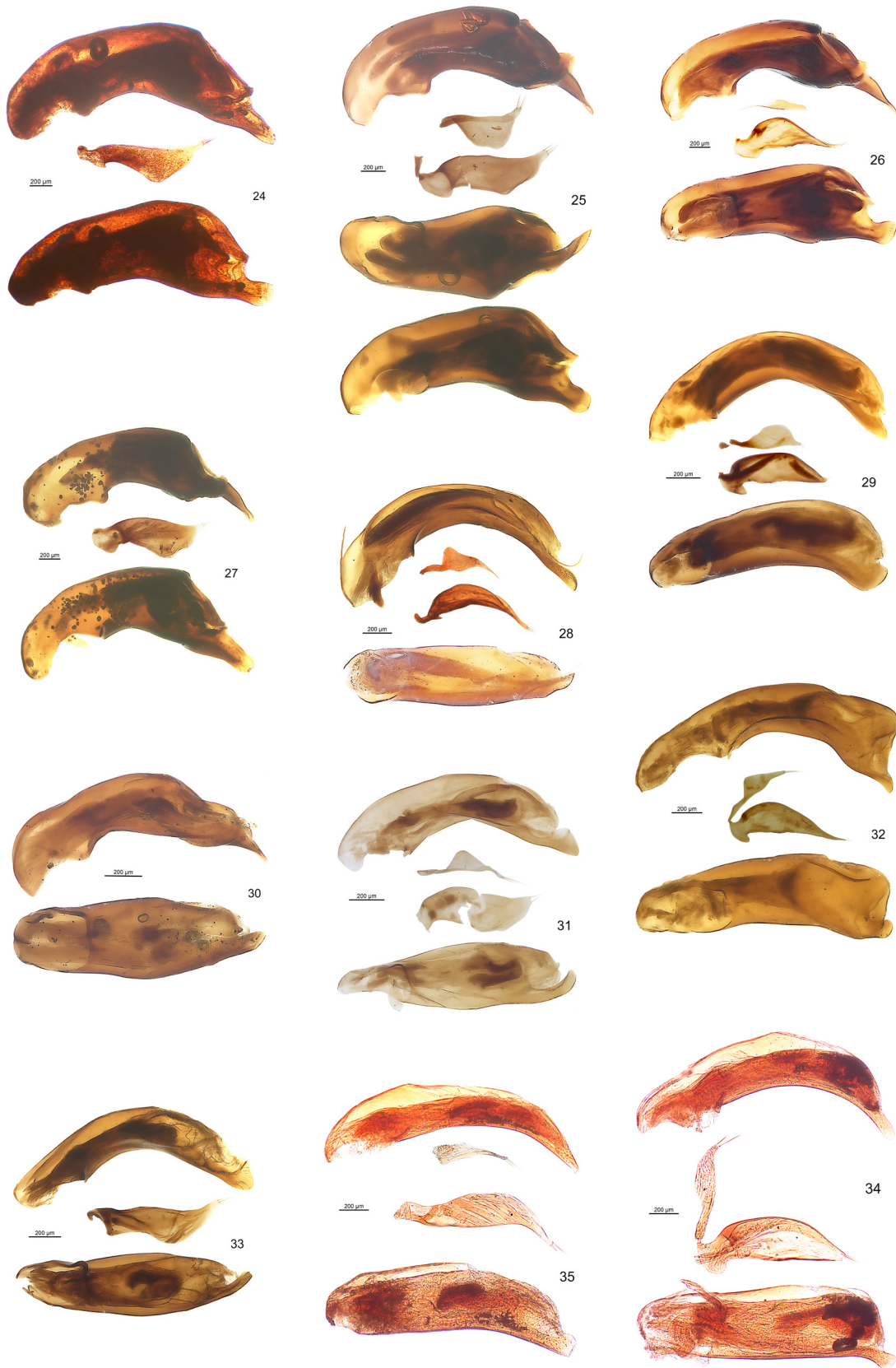
Description

MEASUREMENTS. Holotype: body length 5.18 mm, width 1.35 mm; L/W of pronotum 1.06; L/W of elytra 2.02.

COLOUR. Glossy. Piceous. Mouthparts, antenna, elytron, intermediate and hind leg, tarsomeres of front leg fuscous, palpomeres more pale fuscous. Anterior part of supraantennal plate at the margin translucent-fuscous.

