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Review of the *Anotylus rufus* species group

(Insecta: Coleoptera: Staphylinidae: Oxytelinae)

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Abstract

The *Anotylus rufus* species group, formerly known only from the island of "Ceylon" is re-examined. The following new synonyms are proposed: *Anotylus rufus* (Kraatz, 1859) = *Oligota niobe* Fernando, 1959, syn.n, = *Deinopsis henryi* Fernando, 1960, syn.n. and *Oxytelus migrator* Fauvel, 1904 = *Deinopsis butschlii* Fernando, 1960, syn.n. All species are illustrated by colour photos of habitus and line drawings of male terminalia and genitalia and female genitalia.

Key words: Coleoptera, Staphylinidae, Oxytelinae, *Anotylus*, *Oxytelus*, taxonomy, new synonymy, Oriental Region, India, Sri Lanka.

Zusammenfassung

Die *Anotylus rufus*-Gruppe, früher nur von der Insel „Ceylon" bekannt, wird erneut untersucht. Die folgenden Synonyme werden vorgeschlagen: *Anotylus rufus* (Kraatz, 1859) = *Oligota niobe* Fernando, 1959, syn.n. = *Deinopsis henryi* Fernando, 1960, syn.n. und *Oxytelus migrator* Fauvel, 1904 = *Deinopsis butschlii* Fernando, 1960, syn.n. Der Habitus aller Arten wird durch Farbfotos dargestellt, die Genitalien und Terminalia durch Strichzeichnungen.

Introduction

The genus *Anotylus* Thomson, 1859 contains more than 400 described species worldwide and is known for its extreme diversity. The *A. rufus* species group, originally established in Hammond (1975a) – a review of species from Ceylon – from the southern part of the Indian Subcontinent is reinvestigated. The group was originally recognized with four species, which is unchanged here and seems to be endemic to this area. This species group is separated by the absence of occipital furrow on the dorsum of the head and characteristically angled protuberances on the vertex of the head but these (especially the latter) are conspicuous in well developed male specimens only, in lesser developed ones and females it might be difficult to make a distinction.

Within the framework of the present contribution a trio of names published from Ceylon by Wilfried Fernando in 1959–60 are dealt with. These taxa were originally published in genera belonging to the subfamily Aleocharinae, but were subsequently transferred to Oxytelinae (Hammond 1975b and Williams 1978). The original material is not available for study but the descriptions appeared with scaled illustrations of the type specimens that allow establishment of synonymies with known species. Besides two names already in *Anotylus*, a third taxon, in the genus *Oxytelus* Gravenhorst, 1802 is put into synonymy (see under *Anotylus rufus*).

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Materials and Methods

Most of the material comes from a few collections where sifted material from the Oriental Region is abundant. Abbreviations of the depositories of the specimens are as follows:

BMNH	The Natural History Museum (London, United Kingdom)
FMNH	Field Museum of Natural History (Chicago, USA)
MHNG	Muséum d'histoire naturelle, Genève (Switzerland)
MZLU	Museum of Zoology, Lund University (Sweden)
NHMW	Naturhistorisches Museum Wien (Vienna, Austria)
SDEI	Senckenberg Deutsches Entomologisches Institut (Müncheberg, Germany)

Label data for primary types are listed verbatim, "\" separates labels and ";" separates lines. Text within brackets "[...]" is explanatory and not included in the original labels. An effort was made to supplement locality data with bionomical information recorded by the collectors and geographical coordinates using GoogleEarth. The latter should be considered as best approximation based on the available resources and not as hard data. Measurements are defined as follows: HW = head width with eyes; TW = head width at temples; PW = maximum width of pronotum; SW = approximate width of shoulders; AW = maximum width of abdomen; HL = head length from front margin of clypeus to the beginning of neck at middle-line; EL = eye length; TL = length of temple; PL = length of pronotum in the middle-line; SL = length of elytra from shoulder; SC = length of elytra from hind apex of scutellum; FB = forebody length (combined length of head, pronotum and elytra); BL = approximate body length. All measured from dorsal view. For descriptions and measurements a Leica MZ 12.5 stereoscopic microscope was used. For the line drawings permanent preparations were made in Euparal mounting medium on plastic cards pinned with the specimens. The genital preparation techniques are detailed in Makranczy (2006). Drawing was done with a Jenalab (Carl Zeiss, Jena) compound microscope and drawing tube (camera lucida). For the colour habitus photographs a Nikon D4 camera and Novoflex bellows were used with a reverse mounted Rodenstock 50/2.8 Apo-Rodagon N lens, for smaller specimens Mitutoyo 5/0.14 Apo ELWD lense. Resulting images are focus stacks, aligned and stacked with ZereneStacker.

