European Journal of Taxonomy 1007: 163–175
https://doi.org/10.5852/ejt.2025.1007.3003

europeanjournaloftaxonomy.eu
ISSN 2118-9773
2025 · Rajgopal N.N. *et al.*

Received: 19 August 2024 • Accepted: 28 May 2025 • Published: 12 August 2025

Topic editor: Tony Robillard • Section editor: Jurate de Prins • Desk editor: Eva-Maria Levermann

Research article

urn:lsid:zoobank.org:pub:3224A1A3-9D23-4666-97DC-32AC6ED4925E

A new leafhopper genus with description of two new species of Scaphoideini (Hemiptera: Cicadellidae: Deltocephalinae) from India

Nernakallu Narayanaswamy RAJGOPAL [1,*], Debjani DEY [2] &
Naresh Manohar MESHRAM [3]

[1] ICAR-National Bureau of Agricultural Insect Resources, Bengaluru 560024, Karnataka, India.
[1,2] National Pusa Collection, Division of Entomology, ICAR-Indian Agricultural Research Institute, New Delhi 110012, India.
[3] Agricultural Entomology, ICAR-Central Citrus Research Institute, Nagpur 440033, Maharashtra, India.

[*] Corresponding author: raju924rg@gmail.com
[2] Email: ddey@iari.res.in
[3] Email: nmmeshram@gmail.com

Abstract. A new genus of Scaphoideini, *Ramya* Rajgopal gen. nov., with two new species, *Ramya longiprocessus* gen. et sp. nov. (as its type species, type locality: India: Karnataka) and *Ramya megatrium* gen. et sp. nov. (type locality: India: Himachal Pradesh), are described and illustrated. The relationship of the new genus with other related genera is discussed and an identification key to the two species is provided. The type material is deposited in the National Pusa Collection (NPC), ICAR-Indian Agricultural Research Institute, New Delhi.

Keywords. *Ramya* gen. nov., Auchenorrhyncha, Membracoidea, new genus, new species.

Rajgopal N.N., Dey D. & Meshram N.M. 2025. A new leafhopper genus with description of two new species of Scaphoideini (Hemiptera: Cicadellidae: Deltocephalinae) from India. *European Journal of Taxonomy* 1007: 163–175. https://doi.org/10.5852/ejt.2025.1007.3003

Introduction

Scaphoideini Oman, 1943 leafhoppers are most diverse and frequently found on understory vegetation, where they sustain themselves by feeding and breeding on a variety of grasses, shrubs and trees. It is the third largest tribe among 39 tribes of the largest subfamily Deltocephalinae and is distributed worldwide with 68 genera and more than 722 species (Dmitriev *et al.* 2022). It includes economically significant species that can act as pest vectors by transmitting phytopathogenic mollicutes that can cause significant damage to crops such as grapevine (Vitaceae Juss.) and *Chrysanthemum* spp. (Asteraceae Bercht & J. Presl) etc. (Weintraub & Beanland 2006).

Members of Scaphoideini possess a combination of the following set of characters: 1) head narrower than pronotum (produced in some taxa); 2) antennae longer than width of head; 3) discal portion of crown mostly shagreen; 4) frontoclypeus narrow, longer than wide, shagreen, not tumid; 5) body slender; 6) head and wings frequently marked with brown, orange, ochraceous, or ivory markings; 7) one or more darkly pigmented curved backwards costal veins emerging from costal margin or outer ante-apical cell in forewings; 8) row AV setae absent or reduced (without stout setae) on profemur; 9) macrosetae in row PD long, as long as or 0.5 × as long as protibia and present on metatibia; 10) subgenital plates with long fine setae laterally and / or dorsally (fine setae also occur in many other deltocephaline tribes); 11) basal processes of aedeagus or connective, when present, may be connected or articulated to base of the aedeagus or apex of connective stem; 12) metabasitarsomere long; 13) connective usually Y-shaped, sometimes linear or with anterior arms closely appressed or rarely fused with aedeagus (*Advikus* Viraktamath & Yeshwanth, 2020, *Sikhamani* Viraktamath & Webb, 2006 (in Dai *et al.* 2006), *Thryaksha* Viraktamath & Anantha Murthy, 1999 and *Univagris* Viraktamath & Anantha Murthy, 1999) (Zahniser & Dietrich 2013; Viraktamath & Yeshwanth 2020).

Currently, the Indian Scaphoideini comprises 20 genera, encompassing a total of 81 species. These findings are the result of significant research efforts, including seminal studies by Viraktamath & Anantha Murthy (1999), Viraktamath & Mohan (2004), as well as various separate studies by Viraktamath (1981), Viraktamath & Mohan (1994a, 1994b), Dai *et al.* (2006, 2012), Viraktamath *et al.* (2008), Meshram *et al.* (2012), Meshram (2014), Rajgopal & Meshram (2018), Viraktamath & Yeshwanth (2020), Rajgopal *et al.* (2022), Stuti *et al.* (2022), and Viraktamath (2023). These collective efforts have led to the discovery and documentation of numerous new taxa within India.

In the present study, *Ramya* Rajgopal gen. nov. is described from India with two new species and diagnosed from closely related genera.

Material and methods

Mercury vapour lamp light traps were used for the collection of the specimens. The specimens were processed through a series of steps, like sorting, cleaning, mounting, and labelling. Male genitalia dissections were carried out as described by Oman (1949) and Knight (1965) as follows: the abdomen was removed by inserting a sharp pin between the abdomen and thorax with a gentle piercing. Afterwards, the abdomen was macerated in 10% KOH for 2~4 hours to remove soft tissues by gently prodding the abdomen after maceration with the head of a pin. Afterwards, the abdomen was rinsed thoroughly in water, and internal structures were then removed by a hooked pin for further study. Finally, the sclerotised structures of the genitalia were transferred to glycerol and stored in microvials pinned below the same specimens from which the abdomen was removed. The terminology used follows Viraktamath & Yeshwanth (2020).

