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Author: Balkenohl, Michael

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Revisiting the Oriental genus *Syleter* Andrewes, 1941 (Coleoptera: Carabidae: Clivinini)

Michael Balkenohl

Ligusterweg 9, CH-8906 Bonstetten, Switzerland. E-mail: mike.balkenohl@bluewin.ch

Abstract: The species group formerly included in the genus *Syleter* Andrewes, 1941 from the Oriental region is redefined resulting in the split of three genera, the original genus *Syleter* and two new genera, *Parasyleter* gen. nov. and *Clypeuspinus* gen. nov. Genus descriptions of the three genera and an identification key to the three genera is provided. Type species for the three genera are either re-established or designated and illustrations are provided for all of them. The genus *Syleter* is revised. The species *Syleter acutipalpis* (Putzeys) is resurrected to species status from synonymy with *S. paradoxus* (Putzeys). For *S. acutipalpis* a lectotype has been designated in order to maintain nomenclatural stability. The following new taxa are described: *S. sinepunctatus sinepunctatus* sp. nov., *S. sinepunctatus kluangensis* ssp. nov., and *S. gradus* sp. nov. A key to the *Syleter* species is provided. The genus *Clypeuspinus* gen. nov. is represented by one species, *C. validus* (Andrewes) comb. nov., which is redescribed.

Keywords: Oriental region - taxononmy - *Clypeuspinus* gen. nov. - *Parasyleter* gen. nov. - new species - key to taxa - distribution.

INTRODUCTION

The genus *Syleter* Andrewes, 1941 occurs in the Oriental and Ethiopian region. It is not well represented in museum and private collections. For Oriental members, the genus was keyed out with five species by Andrewes (1927, 1929) under the name *Psilus* Putzeys, 1877. Later the genus *Psilus* was renamed *Syleter* because it was preoccupied (Andrewes, 1941). Two more species were described from Sri Lanka (Andrewes, 1936) and Papua New Guinea (Darlington, 1962).

Twenty years ago, the Oriental members were keyed out, a catalogue of the species was provided, and two groups, the *paradoxus*-species group and the *doriae*-species group, were distinguished (Balkenohl, 2001). This first approach was performed to provide some orientation on the very heterogeneous group ranging in size from 1.8 to 4.8 mm. Meanwhile, substantial material came to my attention, material from all known species but also of some undescribed species. In addition, some more type material became available. The evaluation suggested a better discrimination of the two species groups and demonstrated the necessity to split the genus *Syleter* into the two genera characterized in this contribution. Moreover, the species *C. validus* (Andrewes, 1936) was found to be so conspicuously different from all of the other species that it does not fit with the group characteristics of both genera, a misplacement already indicated earlier

(Balkenohl, 2001). Above all, comparisons with members of other genera of the tribe showed that the species does not match with any genus description.

Consequently, this contribution aims to clarify the taxonomic status of the members of the group previously summarized under the name of *Syleter*.

MATERIAL AND METHODS

In general, terms, descriptions of characters, methods for mounting of inner structures, microscopy and photographs are based on Balkenohl (2001, 2021b).

For the evaluation 201 Oriental specimens including type and other material were investigated. In general, all additional informative material like original paper cards and pins have been kept at the specimens. The complete information given on the labels is quoted verbatim as it appears, including original spacing, upper case letters, and punctuation. Moreover, the data of the name bearing material is displayed in quotation marks. For the descriptions, the length was measured from the most anteriorly projecting part of the head (clypeus or clypeal wings) and does not include the elongate mandibles. The length of the pronotum was measured along the median line and includes the posteriorly elongated flange. The width of the pronotum and elytra was measured at the maximum width. The description of the genitalia refers

to the natural position the genitalia exhibit in soaked specimens before they are extracted, cleaned, and mounted.

For the comparisons to other genera and species mentioned in the text material from the author's collection was used. Moreover, *Oxygnathus* material was loaned from the ETHZ.

Abbreviations used:

ADCW	Alexander Dostal collection (including Coll. Karel Kult), Vienna, Austria
BMNH	Natural History Museum, London, United Kingdom
MBCB	Michael Balkenohl working collection, Bonstetten, Switzerland
ETHZ	Eidgenössische Technische Hochschule Zürich, Switzerland
MFNB	Museum für Naturkunde Berlin, Germany
MHNG	Muséum d'Histoire Naturelle de Genève, Switzerland
MNHN	Muséum national d'Histoire naturelle, Paris, France
NHMB	Naturhistorisches Museum Basel, Switzerland
NHMW	Naturhistorisches Museum, Vienna, Austria
PBCP	Petr Bulirsch Collection, Prague, Czech Republic
RBINS	Royal Belgian Institute of Natural Sciences, Brussels, Belgium
TACA	Thorsten Assmann working collection, Asendorf (part of Zoologische Staatssammlung München), Germany
[...]	in brackets: additional information by the author
\bar{x}	arithmetic mean (used in the measurements for the descriptive statistics)

TAXONOMY

Order Coleoptera

Family Carabidae Latreille, 1802

Subfamily Scaritinae Bonelli, 1810

Tribe Clivinini Rafinesque, 1815

Among the Oriental Clivinini, the group formerly known as *Syleter* shares the following general characters:

Head with frons, clypeus, and supraantennal plate more or less elongated, flattened or slightly convex, without median keel or carinae, laterally with two supraorbital and with one clypeal seta; mandible elongated; maxillary palp elongated, either distinctly securiform or bottle-like; antenna with pedicellus eccentrically attached to scapus. Pronotum without big groove-like punctures, without distinct sulci. Elytron with striae one to three free at the base, reflexed lateral margin and lateral channel running up to the apex, interval three without or with three setigerous punctures. Proepisternum not distinctly tumid laterally, visible or not visible in dorsal view in basal third. Ventral surface with last visible abdominal segment with the two setigerous punctures laterally widely separated. Front leg with basal tarsomere without rows of numerous setae on dorsal surface.

