

On Indian *Euxestus* Wollaston and a new Lapethine genus from India and Sri Lanka (Coleoptera: Cerylonidae)

by

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With 30 figures

ABSTRACT

A collection of Cerylonidae of Museum d'Histoire naturelle de Genève is worked out; *Euxestus* Wollaston is redescribed and Indian species are dealt; *Neolapethus orientalis* gen. et sp. n. is described and its relationship discussed; generic status of *Lytopeplus* Sharp and *Lapecautomus* Sengupta and Crowson are restored.

INTRODUCTION

The present work is based on a collection received from the Museum d'Histoire naturelle de Genève which consists of *Euxestus translucidus* (Motschulsky) and a new genus of Ceryloninae: Lapethini. In addition to above material some other collections and the 'types' of *E. translucidus* were examined for consolidation of the present work.

Subfamily EUXESTINAE Tribe EUXESTINI

The genus *Euxestus* was described by WOLLASTON (1858) based on *E. parki* Wollaston and was referred to the family Erotylidae. This status was retained upto the time of ARROW (1925). GROUVELLE (1908) introduced a subfamily Euxestinae under Colydiidae. SENGUPTA & CROWSON (1973) in their classification of Cerylonidae work recognised 3 subfamilies viz., Ceryloninae, Euxestinae and Murmiidinae under Cerylonidae and the combi-

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nation of Euxestinae was essentially different from that of GROUVELLE'S. *Euxestus* is a moderately large genus and predominantly found in the warmer parts of both the Old and New Worlds. HETSCHKO (1930) listed 2 species viz., *translucidus* (Motschulsky) (India, Sri Lanka) and *erithacus* Chevrolat (Border India, Sri Lanka) from the Indian subcontinent.

Genus *Euxestus* Wollaston

Euxestus Wollaston, 1858, *Ann. Mag. nat. Hist.* (3) 2: 411; type-*E. parki* Wollaston, by monotypy.

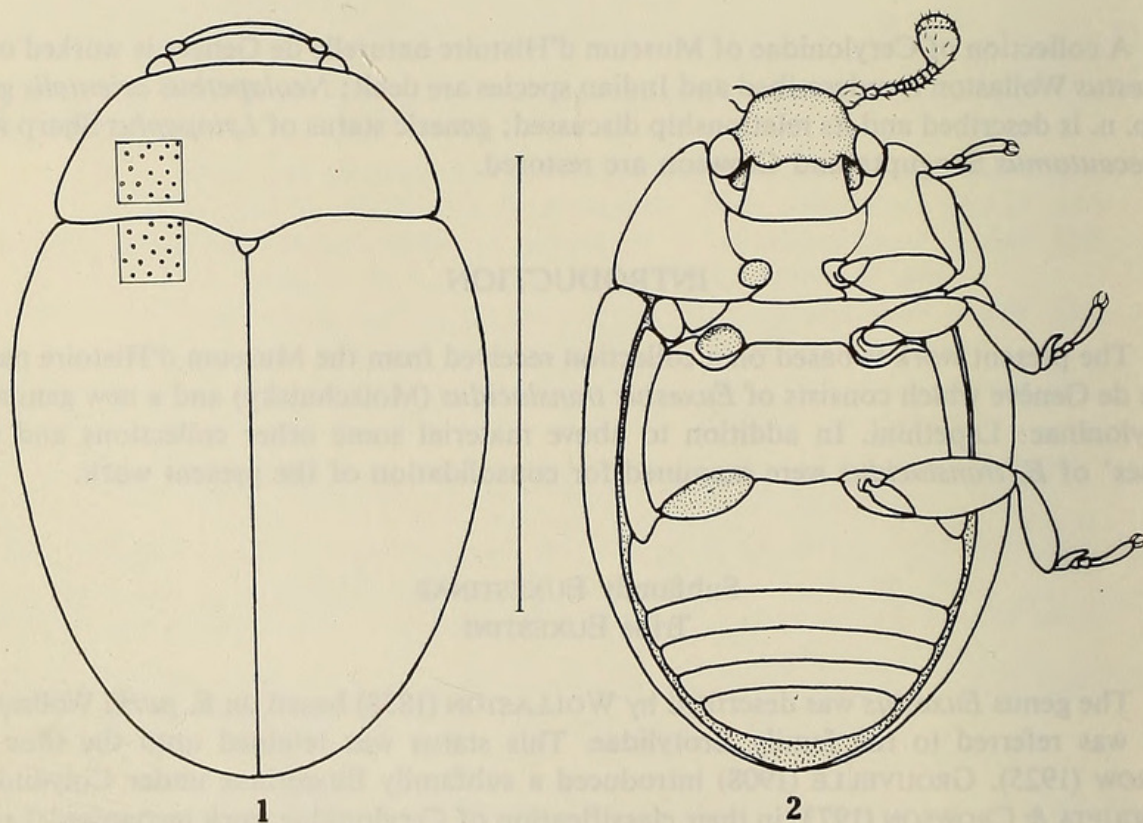
Tritomidea Motschulsky, 1859, *Etud. Ent.* 8: 104; type-*T. translucidus* Motschulsky.

Neoplotera Belon, 1881, *Annls Soc. Linn. Lyon* 29: 30; type-*N. peregrinus* Belon.