Photographs for taxonomic illustrations were taken with a Leica MC 190 HD digital camera attached to a Leica M205C stereo zoom auto-montage microscope and processed using Adobe Photoshop CS5. Specimens studied are deposited in the National Pusa Collection (NPC), Division of Entomology, ICAR-Indian Agricultural Research Institute, New Delhi-110012.

Results

Taxonomy

Class Insecta Linnaeus, 1758
Order Hemiptera Linnaeus, 1758
Suborder Auchenorrhyncha Duméril, 1805
Family Cicadellidae Latreille, 1825
Subfamily Deltocephalinae Fieber, 1869
Tribe Scaphoideini Oman, 1943

Genus ***Ramya*** Rajgopal gen. nov.
urn:lsid:zoobank.org:act:D5A108E3-E86B-42AD-AEF1-8F689A3F10A9

Type species

Ramya longiprocessus gen. et sp. nov., by present designation.

Differential diagnosis

Ramya gen. nov., shares similar external morphology with the Chinese leafhopper genus *Longicornus* Li & Song, 2008 like a brownish body with markings on the head, thorax and forewings. Whereas *Ramya* gen. nov. is small to medium-sized (3.67–4.6 mm), forewing costal area with two or three extra veins from the outer ante-apical cell close to R1, outer ante-apical cells with accessory cross veins, pygofer with the ventral process, subgenital plate pointed and without bifid apex, aedeagus without processes; *Longicornus* is large-sized (> 5 mm), forewing costal area without extra veins from the outer ante-apical cell, outer ante-apical cells without accessory cross veins, pygofer ventral process absent, subgenital plate pointed with bifid apex, aedeagus with processes.

Etymology

This genus name is given in honour of the first author's late sister Ramya in remembrance; the gender is feminine.

Description

Body brown. Crown with median sulcus brown, one large irregular spot on either side of median line (Fig. 1C), and one short outwardly curved stripe on either side of the median line (may be broken into spots). Face shagreen, sutures on face, area surrounding antennal base, series of lateral transverse lines on frontoclypeus, brown, frontoclypeus medially brownish yellow; clypellus pale brown (Fig. 1D). Pronotum stippled with brown, few spots coalesce to form larger spots. Exposed mesonotum with basal triangles, few longitudinal patches on scutellum, brown (Fig. 1C). Forewing venation brown, apices of claval veins, clavus, with dark brown spots, apical and anteapical cells, few cells with brown patches (Fig. 1A–B). Legs ochreous.

Head including eyes as wide as pronotum, slightly produced in front of eyes, anterior margin rounded to face. Ocelli placed close to inner margin of eye. Crown 1.7–1.9 × as broad as long medially and about ½ × as long as median length of the pronotum. Face including eyes as wide as or slightly wider than long, outer margin of gena slightly incurved beneath eyes. Clypellus slightly wider near apex than at base, exceeding apical margin of gena. Pronotum slightly convex dorsally and finely and sparsely punctate, with lateral margins carinate, shorter than dorsal length of eye, about 2 × as wide as long medially, posterior margin almost straight. Mesonotum slightly longer than pronotum (Fig. 1A–C). Forewing rounded apically, apices overlapping on appendix and part of inner apical cell, with three ante-apical and four apical cells, inner ante-apical cell open or with accessory cross veins, costal area with two or three extra-costal veins arising from outer ante-apical cell close to R1, with darkly coloured and sometimes fused, one cross vein present between Pcu-claval suture, claval veins free throughout (Fig. 1A–B). The row AV on profemur with short, stout macrosetae (14–15) in the basal half and AV1 slender and long near the apex distal margin of IC row, with one long, stout AM1 seta placed on the ventral margin, IC setae (up to 12) hair-like. Protibial macrosetae 1+4. Metafemur with 2+2+1 distal macrosetae. Metabasitarsomere with 3 platellae on apical transverse row flanked by one seta on either side (Fig. 3A–E).

Male genitalia. Pygofer in lateral view longer than broad, group of long macrosetae distributed in distal half, ventral process present (Fig. 1E–F). Valve triangular. Subgenital plate triangular, longer than wide, with uniserate submarginal macrosetae initiating from base; few long fine setae present laterally and dorsally, apex pointed, often thin membranous (Fig. 1G). Style broadly bilobed basally, with pre-apical lobe well developed, apophysis short, smoothly curved laterad, inner margin often rugose (Fig. 1I–J). Connective Y-shaped, stem longer than anterior arms (Fig. 1H). Aedeagal shaft simple, with or without flanges, curved dorsad (Fig. 1K). Dorsal apodeme well developed. Atrium large with ventral surface prolonged. Gonopore subapical to apical on ventral surface.

Female genitalia. Sternite VII broader than long (Fig. 2E). First valvula curved dorsally with sculptured area confined to posterior one third, sculpturing pattern concatenated to strigate, reaching dorsal margin (Fig. 2F–G). Second valvula slightly curved dorsally, denticular area confined to posterior half, teeth prominent (Fig. 2H–I).

Distribution

India: Karnataka and Himachal Pradesh.

Key to the species of *Ramya* Rajgopal gen. nov.

1. Pygofer ventral process straight (Fig. 1E); aedeagal shaft with lateral and dorsal flanges; atrium not enlarged, about ½ × as long as shaft in lateral view (Fig. 1K) .... ***R. longiprocessus*** gen. et sp. nov.
– Pygofer ventral process curved dorsally and recurved ventrally (Fig. 4E); aedeagal shaft lateral and dorsal flanges absent; atrium greatly enlarged, about as long as shaft in lateral view (Fig. 4I) .... ***R. megatrium*** gen. et sp. nov.

