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A new species of *Notomulciber* (*Micromulciber*) *Aurivillius*, 1913, from the southern Western Ghats of India (Coleoptera: Cerambycidae: Lamiinae: Homonoieini)

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Abstract

Notomulciber (*Micromulciber*) *viraktamathi* sp. nov. is described and illustrated from the southern Western Ghats, a hotspot of biodiversity in India. Ecological notes, differential diagnosis of the new species from its close relatives and a key to the species of *Notomulciber* from India are provided.

Key words: taxonomy, south India, flat-faced long-horned beetles, biodiversity

Introduction

The Western Ghats in southern India together with Sri Lanka represent one of the eight hottest biodiversity hotspots of the world (Myers *et al.* 2000). The hill ranges of the Western Ghats, home to diverse ecosystems ranging from wet evergreen forests to montane grasslands interspersed with lush green ‘shola forests,’ provide refugia to an exceptional diversity of endemic flora and fauna. However, the insect fauna of the Western Ghats remains understudied.

The Cerambycidae *s. str.* is represented by four subfamilies, Lepturinae, Prioninae, Cerambycinae and Lamiinae in the Western Ghats. The Lamiinae is the most diverse subfamily of long-horned beetles (Švácha & Lawrence 2014). Here, a new species of *Notomulciber* (subgenus *Micromulciber* Aurivillius, 1913) (Lamiinae, Homonoieini) is described from the Western Ghats.

The genus *Notomulciber* was established by Blackburn (1894) for the single species *N. carpentariae* Blackburn, 1894 from Australia. Currently the genus *Notomulciber* is divided into two subgenera: the nominotypical subgenus and *Micromulciber*. *Micromulciber*, historically treated as a separate genus, was established by Aurivillius (1913) with the type species *Mulciber biguttatus* Pascoe, 1867. Breuning & de Jong (1941) synonymized *Micromulciber* with *Notomulciber*. Later, Breuning (1950) maintained the same classification while revising the tribe Homonoieini. However, McKeown (1956) questioned the synonymy of *Notomulciber* with *Micromulciber* followed by Breuning (1950) in his revision. He opined that the genera *Notomulciber* and *Micromulciber* should be treated separately to accommodate *N. carpentariae* in the former, while including the remaining 19 oriental species treated by Breuning (1950) in the latter. McKeown (1956) adhered to the generic definition of *Notomulciber* as given by Blackburn and the Aurivillius’ definition of the genus *Micromulciber*, chiefly based on the disjunct geographic distribution of the respective species. Finally, Breuning (1966), based on the study of the type of *N. carpentariae*, opined that *Micromulciber* could at best be considered as a subgenus of *Notomulciber*. Breuning (1966) enumerated rounded elytral apex and slightly developed tubercle on mesosternal process to differentiate *Notomulciber* from *Micromulciber*. A comprehensive study of the genitalia of all known species is necessary to clarify the status of the two subgenera in *Notomulciber*.

Currently the nominotypical subgenus is represented by 2 Australasian species while the subgenus *Micromulciber* is represented by 24 Oriental species (Tavakilian & Chevillotte 2012). Among the Oriental species, *N. (M.) decemmaculatus* Breuning, 1942 and *N. (M.) travancorensis* Breuning, 1958 are endemic to the southern

Western Ghats of India. In the present study, a third species, *N. (M.) viraktamathi* sp. nov., is described from the same area with notes on its natural history.

Material and methods

The present study is based on three specimens collected from the Kallar reserve forest (8°42'43.0" N, 77°7'47.3" E), Kerala, India. The type locality falls within the Agasthyamalai biosphere reserve at the southern extremity of the Western Ghats hill ranges. The habitat (Fig. 32) mainly comprised of several evergreen tree species.

Species concept. The "Morphological Species Concept" defined by Cronquist (1978) is followed in describing the new species.

Dissection. The specimens were relaxed by immersion in a mixture of equal parts of isopropyl alcohol and water, for about 20 to 25 minutes. The abdomen was then cut off from the body by inserting a No. 3 sized insect pin between the abdomen and metasternum to tear off the tissues connecting them. Then, the connections between the tergites and sternites of the abdomen were cut-off on one side by using corneal scissors. The severed abdomen was then boiled in 10% KOH solution for about 2–3 minutes. The cleared abdomen was washed in water and then it was treated with 1–2 ml of dilute acetic acid to neutralize excess alkali. Another round of washing in water was done to remove the excess chemicals. Finally, components of the genitalia were separated completely from sternites, tergites, muscles and other miscellaneous tissues.

Genitalia. The terminology for male genitalia follows Ehara (1954). The inflation of the endophallus without eversion and descriptive terminologies for endophallic structures follow Yamasako & Ohbayashi (2011). The inflation technique and descriptive terminology for female genitalia follow Yamasako (2015) and Saito (1989a), respectively. However, in the present study, suitable modifications were adopted for inflating the endophallus and female genitalia. A 31-gauge needle mounted on a syringe filled with the KY Gel® was used to inflate the genitalic structures.

The following abbreviations are used for endophallic structures: BPH—basal phallomere; MPH—median phallomere; APH—apical phallomere; CS—crescent shaped sclerites; MT—medial tube; CT—central trunk; PB—preapical bulb; MSp—micro spicules; LSp—large spicules; SSp—small spicules; RS—rod shaped sclerites.

The holotype will be deposited in the collections of the Department of Entomology, Biosystematics Laboratory, University of Agricultural Sciences, GKVK, Bengaluru, India. The paratypes will be deposited in the National Bureau of Agriculturally Important Insects (NBAIR), Bengaluru and the Natural History Museum, London, United Kingdom.

Results

Genus *Notomulciber* Blackburn, 1894

Notomulciber Blackburn, 1894: 166. type species: *Notomulciber carpentariae* Blackburn, 1894, by monotypy.
Kamikiria Matsushita, 1933: 348. type species: *Kamikiria plagiata* Matsushita, 1933, by original designation.

Diagnosis. Blackburn (1894) and Breuning (1950).

Subgenus *Micromulciber* Aurivillius, 1913

Micromulciber Aurivillius, 1913: 253. type species: *Mulciber biguttatus* Pascoe, 1867, by original designation.
Notomulciber (Micromulciber): Breuning, 1966: 4. Sub-generic status.