HEAD. A third narrower than pronotum. Clypeus with central part distinctly bilobed anteriorly; lateral lobe developed as somewhat rounded tooth, nearly as projecting as central lobes, clypeal wing well developed, rounded, not as far projecting anteriorly as lateral tooth of clypeus, separated from lateral lobe by obtuse notch. Supraantennal plate with wide lateral channel, finely reflexed margined. Supraantennal plate overlapping eye anteriorly by about a third (dorsal view), with the supraorbital carina keeled posteriorly and extended up to hind-eye level, separated from wing by notch. Clypeus transverse and elevated posteriorly, separated from frons by sharp carina in form like an inverted obtuse-angled V. Frons convex, with another but smaller and acute-angled carina like an inverted V, with supraorbital carina short, extending up to posterior gena-level. Clypeus smooth, area between V-like carinae with transverse blunt carinae, frons with two blunt longitudinal rugae at gena-level, clypeus and frons separated from supraantennal plate and supraorbital carina by deep furrow, which is doubled posteriorly; with two supraorbital setigerous punctures at middle of the eye and end of gena-level. With some smaller-sized punctures laterally at

Figs 24–35 (see next page). *Sulciclivina* Balkenohl, 2022, male genitalia, ventral view of median lobe and parameres. **24–26.** *S. attenuata attenuata* (Herbst, 1806). **24.** Paralectotype (MFNB). **25.** Specimen from Swat (CMBB). **26.** Specimen from Bhutan (NHMB). **27.** *S. a. semireticulata* subsp. nov., holotype (MNHN). **28.** *S. bhamoensis* (Bates, 1892), paralectotype (CADW). **29.** *S. basiangusta* sp. nov., paratype (NHMB). **30.** *S. splendida* sp. nov., holotype (CADW). **31.** *S. curvata* sp. nov., holotype (ETHZ). **32.** *S. striata striata* (Putzeys, 1846), specimen from Nilgerries, India (RBINS). **33.** *S. sulcigera* (Putzeys, 1867), specimen from Pak Chong, Thailand (CMBB). **34.** *S. sagittaria sagittaria* (Bates, 1892), lectotype (NHMUK). **35.** *S. oculiangusta* sp. nov., holotype (NHMB).



level of neck. Eye very small in dorsal view, embedded, somewhat convex in dorsal view, main part situated ventrally where it is developed as convex band with a width of 6–7 ommatidia. Gena distinct, convex, covering around a third of posterior eye in ventral view. Eye conspicuously constricted due to the overlapping supraantennal plate and the genae. Antenna moderately short, reaching just to the middle of pronotum, antennomeres five to ten moniliform (L/W around 1.05). Labrum straight anteriorly but with two fine lobes at middle, with irregular reticulation, six setose. Mandibles sub-falcate, slightly bent upward dorsally. Mentum with irregular fine wrinkles and indistinct isodiametric reticulation, shape of lobe wide-oval, flattened, with sub-marginal carina, with long median carina. Median tooth moderately wide, not as protruding anteriorly as lobe, hollowed out, obtuse angled and bicarinate anteriorly.

