Building evidence for conservation globally

Journal of Threatened Taxa

40 Years
zoOreach
Zoo Outreach Organisation

Open Access

10.11609/jott.2025.17.7.27171-27322
www.threatenedtaxa.org

26 July 2025 (Online & Print)
17(7): 27171–27322
ISSN 0974-7907 (Online)
ISSN 0974-7893 (Print)

ISSN 0974-7907 (Online); ISSN 0974-7893 (Print)

Publisher
Wildlife Information Liaison Development Society
www.wild.zooreach.org

Host
Zoo Outreach Organization
www.zooreach.org

Srivari Illam, No. 61, Karthik Nagar, 10th Street, Saravanampatti, Coimbatore, Tamil Nadu 641035, India
Registered Office: 3A2 Varadarajulu Nagar, FCI Road, Ganapathy, Coimbatore, Tamil Nadu 641006, India
Ph: +91 9385339863 | www.threatenedtaxa.org
Email: sanjay@threatenedtaxa.org

For Focus, Scope, Aims, and Policies, visit https://threatenedtaxa.org/index.php/JoTT/aims_scope
For Article Submission Guidelines, visit https://threatenedtaxa.org/index.php/JoTT/about/submissions
For Policies against Scientific Misconduct, visit https://threatenedtaxa.org/index.php/JoTT/policies_various

continued on the back inside cover

Cover: A Southern Rockhopper Penguin *Eudyptes chrysocome* stands on Tussock Grass on Westpoint Island. Painted in poster colors, this artwork is a reproduction of a photograph by Phillip Colla. Thanks to the photographer for the original image. © Pooja Patil.

Journal of Threatened Taxa | www.threatenedtaxa.org | 26 July 2025 | 17(7): 27233–27241

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

https://doi.org/10.11609/jott.9974.17.7.27233-27241

#9974 | Received 01 June 2025 | Final received 05 July 2025 | Finally accepted 18 July 2025

OPEN ACCESS

COMMUNICATION

Redescription of a leaf-footed bug *Homoeocerus glossatus* Ahmad & Perveen (Heteroptera: Coreidae) from Dhule, Maharashtra, India

Digvijay R. Jadhav [1], Archana A. Sharbidre [2] & Hemant V. Ghate [3]

[1,2] Department of Zoology, Savitribai Phule Pune University, Pune, Maharashtra 411007, India.
[3] P.G. Research Centre, Department of Zoology, Modern College of Arts, Science & Commerce (Autonomous), Shivajinagar, Pune, Maharashtra 411005, India.
[1] digvijayjadhav777@gmail.com, [2] aasharbidre@gmail.com (corresponding author), [3] hemantghate@gmail.com

Abstract: We redescribe *Homoeocerus glossatus* Ahmad & Perveen, 1994 based on specimens from Navadevi, Shirpur (District Dhule, Maharashtra), collected in August 2024, with detailed digital illustrations of morphology, including genitalia, improving the limited original description. We also record host plant of the species to be *Milletia pinnata* (L.) Panigrahi, Fabaceae. This species was originally described based on specimens collected from Kerala, southern India and deposited in 'National Museum of Natural History', Washington DC, USA, but was not included in the recent checklist of Coreoidea of India. Although not recorded again from any part of India, after original description, this species has now been noted from Maharashtra, from places such as Dhule and Pune for the first time, based on previous collections.

Keywords: Coreinae, Homoeocerini, host plant, malabar, morphology, *Pongamia*, range extension, true bugs.

Editor: Anonymity requested.

Date of publication: 26 July 2025 (online & print)

Citation: Jadhav, D.R., A.A. Sharbidre & H.V. Ghate (2025). Redescription of a leaf-footed bug *Homoeocerus glossatus* Ahmad & Perveen (Heteroptera: Coreidae) from Dhule, Maharashtra, India. *Journal of Threatened Taxa* 17(7): 27233–27241. https://doi.org/10.11609/jott.9974.17.7.27233-27241

Funding: Self-funded.

Competing interests: The authors declare no competing interests.

Author details: Digvijay R. Jadhav is a PhD research scholar at Department of Zoology, Savitribai Phule Pune University Pune. Archana A. Sharbidre is associate professor at the Department of Zoology, Savitribai Phule Pune University Pune. Hemant V. Ghate is a retired professor of zoology pursuing taxonomical work at Modern College.

Author contributions: Jadhav collected the specimens, helped in dissection, photography, preparation of manuscript, and preparation of illustrations. All authors wrote the manuscript.

Acknowledgements: Authors are thankful to the head of the Department of Physics, Savitribai Phule Pune University, for permission to do SEM work; special thanks to Mr. Shinde for excellent images and technical assistance with SEM. HVG is particularly grateful to Pierre Moulet (France) for confirming our observations, Petr Kment (Czech Republic) for sharing an important paper and to K.D. Prathapan (Kerala, India) for sending some bug specimens. We thank S.I.A. Shah and S.H.A. Zeidi (Pakistan) for providing a relevant paper. We acknowledge Dr. Shruti Paripatyadar for her help in preparation of illustrations and plates. The authors are indebted to the authorities of Modern College, Shivajinagar and Department of Zoology, Savitribai Phule Pune University, for facilities, and encouragement.