Diagnosis. Aurivillius (1913) and Breuning (1966).

Notomulciber (Micromulciber) viraktamathi sp. nov.

Description. Male (n = 2) (Figs. 1–3). Body length measured from vertex to elytral apex 12.00–12.70 mm; Humeral width 4.17–4.60 mm.

Body reddish-brown. Head and pronotum darker than elytra. Anteclypeus laterally, labrum, mandibles dark brown to black. Scape, apical third of elytra, legs excluding tarsi, metasternum and abdomen entirely adorned with several red brown circular spots, obscured on the elytral apex. Head mottled with golden yellow pubescence forming several irregular spots (Fig. 10); area around eye lobes, sides of gena with several long, erect setae; clypeus and labrum setose. Antennae setose beneath, thinly appressed golden-yellow pubescence as well as scattered short suberect setae above; antennomeres I–IV densely setose beneath, remaining segments without dense setae. Pronotum mottled with golden-yellow pubescence forming two pairs of spots on center of disk, arranged obliquely—one pre-median and other median (Fig. 12); area near anterior and posterior margins also mottled with several irregular spots of same pubescence; in dorsal view, lateral sides of pronotum adorned with dense ash grey appressed pubescence, forming inconspicuous band running from base to apex; latero-posterior area of disk and either sides of lateral spine with a few erect setae. Scutellum with median band of dense grey yellow pubescence. Elytra with disk between scutellum and humeral crest, mottled with a spot and an inwardly curving narrow longitudinal band of golden yellow pubescence (Fig. 14); lateral area near humeral crest with a minute spot of similar pubescence; surrounding area of pre-median disk with few obscure pubescent spots of same color (Fig. 14); laterally with ash-grey pubescence giving appearance of obscured longitudinal band on each side, running from base to elytral apex; elytral apex entirely covered with ash grey pubescence; elytra with five spots of white pubescence, one post-humeral and four post-median; post-humeral spot small, sometimes golden yellow in color (Fig. 14), placed laterally on elytral disk; first post-median spot fairly large, circular, placed adjacent to sub-lateral margin; remaining three spots arranged in curvilinear fashion as follows: one spot near lateral margin, about 0.6 times as large as large circular spot, placed obliquely posterior to it; second spot smaller than previous, just beneath the large circular spot; third spot placed close to sutural margin, minute, placed obliquely anterior to large circular spot. Legs with meso- and metatibiae thickly fringed with long setae on both sides. Pro- and mesosternum with inter-coxal spaces thinly covered with grey pubescence, remaining area thickly covered with grey yellow pubescence; metasternum thinly pubescent medially, laterally entirely covered with thick golden yellow pubescence. Abdomen with ventrites I–III mottled laterally with bands of golden yellow pubescence, central area thinly pubescent; ventrites IV–V entirely covered with grey-yellow pubescence.

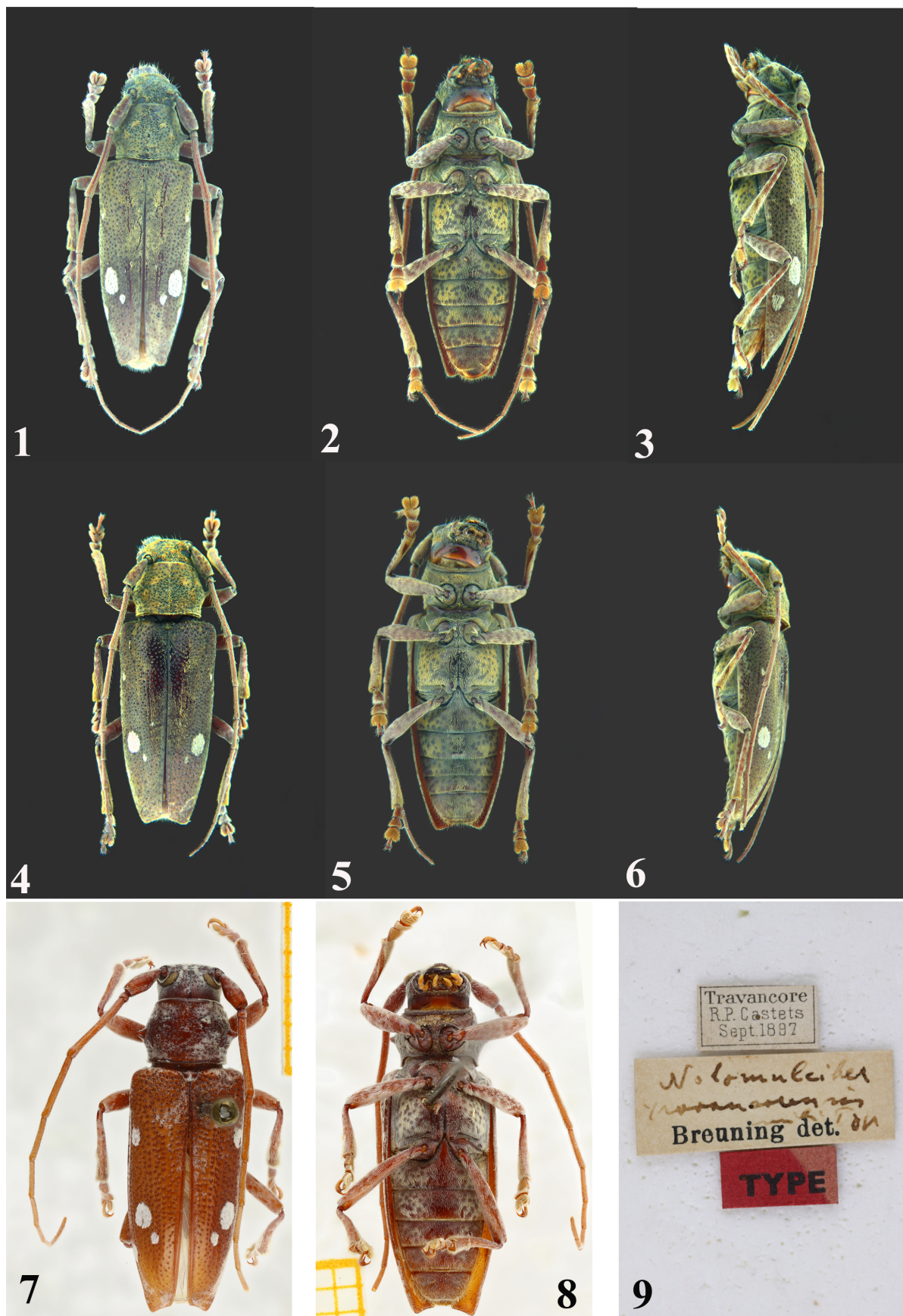
Head coarsely, deeply punctured; frons with medial black carina running from fronto-clypeal suture to vertex. Eyes deeply emarginate, lower lobes transverse, about 1.4 times as long as genae, connected to upper lobes by a single row of ommatidia. Clypeus angulated at its apical corners. Labrum trapezoidal, distinctly sclerotized, thickened towards apex; surface entirely punctate with apex coarsely punctured.