Key to species of the *Anotylus rufus* group

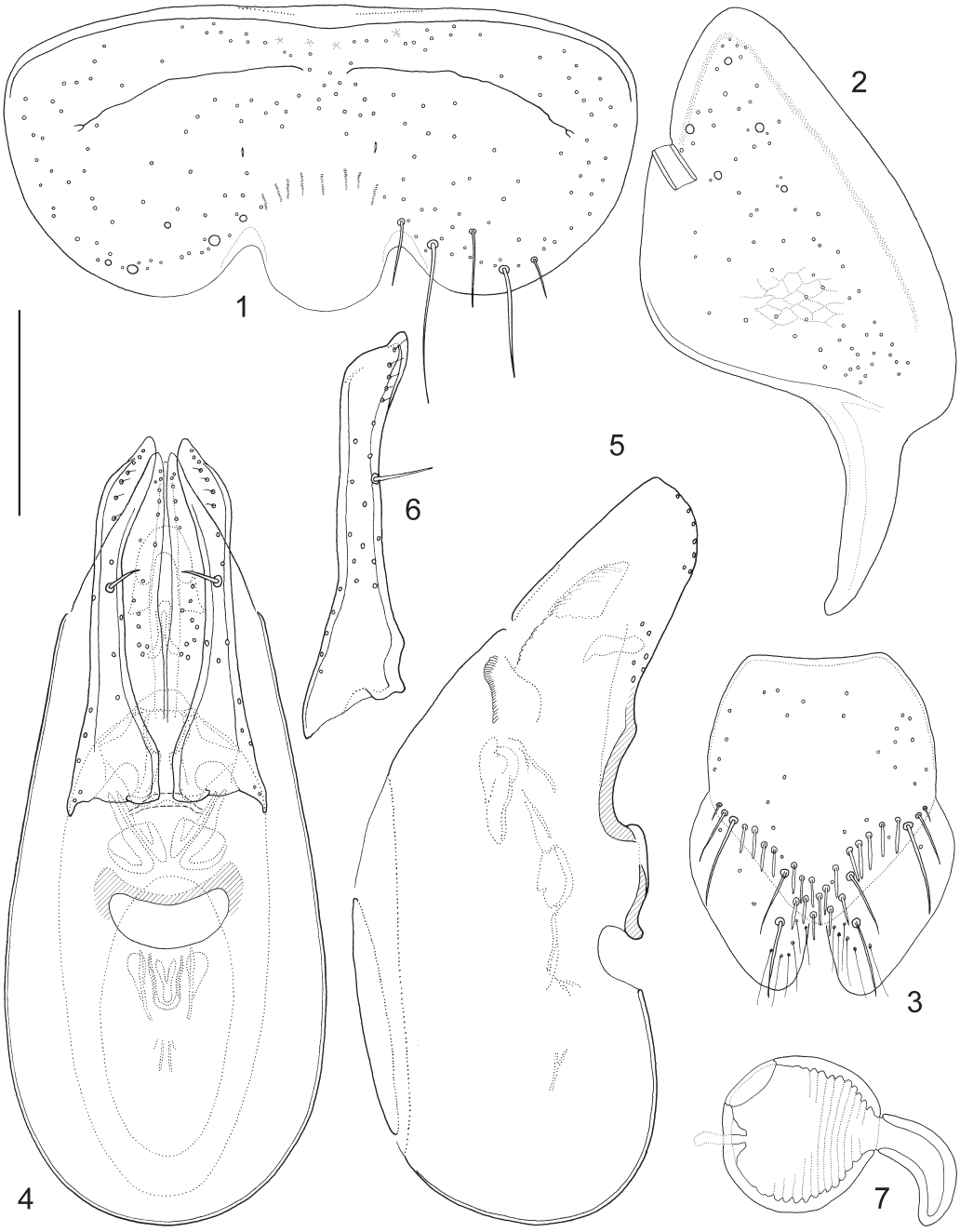
1	Larger species (PW > 0.75 mm). Posterior angles of pronotum conspicuously protruding well beyond the curve of pronotal side [Sri Lanka] ..... ***A. loebli***
-	Smaller species (PW < 0.75 mm). Posterior angles of pronotum insignificantly protruding **2**
2	On pronotum longitudinal strigosity dominant over punctation, lighter coloured species, more yellowish-reddish [Sri Lanka, S-India]..... ***A. rufus***
-	On pronotum punctation or nonlinear strigosity dominant over longitudinal strigosity, darker coloured species, predominantly dark brown with reddish tint..... **3**
3	Abdominal tergites shallowly but distinctly punctured [Sri Lanka]..... ***A. distincticollis***
-	Abdominal tergites with insignificant punctation [Sri Lanka] ..... ***A. besucheti***

Anotylus besucheti HAMMOND, 1975
(Figs 1–7, 29–30)

Anotylus besucheti HAMMOND, 1975a: 166; HERMAN 2001: 1340.

Studied type material: Holotype (♂): "[on mounting card:] ♂ \ Holo-; type [red margined disc] \ Ceylan Central \ S/Hasalaka-Weragamtota \ 11.II.70. 250m.[7°20.5'N 80°58.0'E]; Mussard Besuchet Löbl; [on the back, in pencil:] 59 \ Anotylus; besucheti sp. n.; P.M. Hammond; det.1971; Holotype ♂" (MHNG); **Paratypes** (26): Central prov., Hasalaka près de Weragamtota, ca. 250 m, 11.II.1972, leg. C. Besuchet, I. Löbl & R. Mussard ("59"), sifting in forest (1 ♀, MHNG); Central prov., above Talatuoya between 850 and 1000 m, 27.I.1970, leg. C. Besuchet, I. Löbl & R. Mussard ("27a"), sifting in forest remains (1 ♀, MHNG); Central prov., Hanguranketa, 750 m, 27.I.1970, leg. C. Besuchet, I. Löbl & R. Mussard ("28"), barks and bracket fungus of an old tree stump (1 ♀, MHNG); Central prov., Hakgala, 1700–1800 m, 28.I.1970, leg. C. Besuchet, I. Löbl & R. Mussard ("30a"), sifting in a wooded ravine on NE slope of mountain (1 ♀, MHNG); Central prov., Hatton, 1400 m, wooded mountain east of city, 27.I.1970, leg. C. Besuchet, I. Löbl & R. Mussard ("55a"), sifting in forest (3 ♂♂, 3 ♀♀, MHNG); North Central prov., 2 mi N Medawachchiya, 750 m, 6.II.1970, leg. C. Besuchet, I. Löbl & R. Mussard ("51b"), sifting in forest (1 ♂, MHNG); Northern prov., Nedunleni 6.II.1970, leg. C. Besuchet, I. Löbl & R. Mussard ("49"), sifting in forest (1 ♀, MHNG); Uva prov., Haputale, 1350 m, 23.I.1970, leg. C. Besuchet, I. Löbl & R. Mussard ("19"), sifting in a wooded ravine (6 ♂♂, 7 ♀♀, MHNG, 1 ♂, FMNH, 1 ♂, NHMW).

Redescription: Measurements (in mm, ♂): HW = 0.63 (0.54–0.71); TW = 0.66 (0.535–0.74); PW = 0.67 (0.58–0.71); SW = 0.66 (0.59–0.71); AW = 0.69 (0.61–0.76); HL = 0.45 (0.36–0.51); EL = 0.15 (0.14–0.16); TL = 0.23 (0.15–0.27); PL = 0.43 (0.38–0.45); SL = 0.54 (0.47–0.58); SC = 0.50 (0.43–0.54); FB = 1.45 (1.24–1.58); BL = 2.70 (2.49–2.93) (n=5); (♀): HW = 0.51 (0.47–0.54); TW = 0.49 (0.46–0.52); PW = 0.58 (0.54–0.61); SW = 0.60 (0.55–0.63); AW = 0.68 (0.61–0.73); HL = 0.34 (0.31–0.36); EL = 0.135 (0.13–0.14); TL = 0.11 (0.10–0.12); PL = 0.40 (0.36–0.42); SL = 0.49 (0.45–0.53); SC = 0.45 (0.41–0.49); FB = 1.25 (1.14–1.33); BL = 2.49 (2.34–2.61) (n=5). Habitus as in Fig. 29 (male) and Fig. 30 (female). Moderately lustrous, well-developed males with shiny anterior head, rest of forebody with strong sculpture yet shiny interspaces making it less dull, abdominal tergites impunctate with distinct, strongly transverse coriaceous microsculpture. Body reddish medium to dark brown, head sometimes darker, supraantennal prominences lighter, orangish. Legs medium brown, mouthparts and bases of antennae reddish medium brown, apical half of antenna darker. Head transverse, temples broadly rounded, occipital furrow absent, demarcation of vertex and neck marked by constriction and fine areolate-rugose microsculpture of neck. Anterior margin of clypeus with very slightly sinuous fine marginal bead, clypeus smooth and without punctures, posteriorly with gentle transversal impression laterally almost reaching anterior margin of eye. Marginal bead of supraantennal tubercles continuing at inner margin of eye with very fine ridge turning to temples and almost imperceptably sticking out, and a furrow from supraantennal prominence to 3/4 length of eye. Vertex of head with (obtuse-angled) angular protuberance near inner margin of eye; anterior half of vertex smooth almost without punctures, in posterior half punctures larger and deep, superficially elongate and confluent, forming longitudinal strigae, medial posterior punctures more discrete. Head with small bristles behind supraantennal tubercles (near anterior edge of eye) and on vertex at around middle of temple. Antenna with basal dish from segment 5, more prominent from 6th, penultimate antennomeres transverse (8th most strongly). Pronotum transverse, sides slightly curved (more anteriorly than posteriorly), narrowed to base, posterior angles obtuse-angled and slightly sticking out, anterior angles narrowly rounded. Sides double-edged, outer one slightly crenulate, inner