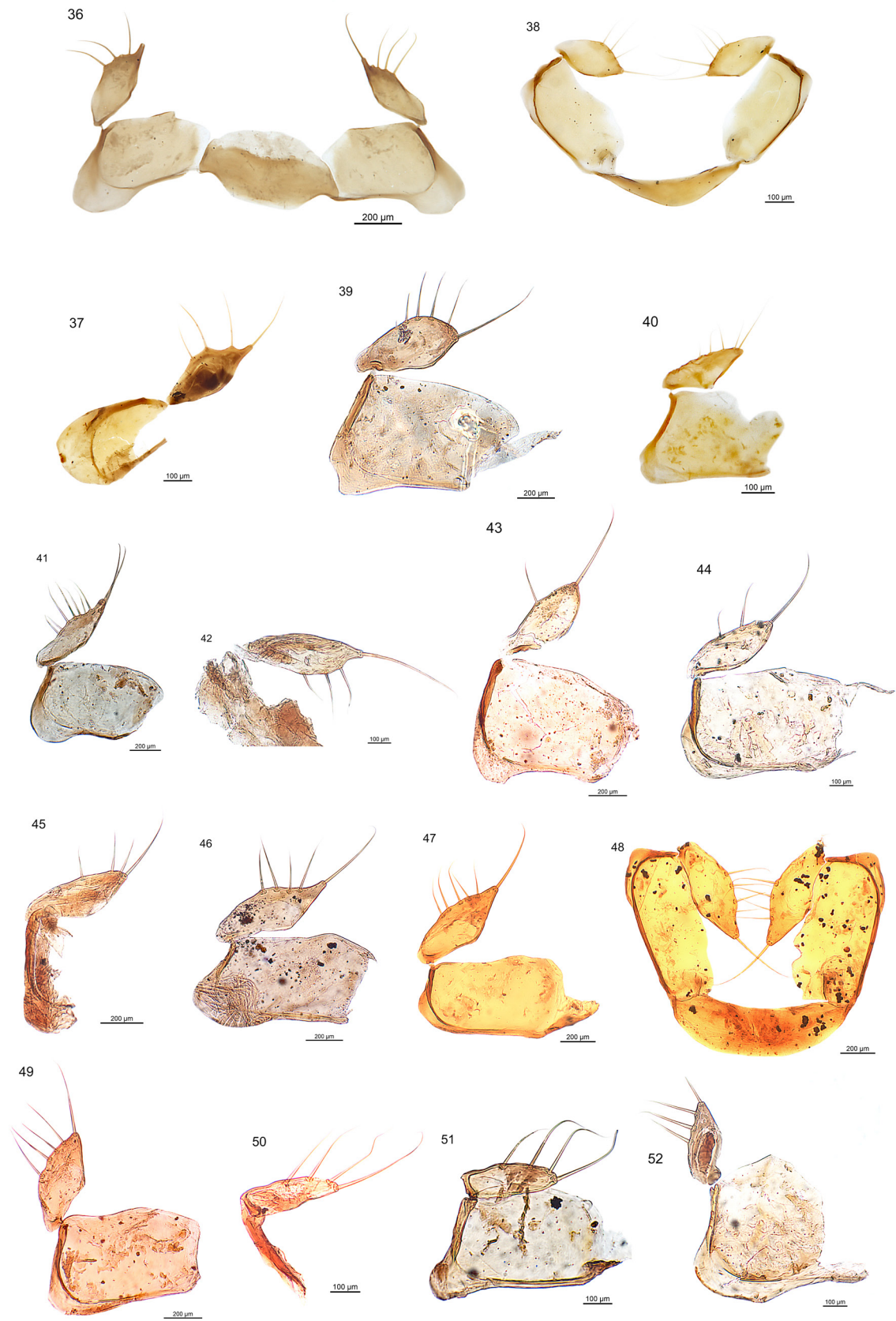
PRONOTUM. Disk slightly convex in lateral and distinctly convex in frontal view. Slightly longer than wide, peltate. Reflexed lateral margin smooth, attenuating slightly concave in anterior half, widest behind middle; anterior angle distinct, slightly projecting, posterior angle indistinct, lateral channel moderately wide, sub-foveolate, narrower before and behind posterior setigerous puncture, slightly bent upward at posterior setigerous puncture with a small tooth (lateral view). Median line moderately deep, sharp, subcrenulated, complete. Anterior transverse line crenulated, slightly wider than median line, joining median line, joining declivity at anterior margin. Surface glossy, with micro-punctures, with extended paralateral and paramedian longitudinal cloud-like group of punctures of moderate size, with few transverse wrinkles laterally and basally. Base small but distinct, channel two times as wide as lateral channel, width about a fifth of width of pronotum. Proepisternum distinctly visible in dorsal view, conspicuously angled.

ELYTRON. Shape long-oval. Disk flattened in anterior half in lateral view, distinctly and regularly convex in frontal view. Two times longer than wide, with maximum width behind middle. Reflexed lateral margin smooth but with 2–3 fine notches behind humerus, setigerous punctures in lateral channel with long yellow setae, interrupted at middle by one puncture. Scutellar striole missing; setigerous tubercle at base of first stria, with distinct tubercle at base of third interval, basal declivity with isodiametric reticulation. Humeral tooth situated at base of fourth interval. All striae distinctly deepened, punctuate-striate, one to three free at base, four reaching humerus, one and two free at apex, three and four, and five and six joining apically. Intervals distinctly convex, more convex laterally. Setigerous punctures missing on intervals. Surface of intervals glossy, interval eight with isodiametric reticulation (lateral view), interval seven and eight with indistinct reticulation at humerus, interval eight at apex subcarinate and with indistinct reticulation.