Ramya longiprocessus Rajgopal gen. et sp. nov.
urn:lsid:zoobank.org:act:2673C4CB-3BF7-4AA2-97A6-2BC19BB81024
Figs 1–2, 3A–E

Differential diagnosis

Ramya longiprocessus gen. et sp. nov. is externally most similar to its sister species *R. megatrium* gen. et sp. nov.; however, *R. longiprocessus* has pronounced, dark markings on the crown, thoracic dorsum, mesonotum, scutellum and the inner ante-apical cell with accessory cross veins. Additionally, the male pygofer ventral process is straight, aedeagus with lateral and dorsal flanges, atrium not enlarged, about half as long as the shaft in lateral view, segment X long, tubular, lateral and dorsal anterior band sclerotized, while in *R. megatrium* the male pygofer ventral process is curved dorsally and recurved ventrally, the aedeagal shaft lateral and the dorsal flanges absent, the atrium greatly enlarged, about as long as the shaft in lateral view, segment X short and sclerotized.

Etymology

The specific name '*longiprocessus*', a compound from the Latin '*longi*' (long) and '*processus*' (process), which refers to the elongated pygofer process. It is a noun in apposition.

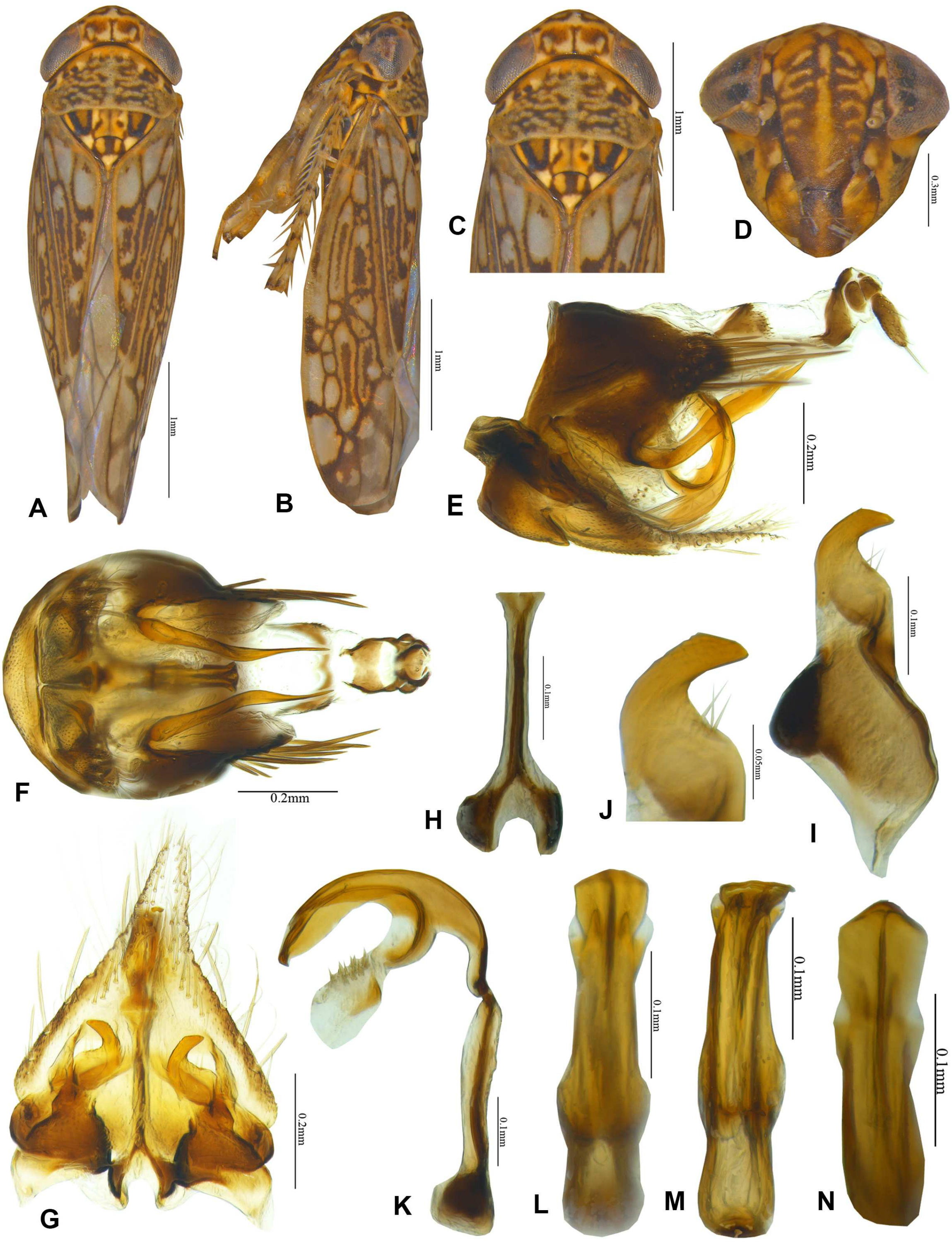

Fig. 1. *Ramya longiprocessus* Rajgopal gen. et sp. nov., holotype, ♂ (NPC), habitus and genitalia. **A**. Habitus, dorsal view. **B**. Habitus, lateral view. **C**. Pronotum. **D**. Face. **E–F**. Genital capsule, lateral and ventral views. **G**. Subgenital plate with valve. **H**. Conective. **I–J**. Style and style apophysis. **K–N**. Aedeagus, lateral, dorsal, ventral and caudal views, respectively.