Figs 1–7: *Anotylus besucheti*: 1) male sternite VIII; 2) male tergite IX; 3) male tergite X; 4) aedeagus, frontal view; 5) median lobe, lateral view; 6) paramere, lateral view; 7) spermatheca. Scale bar = 0.06 mm (7), 0.10 mm (4–6), 0.12 mm (3), 0.14 mm (2), 0.15 mm (1).

keel almost parallel. Disc surface punctate-strigose, with punctures dominant, although some punctures superficially confluent in furrows and interspaces forming strigae; more shallowly and sparsely sculptured towards sides. Pronotum with indistinct median furrow only in approximately anterior third of length, tiny bristles on medially slightly forward curving anterior margin (1/3 distance from midline) and before posterior corners. Elytra with narrowly rounded shoulders, sides slightly dilating, gently curved (more posteriorly than anteriorly), hind margins almost straight with thin marginal bead. Sutural ridges smooth and slightly elevated, disc deeply punctate, superficially strigose, laterally with sharper strigae. Legs moderately elongate, protibia with barely noticeable preapical constriction, with row of stronger spines, rather evenly (sparsely) spaced on apical 2/3, pro- and mesotibia with several spinulose rows, metatibia also with longitudinal ctenidium of spinules in distal 3/5. Abdomen with sides very slightly arcuate, strongly constricting in apical third, mesal paratergites moderately broad, posterior edge of tergite VII with thin palisade fringe, male sternite VIII as in Fig. 1, tergite IX as in Fig. 2, tergite X as in Fig. 3 and aedeagus as in Figs 4–6. Female spermatheca as in Fig. 7.

Bionomics: This species lives in forest litter or humus at a relatively wide range of altitudes (150–1800 m) and was collected by sifting.

Distribution: Only known from Sri Lanka (Central, North Central, Northern and Uva provinces).

Remarks: The holotype is a very weakly developed ("minor") male. The Northern prov. female was identified by P. Hammond in 1975 (not labelled as type) but was listed as paratype in the original description.

Anotylus distincticollis (CAMERON, 1919)
(Figs 8–14, 31–32)

Oxytelus (*Anotylus*) *distincticollis* CAMERON, 1919: 226; CAMERON 1930: 258.
Anotylus distincticollis: HERMAN 1970: 418, 2001: 1350; Hammond 1975a: 168.

Studied type material: Holotype (♀): "Type [red margined disc, curator label] \ Bogawantalawa.; 4,900–5,200 ft. [6°47'N 80°40'E]; 28.II-12.III.[18]82. \ Ceylon.; G. Lewis.; 1910-320. \ Oxytelus; distincticollis m; Type \ Anotylus; distincticollis (Cameron); det. Makranczy, 2017" (BMNH).