HIND WINGS. Alae somewhat reduced but still folded apically (based on the HT).

LOWER SURFACE. Proepisternum widely margined anteriorly, with dense transverse wrinkles, covered in lateral half with indistinct isodiametric reticulation, in medial half with large-sized punctures. All sternites of abdomen covered with large-sized punctures, with slightly less density at middle.

Figs 36–52 (see next page). *Sulciclivina* Balkenohl, 2022, female gonocoxite and epipleurite. **36–37.** *S. attenuata attenuata* (Herbst, 1806). **36.** Specimen from Kaziranga, Assam in bilateral opened view (NHMB). **37.** Lectotype (MFNB). **38.** *S. bhamoensis* (Bates, 1892), paralectotype in bilateral opened view (RBINS). **39.** *S. mikirensis* sp. nov., holotype (NHMB). **40.** *S. basiangusta* sp. nov., paratype (NHMB). **41.** *S. coxisetosa* sp. nov., holotype (NHMB). **42.** *S. splendida* sp. nov., paratype (CMBB). **43–44.** *S. striata striata* (Putzeys, 1846). **43.** Specimen from Travancore, India (MNHN). **44.** Specimen from Barway, India (RBINS). **45.** *S. striata kottea* subsp. nov., holotype (NHMUK). **46.** *S. curvata* sp. nov., paratype (RBINS). **47.** *S. sulcigera* (Putzeys, 1867), specimen from Pha To, Thailand (CMBB). **48.** *S. karelkulti karelkulti* sp. nov., paratype (OUMNH). **49.** *S. karelkulti medanensis* subsp. nov., paratype (CADW). **50.** *S. sagittaria sagittaria* (Bates, 1892), paralectotype (RBINS). **51.** *S. s. singaporensis* subsp. nov., holotype (NHMUK). **52.** *S. andrewesi* sp. nov., holotype (NHMUK).



LEGS. Protibia covered with longitudinal reticulation, with three spines of moderate length, apical spine distinctly arcuate, movable spur nearly straight.

MALE GENITALIA (Fig. 35). Median lobe slender, relatively short in comparison to body size, gently arcuate at middle in dorsal and lateral view, apex with widened, flattened, and distorted spatula. Endophallus towards apex with two groups of bristles. Ventral paramere with somewhat widened velum-like apophysis, apex with two setae. Dorsal paramere with sinus-like shape, distinctly attenuated to apex, with two apical setae.

FEMALE GONOCOXITE AND EPIPLEURITE. Unknown.

Variation

Unknown.

Sexual dimorphism

Unknown.

Distribution

Known from the type locality Kaziranga, Assam, in the North of India.

Specimens incertae sedis

The following specimens could not be interpreted due to its unclear character states.

INDIA • 1 spec. [received with empty abdomen], “Calcutta”; MNHN.

Remark. The specimen is close to *S. sulcigera*. However, it is 1 mm smaller than the smallest specimen of *S. sulcigera* seen, interval eight is nearly smooth with a small lateral strip of reticulation, and the measurements of the antennomeres do not fit those of *S. sulcigera*. The specimen has to be reinvestigated when more material is available.

INDIA • 1 ♀, “Siwalik Hills” / “Dehra Dun 1940-45 Kumaon Himalaya” / “Museum Frey Tutzing”; NHMB.

Remark. The specimen is close to *S. splendida* sp. nov. but could possibly represent a new species. Additional material is needed for a clear decision.