Material examined

Holotype

INDIA – **Karnataka** • ♂; Gulbarga; 17.3297° N, 77.8343° E; 1 Oct. 2017, Sunil leg.; Hg light; NPC.

Paratypes

INDIA – **Karnataka** • 2 ♂♂; same data as for holotype; NPC • 1 ♀; Bidar; 17.9211° N, 77.4983° E; 3 Oct. 2017; Sunil leg.; Hg light; NPC.

Description

HEAD AND THORAX. Small-sized (3.67–3.86 mm) leafhoppers. Crown flat, 1.7 × as wide as long. Pronotum 2.0 × as wide as long medially (Fig. 1A–C). Crown, thoracic dorsum, mesonotum, and scutellum

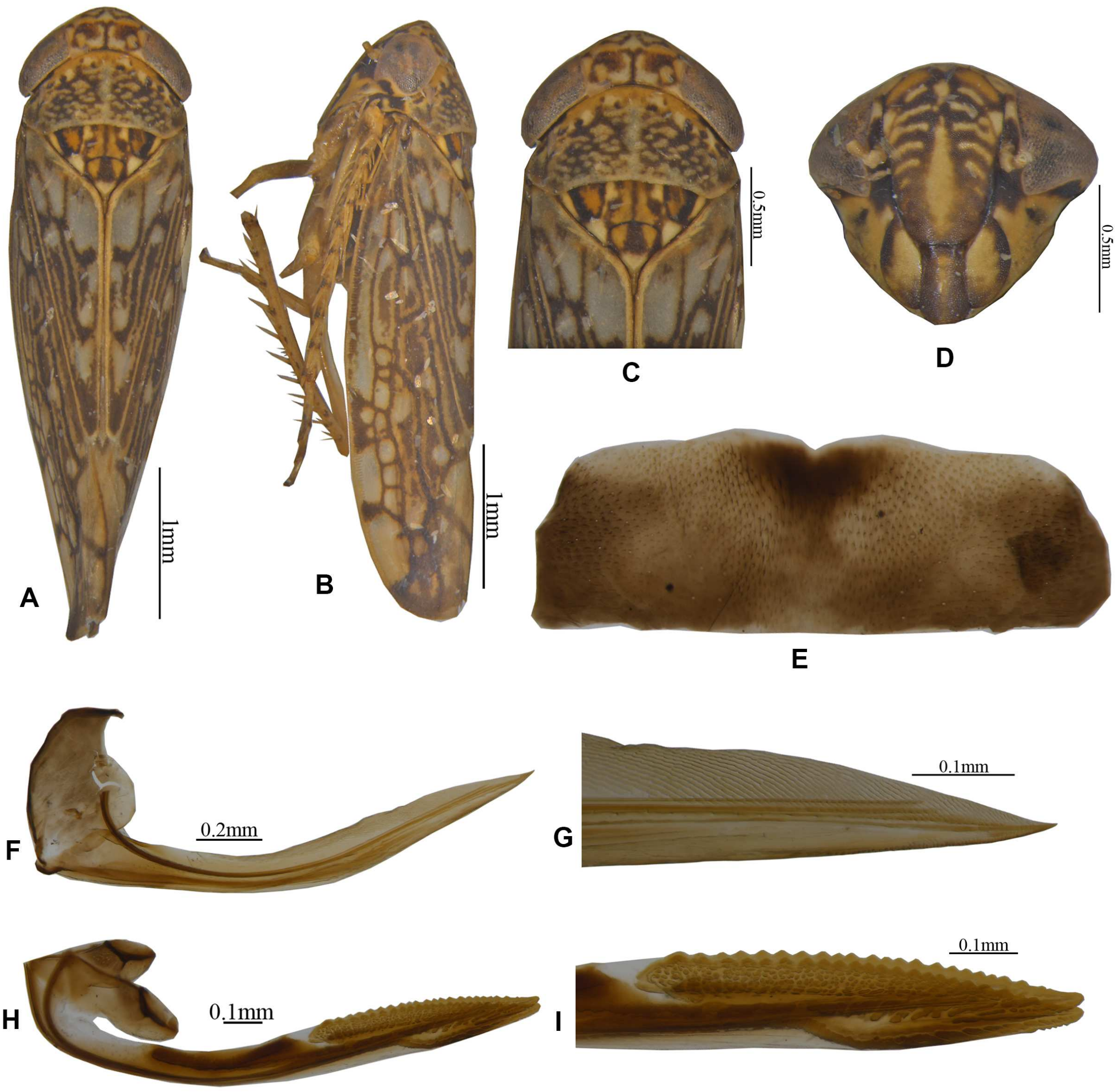

Fig. 2. *Ramya longiprocessus* Rajgopal gen. et sp. nov., paratype, ♀ (NPC), habitus and genitalia. **A**. Habitus, dorsal view. **B**. Habitus, lateral view. **C**. Pronotum. **D**. Face. **E**. Female sternite VII. **F–G**. Valvula I. **H–I**. Valvula II.

with darker markings, crown with one short outwardly curved stripe on either side of the median line continues. Forewing outer ante-apical and inner ante-apical cells with accessory cross veins. Profemur row AV with 15 short, stout peg-like setae, intercalary row (IC) with 12 hair-like setae (Fig. 3A–D).

Measurements. Male 3.67–3.86 mm long, 1.05 mm wide across eyes, 1.01 mm wide across lateral margins of pronotum and 0.81 mm wide across posterolateral angles of pronotum. Female 4.25 mm long, 1.14 mm wide across eyes, 1.10 mm wide across lateral margins of pronotum and 0.84 mm wide across posterolateral angles of pronotum.