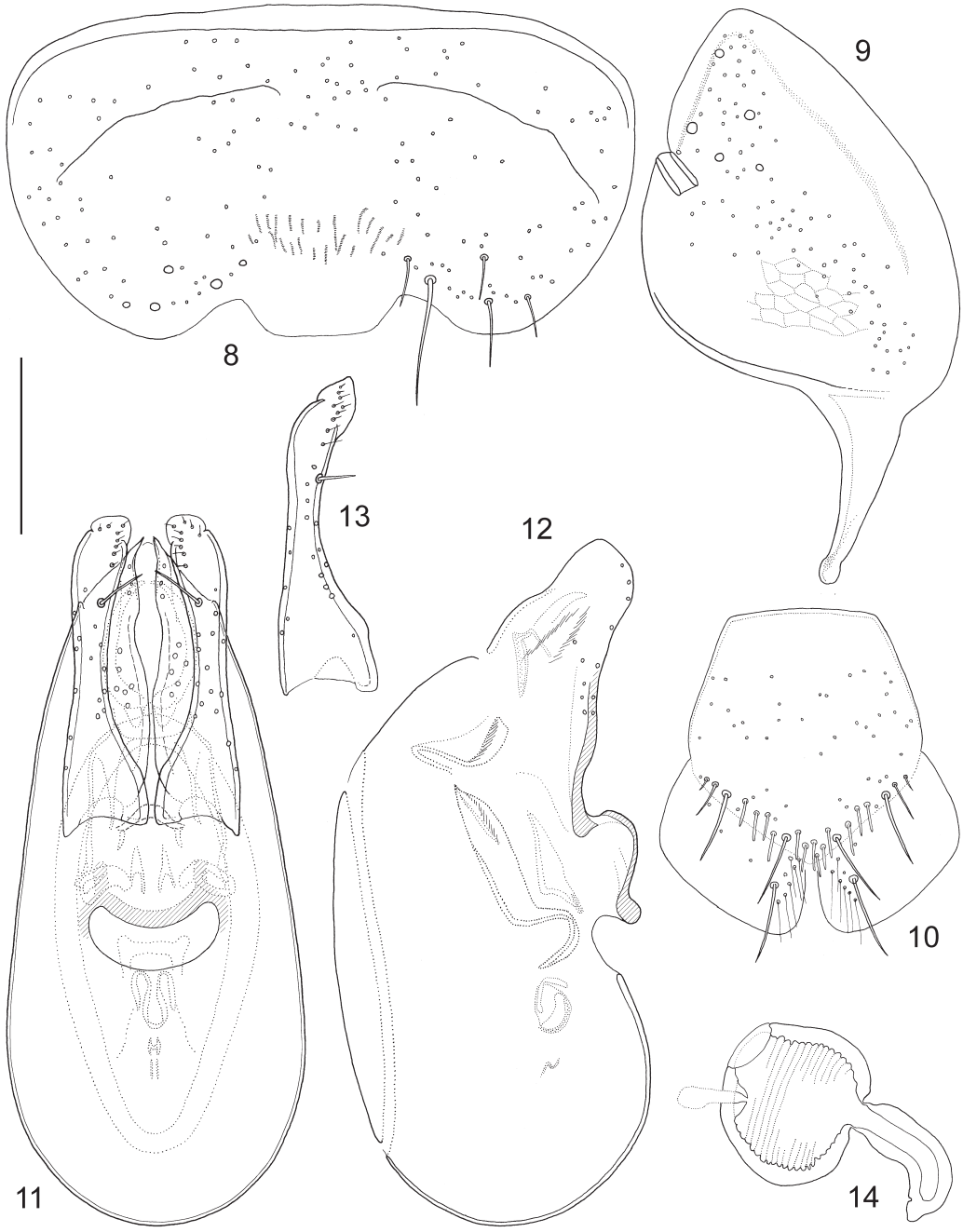
Redescription: Measurements (in mm, ♂): HW = 0.74; TW = 0.78; PW = 0.74; SW = 0.78; AW = 0.81; HL = 0.55; EL = 0.16; TL = 0.30; PL = 0.48; SL = 0.70; SC = 0.65; FB = 1.76; BL = 3.15 (n=1); (♀): HW = 0.58 (0.54–0.62); TW = 0.57 (0.52–0.60); PW = 0.67 (0.61–0.70); SW = 0.73 (0.68–0.78); AW = 0.86 (0.80–0.89); HL = 0.42 (0.38–0.45); EL = 0.14 (0.13–0.15); TL = 0.17 (0.15–0.18); PL = 0.47 (0.44–0.50); SL = 0.64 (0.60–0.69); SC = 0.60 (0.56–0.65); FB = 1.56 (1.48–1.65); BL = 3.17 (3.00–3.32) (n=5). Habitus as in Fig. 31 (male) and Fig. 32 (female). Moderately lustrous, well-developed males with shiny anterior head, rest of forebody with strong sculpture yet shiny interspaces make it less dull, abdominal tergites with very shallow but distinct punctures, apically traces of transverse coriaceous microsculpture. Head blackish dark brown with reddish tint and slightly lighter, reddish supraantennal prominences. Abdomen and pronotum reddish dark brown, latter lighter laterally. Elytra infuscate medium brown, legs medium brown. Mouthparts and bases of antennae reddish medium brown, antenna apically darker, blackish. Head transverse, temples broadly rounded, occipital furrow absent, demarcation of vertex and neck marked by constriction and

fine areolate-rugose microsculpture of neck. Anterior margin of clypeus bordered by insignificant marginal bead, clypeus smooth and without punctures, posteriorly with gentle transversal impression laterally almost reaching anterior margin of eye. Marginal bead of supraantennal tubercles continuing at inner margin of eye in conspicuous ridge till 2/3 eye length, becoming more slight but turning to temples and sticking out from its otherwise even curve; the furrow from supraantennal prominence reaching posterior edge of eye. Vertex of head with (very obtuse-angled) angular protuberance near inner margin of eye; anterior half of vertex smooth, almost without punctures, in posterior half punctures larger and deep, elongate and superficially confluent, forming longitudinal strigae, but near neck less modified. Head with small bristles behind supraantennal tubercles (near anterior edge of eye) and on vertex at around middle of temple. Antenna with basal dish from segment 6, more prominent from 7th, penultimate antennomeres transverse (8th most strongly). Pronotum transverse, sides slightly curved (more anteriorly than posteriorly), narrowed to base, posterior angles obtuse-angled but blunt (somewhat rounded) sticking out, anterior angles rounded. Sides double-edged, outer one not or very slightly crenulate, inner keel almost parallel. Disc surface punctate-strigose, with punctures dominant, although some punctures superficially confluent in furrows and interspaces forming strigae; more shallowly and sparsely sculptured towards sides. Pronotum with indistinct median furrow only in approximately anterior third of length, tiny bristles on medially slightly forward curving anterior margin (1/3 distance from midline) and before posterior corners. Elytra with narrowly rounded shoulders, sides slightly dilating, gently curved (more posteriorly than anteriorly), hind margins almost straight with thin marginal bead. Sutural ridges smooth and slightly elevated, disc deeply punctate, superficially strigose, laterally with sharper strigae. Legs moderately elongate, protibia with barely noticeable preapical constriction, with row of stronger spines, most dense at apical 1/3, sparser towards apex, pro- and mesotibia with several spinulose rows, metatibia also with longitudinal ctenidium of spinules in distal 3/5. Abdomen with sides very slightly arcuate, strongly constricting in apical third, mesal paratergites moderately broad, posterior edge of tergite VII with thin palisade fringe, male sternite VIII as in Fig. 8, tergite IX as in Fig. 9, tergite X as in Fig. 10 and aedeagus as in Figs 11–13. Female spermatheca as in Fig. 14.

Additional material examined: SRI LANKA: Central prov., Horton Plains, 12 mi SSE Nuwara-Eliya, 7000 ft [6°48'N 80°50'E], 19.III.1962, leg. P. Brinck, H. Andersson, L. Cederholm – Lund University Ceylon Expedition (loc. 163), jungle, sieved in debris (1 ♂, property of MZLU but in BMNH); Central prov., Horton Plains, 11 mi SSE Nuwara-Eliya, 6700 ft, 19-20.III.1962, leg. P. Brinck, H. Andersson, L. Cederholm (loc. 162), sieved in jungle (1 ♀, MZLU); Central prov., Horton Plains, 2100 m, 15.II.1970, leg. C. Besuchet, I. Löbl & R. Mussard ("68"), sifting in forest (1 ♀, MHNG, 1 ♀, FMNH); Central prov., Pidurutalagala, env. 2200 m, 29.I.1970, leg. C. Besuchet, I. Löbl & R. Mussard ("32"), sifting in forest, SW slope of the mountain (1 ♀, MHNG, 1 ♀, BMNH); Central prov., Hakgala, 1800 m, 28.I.1970, leg. C. Besuchet, I. Löbl & R. Mussard ("30c"), sifting in the pristine forest above the botanical garden (1 ♀, MHNG, 1 ♀, BMNH), same but ("30a"), 1700–1800 m, sifting in a wooded ravine, NE slope of mountain (1 ♀, MHNG, 1 ♀, NHMW); Central prov., Nuwara Eliya, à env. 1950 m, 29.I.1970, leg. C. Besuchet, I. Löbl & R. Mussard ("33"), sifting at the lower edge of the forest, at base of Pidurutalagala (1 ♀, MHNG).