INTRODUCTION

Genus *Homoeocerus*, Burmeister (1835) is distributed in the Ethiopian, Eastern Palearctic, and Oriental regions. Distant listed about 43 species while compiling Fauna of British India volumes and also commented on 3–4 doubtful species (Distant 1902, 1908, 1918). Many of these species mentioned by Distant are described from places which are no longer part of the present Indian territory. In fact, Distant listed or described all the species under the genus *Homoeocerus* and treated many genera like *Prismatocerus* and *Tliponius* as synonyms under *Homoeocerus*. Many of these genera are resurrected and the various included species, their known localities, their synonyms, and relevant literature, have been detailed in Coreoidea Species File (CoreoideaSF Team 2025, Coreoidea Species File Online Version). Prabakar (2013) published a list of coreids and their distribution in India. This list does not include all the species known from India, as indicated earlier (Jadhav et al. 2021); the species *H. glossatus,* which is redescribed here, is also not listed by Prabakar (2013). A complete checklist of Coreoidea of India needs to be compiled.

A few specimens of *Homoeocerus* collected from Navadevi, Shirpur (Dhule, Maharashtra), in August 2024, and some previous collections with one of us (HVG), were identified as *Homoeocerus glossatus* Ahmad & Perveen, 1994 on the basis of key and description given by Perveen (1991, unpublished PhD thesis) and Ahmad & Perveen (1994).

We are redescribing the species *H. glossatus* with several digital colour illustrations of morphology, including that of male, and female genitalia, because the original description provided only a few line drawings.

MATERIALS AND METHODS

Specimens were collected from Navadevi, Shirpur, Dhule District (Maharashtra, India) by hand picking from its host plant *Milletia pinnata* (locally called as 'Karanj'). Male and female specimens were collected from the same population, although mating was not observed. Specimens were preserved in 70% alcohol and brought to Modern College, Pune for further study. Detailed methods for study are outlined earlier in Jadhav et al. (2021). For scanning electron microscopy (SEM), parts of specimen were cleaned with absolute alcohol, dried thoroughly and mounted on stub with conducting carbon tape, coated with platinum at a thickness of about 10 nm, scanned and photographed using a JEOL JSM-6360A analytical scanning electron microscope.

Material studied: Two females and one male from Shirpur, Dhule (coll.: D. Jadhav, August 2024) and one female, from Savitribai Phule Pune University Campus (coll.: D. Jadhav, February 2025). Previously collected material: one female from Pune University campus (November 2009), on *Millettia*; one female, Vellayani, Kerala (coll.: Rajan, February 2017); one female Amba valley (Student coll., November 2017); one female, Shirur, (coll.: B. Sarode; September 2017); one male, Tamhini , Mulshi, Pune (Student coll.: August 2017).

RESULTS

Taxonomy

Family Coreidae Leach, 1815
Subfamily Coreinae Leach, 1815
Tribe Homoeocerini Amyot & Serville, 1843
Genus *Homoeocerus* Burmeister, 1835
Species *Homoeocerus glossatus* Ahmad & Perveen,1994
Taxonomical placement follows Coreoidea Species File online version.

Redescription

Size, colouration, and vestiture

Elongate bug of about 18 mm, male slightly smaller, and slender than female. Legs slender, short; none of the femora swollen or with spines underneath; hind femora not passing apex of abdomen.

Overall ochraceous, dorsally blackly punctate, with magenta tinge on antennae, pronotum, scutellum, abdominal tergites, clavus, and corium. Ventrally uniformly pale yellow. Antennae with II and III antennomeres slightly fuscus at apex while IV antennomere pale in basal half and fuscus in apical half. Older specimens are faded and show only slight tinge of reddish or magenta colouration while fresh specimens show darker magenta colouration. Fine, short, sparse, adpressed setae present all over body. Head with black setigerous granules in anterior half. Antennae also with fine black setigerous granules (Image 3A,B), except fourth segment which has only fine, short setae. Eyes pale brown (appear whitish in older specimens), ocelli reddish. Labium pale with its tip black. Pronotum with broadly pale lateral margin and one longitudinal, median levigate pale line (Image 1A). Corium with one large and one small pale yellow levigate spots on inner margin, close to membrane (these spots very indistinct in some specimens after drying); scattered setigerous granules also present on corium (Image 3B,C). Membrane

Image 1. *Homoeocerus glossatus*: A—Dorsal habitus, live bug | B—dry mounted female (on left) and male (scale in mm). © D.R. Jadhav.

translucent with multiple parallel veins, its basal angle fuscus (Image 1). Abdomen dorsally partly ochraceous with large patches of bilaterally symmetrical magenta patches on all tergites (Image 4D), ventrally ochraceous; spiracles either black or dark brown (Image 2C).

All legs uniformly pale cream, with fine punctures, and translucent, sparse, adpressed setae on femora; setae on tibia longer, darker, and denser in distal third portion. Tarsal segments densely setose with dark setae dorsally and pale setae ventrally. Claw tips black.

Structure

Head

Broader than long due to large eyes. Shape more or less rectangular, excluding eyes. Antenniferous tubercles large, situated anteriorly on either side of clypeus. Dorsally clypeus visible only as small triangle. A short, median, longitudinal sulcus present behind base of clypeus but not continued behind between eyes. Eyes large, globose, situated close to anterior border of pronotum. Ocelli slightly bulging, closer to eyes than to each other. Antennae long, first segment (scape) stout, second (pedicel), and third slender, fourth spindle shaped, and slightly thicker (Image 1A,B; 2A). Labium short, passing fore coxae; bucculae short (Image 2B).