Male genitalia. Pygofer 1.3 × as long as wide, with straight, elongated blade-like ventral process, directed dorso-posteriorly surpassing pygofer (Fig. 1E–F). Subgenital plate 2.5 × as long as wide, outer margin concave, apex long, thin, membranous (Fig. 1G). Style 2 × as long as wide, apophysis with rounded apex (Fig. 1I–J). Connective stem 2.5 × as long as arms (Fig. 1H). Aedeagal shaft moderately long, curved dorsally, with pair of lateral flanges arising from base to pre-apical region and unpaired dorsal flange from base to apex (Fig. 1K, M); pre-atrium reduced, atrium well developed, not enlarged (Fig. 1M), about ½ × as long as shaft in lateral view. Segment X long, tubular, lateral and dorsal anterior band sclerotized.

Female genitalia. Sternite VII broader than long, posterior margin weakly convex with narrow V-shaped notch medially (Fig. 2E). First valvula curved dorsally with sculptured area confined to posterior one-third, sculpturing pattern concatenate to strigate, reaching dorsal margin (Fig. 2F–G). Second valvula slightly curved dorsally, with hyaline area before denticular area, teeth prominent, triangular and distinctly separated, confined to posterior half (Fig. 2H–I).

Distribution

India: Karnataka.

Ramya megatrium Rajgopal gen. et sp. nov.

urn:lsid:zoobank.org:act:266FECF0-768B-4EC2-A8F7-D0729D0B8515

Figs 3F–J, 4

Differential diagnosis

The coloration closely resembles that of *R. longiprocessus* Rajgopal gen. et sp. nov. but it is less pronounced, with paler markings on the crown, thoracic dorsum, mesonotum, and scutellum in *R. megatrium* Rajgopal gen. et sp. nov., the male genitalia characters readily separate *R. megatrium* from *R. longiprocessus*, the male pygofer ventral process is curved dorsally and recurved ventrally, the aedeagal shaft without flanges, atrium greatly enlarged, segment X short and sclerotized, while in *R. longiprocessus* the pygofer ventral process is straight, the aedeagal shaft with lateral and dorsal flanges, atrium not enlarged, segment X long, tubular, lateral and dorsal anterior band sclerotized.

Etymology

The specific name '*megatrium*', a compound from Greek 'mega' (large) and Latin '*atrium*' (atrium), which refers to the greatly enlarged atrium. It is a noun in apposition.

Material examined

Holotype

INDIA – **Himachal Pradesh** • ♂; Kinnaur, Sharbu; 31.5372° N 78.2758° E; 14 Aug. 2017; Rajgopal N.N. leg.; Hg light; NPC.