Bionomics: The species lives in forest litter or humus, above 1500 m, mostly above 1800 m, and most frequently collected by sifting.

Distribution: Only known from Sri Lanka, from a relatively small area of the Central Highlands (Central prov.).



Figs 8–14: *Anotylus distincticollis*: 8) male sternite VIII; 9) male tergite IX; 10) male tergite X; 11) aedeagus, frontal view; 12) median lobe, lateral view; 13) paramere, lateral view; 14) spermatheca. Scale bar = 0.07 mm (14), 0.10 mm (11–13), 0.12 mm (10), 0.13 mm (9), 0.14 mm (8).

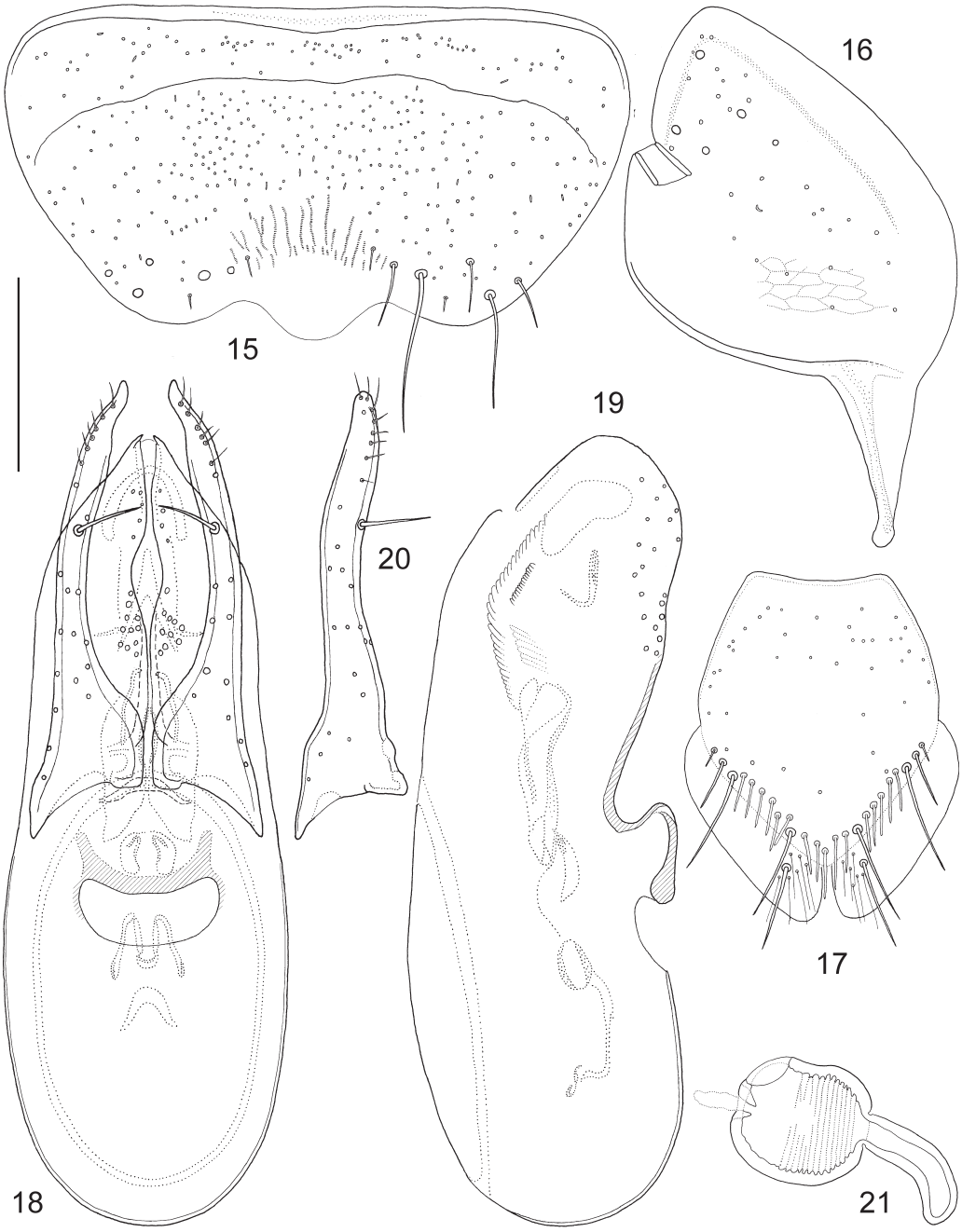
Remarks: Peter Hammond has not returned the only known male specimen to MZLU and considered this specimen as his 'desideratum' but listed the rightful owner as depository regardless (HAMMOND 1975a).

Anotylus loebli HAMMOND, 1975
(Figs 15–21, 33–34)

Anotylus loebli HAMMOND, 1975: 168; HERMAN 2001: 1366.

Studied type material: Holotype (♂): "Holo-; type [red margined disc] \ [Uva prov.,] Uva Hills; Ceylon; 23/3/[19]54 \ Tonacombe; bungalow; Namunukula \ 4000' [6°55'52"N, 81°07'46"E, 1220 m], at light; [leg.] W.W.A. Phillips \ W. Steel coll.; B.M. 1969-552 \ Anotylus; loebli sp. n.; P.M. Hammond; det. 1973 \ Anotylus; loebli Hammond; det. Makranczy, 2017" (BMNH); **Paratypes** (3): Ceylon, Central prov., Kandy, env. 700 m, wooded hills south of the lake, 14.II.1970, leg. C. Besuchet, I. Löbl & R. Mussard ("67b"), sifting of leaf litter accumulated in a big hole (1 ♂, MHNG); Ceylon, Central prov., Hakgala, 1800 m, 28.I.1970, leg. C. Besuchet, I. Löbl & R. Mussard ("30c"), sifting in the pristine forest above the botanical garden (1 ♀, BMNH); Ceylon, Central prov., Mahaveli Ganga, 8 mi WSW Nuwara-Eliya, 18-19.III.1962, leg. P. Brinck, H. Anderson, L. Cederholm (loc. 159), in light-trap (1 ♀, MZLU).