Antenna about 1.4 times as long as body, surpassing elytral apex at apical quarter of antennomere VIII; antennomere I stout, widest at distal $2/3^{\text{rd}}$, thence slightly narrowed to apex, proximally narrower than apically; antennomere III longest, 1.77 times as long as scape, 1.18 times as long as IV; antennomere V onwards decreasing; antennomeres X and XI equal in length; antennomere XI obtusely pointed; ratio of length of antennomeres as follows: 1.00 : 0.16–0.18 : 1.77 : 1.50 : 0.95–0.97 : 0.86 : 0.77–0.79 : 0.74–0.76 : 0.71–0.72 : 0.66 : 0.66.

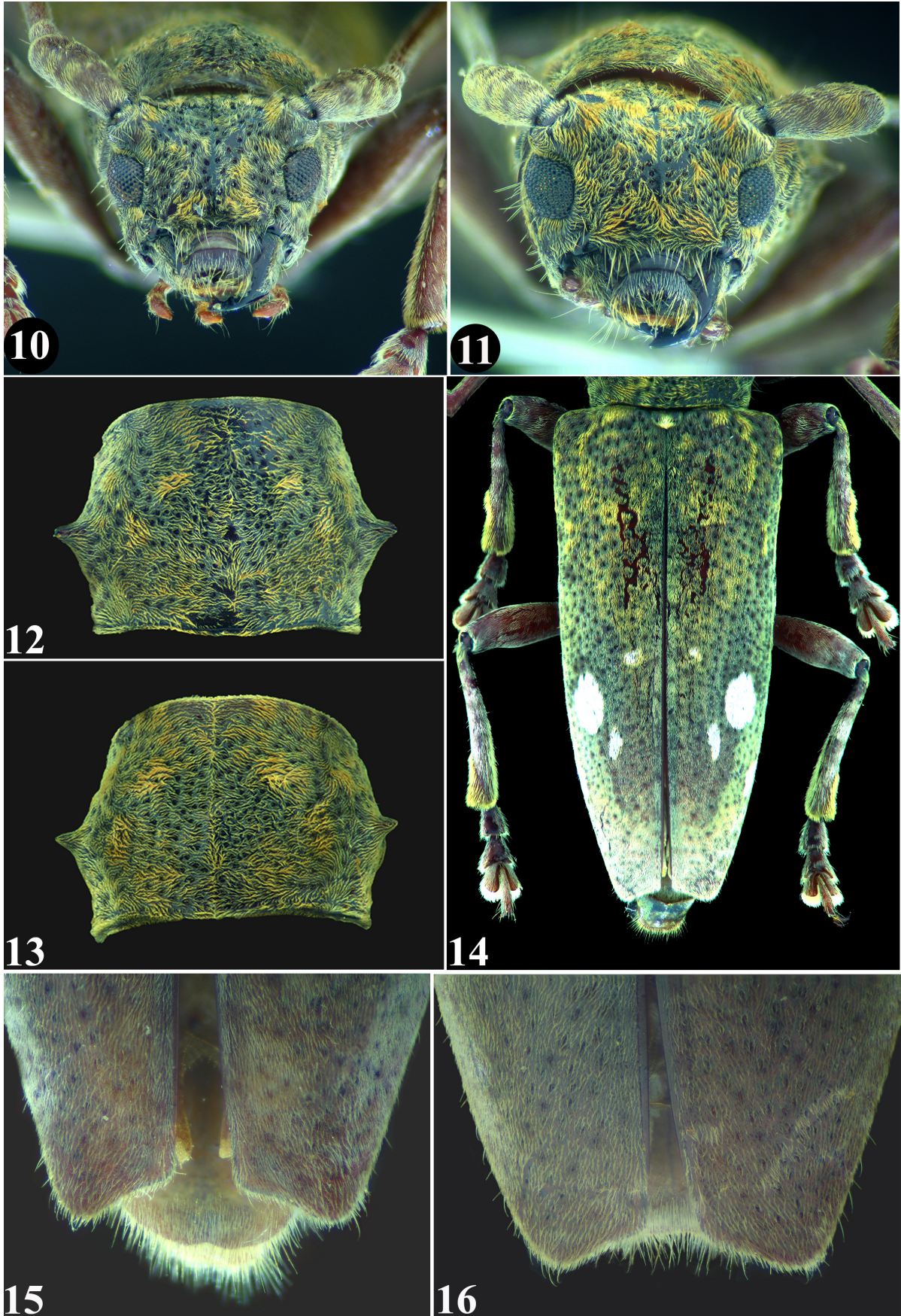
Pronotum coarsely, densely punctured, widest at middle, 1.44 times as wide as long, 0.85–0.86 times as wide as humeral width; central area of pronotal disk with three obscure gibbositities arranged in inverted triangular fashion: two premedian, covered with pubescent spots and one medial, devoid of such pubescence; lateral sides of pronotum with obtusely pointed spine at middle; anterior margin straight, basal margin sinuate.

Elytra 0.75 times as long as body, about 3.6 times as long as pronotal length and about 2.1 times as long as humeral width; elytral disks with slightly developed post basal swellings, space between post basal swellings concave; elytra coarsely punctured up to apical third, thereafter fine punctures apically; lateral sides of elytra straight up to middle, then slightly narrowed towards apex; elytra dorsally slightly convex at apical third, thence sloping downwards towards apex; apex obliquely emarginate, regularly rounded externally (Fig. 15).