Thorax

Pronotum rhomboidal, more than two and half times broad at humeral angles than at anterior angles, much broader than long, slightly declivous; pronotal surface densely and coarsely punctured, especially posterior to calli; anterior angles subacute, anterolateral margin straight, not crenulate; anterior margin slightly concave behind head; humeral angles slightly laterally produced, prominent but subacute; posterolateral margin gently sinuate, posterior margin straight over scutellum. Callar region of pronotum slightly depressed, more wrinkled than remaining part. Prosternum medially smooth, sulcate; mesosternum medially smooth, shallowly sulcate; metasternum medially smooth, convex; pro-, meso- and metapleural areas coarsely, and densely punctured (Image 2A, B). Metathoracic scent gland opening with elongate peritreme, anterior projection rounded, posterior projection subacute; evaporatorium small (Image 2C,D). Scutellum triangular, densely, and coarsely punctured, slightly longer than broad, with acute apex. Hemelytra with clavus showing almost similar punctures; corium also coarsely punctured but punctures slightly less dense in basal half than in distal half, its veins prominent; membrane with typical parallel veins.

Pre-genital abdomen

Dorsally connexivum well-marked from adjacent tergites, not covered over fully by hemelytra. Ventrally connexivum not well-marked from adjacent sternites, very finely wrinkled but without distinct punctures. In male as well as in female, abdomen gradually narrowed

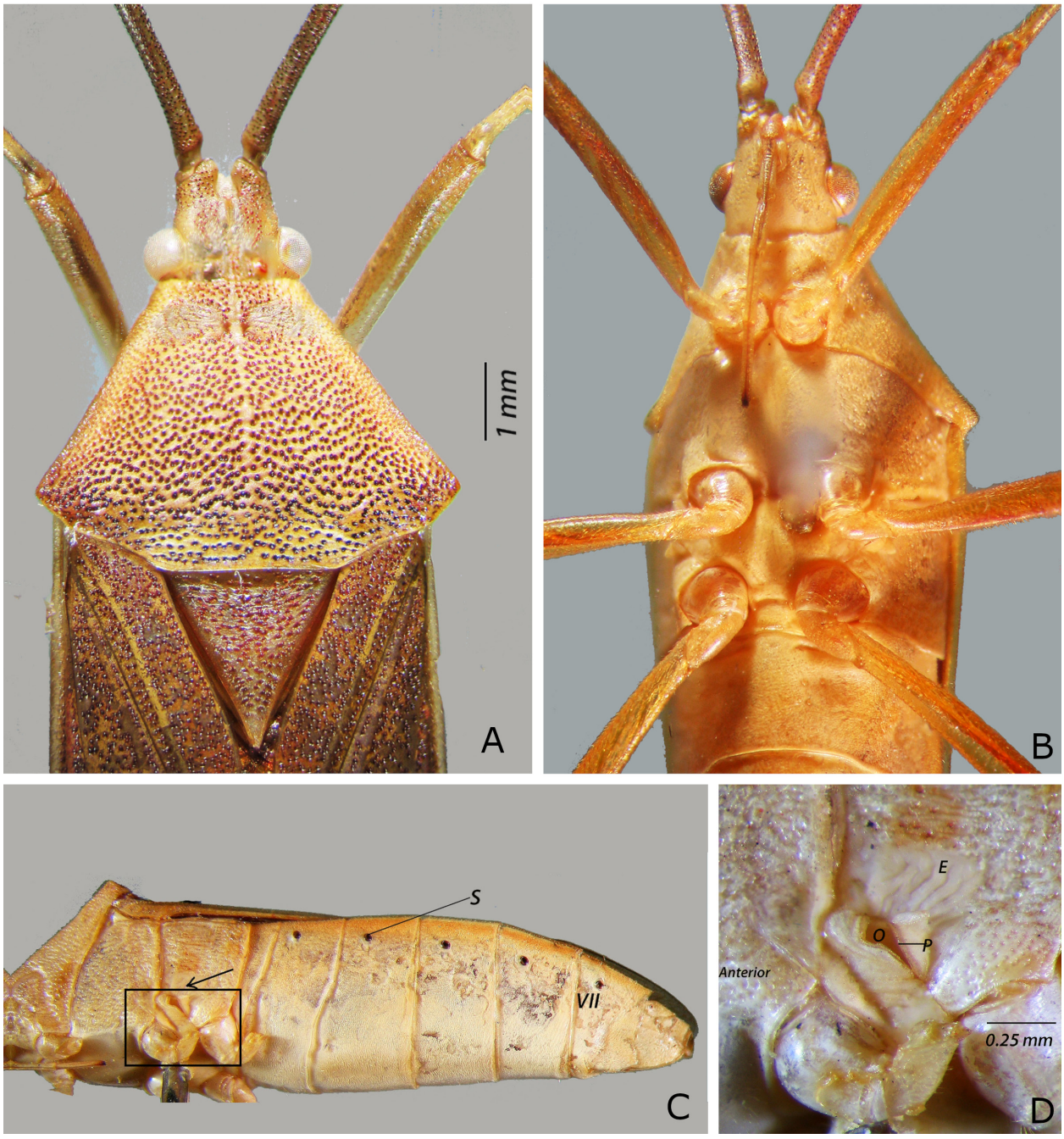

Image 2. *Homoeocerus glossatus* structure: A—head and thorax, dorsal view | B—head and thorax, ventral view | C—thorax and abdomen, lateral view. Inset marking metathoracic scent gland opening and surrounding area: S—spiracle | D—inset of C, details. Abbreviations: O—opening of gland | P—peritreme | E—evaporatory area. © H.V. Ghate.

from sixth segment to apex, segmental boundaries distinct. Spiracles slightly closer to anterior margin than lateral margin of segment.

Genital segments in male and female

Ventral side of abdomen in male and female are illustrated (Image 4A–C). In male, seventh sternite is deeply emarginate; pygophore, with its tongue like posterior process which can be seen in ventral (Image 4C,5A) and posterior view; eighth sternum is not visible. Hemelytra almost completely cover pygophore. Sometimes pygophore protrudes out automatically during preservation and hence it may be partly seen from dorsal side.