Redescription: Measurements (in mm, ♂): HW = 0.75 (0.71–0.79); TW = 0.78 (0.72–0.82); PW = 0.80 (0.76–0.84); SW = 0.82 (0.79–0.87); AW = 0.85 (0.81–0.89); HL = 0.58 (0.53–0.61); EL = 0.18 (0.17–0.19); TL = 0.24 (0.21–0.26); PL = 0.53 (0.50–0.55); SL = 0.67 (0.65–0.69); SC = 0.60 (0.58–0.62); FB = 1.82 (1.70–1.89); BL = 3.19 (2.82–3.61) (n=2); (♀): HW = 0.63 (0.61–0.65); TW = 0.62 (0.59–0.63); PW = 0.73 (0.69–0.75); SW = 0.78 (0.75–0.81); AW = 0.85 (0.82–0.93); HL = 0.47 (0.46–0.48); EL = 0.17 (0.16–0.17); TL = 0.15 (0.14–0.15); PL = 0.50 (0.48–0.52); SL = 0.63 (0.61–0.66); SC = 0.57 (0.55–0.60); FB = 1.65 (1.60–1.69); BL = 2.94 (2.79–3.16) (n=2). Habitus as in Fig. 33 (male) and Fig. 34 (female). Moderately lustrous, well-developed males with shiny anterior head, rest of forebody with strong sculpture yet shiny interspaces making it less dull, abdominal tergites with traces of tiny punctures, strongly transverse coriaceous microsculpture. Head blackish dark brown with reddish tint and slightly lighter, reddish supraantennal prominences. Pronotum reddish dark brown, lighter and more reddish laterally. Elytra medium brown, apical halves strongly infuscate, legs reddish medium brown, femora lighter, yellowish except apices. Abdomen reddish light to medium brown, around basal ridges broadly black. Mouthparts and bases of antennae reddish medium brown, antenna apically darker, dark brown. Head transverse, temples broadly rounded, occipital furrow absent, demarcation of vertex and neck marked by constriction and areolate-rugose microsculpture of neck. Anterior margin of clypeus bordered by very fine (slightly sinuous) marginal bead, clypeus smooth and without punctures, posteriorly with gentle transversal impression incomplete laterally. Marginal bead of supraantennal tubercles continuing at inner margin of eye in very fine ridge turning to temples and very slightly sticking out, and a furrow from supraantennal prominence to 2/3 length of eye. Vertex of head with (very obtuse-angled) angular protuberance near inner margin of eye; anterior half of vertex mostly smooth with weak, tiny punctures, in posterior half slightly (longitudinally) impressed in mid-line, punctures larger and deep, superficially elongate and confluent, forming longitudinal strigae. Head with small bristles behind supraantennal tubercles (near anterior edge of eye) and on vertex at around middle of temple. Antenna with basal dish from segment 5, more prominent from 6th, penultimate antennomeres transverse (8th most strongly). Pronotum transverse, sides slightly curved, narrowed to base, posterior angles obtuse-angled and slightly sticking out, anterior angles



Figs 15–21: *Anotylus loebli*: 15) male sternite VIII; 16) male tergite IX; 17) male tergite X; 18) aedeagus, frontal view; 19) median lobe, lateral view; 20) paramere, lateral view; 21) spermatheca. Scale bar = 0.08 mm (21), 0.10 mm (18–20), 0.13 mm (17), 0.18 mm (15–16).

narrowly rounded. Sides double-edged, outer one slightly crenulate, inner keel almost parallel. Disc surface punctate and strigose, most punctures superficially confluent in furrows and elevated interspaces forming conspicuous strigae with less punctures; more shallowly and sparsely sculptured towards sides. Pronotum with median furrow broad in anterior 2/3 length then thin midline groove, tiny bristles on medially slightly forward curving anterior margin (1/3 distance from midline) and before posterior corners. Elytra with narrowly rounded shoulders, sides slightly dilating, gently curved (more posteriorly than anteriorly), hind margins almost straight with thin marginal bead. Sutural ridges thin and slightly elevated, disc deeply punctate, superficially somewhat strigose, laterally with more developed and sharper strigae. Legs moderately elongate, protibia with slight but significant preapical constriction, with row of stronger spines, most dense at apical 1/3, sparser towards apex, pro- and mesotibia with several spinulose rows, metatibia also with longitudinal ctenidium of spinules in distal 3/5. Abdomen with sides very slightly arcuate, strongly constricting in apical third, mesal paratergites moderately broad, posterior edge of tergite VII with thin palisade fringe, male sternite VIII as in Fig. 15, tergite IX as in Fig. 16, tergite X as in Fig. 17 and aedeagus as in Figs 18–20. Female spermatheca as in Fig. 21.

Bionomics: The species was sifted from forest litter but may be less of a deep humus species, recorded also from light traps, so less permanent habitats like various plant debris are suspected and was found at 700–1800[1750] m altitudes.

Distribution: Known from a relatively small area of Central Highlands, Uva and Central provinces in Sri Lanka.

Remarks: The available material is very little, the holotype is a well developed male, but the paratype is a very weakly developed one, smaller than a female, the two female paratypes look very different, although most likely this is just due to variation and preservation artefacts.

Anotylus rufus (Kraatz, 1859)

(Figs 22–28, 35–36)

Oxytelus rufus Kraatz, 1859: 174; Gaedike 1981: 216 (inadvertent lectotype designation).
Oxytelus (*Anotylus*) *rufus*: Cameron 1930: 254.
Anotylus rufus: Herman 1970: 419, 2001: 1384; Hammond 1975a: 159, 165.
Oligota niobe Fernando, 1959: 95; Williams 1978: 169 (moved to *Anotylus*), syn.n.
Deinopsis henryi Fernando, 1960: 127; Hammond 1975b: 172 (moved to *Anotylus*), syn.n.

Studied type material: Lectotype (♂): "Lecto-; type [lilac margined disc, curator label] \ Ceylon [yellow label] \ Coll. Kraatz \ Oxytelus; rufus Kr.; P.M. Hammond; det. 1974 ♂; Lectotype \ Anotylus; rufus (Kr.); P.M. Hammond; det. 1974 \ DEI Müncheberg; Col-03367" (SDEI); **Paralectotypes** (9): "Para-; lecto-; type [light blue margined disc, curator label] \ Ceylon [yellow label] \ Coll. Kraatz \ Oxytelus; rufus Kr.; Paralectotype; P. Hammond; ♂; det. 1974 \ DEI Müncheberg; Col-03368" (1 ♂ without head and pronotum, SDEI), similar labels but Col-03369-70 (2, SDEI); "Para-; lecto-; type [light blue margined disc, curator label] \ Ceylon [yellow label] \ Coll. Kraatz \ Oxytelus; rufus Kr.; Paralectotype; P. Hammond; ? ♀; det. 1974 \ DEI Müncheberg; Col-03368-71" (1 ♀ without abdomen, SDEI), similar labels but Col-03372-73 (2, SDEI); "Kraatz; Ceylon; 856 \ testaceus; det. Bernhauer [not Bernhauer's handwriting] \ Anotylus; rufus (Kraatz); P.M. Hammond; det. 1973 \ Paralectotypus; Oxytelus; rufus Kraatz; ver. Makranczy, 2017 \ Anotylus; rufus (Kraatz); det. Makranczy, 2017" (1 ♂, 1 ♀, NHMW) "Fauvel \ 1855 \ P. de Borre. \ Paralectotypus; Oxytelus; rufus Kraatz; ver. Makranczy, 2017 \ Anotylus; rufus (Kraatz); det. Makranczy, 2017" (1 ♂, MHNG).