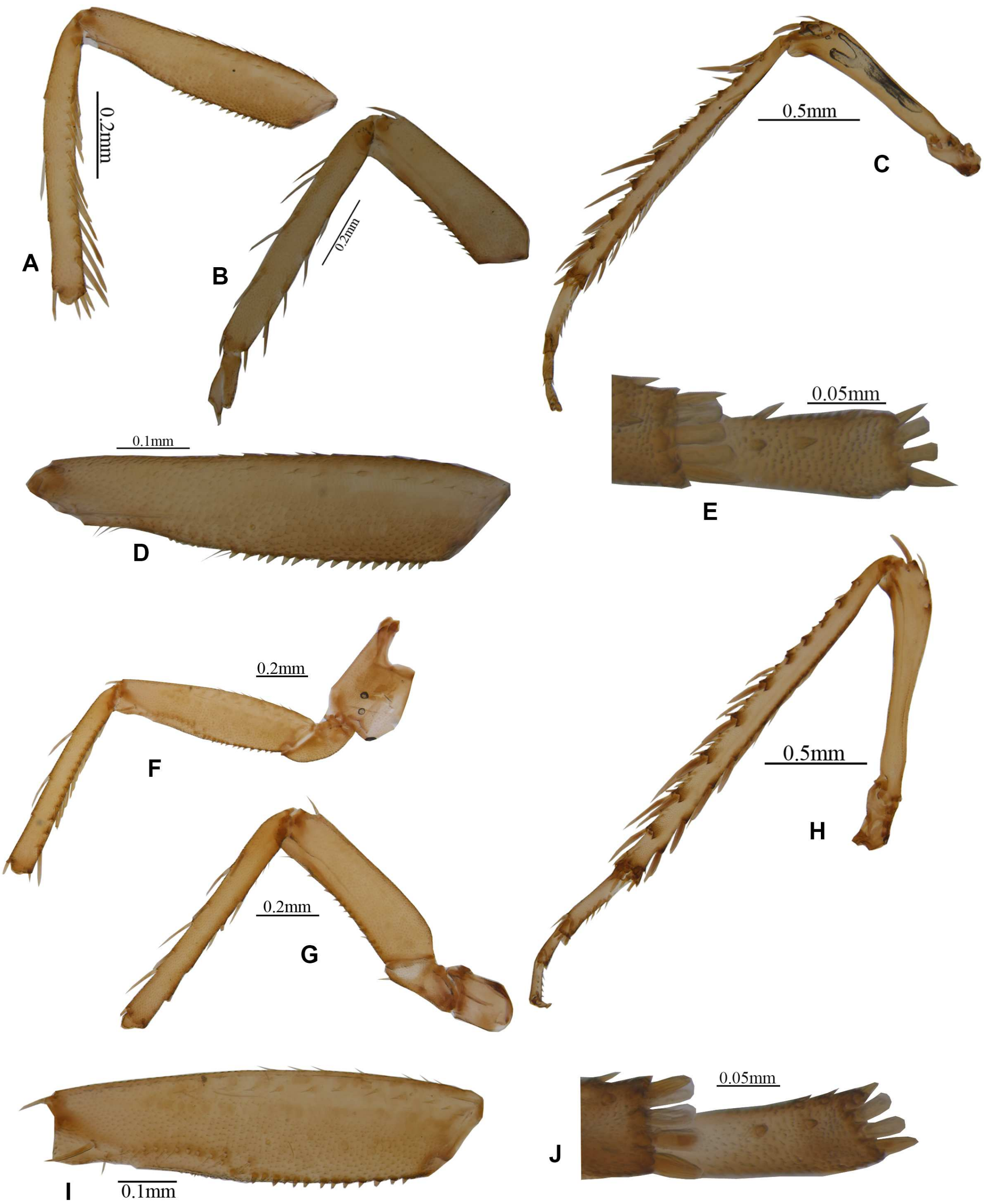

Fig. 3. Leg chaetotaxy. **A–E**. *Ramya longiprocessus* Rajgopal gen. et sp. nov., holotype, ♂ (NPC). **F–J**. *Ramya megatrium* Rajgopal gen. et sp. nov., holotype, ♂ (NPC). **A, F**. Foreleg. **B, G**. Midleg. **C, H**. Hindleg. **D, I**. Profemur. **E, J**. Metabasitaromere, ventral view.

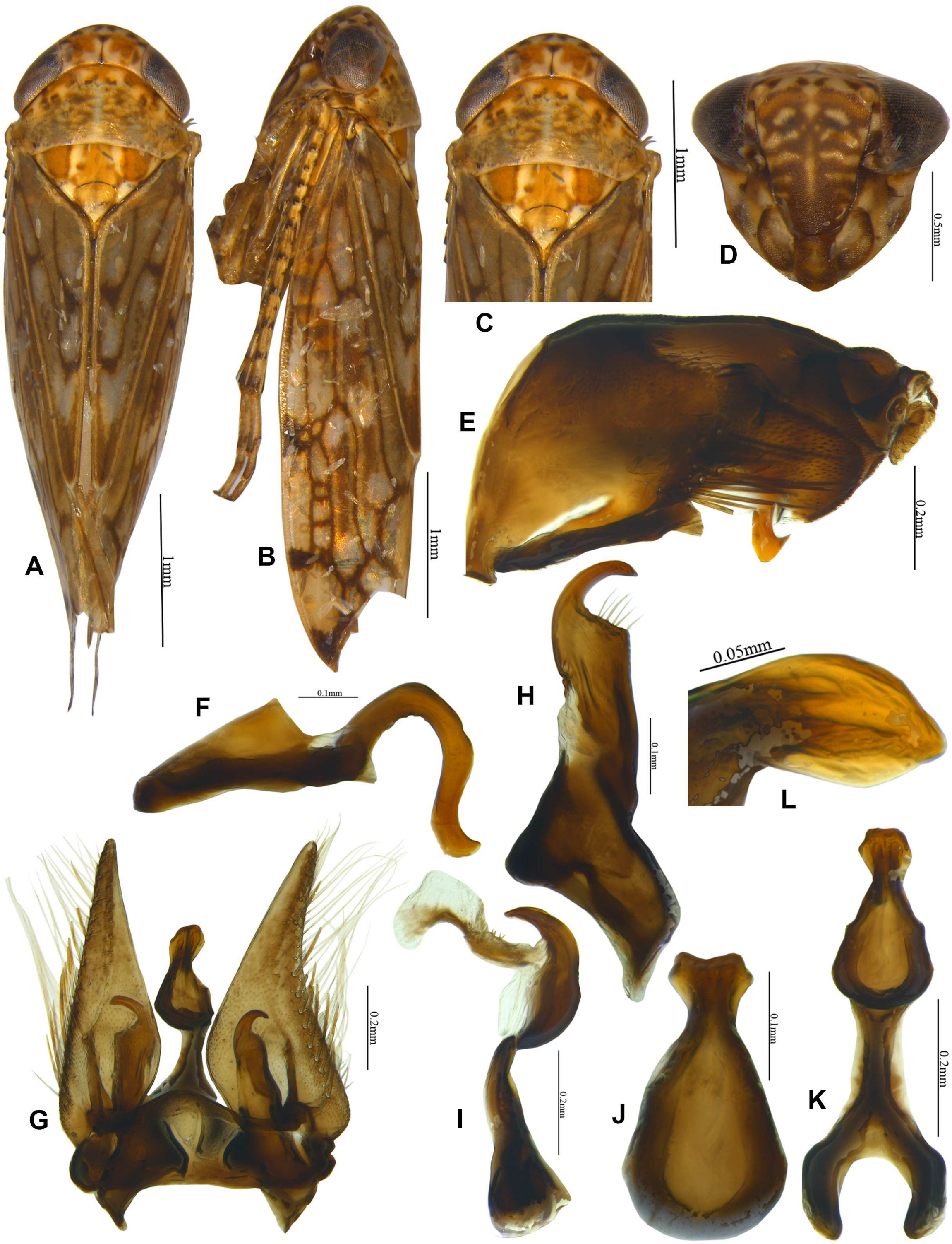

Fig. 4. *Ramya megatrium* Rajgopal gen. et sp. nov., holotype, ♂ (NPC), habitus and genitalia. **A**. Habitus, dorsal view. **B**. Habitus, lateral view. **C**. Pronotum. **D**. Face. **E**. Pygofer, lateral view. **F**. Pygofer process. **G**. Subgenital plate with valve. **H**. Style. **I–L**. Aedeagus, lateral, dorsal, ventral and caudal views, respecctively.