Description:

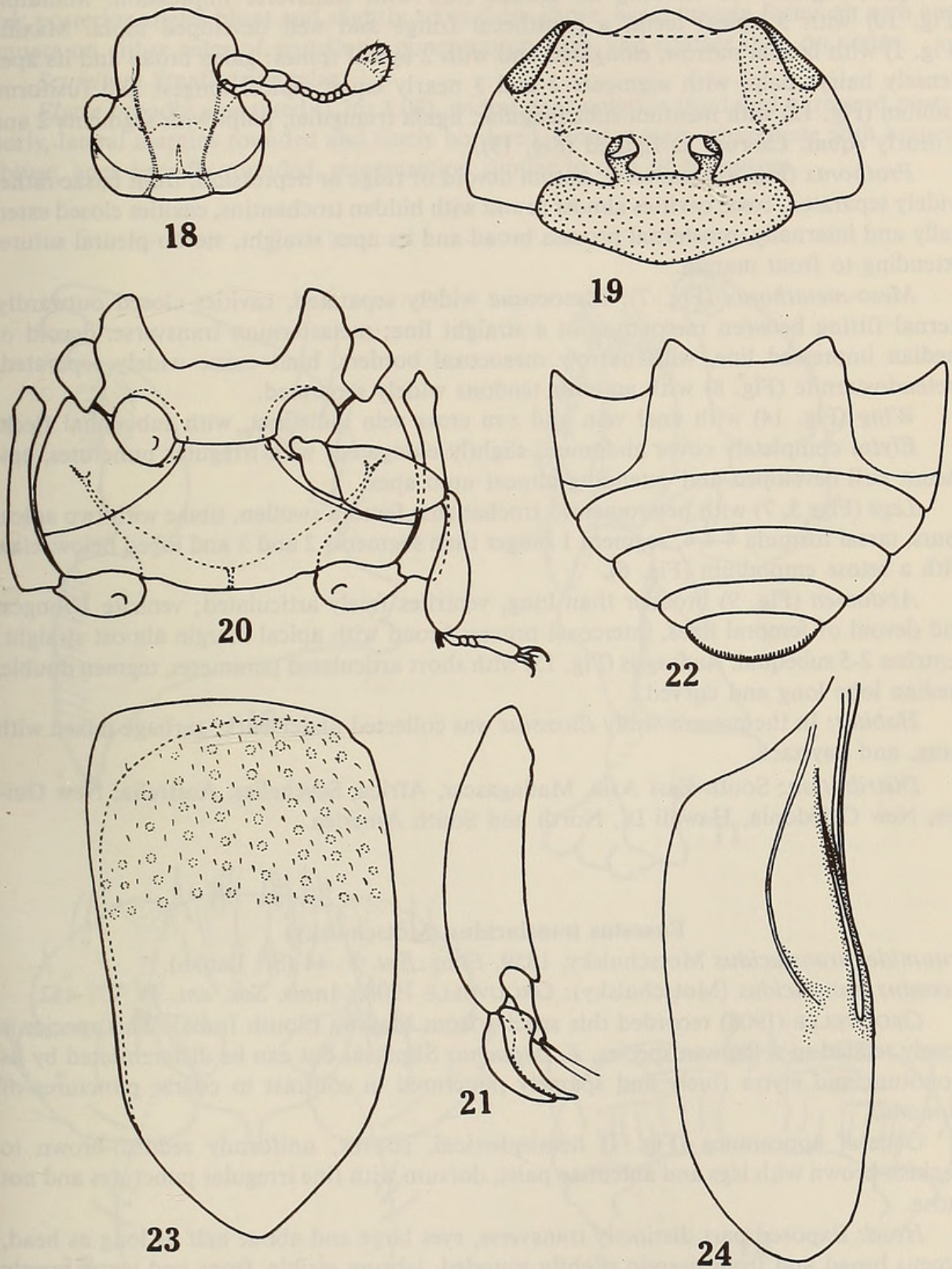
General appearance (Fig. 1) oval, convex, dorsal surface shining.

Head (Fig. 3) inclined downwards, transverse, distinctly narrower than prothorax, fronto-clypeal suture distinct, frons and vertex devoid of ridges or tubercles, antennal cavities by lower margin of eyes, gular sutures widely separated, transverse impressed line on gular region of head. Eyes large and coarsely faceted, transverse impressed line on vertex behind eyes absent. Tentorium with two long tentorial arms connected by corpora tentorium, with median tentorial process. Antenna 10-segmented, antennal insertions exposed, scape



FIGS. 1-2.

Euxestus translucidus (Motschulsky): 1, Dorsal view; 2, Ventral view (scale = 1 mm.).



FIGS. 3-9.

Euxestus translucidus (Motschulsky): 3, Head, dorsal view; 4, Prothorax, ventral view; 5, Front leg;
 6, Last tarsal segment; 7, Meso-metathorax, ventral view; 8, Metendosternite;
 9, Abdomen, ventral view.

moderately large, pedicel and segment 3 narrow and elongated, segments 4-9 short and subequal, segment 10 forming an abrupt club with transverse impression. Mandible (Fig. 10) with 3 apical teeth, a prosthecal fringe and well developed mola. Maxilla (Fig. 1) with lacinia narrow, elongated and with 2 apical spines; galea broad and its apex densely hairy; palpi with segments 2 and 3 nearly equal, apical longest and fusiform. Labium (Fig. 12) with mentum subtriangular, ligula triangular, palpi with segments 2 and 3 nearly equal. Labrum as figured (Fig. 13).

Prothorax (Fig. 4) transverse, notum devoid of ridge or depression, front coxae rather widely separated, coxal cavities almost round with hidden trochantins, cavities closed externally and internally, prosternal process broad and its apex straight, sterno-pleural sutures extending to front margin.

Meso-metathorax (Fig. 7): Mesocoxae widely separated, cavities closed outwardly, sternal fitting between mesocoxae in a straight line; metasternum transverse, devoid of median impressed line, with narrow mesocoxal borders, hind coxae widely separated; metendosternite (Fig. 8) with anterior tendons widely separated.

Wing (Fig. 14) with anal vein and r-m cross vein indistinct, with subcubital fleck.

Elytra completely cover abdomen, slightly elongated, with irregular punctures, epipleura well developed and extending almost upto apex.

Legs (Figs 5, 7) with heteromeroid trochanters, femora swollen, tibiae with two apical spurs, tarsal formula 4-4-4, segment 1 longer than segments 2 and 3 and lobed below, claw with a setose empodium (Fig. 6).

Abdomen (Fig. 9) broader than long, ventrites freely articulated; ventrite 1 longest and devoid of femoral lines, intercoxal process broad with apical margin almost straight; ventrites 2-5 subequal. Aedeagus (Fig. 15) with short articulated parameres, tegmen double, median lobe long and curved.