Detached pygophore is broadly oval, cup-like, ventrally convex, and dorsally flattened, gradually

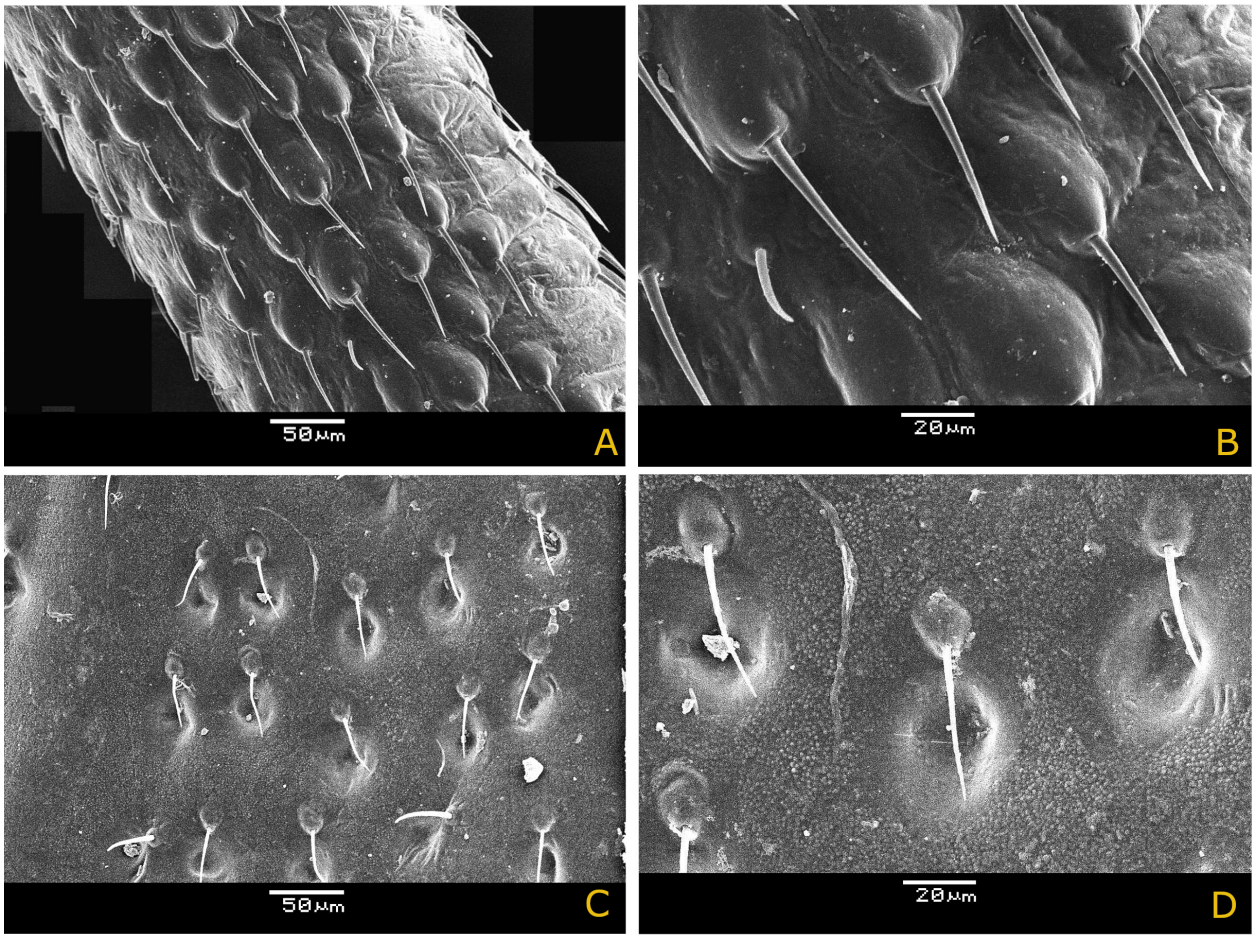

Image 3. *Homoeocerus glossatus* structure: A&B—SEM view of setae on first antennomere | C&D—SEM view of setae on corium. © H.V. Ghate.

narrowed posteriorly, its distal opening dorsal; posteroventral margin with tongue like median projection (TP) and 1+1 subacute or rounded, lateral projections; entire ventral surface and rim with moderately long, moderately dense, setae (Image 5B,C,D). Dorsally pygophore with basal membranous area which includes two sclerotized lateral patches (SP), one on either side of midline; dorsal bridge (DB) narrow, anterior to these patches (Image 5B). Phallus with well-developed articulatory apparatus, phallotheca and conjunctiva membranous (Image 5E). There is one sclerotized appendage at base of vesica dorsolaterally, with one long acute process. There is one pair of sclerotized ventral processes and pair of lateral, elongate, partially sclerotized processes. Boundaries of all the processes of conjunctiva are not clear due to unsuccessful inflation of aedeagus.

Female terminalia, as seen in ventral view, show seventh sternum slightly depressed in posterior half, with its posterior margin sinuate, and medially cleft in distal one fifth up to triangular plica; first, large, and triangular gonocoxa (or valvifer) 8 (gx8) is situated just behind the sinuate border of seventh sternum; laterotergites 8 (lt8) with its spiracle and laterotergites 9 (lt9), are seen laterally (Image 4A,B); wide, oval opening of tenth segment (=proctiger) is seen apically. Removal of tergites show the relation of different parts of female genitalia in dorsal view: the spermatheca with tubular seminal receptacle, tightly coiled part, large ampulla, and also very long spermathecal duct, as shown here; different parts, such as: ring sclerites (RS), laterotergites (lt), and valvifers or gonocoxae (gx) are also shown here (Image 6A). Separated gonocoxae eight and nine, along with associated valvulae or gonapophyses (gp8 and gp9) are illustrated (Image 6B), note setose margin of gonapophyses, and spiracle on eighth laterotergite.