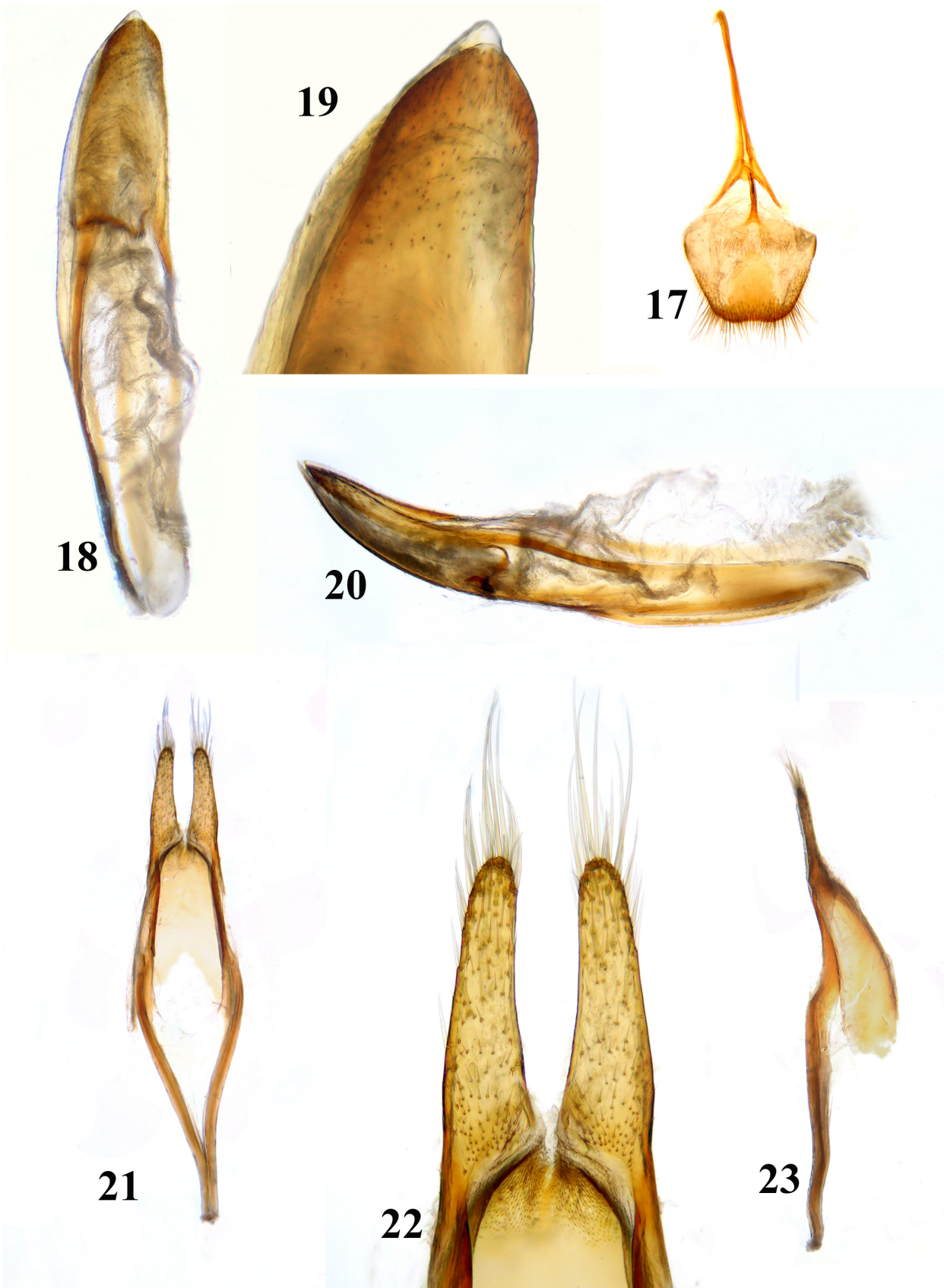
Legs with mesotibiae having indistinct antennal cleaning groove at apex externally. Abdomen with last segment flat and weakly emarginate at apex.