Habitat: In the present study *Euxestus* was collected under bark, garbage mixed with dung, and haystack.

Distribution: South-East Asia, Madagascar, Africa, Seychelles, Australia, New Guinea, New Caledonia, Hawaii Is., North and South America.

***Euxestus translucidus* (Motschulsky)**

Tritomidea translucidus Motschulsky, 1859, *Etud. Ent.* 8: 44 (Sri Lanka).

Euxestus translucidus (Motschulsky): GROUVELLE 1908, *Annls. Soc. ent. Fr.* 77: 452.

GROUVELLE (1908) recorded this species from Madura (South India). This species is closely related to a Papuan species, *E. papuanus* Ślipiński but can be differentiated by its pronotum and elytra finely and sparsely punctured in contrast to coarse punctures of *papuanus*.

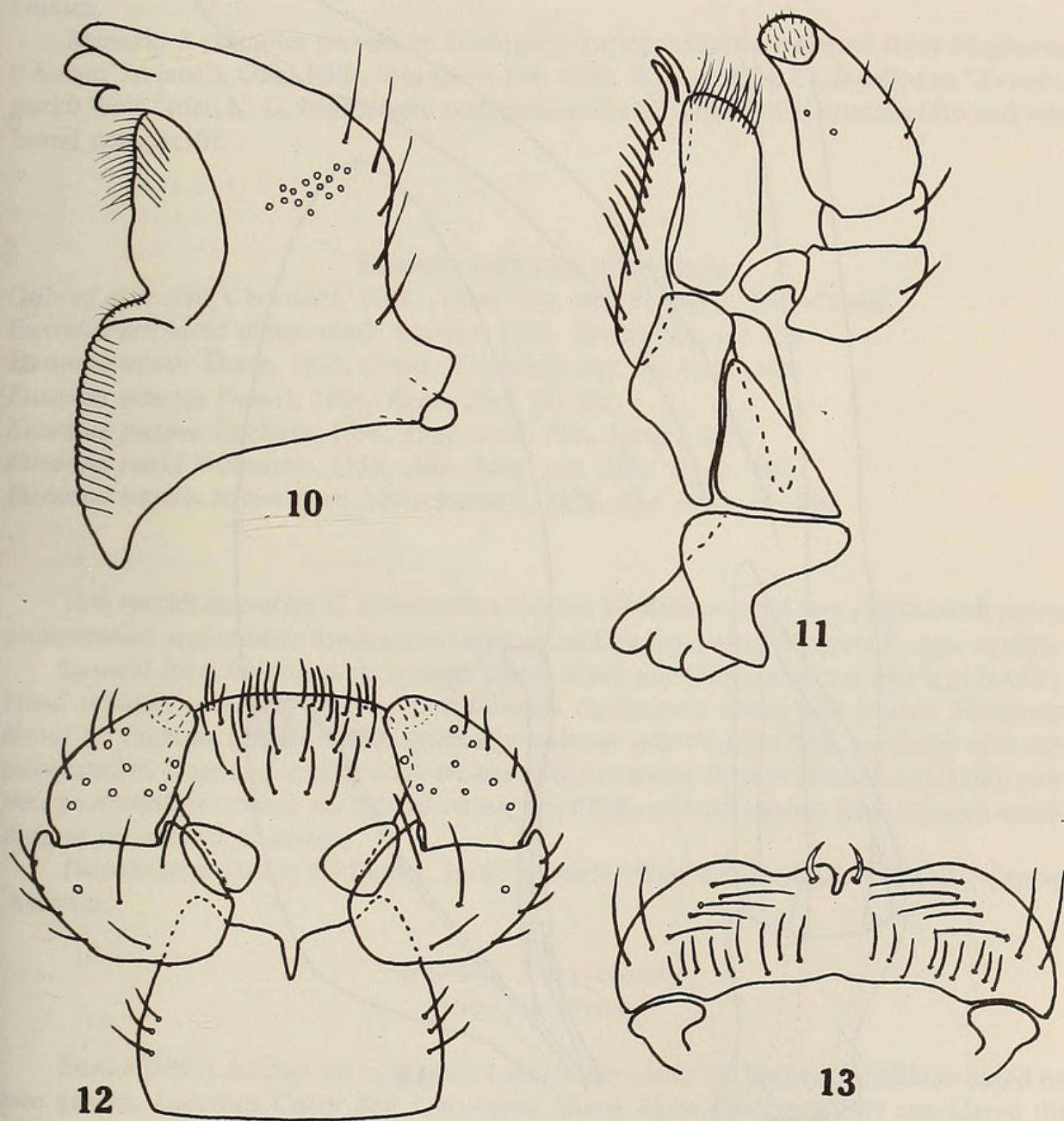
General appearance (Fig. 1) hemispherical, convex, uniformly reddish-brown to blackish-brown with legs and antennae paler, dorsum with fine irregular punctures and not setose.

Head: Exposed part distinctly transverse, eyes large and about half as long as head, clypeus broad and front margin slightly rounded, labrum visible, frons and vertex evenly convex, puncturation moderately coarse and dense, interspaces wider than punctures, puncturation on clypeus finer. Antenna moderately long, resting in antennal cavities in repose, scape moderately large and curved, pedicel and segment 3 shorter and narrower, segments 4-9 short and transverse, club about as broad as long with subapical transverse impression.

Prothorax transverse (1.00: 1.84), front margin broadly emarginate and wider posteriorly, front angles obtusely rounded; lateral margins rounded, smooth and finely bordered; posterior angles blunt and slightly acute from above, basal margin forms an arch and sinuate on either sides of scutellum, puncturation finer and sparser than on vertex.

Scutellum Small, triangular.

Elytra broadly elongated (1.26: 1.00), widest near anterior third and narrowed posteriorly, lateral margins rounded and finely bordered, front margin emarginate with humeri obtuse, apex broadly rounded, puncturation similar to that of pronotum.