Measurements (M/F) in mm (1 male / 1 female).

Total length – 16/18.5. Head length mediodorsally – 1.5/1.5; head width at eye – 2/2; head width between eyes – 1/1.05; antenna: first segment – 3.5/3.5; second segment – 4.5/4.5; third segment – abnormal/2.75;

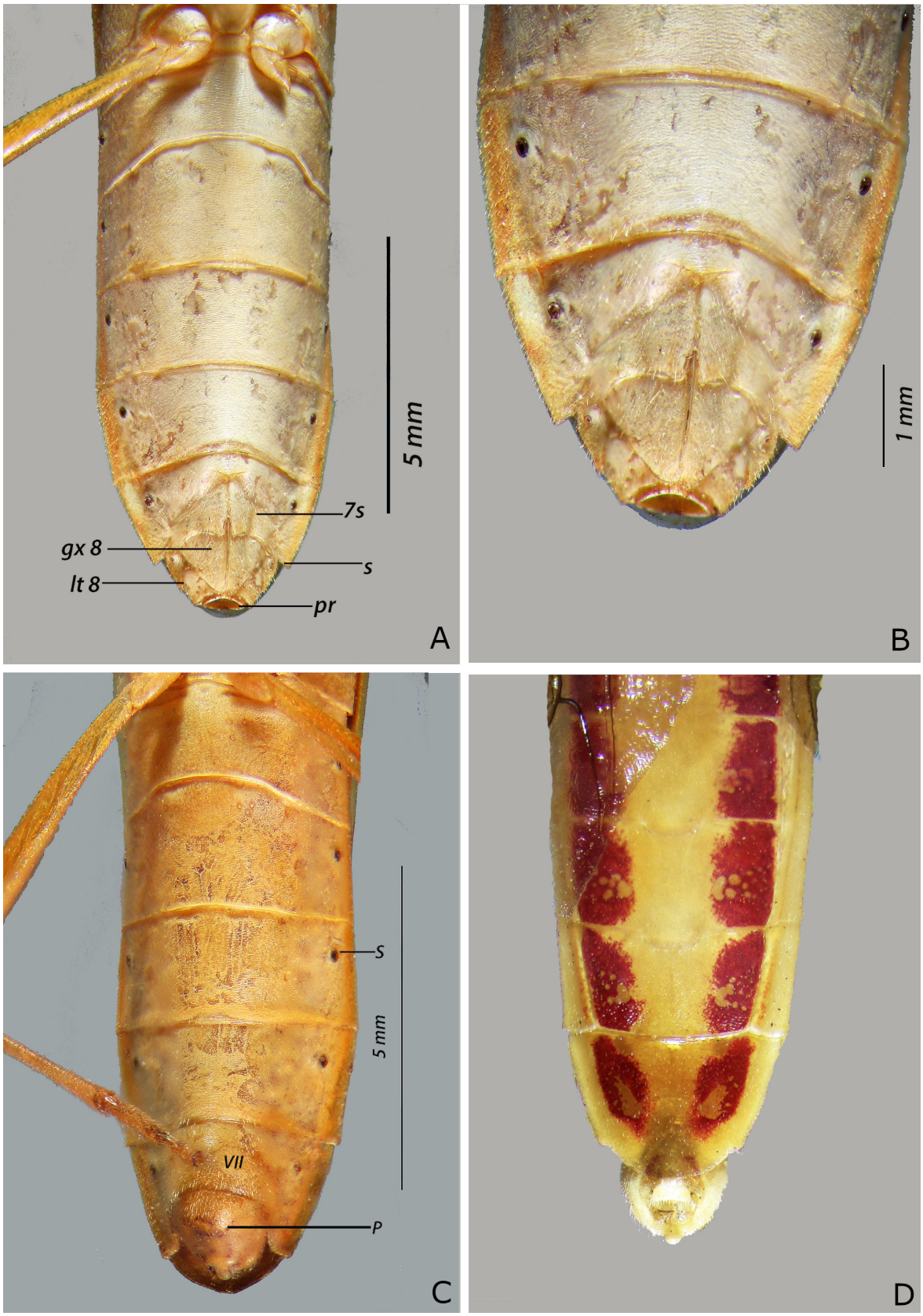

Image 4. ***Homoeocerus glossatus*** **abdomen: A&B—female abdomen, ventral view | C—male abdomen, ventral view | D—male abdomen, dorsal view. Abbreviations: gx8—gonocoxae 8 | lt8—laterotergite 8 | 7s—seventh sternum of female | S—spiracle | PR—proctiger | VII—seventh sternum male | P—pygophore or ninth segment. © H.V. Ghate.**