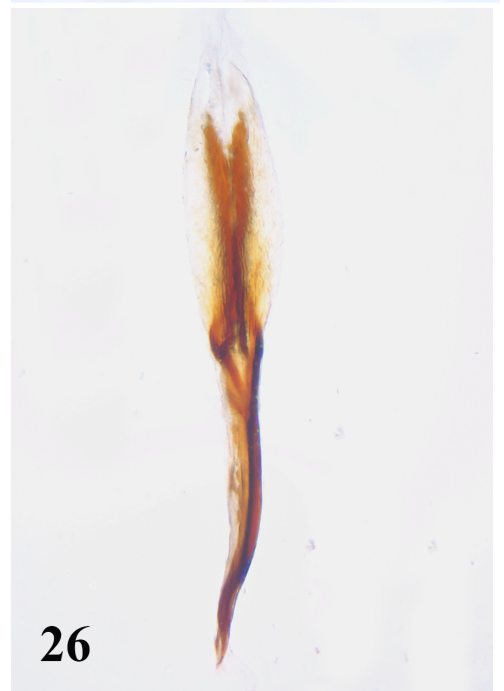
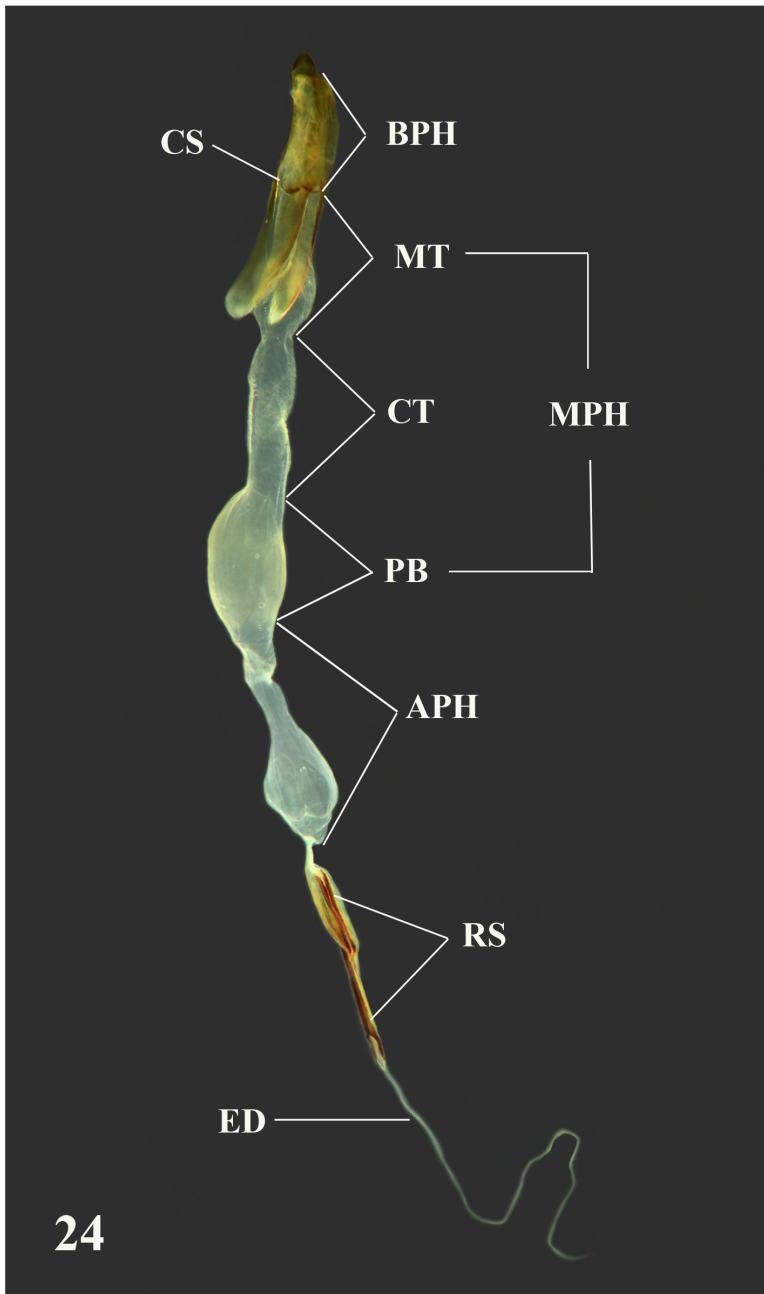
FIGURES 1–9. *Notomulciber* spp.: 1–6. *Notomulciber viraktamathi* sp. nov.: 1–3. Holotype (Male): 1. Dorsal view, 2. Ventral view, 3. Lateral view; 4–6. Paratype (Female): 4. Dorsal view, 5. Ventral view, 6. Lateral view. 7–9. *Notomulciber travancorensis*: 7. Dorsal view, 8. Ventral view, 9. Type labels.



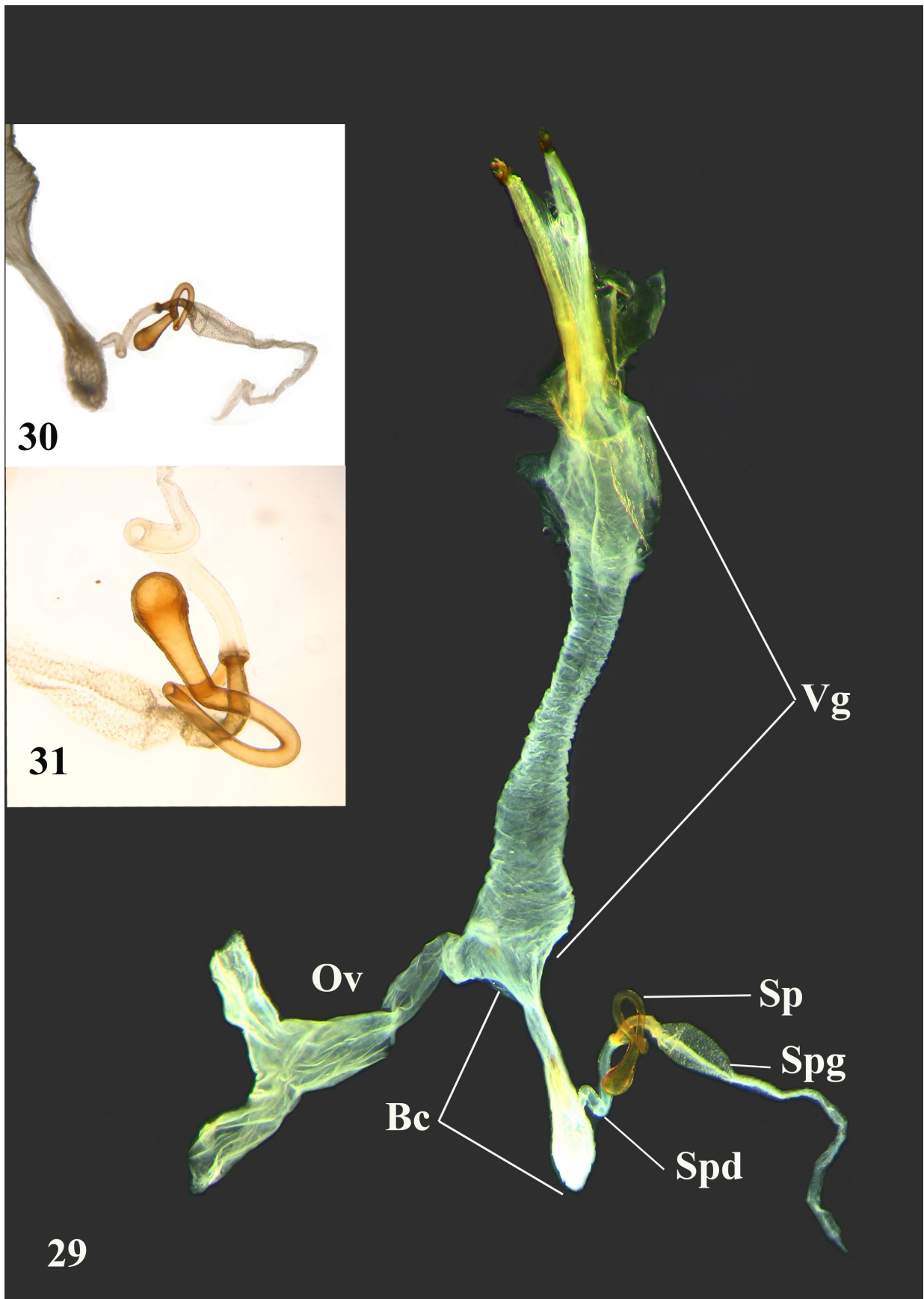
FIGURES 10–16. *Notomulciber viraktamathi* sp. nov.: 10–11. Head: 10. Male, 11. Female. 12–13. Pronotum: 12. Male, 13. Female. 14. Elytra (male), 15–16. Elytral apex: 15. Male, 16. Female.