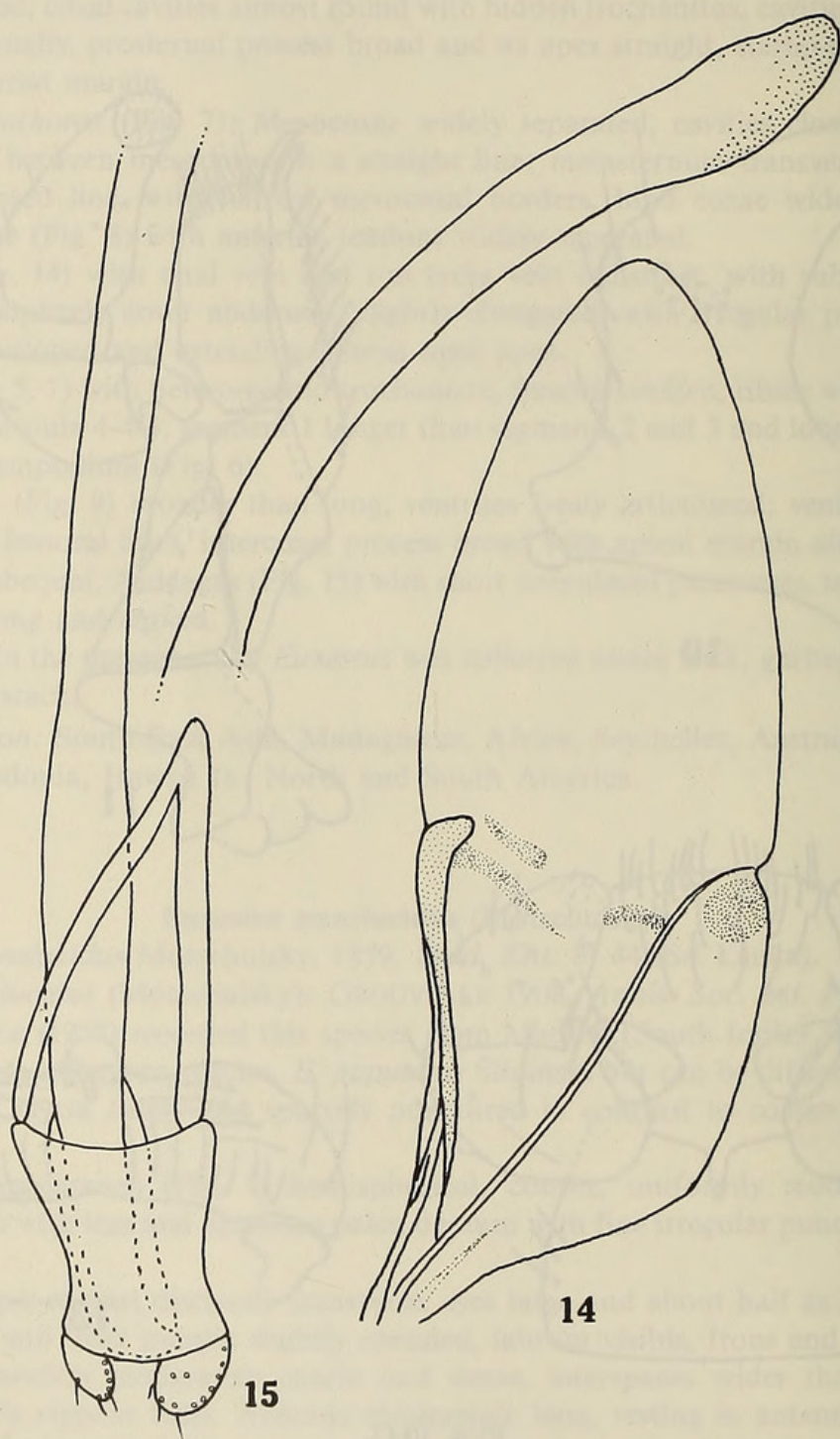


FIGS. 10-13.

Euxestus translucidus (Motschulsky): 10, Right mandible, dorsal view; 11, Maxilla; 12, Labium, ventral view; 13, Labrum.

On ventral side metasternum more than twice wider than long (1.00: 2.20), puncturation finer and sparser than on dorsum. Aedeagus (Fig. 15) with parameres about as broad as long with a few apical setae.

Measurements: Total length 1.98-2.20 mm., width of head across eyes 0.50-0.52 mm., length of antenna 0.49-0.52 mm., length and width of prothorax 0.49-0.51 and 0.93-0.96 mm., length and width of elytra 1.33-1.37 and 1.00-1.11 mm.



FIGS. 14-15.

Euxestus translucidus (Motschulsky): 14, Wing; 15, Aedeagus, dorsal view.

Material examined: 'Types', 9 ex., mounted on single flat board, locality data not present, labelled as *Tritomidea translucidus* Mots., 1 ex. dissected for study (Zoological Museum, University of Moscow); SRI LANKA, Central, Kandy, 600 m., 2 ex., 15.i.1970, Mussard-Besuchet-Löbl; North Western, Rajakadaluwa, 1 ex., 31.i.1970, Mussard-Besuchet-Löbl; INDIA: Tamil Nadu, Ooty, 2 ex., 4.iv.1977, T. Sengupta, haystack; West Bengal, Jalpaiguri dist., Dhupguri, 3 ex., 14.iv.1971, T. Sengupta, garbage with dung; Darjeeling dist., Kalimpong Umg., Bhakta Bahadur, 1 ex., 20.xi.1976; 24 Parganas dist., Ghatampur, 1 ex., vii.1982, S. S. Saha, under bark (3 ex. in Muséum d'Histoire naturelle de Genève and 7 ex. in Zoological Survey of India, Calcutta).

Distribution: India: West Bengal, Tamil Nadu, Meghalaya; Sri Lanka; Sumatra; New Guinea.

Remark: 5 examples present in Zoological Survey of India collected from Meghalaya ('Assam' in label), Garo Hills, Siju Cave, Feb. 1927, S. K. & B. N. C., labelled as '*Euxestus parkii* Woll.' (det. K. G. Blair), were compared with the 'types' of *E. translucidus* and were found conspecific.