Redescription: Measurements (in mm, ♂): HW = 0.66 (0.59–0.74); TW = 0.66 (0.58–0.76); PW = 0.66 (0.60–0.72); SW = 0.66 (0.61–0.74); AW = 0.69 (0.67–0.72); HL = 0.46 (0.43–0.53); EL = 0.19 (0.18–0.20); TL = 0.19 (0.16–0.23); PL = 0.43 (0.40–0.46); SL = 0.52 (0.49–0.56); SC = 0.48 (0.45–0.52); FB = 1.44 (1.35–1.58); BL = 2.49 (2.44–2.55) (n=4); (♀): HW = 0.55 (0.51–0.57); TW = 0.52 (0.48–0.54); PW = 0.59 (0.57–0.60); SW = 0.63 (0.60–0.67); AW = 0.71 (0.67–0.75); HL = 0.34 (0.32–0.36); EL = 0.17 (0.16–0.18); TL = 0.10 (0.09–0.11); PL = 0.41 (0.40–0.42); SL = 0.51 (0.46–0.53); SC = 0.47 (0.42–0.49); FB = 1.29 (1.22–1.33); BL = 2.50 (2.29–2.65) (n=4). Habitus as in Fig. 35 (male) and Fig. 36 (female). Moderately lustrous, well-developed males with shiny anterior head, rest of forebody with strong sculpture yet shiny interspaces make it less dull, abdominal tergites with traces of tiny punctures, slightly transverse coriaceous microsculpture. Body reddish medium brown, head often slightly darker or more reddish, except lighter (slightly transparent) supraantennal prominences. Elytra often indistinctly infuscate apically. Abdominal tergites often infuscate at basal ridges, lighter at apices. Legs, mouthparts and antennae more or less medium brown, reddish or yellowish. Head transverse, temples broadly rounded, occipital furrow absent, demarcation of vertex and neck marked by constriction and fine areolate-rugose microsculpture of neck. Anterior margin of clypeus bordered by very fine (slightly sinuous) marginal bead, clypeus smooth and only minutely and sparsely punctured, posteriorly with gentle transversal impression complete laterally by cutting through behind supraantennal prominences. Weak marginal bead of supraantennal tubercles continuing at inner margin of eye in intra-ocular ridge turning posteriad after 3/4 eye length towards middle of disc, and a weakly defined furrow from supraantennal prominence to 4/5 length of eye. Vertex of head with strongly developed (obtuse-angled) angular protuberance near inner margin of eye; anterior 1/3 of vertex smooth and shiny, in posterior half punctures larger and deep, superficially elongate and confluent, forming weak longitudinal strigae, medial posterior punctures more discrete, vertex medially slightly impressed on both sides and minutely in mid-line. Head with darker bristles behind supraantennal tubercles (near anterior edge of eye) and on vertex at around middle of temple. Antenna with basal dish weak or absent on segment 5, prominent from 6th, penultimate antennomeres transverse (8th most strongly). Pronotum transverse, sides slightly curved anteriorly, almost straight posteriorly, narrowed to base, posterior angles narrowly rounded and very slightly sticking out, anterior angles more broadly rounded. Sides double-edged, outer one slightly crenulate, inner keel almost parallel but more blunt. Disc surface strigose-punctate, with strigae dominant, punctures often confluent in furrows, discrete punctures only on more elevated ridges; more shallowly and sparsely sculptured towards sides. Pronotum with median furrow in anterior 2/3 length then dark line marking midline, tiny bristles on slightly sinuous anterior margin (1/3 distance from midline) and before posterior corners. Elytra with narrowly rounded shoulders, sides slightly dilating, gently curved (more posteriorly than anteriorly), hind margins almost straight with thin marginal bead. Sutural ridges smooth, rather wide and slightly elevated, disc punctate in depth, superficially obscured by strigosity (with shorter and more indistinct strigae), laterally with sharper and longer strigae. Legs moderately elongate, protibia with slight but significant preapical constriction, with row of stronger spines, most dense at apical 1/3, sparser towards apex, pro- and mesotibia with several spinulose rows, metatibia also with longitudinal ctenidium of spinules in distal 3/5. Abdomen