Species incertae sedis

The described species *Clivina arunachalensis* Saha & Biswas, 1985 may possibly belong as well into the genus *Sulciclivina* and if so, it would be placed into the *attenuata*-species group. At the current point in time, it cannot be included because some of the key characters are not mentioned in the description and also not figured in the ink drawing (Saha & Biswas 1985). Therefore, its position is questionable. In the description, the authors emphasize a close relationship to members of the genus *Pseudoclivina* Kult, 1947, i.e., *P. assamensis* (Putzeys, 1846) and *P. memnonia* (Dejean, 1831). In Lorenz (2022), the species is listed in the genus *Clivina*, which currently fits the status best. The type material has not been seen or investigated after the description. Repeated inquiries to the place of the deposition of the type material remained unanswered. Therefore, placement of the species has to be postponed to a later time point.

Concluding remarks and discussion

Species of the genus *Sulciclivina* exhibit three extraordinary characteristics: 1. the very different morphology of the external female reproductive tract with its monomeric small and foliform gonocoxites

and the rectangular epipleurite, 2. externally visible sexual dimorphism, and 3. alae polymorphism. All three features were unknown for these species before.

The form of the gonocoxites is nearly always species-specific and provides unambiguous characters helpful for determination, especially in cases where no males are available. These structures have an equivalent taxonomic value to the male aedeagi.