***Euxestus erithacus* (Chevrolat)**

Olibrus erithacus Chevrolat, 1863, *Annls Soc. ent. Fr.* (4) 3: 599 (Cuba).

Euxestus erithacus (Chevrolat): FAUVEL 1895, *Revue Ent.* 14: 106.

Euxestus minor Sharp, 1885, *Trans. R. Dublin Soc.* (n. s.) 3: 145.

Euxestus acaciae Fauvel, 1894, *Revue Ent.* 10: 162.

Euxestus picipes Gorham, 1898, *Proc. zool. Soc. Lond.*: 336.

Euxestus parki Wollaston, 1858, *Ann. Mag. nat. Hist.* (3) 2: 411.

Euxestus basalis Arrow (nec. Motschulsky), 1926, *Ent. Mitt.* 15: 260.

This species resembles *E. translucidus* but can be distinguished by its elytra with coarse puncturation and reddish longitudinal spot ascending from apex of elytra to near middle.

General form oblong-oval, convex, pitchy black and shiny, antenna and legs reddish. Head reddish, markedly convex, puncturation moderately dense and coarse. Prothorax about 1.5 times as broad as long, gradually widened posteriorly, finely bordered with red, puncturation finer and sparser than on head. Elytra wider than prothorax, markedly convex, puncturation coarse, no sutural striae, a reddish spot occupying from tip and ascending as far as half of suture.

Distribution: India; Sri Lanka; Java; Sumatra; West Africa; Pacific Islands; Central America.

Subfamily CERYLONINAE Tribe LAPETHINI

SHARP (1895) defined the subfamily Lapethinae under the family Colydiidae based on two genera, *Lapethus* Casey and *Lytopeplus* Sharp. GANGLBAUER (1899) considered the group as a tribe under Murmidiinae and JEANNEL & PAULIAN (1945) added *Mychocerus* Erichson to this tribe. SENGUPTA & CROWSON (1973) transferred this tribe excluding *Mychocerus* to Ceryloninae. HINTON (1936) synonymised *Lytopeplus* with *Lapethus*, but SENGUPTA & CROWSON restored the generic status of *Lytopeplus* and added another genus, *Lapecautomus* Sengupta and Crowson. LAWRENCE & STEPHAN (1975) synonymised *Lyto-*

peplus and *Lapecautomus* with *Lapethus*. We, on re-evaluating the characters have resurrected the generic status of *Lytopeplus* and *Lapecautomus* and a new genus, *Neolapethus* is being added to this assemblage. This new genus can be distinguished from hitherto described genera of Lapethini by its 10-segmented antenna and wing devoid of any anal vein. The chief differences of *Neolapethus* with other lapethine genera are given below:

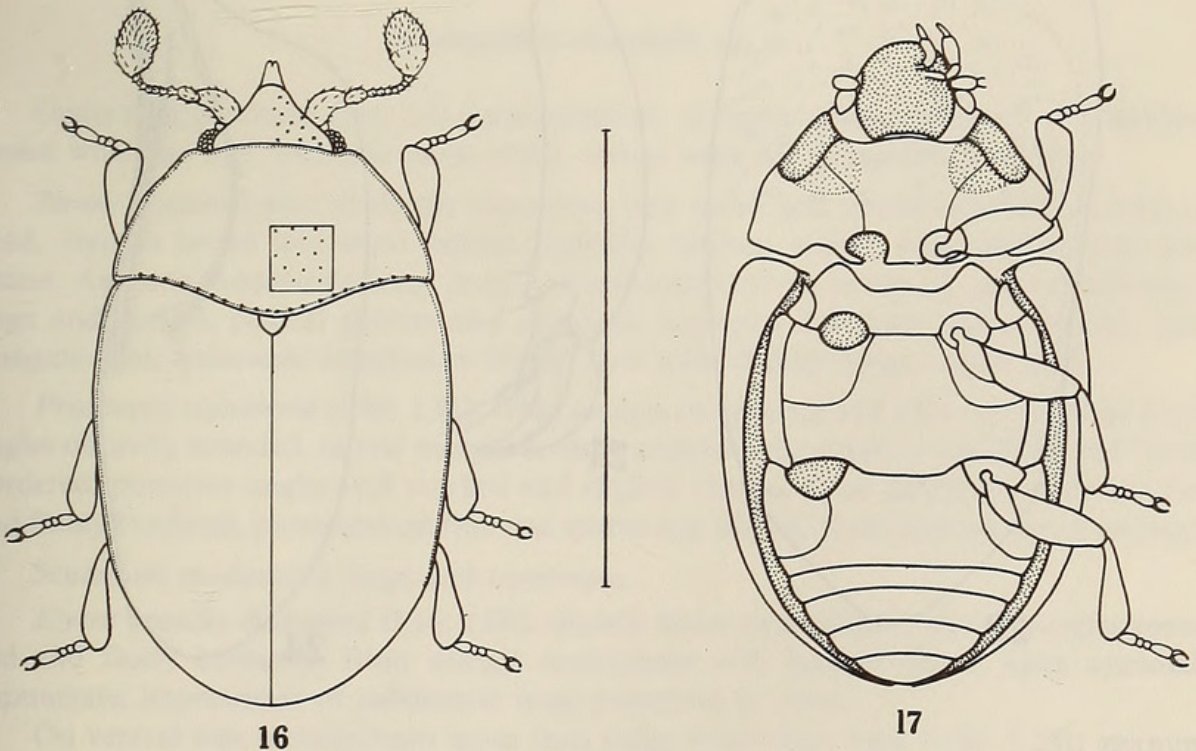
<i>Lapethus</i>	<i>Lytopeplus</i>	<i>Lapecautomus</i>	<i>Neolapethus</i>
1. Antenna 8-segmented	1. Antenna 8-segmented	1. Antenna 8-segmented	1. Antenna 10-segmented
2. Mouthparts non-piercing type	2. Mouthparts non-piercing type	2. Mouthparts piercing type	2. Mouthparts piercing type
3. Mandible moderately elongated and toothed at apex	3. Mandible moderately elongated and toothed at apex	3. Mandible markedly elongated and pointed at apex	3. Mandible markedly elongated, pointed with fine serration at apex
4. Labrum short and transverse	4. Labrum short and transverse	4. Labrum elongated, projecting and pointed at apex	4. Labrum elongated, projecting and pointed at apex
5. Ligula broad and transverse	5. Ligula broad and transverse	5. Ligula elongated and triangular	5. Ligula elongated and triangular
6. Front coxal cavities opened	6. Front coxal cavities closed	6. Front coxal cavities opened	6. Front coxal cavities opened
7. Elytra with distinct rows of punctures	7. Elytra with distinct rows of punctures	7. Elytra with distinct rows of punctures	7. Elytra glabrous, but impression of rows of subdermal punctures
8. Wing with single anal vein	8. Wing with single anal vein	8. Wing with single anal vein	8. Wing devoid of anal vein
9. Distribution: North and South America, Australia, New Caledonia, Seychelles, Madagascar, Abyssinia	9. Distribution: Central America	9. Distribution: North and Central America	9. Distribution: Oriental (India, Sri Lanka)