Description

HEAD AND THORAX. Small to medium-sized (4.62 mm) leafhoppers. Crown flat, 2 × as wide as long. Pronotum 2.3 × as wide as long medially (Fig. 4A–B). Crown, thoracic dorsum, mesonotum, and scutellum with paler markings, crown with short outwardly curved stripe on either side of median line broken into spots. Forewing outer ante-apical cells with accessory cross veins. Profemur row AV with 14 short, stout peg-like setae, intercalary row (IC) with 13 hair-like setae (Fig. 3F–I).

Male

MEASUREMENTS. 4.62 mm long, 1.16 mm wide across eyes, 1.18 mm wide across lateral margins of pronotum and 0.96 mm wide across posterolateral angles of pronotum.

GENITALIA. Pygofer 1.6 × as long as wide, with elongated blade-like ventral process curved dorsally and recurved ventrally (Fig. 4E–F). Subgenital plate 2.5 × as long as wide, outer margin concave, apex rounded (Fig. 4G). Style 2.5 × as long as wide, apophysis apex pointed (Fig. 4H). Connective stem 1.5 × as long as lateral arms (Fig. 4K). Aedeagus short, stout, curved dorsally, shaft very small, apex hood-like (Fig. 4I, K), pre-atrium reduced; atrium greatly enlarged, about as long as shaft in lateral view (Fig. 4I). Segment X short, sclerotized.

Female

Unknown.

Distribution

India: Himachal Pradesh.

Discussion

India's leafhopper fauna is highly diverse but remains insufficiently studied. The addition of a new genus, *Ramya* Rajgopal gen. nov., and two new species, *R. longiprocessus* Rajgopal gen. et sp. nov. and *R. megatrium* Rajgopal gen. et sp. nov., described here brings the total known Scaphoideini fauna in India to 22 genera and 85 species. The type species of the newly described genus is found in the southern region (Karnataka), while its sister species occurs in the northern region (Himachal Pradesh), indicating a scattered distribution. Further collections are likely to uncover many additional taxa from this exceptionally biodiversity-rich country.

Scaphoideini are a highly diverse group of leafhoppers. The genus *Ramya* Rajgopal gen. nov. runs to the last couplet with the genera *Osbornellus* Ball, 1932 and *Monobazus* Distant, 1908 of the keys provided by Viraktamath & Yeshwanth (2020) for 21 Scaphoideini genera known from the Indian subcontinent. The genus *Ramya* can be separated from all aforementioned genera by the following combination of characters: forewing costal area with two or three extra cross veins from outer ante-apical cell close to R1, the pygofer with a large ventral process, aedeagus simple, without processes and with a large atrium. In contrast, *Osbornellus* is characterized by an aedeagus with paired processes, while *Monobazus* has no extra cross veins from the outer anteapical cell, the pygofer is with a reduced ventral process, if present, and the aedeagus is with paired processes.

Acknowledgements

The first author expresses sincere thanks to Prof. C.A. Viraktamath for his guidance, comments on the initial species identification and the preparation of the manuscript. The authors are thankful to Dr James Zahniser (APHIS, USA) for his comments on the new genus and its placement in the tribe Scaphoideini. Our thanks to the graduate school and Head, Division of Entomology, ICAR-IARI, New Delhi, for providing the necessary permissions and facilities in the laboratory. The authors are thankful to two anonymous referees for their critical comments, which further improved this paper.

References

Ball E.D. 1932. New genera and species of leafhoppers related to *Scaphoideus*. *Journal of the Washington Academy of Sciences* 22 (1): 9–19.

Dai W., Zhang Y., Viraktamath C.A. & Webb M.D. 2006. Two new Asian Sacphytopiini leafhoppers (Hemiptera: Cicadellidae: Deltocephalinae) with description of a new genus. *Zootaxa* 1309 (1): 37–44. https://doi.org/10.11646/zootaxa.1309.1.3

Dai W., Viraktamath C.A., Webb M.D. & Zhang Y. 2012. Revision of the Oriental leafhopper genus *Parallygus* Melichar (Hemiptera: Cicadellidae: Deltocephalinae) with description of new species. *Zootaxa* 3157 (1): 41–53. https://doi.org/10.11646/zootaxa.3157.1.4

Distant W.L. 1908. *The Fauna of British India, Including Ceylon and Burma*. Taylor & Francis, London.

Dmitriev D.A., Angelova R., Anufriev G.A., Bartlett C.R., Blanco-Rodríguez E., Borodin O.I., Cao Y.H., Deitz L.L., Dietrich C.H., Dmitrieva M.O., El-Sonbati S.A., Evangelista de Souza O., Gjonov I.V., Gonçalves A.C., Gonçalves C.C., Hendrix S.V., McKamey S., Kohler M., Kunz G., … & Zahniser J.N. 2022 (onward). Scaphoideini Oman, 1943. World Auchenorrhyncha Database. TaxonPages. Available from https://hoppers.speciesfile.org/otus/30050/overview [accessed 19 Nov. 2024].

Duméril A.M.C. 1805. *Zoologie Analytique, ou Méthode Naturelle de Classification des Animaux, Rendue plus Facile à l'Aide de Tableaux Synoptiques*. Allais, Paris.

Fieber F.X. 1869. Synopse der europäischen Deltocephali. *Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien* 9: 201–222.

Knight W.J. 1965. Techniques for use in the identification of leafhoppers (Homoptera: Cicadellidae). *Entomologist's Gazette* 16: 129–36.

Latreille P.A. 1825. *Familles Naturelles du Règne Animal, Exposées Succinctement et dans un Ordre Analytique, avec l'Indication de leurs Genres*. J.B. Baillière & Baudouin Frères, Paris. https://doi.org/10.5962/bhl.title.16094

Li Z.Z. & Song Y.H. 2008. A new genus and species of Euecelinae (Hemiptera: Cicadellidae) from China. *Acta Zootaxonomica Sinica* 33 (1): 27–28.