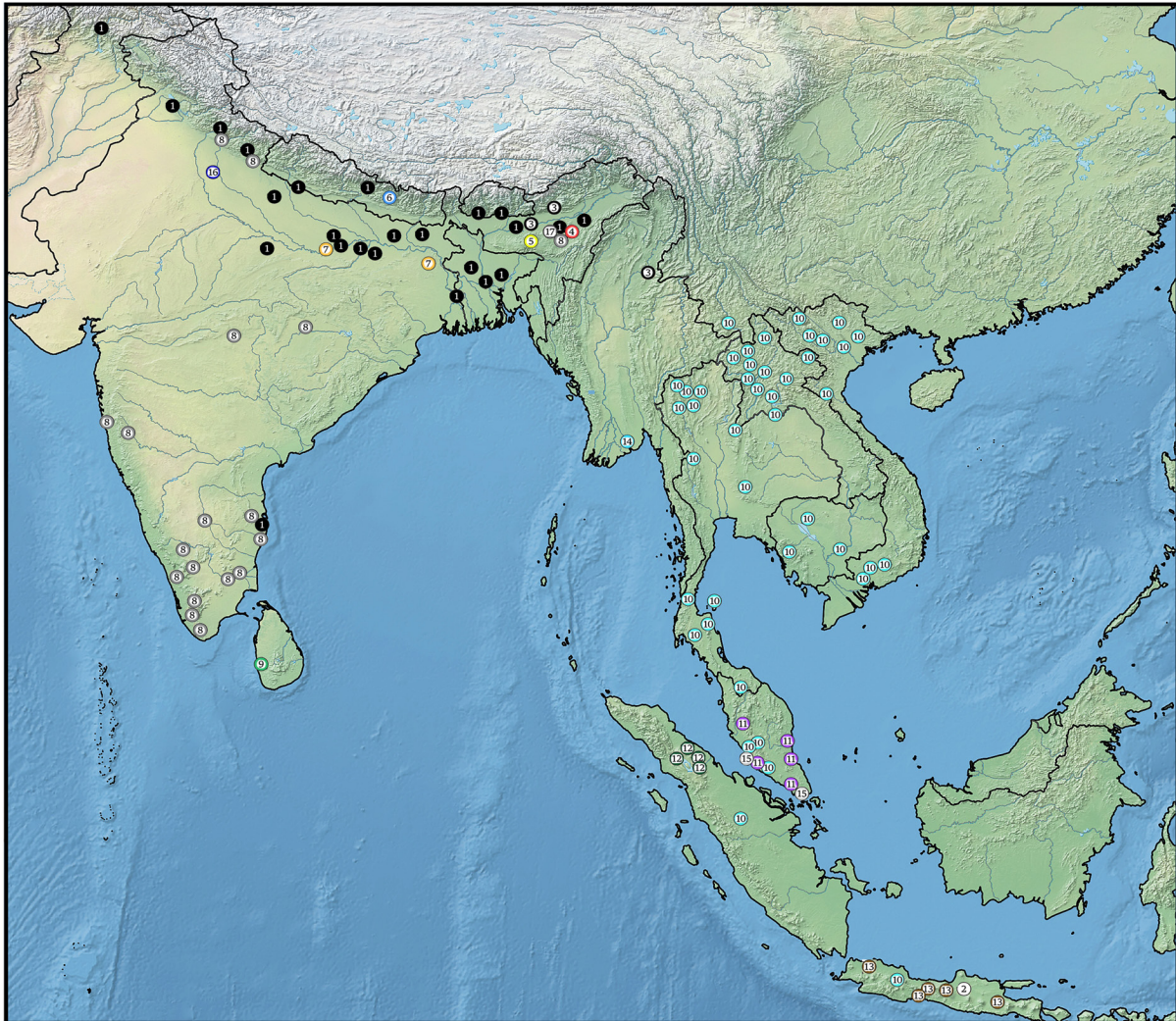


Fig. 53. Map of South East Asia providing an overview on the occurrence of all species of *Sulciclivina* Balkenohl, 2022 described so far (recorded localities plotted, unspecific localities like “India”, “India or.”, “Himalaya”, or “Cambodge” not included). 1 (black) = *S. attenuata attenuata* (Herbst, 1806); 2 (white) = *S. attenuata semireticulata* subsp. nov.; 3 (black circle) = *S. bhamoensis* (Bates, 1892); 4 (red) = *S. mikirensis* sp. nov.; 5 (yellow) = *S. basiangusta* sp. nov.; 6 (blue) = *S. coxisetosa* sp. nov.; 7 (orange) = *S. splendida* sp. nov.; 8 (grey) = *S. striata striata* (Putzeys, 1846); 9 (light green) = *S. striata kottea* subsp. nov.; 10 (turquoise) = *S. sulcigera* (Putzeys, 1867), specimens from ‘Sumatra’ and ‘Java’ do not have more specific label information; 11 (purple) = *S. karelkulti karelkulti* sp. nov.; 12 (dark green) = *S. karelkulti medanensis* subsp. nov.; 13 (brown) = *S. curvata* sp. nov.; 14 (light blue) = *S. sagittaria sagittaria* (Bates, 1892); 15 (light grey) = *S. sagittaria singaporensis* subsp. nov.; 16 (dark blue) = *S. andrewesi* sp. nov.; 17 (checked grey) = *S. oculiangusta* sp. nov. Basic schematic map of Asia taken from [SimpleMappr.net](https://www.SimpleMappr.net).

Particularly in the *attenuata*-species group, the species show sexual differences on the elytra and in some cases on the sternites. In general, in females the apex of the elytra and the lateral intervals are more distinctly reticulated. This character is most distinct at the apex and easily visible in dorsal view.

Regarding the reduction of the alae (hind wings), different degrees are observed. This was easily observed because all specimens dissected to examine the genitalia were also assessed for the alae. For example, in *S. sulcigera* there are numerous specimens available, even from one collecting locality. Therefore, the alae polymorphism is not a local phenomenon but is considered to be a character of the species and possibly of the whole genus. There are specimens with an alae size of less than half of the length and the width of the elytron as a minimum up to fully winged specimens with longitudinal and transverse folded alae. The example given in Fig. 17 represents the vast majority of the specimens seen. In *S. attenuata attenuata*, there are in addition specimens seen with very small and filiform rudiments of alae (micropterous). In general, specimens with fully developed alae are rare. In a few cases, these specimens carry the additional information on the label “at light”. For species where only a small number of specimens is available the wing-status is described as seen but cannot be assessed for the species, even if only winged specimens are available.

It is inferred that specimens with reduced alae are less mobile. They are not collected at light. This might be a reason why the group is not as well represented in collections as it is in the other Clivinini species groups, e.g., the *Clivina lobata*-, *Clivina tranquebarica*-, or the *Clivina castanea*-species group (exception: *S. sulcigera* which is more systematically investigated at many places in Laos, Cambodia, and Vietnam). With the exception of *S. sulcigera*, the species are more represented as single specimens or small series from one collection locality.