Neolapethus gen. n.*Description:*

General appearance (Fig. 16) elongate-oval, convex, dorsal surface shining and almost glabrous.

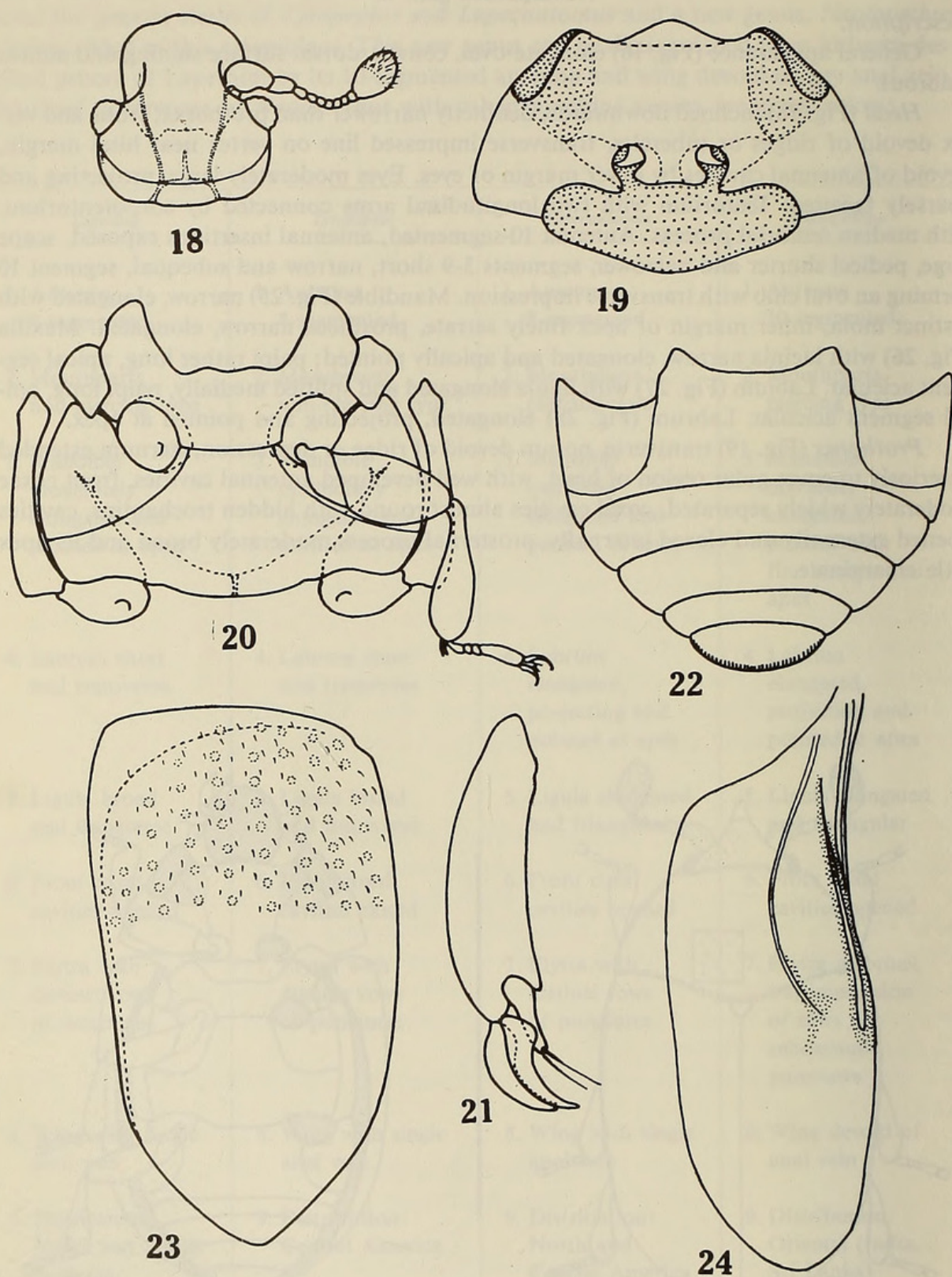
Head (Fig. 18) inclined downwards, distinctly narrower than prothorax, frons and vertex devoid of ridges or tubercles, transverse impressed line on vertex near hind margin, devoid of antennal cavities by lower margin of eyes. Eyes moderately large, projecting and coarsely faceted. Tentorium with two longitudinal arms connected by corpotentorium, with median tentorial process. Antenna 10-segmented, antennal insertions exposed, scape large, pedicel shorter and narrower, segments 3-9 short, narrow and subequal, segment 10 forming an oval club with transverse impression. Mandible (Fig. 25) narrow, elongated with distinct mola, inner margin of apex finely serrate, prostheca narrow, elongated. Maxilla (Fig. 26) with lacinia narrow, elongated and apically pointed; palpi rather long, apical segment acicular. Labium (Fig. 27) with ligula elongated and splitted medially, palpi long, apical segment acicular. Labrum (Fig. 28) elongated, projecting and pointed at apex.