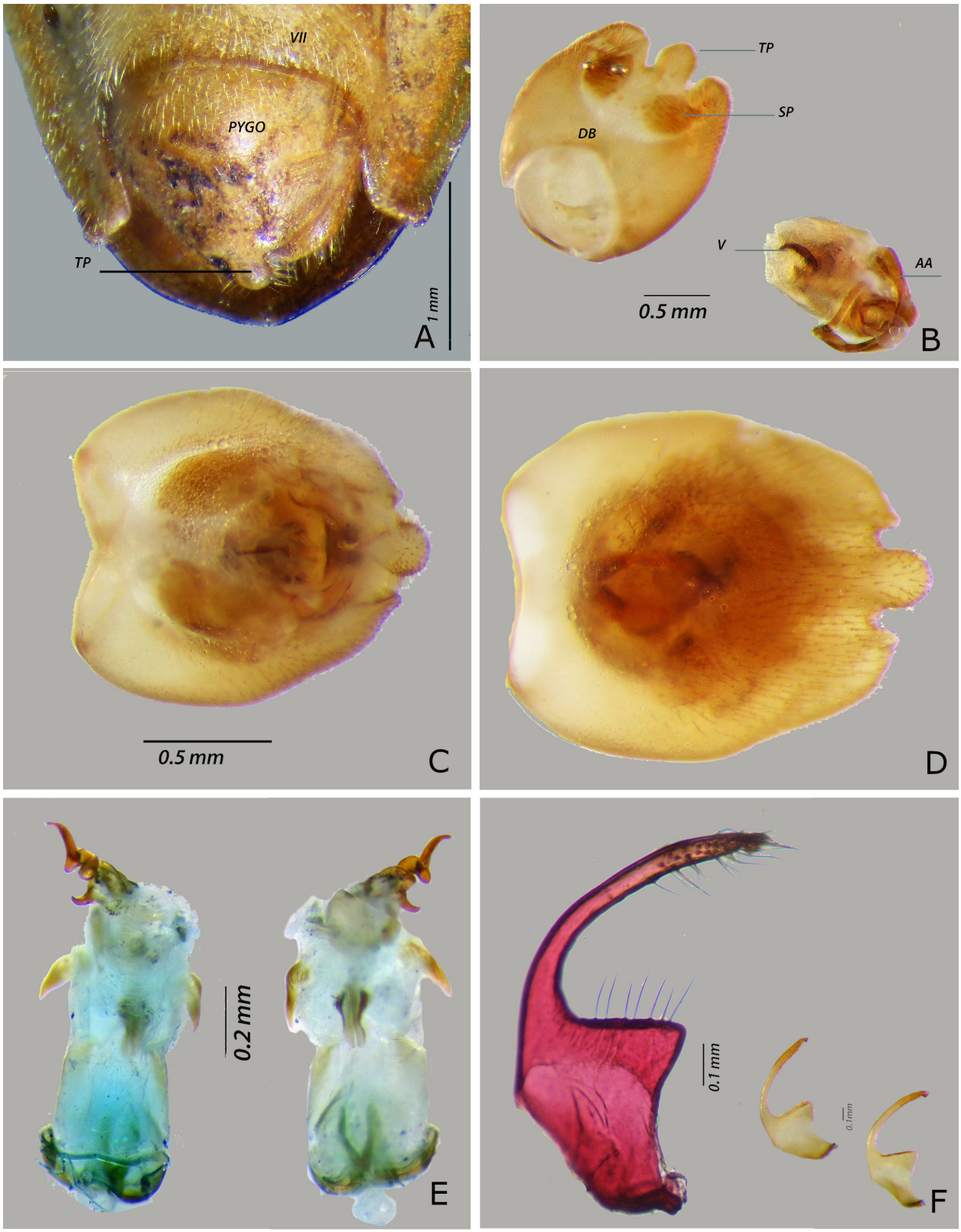

Image 5. *Homoeocerus glossatus* male genitalia: A—pygophore in situ, ventral view | B—empty pygophore and uneverted phallus, dorsal view | C&D—KOH treated pygophore in dorsal and ventral view, respectively | E—everted phallus in dorsal (on left) and ventral view | F—parameres, inset parameres in two different views with setae removed. Abbreviations: PYGO—pygophore | TP—tongue like process | SP—sclerotised parts | V—vesica | AA—articulatory apparatus. © H.V. Ghate