Although the genus *Sulciclivina* and its distribution is far from completely known, some preliminary conclusions can be drawn: 1. it is distributed nearly across the whole Oriental region (Fig. 53), 2. some of the species show a clear distribution pattern. *Sulciclivina attenuata attenuata* occurs in the North of India and Pakistan and along the southern slopes of the Himalaya. The record of Madras is based on a single male specimen only, but suggests the species is more widely distributed across India, but this single record may be caused by a label error. *Sulciclivina striata striata* is distributed across a wide range in India from the foothills of the Himalaya to the very South, whereas the similar species *S. sulcigera* is found from the South of China, the North of the Indochinese Peninsula to the islands of Sumatra and Java. For the two species, no geographic overlap is recorded so far, pointing to a possible allopatric distribution pattern of these two species. Some of the species are recorded from single localities only, for example *S. mikirensis* sp. nov. (Mikir Hills, Assam), *S. oculiangusta* sp. nov. (Kaziranga, Assam), *S. basiangusta* sp. nov. (Meghalaya, Assam), and *S. coxisetosa* sp. nov. (Danda Pakhar, Nepal). They all exhibit special characters not present in the other species. The potential endemicity or restricted ranges of *S. attenuata semireticulata* subsp. nov. from Java and *S. andrewesi* sp. nov. from Pusa, India, can only be understood after more collecting efforts. An exception might be *S. oculiangusta* with its reduced eyes. This character is considered an adaptation to inhabiting deeper layers in the soil, found in species with less dispersal power in ecologically isolated regions, serving as a stronger argument for its endemism.

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References

- Andrewes H.E. 1919. On the types of Oriental Carabidae in the British Museum, and in the Hope Department of the Oxford University Museum. *The Transactions of the Entomological Society of London* 1919, parts I, II: 119–217. <https://doi.org/10.1111/j.1365-2311.1919.tb00006.x>
- Andrewes H.E. 1921. The Carabidae of Barkunda Island. *Records of the Indian Museum Calcutta* 22: 339–348. <https://doi.org/10.5962/bhl.part.1476>
- Andrewes H.E. 1922. On Bonelli's types of Oriental Carabidae. *Annali del Museo Civico di Storia Naturale Giacomo Doria* 49: 390–394.
- Andrewes H.E. 1924. *Mission Guy Babault dans les Provinces centrales de l'Inde et dans la Région occidentale de l'Himalaya 1914. Résultats scientifiques insectes coléoptères Carabidae*. Lahure, Paris.
- Andrewes H.E. 1926. Papers on Oriental Carabidae. – XVII. *The Annals and Magazine of Natural History* 17: 371–381. <https://doi.org/10.1080/00222932608633429>
- Andrewes H.E. 1927. Papers on Oriental Carabidae. – XIX. *The Annals and Magazine of Natural History* 19: 97–111. <https://doi.org/10.1080/00222932708633575>
- Andrewes H.E. 1929. *The Fauna of British India, including Ceylon and Burma. Coleoptera, Carabidae, Vol. I., Carabinae*. Taylor & Francis, London.
- Andrewes H.E. 1930. *Catalogue of Indian Insects. Part 18 – Carabidae*. Government of India Central Publication Branch, Calcutta.
- Balkenohl M. 1994. New species and records of Scaritinae from the Himalayas (Coleoptera, Carabidae). *Revue suisse de Zoologie* 101: 19–41. <https://doi.org/10.5962/bhl.part.79898>
- Balkenohl M. 2001. *Key and Catalogue of the Tribe Clivinini from the Oriental Realm, with Revisions of the Genera Thliboclivina KULT, and Trilophidius JEANNEL (Insecta, Coleoptera, Carabidae, Scarititae, Clivinini)*. Pensoft Series Faunistica 21. Pensoft, Sofia, Moscow.
- Balkenohl M. 2017. Scaritinae. In: Löbl I. & Löbl D. (eds) *Catalogue of Palaearctic Coleoptera. Volume 1. Revised and Updated Edition. Archostemata, Myxophaga, Adephaga*: 254–279. Brill: Leiden, Boston.
- Balkenohl M. 2021a. Revision of the *Clivina castanea*-species group from Asia (Coleoptera: Carabidae: Clivinini). *Belgian Journal of Entomology* 68: 1–83.
- Balkenohl M. 2021b. On the subfamily Scaritinae BONELLI 1810 from Sri Lanka, with description of a new species (Coleoptera: Carabidae: Scaritinae). *Linzer biologische Beiträge* 53: 33–43.
- Balkenohl M. 2022. On the female gonocoxites of Asian, Arabian, and African Clivinini with realignment of the *Thliboclivina*-, *Physoclivina*-, and *Eoclivina*-species groups, and notes on the higher systematics of the tribe Clivinini Rafinesque, 1815 (Coleoptera, Carabidae). *Zootaxa* 5190 (1): 99–126. <https://doi.org/10.11646/zootaxa.5190.1.4>
- Bates H.W. 1889. Contributions à la faune Indo-Chinoise. *Annales de la Société entomologique de France* 9: 261–286.
- Bates H.W. 1891. Comptes-rendus des Séances. Assemblée mensuelle du 1^{er} août 1891. *Annales de la Société entomologique de Belgique* 35: cccxxiv–cccxxxix.
- Bates H.W. 1892. Viaggio di Leonardo Fea in Birmania e regioni vicine. *Annali del Museo Civico di Genova* 12: 267–428.
- Bonelli F.A. 1813. Observations entomologiques. Deuxième partie. *Memoire della Reale Accademia della Scienze di Torino* 20: 433–484.
- Choi J.B., Choi E.Y., Kwon T., Jeong C.H., Oh S.N., Han G.Y., Kim M.C. & Park J.K. 2022. A checklist of the family Carabidae (Coleoptera: Adephaga: Caraboidea) from Cambodia. *Journal of Asia-Pacific Biodiversity* 15: 180–195. <https://doi.org/10.1016/j.japb.2021.12.007>