Prothorax (Fig. 19) transverse, notum devoid of ridge or depression, sternum extended anteriorly to cover gular region of head, with well developed antennal cavities, front coxae moderately widely separated, coxal cavities almost round with hidden trochantins, cavities opened externally and closed internally, prosternal process moderately broad and its apex little emarginate.



FIGS. 16-17.

Neolapethus orientalis sp. n.: 16, Dorsal view; 17, Ventral view (scale = 1 mm.).



FIGS. 18-24.

Neolapethus orientalis sp. n.: 18, Head, dorsal view; 19, Prothorax, ventral view; 20, Mesometathorax, ventral view; 21, Last tarsal segment; 22, Abdomen, ventral view; 23, Left elytron, dorsal view; 24, Wing.

Meso-metathorax (Fig. 20): Mesocoxae widely separated, cavities closed outwardly, sternal fitting between mesocoxae in a straight line; metasternum transverse, devoid of median impressed line, femoral lines well developed, hind coxae widely separated; metendosternite with anterior tendons short and widely separated.

Wing (Fig. 24) devoid of anal vein, r-m cross vein and subcubital fleck.

Elytra completely cover abdomen, slightly elongated, glabrous but impression of 9 rows of punctures on each elytron, epipleura well developed and complete almost upto apex.

Legs with trochanters simple and elongated, femora swollen towards middle, tibiae broadened at apex and with two apical spurs, tarsal formula 4-4-4, segment 1 longer than segments 2 and 3, claw with bisetose empodium (Fig. 21).

Abdomen (Fig. 22) broader than long, ventrites freely articulated; ventrite 1 longest, femoral lines well developed, intercoxal process broad with apical margin little emarginate; ventrites 2-5 short and subequal, posterior margin of ventrite 5 crenulate. Aedeagus with long, curved and apically dilated median lobe in lateral view, parameres absent (Fig. 29). Ovipositor (Fig. 30) with a pair of paraprocts, valvifers, coxites and styli attached on apex of coxites.

Habitat: No data is given with the specimen labels, most probably collected from forest litter by Berlese funnel.

Distribution: India, Sri Lanka.

Type-species: *Neolapethus orientalis* sp. n.

***Neolapethus orientalis* sp. n.**

General appearance (Fig. 16) hemispherical, convex, yellowish-brown to blackish-brown with legs and antennae paler, shiny, dorsal with fine, irregular punctures.

Head: Exposed part distinctly transverse, eyes small and about one-fifth as long as head, clypeus broad and front margin rounded, labrum visible, puncturation fine and sparse. Antenna moderately long, resting in antennal cavities in repose, scape moderately large and curved, pedicel shorter and narrower, segments 3-9 short and subequal; club elongate-oval, transverse impression bisects club with slightly larger upper half.

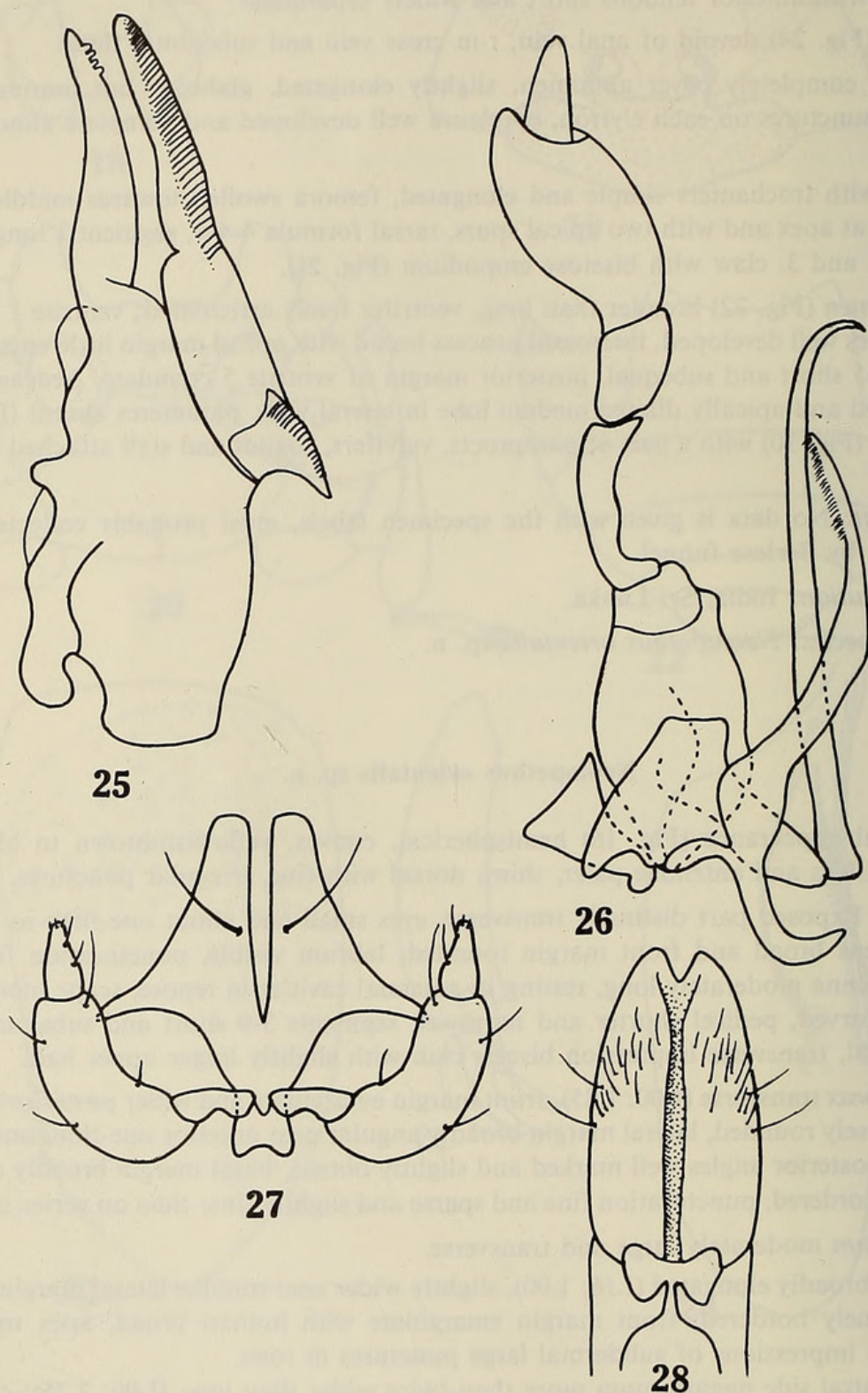
Prothorax transverse (1.00: 1.85), front margin emarginate and wider posteriorly, front angles obtusely rounded, lateral margin broadly angular near anterior one-third and finely bordered, posterior angles well marked and slightly obtuse, basal margin broadly angular and finely bordered, puncturation fine and sparse and slightly finer than on vertex of head.