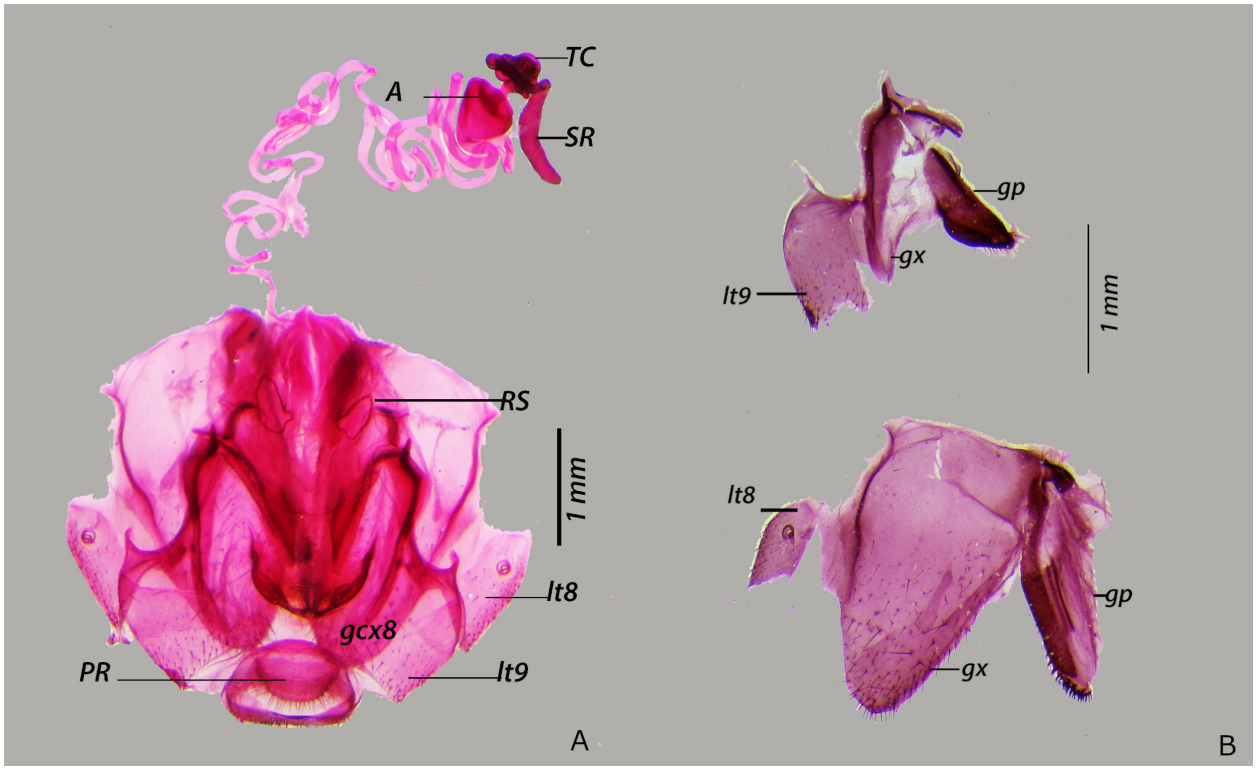

Image 6. ***Homoeocerus glossatus*** **female genitalia: A—female genitalia in dorsal view | B—dissected laterotergites, gonocoxae 8 & 9 along with associated gonapophyses. Abbreviations: A—ampulla | RS—ring sclerite | lt8 & lt9—laterotergites 8 & 9 | gx—gonocoxa | gp—gonapophyses | PR—proctiger | SR—seminal receptacle | TC—tightly coiled duct. © H.V. Ghate.**

fourth segment – abnormal/3; labium: first segment – 0.75/0.75; second segment- 0.75/0.75; third segment – 1/1; fourth segment – 1.12/1.12; pronotum breadth at anterior angles – 1.6/1.75; pronotum width at humeral angles – 4.55/5.25; median length of pronotum – 3.5/3.75; scutellum width at base – 2.1/2mm; scutellum median length – 2.25/2.3; hemelytra total length–13 /14; legs: fore coxa – 0.5/0.35; fore femur – 4.5/3.75; fore tibia – 3.5/3.6; tarsus with claw – 2/2.25; mid coxa – 0.5/0.75; mid femur – 4/4.25; mid tibia – 3.75/4.1; tarsus with claw – 2/2; hind coxa – 0.75/0.5; hind femur – 5.5/6.5; hind tibia – 5.5/5.9; tarsus with claw – 2.25/2.5.

DISCUSSION

Ahmad & Perveen (1994) described *Homoeocerus glossatus* based on seven specimens collected by P. S. Nathan from 'Malabar, Malayan Forest, 100 ft', southern India, in September 1952 (Male holotype deposited at National Museum of National History, Washington DC); one female, with the same collection details, was designated as allotype; in addition, five more females (paratypes?) collected from 'Charangade, 3500 ft' (Nilgiri Hills part, Tamil Nadu), southern India, in 1950, were also studied by them. We also studied a female specimen collected from Vellayani, Kerala, and it is identical.

Our male as well as female specimens, including structure of their genitalia, completely match with the original description, and illustrations given by Perveen (1991), and Ahmad & Perveen (1994), and so there is no doubt about the identity of the species. The original description is supplied with a few line drawings, here we are providing many additional details of morphology with several digital photographs; for example, the female genitalia are only illustrated as a gross (undissected) ventral view of apex of abdomen while we are presenting a complete in situ view of female genitalia as well as details of gonocoxae (= valvifers), and gonapophyses (= valvulae) after dissection. Spermatheca is also fully illustrated with its long duct. Kumar (1965) illustrated similar and comparable structures, giving details of dissected female genitalia in Homoeocerini, in two related species: 1) *Homoeocerus lacertosus* Distant [= *Homoeocerus* (*Anacanthocoris*) *lacertosus* Distant, 1889] and 2) *Anacanthocoris striicornis* Scott (= *Homoeocerus* (*Anacanthocoris*) *striicornis* Scott, 1874); Kumar (1965) erroneously treated that under Dasynini

(although initial list in the same paper included it correctly under Homoeocerini) (CoreoideaSF Team 2025).

This species was named as *H. glossatus* because of tongue like projection of the posteroventral margin of the pygophore, as has been shown here in several illustrations. Features of phallus, parameres, and female terminalia are also matching with figures given by the original authors. The spermatheca is typically of 'A III types' with a long spermathecal duct, as illustrated for Coreinae / Homoeocerini, in a comprehensive work on Coreidae spermatheca (Pluot-Sigwalt & Moulet 2020).

Our specimens come from more northern places as compared to the type locality -Kerala ('Malabar', old name for the major part of the coast of present Kerala, in Western Ghats; exact locality is not given in original paper). The presence of this species in Maharashtra is a considerable northward extension of the species, and it is from areas that are very wet (Mulshi) or relatively semi-arid (Dhule) or intermediate (Pune) in climatic conditions. It is quite likely that the species is more wide-spread in Maharashtra and elsewhere, as is evident from material studied. Perveen (1991) and Ahmad & Perveen (1994) did not mention the host plant. All of the specimens in Shirpur (coll. D. Jadhav) were found to be associated with *Milletia pinnata* (former name *Pongamia pinnata*, locally known as *Karanj*, in Marathi); host plants for other specimens/places were not recorded, however, a female collected in Pune also was also associated with *Milletia*. Fabaceae plants are known to attract some other *Homoeocerus* species as well (Hemant Ghate, unpublished data). This is also the first report of the species after its original description. A lack of surveys and taxonomic expertise has affected work on Coreoidea as well as other Heteroptera.