- Csiki E. 1927. *Coleopterorum Catalogus auspiciis et auxilio. W. Junk editus a S. Schenkling. 91: Carabidae: Carabinae I.* W. Junk, Berlin.
- Csiki E. 1933. *Coleopterorum Catalogus auspiciis et auxilio. W. Junk editus a S. Schenkling. 127: Carabidae: Carabinae III, Corrigenda et Addenda.* W. Junk, Berlin.
- Herbst J.F.W. 1806. *Natursystem aller bekannten in- und ausländischen Insekten, als eine Fortsetzung der von Buffonschen Naturgeschichte. Der Käfer. Zehnter Theil. Mit 18 illuminierten Tafeln.* Berlin, Joachim Pauli.
- Kult K. 1951. Revision of the genus *Clivina*, Latr., from Oriental region. (Col. Carabidae). *Časopis Československé Společnosti Entomologické* 48: 16–32.
- Kuntzen H. 1912. Einige Bemerkungen im Anschluß an den Lampyriden-Teil des Junk-Schenkling'schen Coleopterorum Catalogus. *Entomologische Rundschau* 29: 86–87.
- Lorenz W. 2005. *Systematic List of Extant Ground Beetles of the World (Insecta Coleoptera "Geadephaga": Trachypachidae and Carabidae incl. Paussinae, Cicindelinae, Rhysodidae), Second Edition 2005.* Printed by the author, Tutzing.
- Lorenz W. 2022. CarabCat: *Global Database of Ground Beetles (version Oct 2017).* In: Roskov Y., Ower G., Orrell T., Nicolson D., Bailly N., Kirk P.M., Bourgoin T., DeWalt R.E., Decock W., Nieukerken E. van, Zarucchi J., Penev L. (eds) *Species 2000 & ITIS catalogue of life, 2021 Annual Checklist Species 2000.* Naturalis, Leiden, The Netherlands. Available from <https://www.catalogueoflife.org/?taxonKey=8KVKT> [accessed Mar. 2023].
- Putzeys J.A.A.H. 1846. Monographie des *Clivina* et genres voisins, précédée d'un tableau synoptique des genres de la tribu des Scaritides. *Mémoires de la Société Royale des Sciences de Liège* 2: 521–663. <https://doi.org/10.5962/bhl.title.5635>
- Putzeys J.A.A.H. 1863. Postscriptum ad *Clivinidarum* Monographiam atque de quibusdam aliis. *Mémoires de la Société Royale des Sciences de Liège* 18: 1–78.
- Putzeys J.A.A.H. 1867. Révision générale des clivinides. *Annales de la Société entomologique de Belgique* 10: 1–242.
- Saha S.K. & Biswas S. 1985. Insecta: Coleoptera Carabidae & Cicindelidae (Part 1). *Records of the Zoological Survey of India* 82: 117–127. <https://doi.org/10.26515/rzsi/v82/i1-4/1984/161288>

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