Linnaeus C. 1758. *Systema Naturae per Regna Tria Naturae, Secundum Classes, Ordines, Genera, Species, cum Characteribus, Differentiis, Synonymis, Locis.* Salvus, Holmiae [Stockholm]. https://doi.org/10.5962/bhl.title.542

Meshram N.M. 2014. Three new species of the genus *Scaphoideus* (Hemiptera: Cicadellidae) with notes on the female of *Scaphoideus varna* from India. *Zootaxa* 3754 (2): 185–194. https://doi.org/10.11646/zootaxa.3754.2.7

Meshram N.M., Viraktamath C.A. & Ramamurthy V.V. 2012. A new deltocephaline *Scaphoideus subsculptus* sp. nov. (Hemiptera: Cicadellidae) with redescription of *S. harlani* from India. *Oriental Insects* 46 (2): 153–162. https://doi.org/10.1080/00305316.2012.699266

Oman P.W. 1943. A generic revision of the Nearctic Cicadellidae (Homoptera). *Bulletin of the George Washington University*: 15–17.

Oman P.W. 1949. The nearctic leafhoppers (Homoptera: Cicadellidae). A generic classification and checklist. *Memoirs of the Entomological Society of Washington* 3: 1–253.

Rajgopal N.N. & Meshram N.M. 2018. Second species of unusual leafhopper genus *Univagris* (Hemiptera: Cicadellidae: Deltocephalinae) from India. *Zootaxa* 4514 (3): 425–430. https://doi.org/10.11646/zootaxa.4514.3.7

Rajgopal N.N., Meshram N.M. & Dey D. 2022. A new species and some new records of leafhopper tribe Scaphoideini (Hemiptera: Cicadellidae: Deltocephalinae) from India. *Zootaxa* 5182 (4): 348–360. https://doi.org/10.11646/zootaxa.5182.4.2

Stuti R., Meshram N.M., Singaravel M. & Shashank P.R. 2022. Description of a new leafhopper species *Phlogotettix unicus* sp. n. Stuti & Meshram (Hemiptera: Cicadellidae) from India, along with molecular and morphological notes on its morpho-variant. *Biologia* 77 (11): 3203–3208. https://doi.org/10.1007/s11756-022-01210-8

Viraktamath C.A. 1981. Indian species of *Grammacephalus* (Homoptera: Cicadellidae). *Colemania* 1 (1): 7–12.

Viraktamath C.A. 2023. Two new Scaphoideini leafhopper genera (Hemiptera: Cicadellidae: Deltocephalinae) from India. *Zootaxa* 5382 (1): 97–107. https://doi.org/10.11646/zootaxa.5382.1.11

Viraktamath C.A. & Mohan G.S. 1994a. Indian species of the deltocephaline leafhopper genus *Scaphotettix* Matsumura (Hemiptera: Cicadellidae). *Journal of the Bombay Natural History Society* 90: 463–474.

Viraktamath C.A. & Mohan G.S. 1994b. Description of *Scaphodhara* a new genus related to *Scaphoideus* (Homoptera: Cicadellidae) and five new species from south India. *Entomon* 19: 13–22.

Viraktamath C.A. & Mohan G.S. 2004. A revision of the deltocephaline leafhopper genus *Scaphoideus* (Hemiptera: Cicadellidae) from the Indian subcontinent. *Zootaxa* 578 (1): 1–48. https://doi.org/10.11646/zootaxa.578.1.1

Viraktamath C.A. & Murthy H.V.A. 1999. A revision of the leafhopper tribe Scaphytopiini from India and Nepal (Insecta, Hemiptera, Cicadellidae, Deltocephalinae). *Senckenbergiana Biologica* 79: 39–55.

Viraktamath C.A. & Yeshwanth H.M. 2020. A new genus and three new species of leafhopper tribe Scaphoideini (Hemiptera: Cicadellidae: Deltocephalinae) from India with a note on *Gunghuyana cingalensis* Distant. *Zootaxa* 4895 (1): 67–85. https://doi.org/10.11646/zootaxa.4895.1.3

Viraktamath C.A., Webb M.D., Dai W. & Zhang Y. 2008. A review of the grassland leafhopper genus *Platyretus* Melichar (Hemiptera: Cicadellidae: Deltocephalinae). *Zootaxa* 1696 (1): 37–47. https://doi.org/10.11646/zootaxa.1696.1.3

Weintraub P.G. & Beanland L.A. 2006. Insect vectors of phytoplasmas. *Annual Review of Entomology* 51: 91–111. https://doi.org/10.1146/annurev.ento.51.110104.151039

Zahniser J.N. & Dietrich C.H. 2013. A review of the tribes of Deltocephalinae (Hemiptera: Auchenorrhyncha: Cicadellidae). *European Journal of Taxonomy* 45: 1–211. https://doi.org/10.5852/ejt.2013.45

Printed versions of all papers are deposited in the libraries of four of the institutes that are members of the *EJT* consortium: Muséum national d'Histoire naturelle, Paris, France; Meise Botanic Garden, Belgium; Royal Museum for Central Africa, Tervuren, Belgium; Royal Belgian Institute of Natural Sciences, Brussels, Belgium. The other members of the consortium are: Natural History Museum of Denmark, Copenhagen, Denmark; Naturalis Biodiversity Center, Leiden, the Netherlands; Museo Nacional de Ciencias Naturales-CSIC, Madrid, Spain; Leibniz Institute for the Analysis of Biodiversity Change,

Bonn – Hamburg, Germany; National Museum of the Czech Republic, Prague, Czech Republic; The Steinhardt Museum of Natural History, Tel Aviv, Israël.