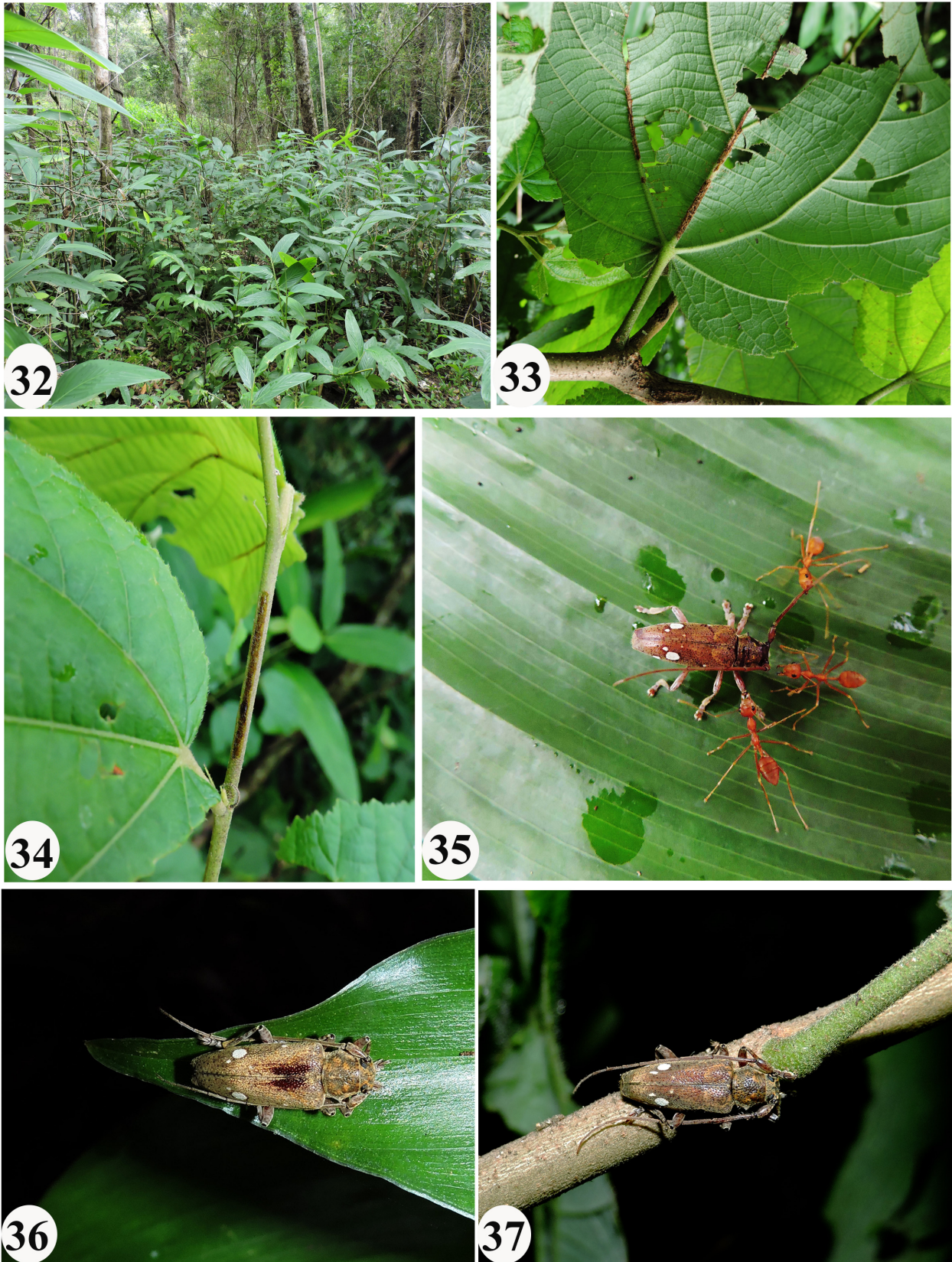
FIGURES 17–23. Male genitalia of *Notomulciber viraktamathi* sp. nov. (Holotype): 17. Tergite VIII, sternite VIII & IX. 18–20. Median lobe: 18. Ventral view, 19. Close up of ventral plate apex, 20. Lateral view. 21–23. Tegmen: 21. Ventral view, 22. Close up of lateral lobes in ventral view, 23. Lateral view.



FIGURES 24–28. Endophallus of *Notomulciber viraktamathi* **sp. nov.** (Holotype): **24.** Lateral view, **25.** Central sclerites, **26.** Rod shaped sclerites in ventral view, **27.** Rod shaped dorsal sclerite, **28.** Rod shaped ventral sclerite.



FIGURES 29–31. female genitalia of *Notomulciber viraktamathi* sp. nov. (Paratype): **29.** Lateral view, **30.** Close up of Bursa copulatrix, **31.** Close up of spermatheca. Abbreviations: Bc = bursa copulatrix; Ov = oviduct; Sp = spermatheca; Spd = spermathecal duct; Spg = spermathecal gland; Vg = vagina.



FIGURES 32–37. Ecology of *Notomulciber viraktamathi* sp. nov.: 32. Habitat in Kallar, 33–34. Adult feeding symptoms: 33. Feeding symptoms on leaves, 34. Feeding symptoms on stem. 35. Attack by red ants. 36–37. Display of tergiversation (beetles were slightly disturbed prior to photography): 36. On the leaf blade of *Zingiber zerumbet*, 37. On the twig of *Helicteres isora*.