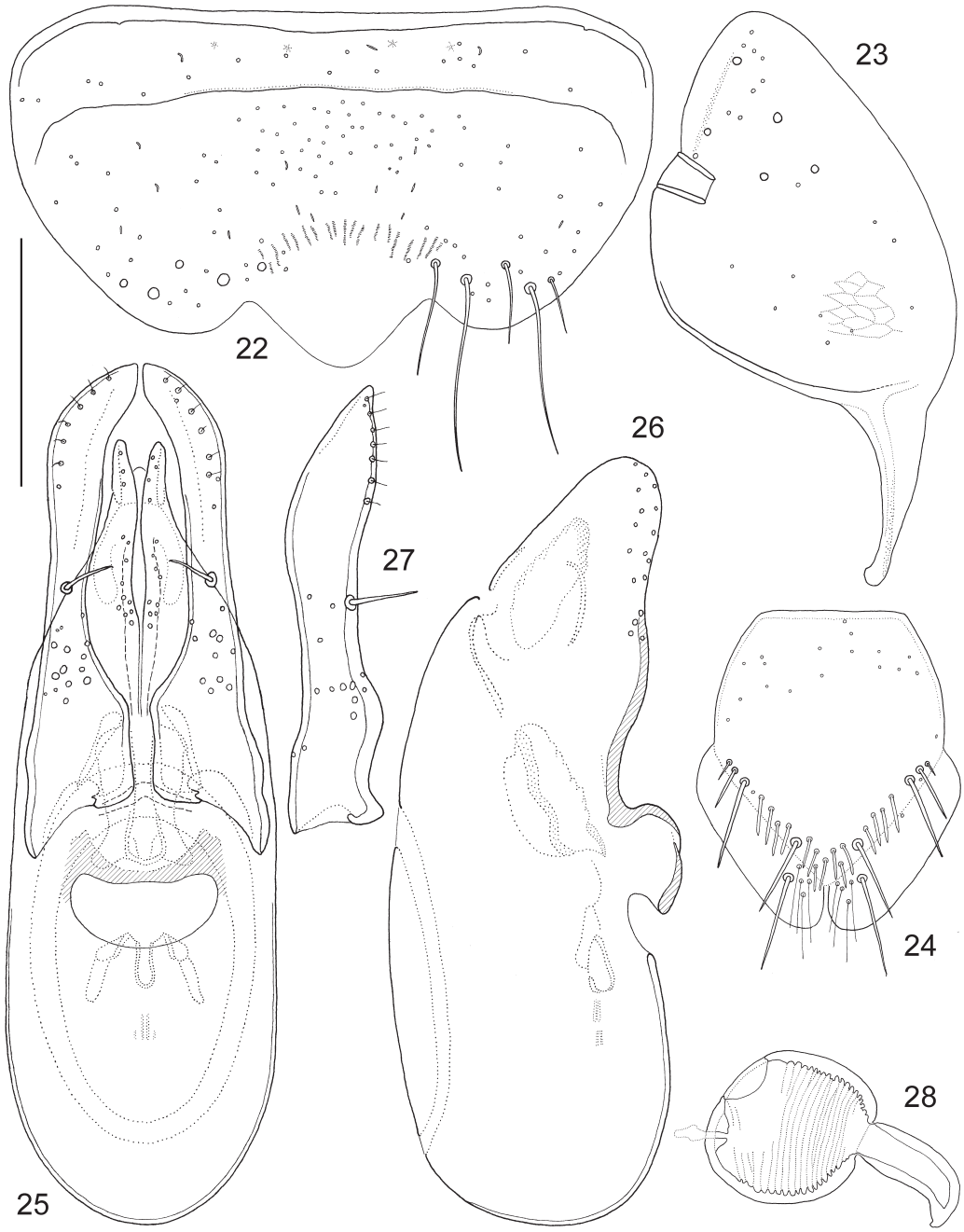
with sides very slightly arcuate, strongly constricting in apical third, mesal paratergites moderately broad, posterior edge of tergite VII with thin palisade fringe, male sternite VIII as in Fig. 22, tergite IX as in Fig. 23, tergite X as in Fig. 24 and aedeagus as in Figs 25–27. Female spermatheca as in Fig. 28.

Additional material examined: SRI LANKA: Western prov., Yakkala, 18 mi NE Colombo, 1-28. II.1962, leg. P. Brinck, H. Andersson, L. Cederholm (loc. 10), at light (1, BMNH); Central prov., Kandy distr., Peradeniya, 28.III.1971, leg. P. & P. Spangler, collected at blacklight at Botanical Gardens (1, BMNH); Sabaragamuwa prov., Deerwood, Kuruwita, 6 mi NNW Ratnapura, 17-22.II.1962, leg. P. Brinck, H. Andersson, L. Cederholm (loc. 90:1), at light (1, BMNH); Sabaragamuwa prov., Kitulgala, 21 mi N Ratnapura, 17.III.1962, leg. P. Brinck, H. Andersson, L. Cederholm (loc. 152), at light (1, BMNH); Uva prov., Inginiyagala, 12.II.1970, leg. C. Besuchet, I. Löbl & R. Mussard ("63b"), singling during night at Resthouse (1, MHNG); Ceylon (no further data but little dark blue rectangular paper) (1 ♂, NHMW). **INDIA:** Madras, Andippatti Hills, 9 km E Andippatti, 3.XI.1972, leg. C. Besuchet, I. Löbl & R. Mussard ("6"), sifting among bushes (1 ♀, MHNG, 1 ♀, BMNH); Madras, Anaimalai Hills, 18 km N Valparai, 1250 m, 18.XI.1972, leg. C. Besuchet, I. Löbl & R. Mussard ("35"), sifting in forest (1 ♀, BMNH); Madras, Amaravathi Dam, in a valley between Anaimalai Hills and the Palni Hills, 20 km S Udamalpet, 400m, 26.XI.1972, leg. C. Besuchet, I. Löbl & R. Mussard ("53"), on the lake shore (1 ♂, 1 ♀, MHNG); Kerala, Walayar Forest, between Palghat and Coimbatore, 400 m, 23.XI.1972, leg. C. Besuchet, I. Löbl & R. Mussard ("46b"), at bank of the river which makes the border with the state of Madras (1 ♂, 1 ♀, MHNG, 1 ♂, BMNH, 1 ♂, FMNH); Kerala, Anaimalai Hills, 48 km NE Munnar, near Maraiyur village, 700 m, 24.XI.1972, leg. C. Besuchet, I. Löbl & R. Mussard ("47"), sifting in forest, near a river (1 ♀, MHNG).

Bionomics: This species lives in various plant debris, mostly at low altitudes, recorded rarely from above 1000 m, collected frequently at light, but also by sifting.

Distribution: Very widespread in Sri Lanka but also in the southern part of India (exact distribution unknown as there are no records besides the material treated here), Tamil Nadu and Kerala.

Remarks: HAMMOND (1975) writes about *A. rufus* as a species known only from Ceylon (widespread at low altitudes), but in 1974 he identified a series of specimens from South India, records published here for the first time. The descriptions and illustrations in FERNANDO (1959, 1960) leave little doubt that "*Oligota niobe* FERNANDO, 1959: 95" refers to a "major" male of *A. rufus*, while "*Deinopsis henryi* FERNANDO, 1960: 127" is a female of *A. rufus*.



Figs 22–28: *Anotylus rufus*: 22) male sternite VIII; 23) male tergite IX; 24) male tergite X; 25) aedeagus, frontal view; 26) median lobe, lateral view; 27) paramere, lateral view; 28) spermatheca. Scale bar = 0.07 mm (28), 0.10 mm (25–27), 0.15 mm (24), 0.16 mm (23), 0.17 mm (22).

Figs 29–30: Habitus of *Anotylus besucheti*: 29) male, 30) female.

Figs 31–32: Habitus of *Anotylus distincticollis*: 31) male, 32) female.

Figs 33–34: Habitus of *Anotylus loebli*: 33) male, 34) female.

Figs 35–36: Habitus of *Anotylus rufus*: 35) male, 36) female.

Note on a new synonym

The name "*Deinopsis butschlii* Fernando, 1960: 128" refers to a male of *Oxytelus migrator* Fauvel, 1904 (recently treated in Lü & Zhou, 2012 and Lü & Zhou, 2015); the head morphology and size clearly determine the identity.

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