Scutellum moderately large and transverse.

Elytra broadly elongated (1.16: 1.00), slightly wider near middle, lateral margins rounded and finely bordered, front margin emarginate with humeri broad, apex rounded, impunctate, impressions of subdermal large punctures in rows.

On ventral side metasternum more than twice wider than long (1.00: 2.25); sternum and ventrites impunctate.

Measurements of holotype: Total length 1.39 mm., width of head across eyes 0.29 mm., length of antenna 0.27 mm., length and width of prothorax 0.38 and 0.71 mm., length and width of elytra 0.95 and 0.77 mm.

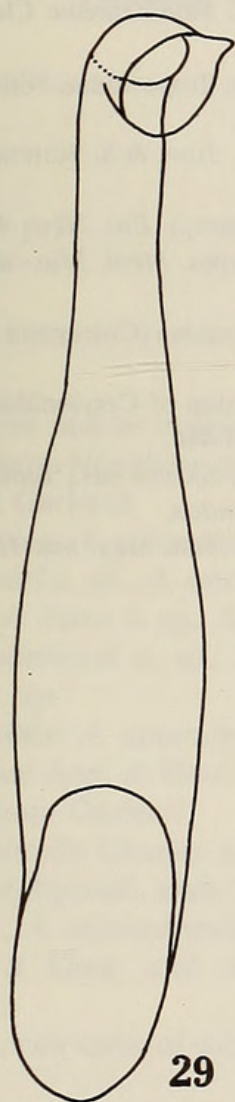


FIGS. 25-28.

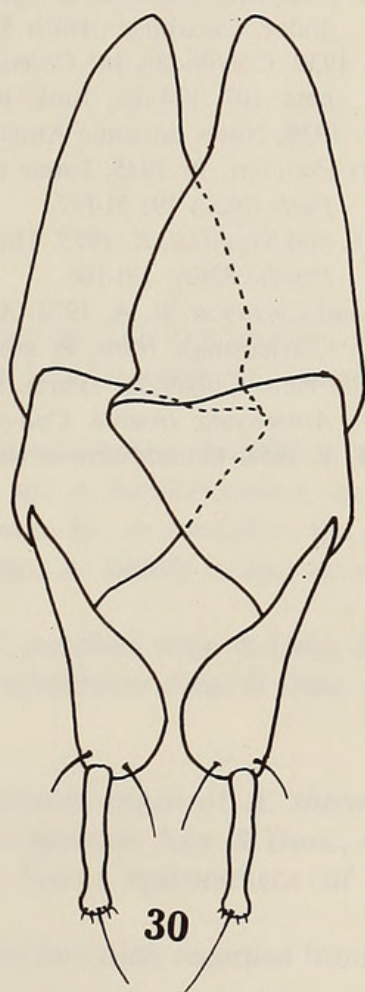
Neolapethus orientalis sp. n.: 25, Left mandible, dorsal view; 26, Maxilla;
27, Labium, ventral view; 28, Labrum.

Holotype: SRI LANKA, Central, Kandy, 700 m., 14.ii.1970, Mussard-Besuchet-Löbl;
Paratypes: 4 ex., data same as holotype, 16.ii.1970; 1 ex., Kandy, 600 m., 15.i.1970, Mussard-Besuchet-Löbl; 1 ex., Western, Gampaha, 5.xii.1972, Mussard-Besuchet-Löbl; 1 ex., North Western, Rajakadaluwa, 31.i.1978, Mussard-Besuchet-Löbl; 6 ex., INDIA: Tamil Nadu, Anaimalai H., 18 km. N. Valparai, 1250 m., Besuchet-Löbl-Mussard; 8 ex., Kerala, Cardamon H., Multapaltipres Munnar, 1700 m., 24.xi.1972, Besuchet-Löbl-Mussard; 1 ex., Cardamon H., Munnar, 1900 m., 26.xi.1972, Besuchet-Löbl-Mussard; 2 ex., Kerala, Nelliampathi Hills, Kaikalty, 900 m., 30.xi.1972, Besuchet-Löbl-Mussard. (Holotype and 12 Paratypes in Muséum d'Histoire naturelle de Genève and 12 Paratypes in Zoological Survey of India).

Distribution: Sri Lanka; India: Tamil Nadu, Kerala.



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FIGS. 29-30.

Neolapethus orientalis sp. n.: 29, Aedeagus, dorsal view; 30, Ovipositor.

ACKNOWLEDGEMENTS

The authors wish to express their sincere thanks to Dr. I. Löbl of Muséum d'Histoire naturelle, Genève who kindly provided them an opportunity to examine this interesting collection of Cerylonidae, to Dr. S. Kelneikova of Zoological Museum, Moscow University who lent the 'type' material of *Tritomidea translucidus* Motschulsky. They are grateful to the Director, Zoological Survey of India, for providing laboratory facilities. The Council of Scientific and Industrial Research, New Delhi, awarded a post-doctoral Research Associateship to one of them (Pal) for undertaking this work, is also duly acknowledged.

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