Male genitalia (Figs. 17–23). Tegmen length about 2.8 mm; sinuate in lateral view. Basal piece present, distally bifurcated, entire surface adorned with closely packed hexagonal cells. Ringed part converging, geniculated at widest portion. Lateral lobes separated, about 0.27 times as long as total length of tegmen, inner margins slightly curving in middle in ventral view; integument covered with three types of setae; apex with numerous long setae, rest of surface, except base, with randomly distributed medium sized setae and base with closely placed, comparatively shorter setae. Median lobe almost as long as tegmen; sinuate in lateral view; basal struts started from apical quarter. Apex of ventral plate roundly acuminate; antero-lateral sides grooved; integument with scattered, raised pustules in apical half. Tergite VIII trapezoidal; apex emarginate; lateral margins straight, laterally with medium-sized brown setae, apically with much longer setae and median disk covered with recumbent brownish setae. Sternite VIII on apical half covered with long brownish setae. Spiculum gastrale ‘Y’ shaped, distinctly curved distally in lateral view, about 3.6 times as long as spiculum relictum.

Endophallus (Figs. 24–28) in lateral view about 4 times as long as median lobe; BPH about 0.13 times as long as endophallus with membrane hemispherically bulged at region of CS; MPH with MT about 0.14 times as long as endophallus, flask shaped; CT subequal to MT, cylindrical with lateral sides wrinkled; PB about 0.14 times as long as endophallus, spindle shaped; APH about 0.45 times as long as endophallus, vase shaped, distally with membranous sac housing two kinds of RS; first sclerite (Figs. 27) lies dorsally, paired, asymmetrical, proximally lanceolate; second sclerite (Figs. 28) placed ventrally with proximal end receiving two asymmetrical sclerotized thickened lines, middle portion of rod slightly curved while distal end with asymmetrical biforked tines; apex of longer tine bent inward while that of shorter tine slightly bent outward. MSp circular in shape, densely covers MT except small portion proximally and quarter area distally. LSp absent in CT. SSp with dash-line like appearance, compactly arranged transversely on entire surface of PB. ED single, arising medially from biforked tines of ventral rod shaped sclerite.

Female (n = 1) (Figs. 4–6). Body length 13.60 mm, humeral width 5.04 mm. Similar to male in general appearance with the following differences: Head (Fig. 11), pronotum (Fig. 13), antennae, prosternum and mesosternum comparatively more densely pubescent. Antennae about 1.2 times as long as body, surpassing elytral apices at antennomere IX; ratio of length of antennomeres as follows: 1.00 : 0.17 : 1.69 : 1.47 : 0.9 : 0.86 : 0.83 : 0.77 : 0.72 : 0.61 : 0.61. Pronotum with spots and gibbosities on disk as in male but additionally with medial pubescent line (Fig. 13). Elytra about 3.8 times as long as pronotum, about twice as long as humeral width; apex obliquely truncate with rounded marginal angle (Fig. 16); of the three white spots arranged in curvilinear fashion on post-median disk, spot near lateral margin about 0.4 times as large as large circular spot. Last abdominal segment convex with preapical concave space; apex straight.

Female genitalia (Figs. 29–31). Ovipositor about 1.87 mm. Vagina about 2.29 times as long as ovipositor and 2.77 times as long as bursa copulatrix, with transverse wrinkles on entire surface, gently bulged proximally, narrow, cylindrical towards middle, thence gradually bulged towards distal end. Bursa copulatrix clavate in shape, about 0.83 times as long as ovipositor and 0.36 times as long as vagina; surface in apical half strongly plicate. Vaginal plates lamellar, thin and hyaline. Spermathecal duct translucent, twisted, distinctly narrowed towards base, enters bursa copulatrix at its apical third. Spermatheca capitate in shape, intertwined, arising at tip of spermathecal duct separately along with spermathecal gland. Spermathecal gland basally distinctly sclerotized, tube short, thence sac like, which is proximally dilated and distally narrowed with distinct wrinkled spots on surface. Tignum slightly shorter than abdomen. In the only specimen known, tignum measured 6.24 mm while abdomen measured 6.62 mm in length.

Diagnosis. The new species is similar to *N. decemmaculatus* and *N. travancorensis*. The following characters differentiate it from *N. decemmaculatus*: proportionate size of elytral spots (post-humeral spot comparatively bigger in *N. decemmaculatus*), elytra not densely punctate (densely punctate in *N. decemmaculatus*), elytral apex not drawn out into a lobe (drawn out into a short lobe in *N. decemmaculatus*). It can be distinguished from *N. travancorensis* by the following characters: integument reddish brown (orange-yellow in *N. travancorensis*), body uniformly covered with golden-yellow pubescence (grey white pubescence in *N. travancorensis*), central disk of the pronotum densely punctured (sparsely punctured in *N. travancorensis*), elytra with five white spots (four in *N. travancorensis*); proportionate size of elytral spots also varies. In general, elytral punctation is slightly finer and post-humeral spot distinctly smaller in *N. viraktamathi* **sp. nov.** compared to the other two Indian species.

Type series. Holotype: ♂, with labels as follows: “(1) India: Kerala / Kallar / 8°42’43.0” N, 77°7’47.3” E / 19.ix.2017 / SR Hiremath Coll. / Ex. *Helicteres isora* (2) HOLOTYPE / *Notomulciber viraktamathi* **n. sp.** / des. Hiremath, 2018” (red label)”. Paratypes (2 specimens, both with a white locality label as given below, besides a

second pink label: “PARATYPE / *Notomulciber viraktamathi* n. sp. / des. Hiremath, 2018”): 1 ♂, with the same labels as for holotype; 1 ♀ with label as follows: India: Kerala / Kallar / 8°42'43.0" N, 77°7'47.3" E / 19.ix.2017 / SR Hiremath Coll. / Ex. *Zingiber zerumbet*.

Etymology. The author dedicates this new species to his beloved teacher, Dr. C. A. Viraktamath, for introducing and encouraging him to study Cerambycidae.