Perveen (1991) studied tribe Homoeocerini from Indian subcontinent and presented detailed and a well-illustrated work on various species of *Homoeocerus*. There are only a few recent papers giving details of morphology of Indian Coreoidea, and especially *Homoeocerus*, from India. A PhD thesis by Gupta (2012), includes description of morphology (including genitalia) of ten species of *Homoeocerus* from Punjab (India), along with photos, but *H. glossatus* was not included in that study.

Various species included under *Homoeocerus* in Distant's fauna volumes (cited above) are very briefly described or redescribed. It is often difficult to identify them due to lack of: a) recent keys, b) detailed redescriptions / illustrations and c) knowledge about within-species variations. Although redescription of some of the Indian species has been done earlier by Perveen (1991) in her PhD thesis, much additional work is necessary.

REFERENCES

Amyot, C.J.B. & A. Serville (1843). *Histoire Naturelle des Insectes Hemipteres*. Librairie Encyclopedique de Roret, Paris, 675 pp.

Ahmad I. & R. Perveen (1994). A revision of squash bug subgroup *Lacertosus* Distant of the genus *Homoeocerus* Burmeister (Hemiptera: Coreidae) with new record and description of new species from Indo-Pakistan subcontinent. *Proceedings of Pakistan Congress of Zoology* 14: 157–169

Burmeister, H. (1835). *Handbuch der Entomologie.* Zweiter Band, Besondere Entomologie, Rhynchota. Berlin, 400 pp.

CoreoideaSF Team (2025). Coreoidea Species File Online. Version 5.0/5.0. Available from: http://Coreoidea.SpeciesFile.org. Accessed on vi 2025

Distant, W.L. (1902). *The Fauna of British India including Ceylon and Burma*. Rhynchota Vol. I (Heteroptera). Taylor and Francis, London, 438 pp.

Distant, W.L. (1908). *The Fauna of British India including Ceylon and Burma.* Rhynchota Vol. IV (Homoptera and Appendix). Taylor and Francis, London, 501 pp.

Distant, W.L. (1918). *The Fauna of British India including Ceylon and Burma.* Rhynchota Vol. VII (Homoptera: Appendix; Heteroptera: Addenda). Taylor and Francis, London, 210 pp.

Gupta, R. (2012) Taxonomic studies on families Coreidae and Lygaeidae (Hemiptera: Heteroptera) from North India, supplemented with rapid markers. Unpublished PhD thesis submitted to the Punjabi University, Patiala, 361 pp + 731 figs. http://hdl.handle.net/10603/10215

Jadhav, D.R., R.R. Khairnar, B.V. Sarode, S.S. Boyane & H.V. Ghate (2021). Redescription of the bug *Aschistocoris brevicornis* (Heteroptera: Coreidae) and first report on its life history from northern Maharashtra, India. *Journal of Threatened Taxa* 13(3): 17930–17938. https://doi.org/10.11609/jott.6763.13.3.17930-17938

Kumar, R. (1965). Aspects of the morphology of Coreoidea and their value in its higher classification. *Proceedings of the Royal Society of Queensland* LXXVI (3): 27–91.

Leach, W.E. (1815). Entomology, Hemiptera, pp. 57–192. In: Brewster, D. (ed). *Edinburgh Encyclopedia - Vol. 9*. Edinburg, Scotland, 384 pp.

Perveen, R. (1991). Taxonomic study of tribe Homoeocerini Amyot & Serville (Heteroptera: Coreidae) from Indo-Pakistan Subcontinent. (Unpublished PhD Thesis submitted to the University of Karachi, Pakistan), 406 pp.

Pluot-Sigwalt, D. & P. Moulet (2020). Morphological types of spermatheca in Coreidae: bearing on intra-familial classification and tribal-groupings (Hemiptera: Heteroptera). *Zootaxa* 4834(4): 451–501. https://doi.org/10.11646/zootaxa.4834.4.1

Prabakar, D. (2013). The biogeographical distribution of species of the superfamily Coreoidea : Hemiptera in India. *Records of the Zoological Survey of India* 113(4): 103–128. https://doi.org/10.26515/rzsi/v113/i4/2013/121746

Scott, J. (1874). On a collection of Hemiptera Heteroptera from Japan. Descriptions of various new genera and species. *The Annals and Magazine of Natural History* 14(4th series): 360–365

Journal of Threatened Taxa is indexed/abstracted in Bibliography of Systematic Mycology, Biological Abstracts, BIOSIS Previews, CAB Abstracts, EBSCO, Google Scholar, Index Copernicus, Index Fungorum, JournalSeek, National Academy of Agricultural Sciences, NewJour, OCLC WorldCat, SCOPUS, Stanford University Libraries, Virtual Library of Biology, Zoological Records.

NAAS rating (India) 5.64

Print copies of the Journal are available at cost. Write to:
The Managing Editor, JoTT,
c/o Wildlife Information Liaison Development Society,
3A2 Varadarajulu Nagar, FCI Road, Ganapathy, Coimbatore,
Tamil Nadu 641006, India
ravi@threatenedtaxa.org & ravi@zooreach.org

Journal of Threatened Taxa

www.threatenedtaxa.org

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

July 2025 | Vol. 17 | No. 7 | Pages: 27171–27322
Date of Publication: 26 July 2025 (Online & Print)
DOI: 10.11609/jott.2025.17.7.27171-27322

Publisher & Host

WILD zoo reach
Zoo Outreach Organisation

Threatened Taxa