Distribution. India (Kerala)

Host plants. Two beetles were collected on *Helicteres isora* L. (Sterculiaceae). Although there were adult feeding symptoms on the leaves and stem, the host association could not be confirmed during the field collection. The symptoms of damage involved typical Lamiinae adult feeding patterns: leaves were fed along the veins from underside (Fig. 33) and sometimes vein clearing was also observed, while the outer surface of the petiole and stem were gnawed longitudinally (Fig. 34). Another adult was picked up while it was resting on the leaf blade of *Zingiber zerumbet* (L.) Sm. (Zingiberaceae). However, no such feeding symptoms were noticed on the plant. Based on the circumstantial evidences, it may be that *H. isora* is the adult host plant of *N. viraktamathi* sp. nov.

Behaviour. Adults were inactive during day and were found idle in a characteristic resting posture (Figs. 36–37). Legs were held adducted to the body with tibiae closely appressed to the femora. The front and mid-legs were held close to each other near to the pronotum, substantially apart from the hind legs, thereby creating an illusion of the hind legs as the ‘fore legs.’ The antennae, held closely appressed to the body, emerge from beneath the elytra and extend beyond the elytral apex. Further, the postmedian circular bright eyespots on the elytra look like deflection marks besides creating an illusion of broad ‘false head’. This whole arrangement may give the beetle an illusion of moving in the direction opposite to its actual orientation. Silberglied & Aiello (1976) define this behaviour of reversed orientation as “Tergiversation.” Apart from this, when the adults were hand-picked from the plant surface, they resorted to stridulation by constantly nodding their head to rub the pronotal ridges on the stridulatory plate to produce sound.

Natural Enemy. A single instance of organized attack on the beetle by the red ant *Oecophylla smaragdina* (Fabricius, 1775) was observed. In their attempt to dislodge the prey, the ants pulled the beetle by holding its antennae and leg joints (Fig. 35).

Key to species of *Notomulciber* Blackburn from India

- 1 Elytra with disk densely punctured, marginal apical angle elongated into a narrow lobe *N. (M.) decemmaculatus* Breuning 1942
- Elytra with punctures on disk not dense, marginal apical angle obliquely rounded, not elongate (Figs. 7 & 15–16) 2
- 2 Body uniformly covered with yellow-brown pubescence (Figs. 1–6); elytron with slightly fine punctures, adorned with five white spots; post-humeral white spot small (Figs. 1 & 4) *N. (M.) viraktamathi* sp. nov.
- Body uniformly covered with grey-white pubescence (Figs. 7–8); elytron not finely punctate, adorned with four white spots; post-humeral white spot comparatively bigger than in previous species (Fig. 7) *N. (M.) travancorensis* Breuning, 1958

Notes on *N. decemmaculatus* and *N. travancorensis*

Notomulciber decemmaculatus was described by Breuning (1942) based on a single specimen from the erstwhile princely state of Travancore comprising the present day central and south Kerala and Kanyakumari District in Tamil Nadu. There is no recent record of this species except for Nair *et al.* (1986), who reported it as a leaf feeder on *Lagerstroemia microcarpa* Wight (Lythraceae). Lingafelter *et al.* (2014) published photos of the holotype deposited in the National Museum of Natural History (Smithsonian) Washington, D.C., United States. In the original description, Breuning (1942) mentions the presence of a short whitish band in the middle of the pronotal base. However, such band is not discernible on the photograph of the holotype.

Notomulciber travancorensis was also described by Breuning (1958) based on a single specimen from Travancore. He provided a very brief description in French, which is translated verbatim as: “*Very close to decemmaculatus* Breun., which shares the locality and which could form a morph, but the marginal angle of the elytral apex only slightly prominent and rounded (not stretched into lobe) and different ornamentation. Pronotum without whitish basal band. On each elytron, only four white circular spots: a small post-humeral, sublateral; a slightly larger sublateral postmedian; a very small just behind the second in the middle of the disc and a small

lateral at the beginning of the apical quarter". However, the species was not illustrated in the original description. Photographs of the holotype (Figs. 7–9) held in the Muséum national d'Histoire naturelle (MNHN) Paris, France are furnished here.

Discussion

Distribution. Based on the available information on the genus in India (Breuning 1942; 1958), all the three known species, including the new species, are limited to Kerala. Hence, it is likely that the genus in India is endemic to the southern Western Ghats. Intensive explorations are required to rediscover the poorly known *N. decemmaculatus* and *N. travancorensis* and establish the actual distribution and biology of the genus in India.

Host association. Adult feeding by species of Lamiinae is a common phenomenon. They feed on dead bark and different parts of live plants (Švácha & Lawrence 2014). However, host plants of the adult and larvae are not always the same. Information on host plants of the genus is scanty. In Australia, a *Notomulciber* sp. is reported to breed on dead parts of different palms (Slipinski & Escalona 2013), while in India, Nair *et al.* (1986) reported adults of *N. decemmaculatus* as leaf feeders on *Lagerstroemia microcarpa*. In the present study, *Helicteres isora* is provisionally reported as the adult host of *N. viraktamathi* **sp. nov.**

Behaviour. The coarsely faceted eyes suggest that *Notomulciber* is nocturnal. During day, adults of *N. viraktamathi* **sp. nov.** were found resting on foliage and twigs, displaying tergiversation and stridulation as defensive behaviour against predators. Of the two behavioural adaptations, tergiversation is the primary defence mechanism. When the former fails, they resort to stridulation which is the secondary defence mechanism. The first account of tergiversation was reported in *Oreodera glauca* (Linnaeus, 1758) by Silberglied & Aiello (1976), however, unlike in this species, the legs are held adducted to the body while tibiae are closely adpressed to the femora in *N. viraktamathi* **sp. nov.** Moreover, the illusion is augmented with the presence of bright eyespots on the elytra. Tergiversation is an effective strategy to escape from visually orienting predators. Eyespots on the elytra and the overall body posture possibly redirect the attack to less vital parts of the body so that the prey stands a chance to escape from the predator (Silberglied & Aiello 1976).

Genitalia. Characters of the male and female genitalia are extremely useful in the taxonomy of Cerambycidae (Kuboki 1981; Saito 1989 a & b, 1993; Sama 2008; Hernandez 1992; Yamasako & Ohbayashi 2011). However, they have not been adequately investigated in the genus. Only Slipinski & Escalona (2013) reported observations on female genitalia of *N. carpentariae*, a species belonging to the nominotypical subgenus, however, they did not provide illustrations. In the present study, both male and female genitalia of *N. viraktamathi* **sp. nov.** are described and illustrated.

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