Genus *Syleter* Andrewes, 1941

Psilus Putzeys, 1877: XLVI. – Andrewes, 1929: 386. [invalid junior homonym of *Psilus* Panzer, 1801 (Hymenoptera)]
Syleter Andrewes, 1941: 317.

Type species: *Psilus acutipalpis* Putzeys, 1877, by monotypy; type locality: Bangkok.

Identification key to the genera formerly included in *Syleter*

- 1A Clypeus, wing of clypeus, and supraantennal plate fused, without notches, wing of clypeus not or only indistinctly projecting, usually projecting anteriorly at same level as clypeus (Figs 1, 2); mandible straight laterally and hooked at apex; pronotum with lateral channel of equal width between the two lateral setigerous punctures; flange at base of pronotum convex, much wider than basal constriction; elytron with interval eight convex; mesotibia without or with small seta furnished tubercle preapically (Figs 4, 5) 2
- 1B Clypeus, wing of clypeus, and supraantennal plate separated by obtuse notch, wing of clypeus distinctly projecting anteriorly (Fig. 3); mandible convex laterally and regularly arcuate in apical half, bend slightly dorsally; pronotum with lateral channel distinctly widened between the two lateral setigerous punctures; flange at base of pronotum carinate, as wide as basal constriction; elytron with interval eight carinate from humerus to apex; mesotibia with long spine-like protuberance preapically furnished with seta (Fig. 6) ***Clypeuspinus* gen. nov.**
- 2A Reflexed lateral margin of pronotum reaching from anterior angle to basal constriction, posterior angle marked by a tooth or a knob-like thickening, median line distinctly joining with basal constriction; pronotum distinctly trapezoid; interval three of elytron with three setigerous punctures; mesotibia with small protuberance preapically; mentum elongated, with acute lobe; female genitalia with coxostylus one and two not completely fused ***Syleter* Andrewes, 1941**
- 2B Reflexed lateral margin shortened, reaching from anterior angle to posterior setigerous puncture, posterior angle missing, median line not or very indistinctly joining basal constriction; pronotum square or indistinctly trapezoid; interval three of elytron without setigerous punctures; mesotibia without tubercle preapically; mentum not elongated, lobe short and convex; female genitalia with coxostylus one and two completely fused ***Parasyleter* gen. nov.**

Genus diagnosis: Size 2.8 to 4.5 mm. *Head* with clypeus and frons conspicuously elongated and flattened anteriorly; clypeus, clypeal wing, and supraantennal plate fused; clypeus straight or slightly convex anteriorly, projecting as far as clypeal wing; mandible distinctly elongated, narrow in apical half, laterally straight, hooked at apical tip; labrum three- or seven-setose; maxillary palpomere extraordinarily narrowed and slender in apical half, gently curved concavely outwards, the two apical segments longitudinally securiform; antenna with scapus and pedicellus eccentrically attached; eye not reduced. Mentum distinctly elongated, with lateral lobe acutely projecting, median tooth wide, truncated, not projecting as far as lateral lobe, surface with rough meshes. *Pronotum*

distinctly trapezoid, with reflexed lateral margin complete, running from anterior angle up to basal constriction, posterior angle with obtuse small tooth which is crossing the lateral channel and pointing anteriorly, lateral channel of equal width, median line distinct, joining and engraved up to basal constriction; propisternum invisible in dorsal view; flange at base convex, two to four times as wide as basal constriction. *Elytron* with interval eight convex, lateral channel slightly flared apically, with interval eight not or slightly emarginated and row of umbilical setigerous punctures indistinctly following the emargination, interval eight at apex convex or with emarginated carina; with row of umbilical setigerous punctures apically slightly oriented to interval eight; third interval with three

Identification key to the species of the genus *Syleter*

- 1A Labrum 3-setose; pronotum without reticulation and punctures on disk, with posterior angle rounded off; elytron with all intervals smooth, without tubercle at declivity of third interval, striae narrow, with punctures distinct, umbilical setigerous punctures with wider distance at middle; aedeagus at apex spoon-like widened, parameres with four setae each. Body length 2.8 mm. Borneo (central and southeast) *S. fulvaster*
- 1B Labrum 7-setose; pronotum with reticulation and with or without punctures on disk, with posterior angle more or less marked; elytron with all or with interval eight reticulated, with tubercle at declivity of third interval, striae wide, finely crenulated, with punctures indistinct, umbilical setigerous punctures of equal distance; aedeagus at apex securiform widened or spatulate, parameres without or with two setae each 2
- 2A Head anterior eye-level moderately elongated; neck constriction complete and developed as sharp angular step with level distinctly higher than neck; lateral channel of pronotum from posterior angle to base distinctly widened; apex of aedeagus developed as acute spatula, parameres with two setae each. Body length 3.61-3.64 mm. Myanmar ..
..... *S. acutipalpis*
- 2B Head anterior eyes conspicuously elongated; neck constriction incomplete and developed as row of punctures, with a more or less wide gap at middle and with posterior part of frons at middle as high as neck or developed as rounded step and complete; lateral channel of pronotum from posterior angle to base narrow 3
- 3A Disk of pronotum without punctures; anterior margin of labrum straight; supraorbital plate covered with distinct longitudinal reticulation; interval eight of elytron with more or less distinct reticulation; apex of aedeagus developed as wide spatula. Body length 3.37-3.8 mm. Borneo *S. sinepunctatus sinepunctatus* sp. nov.
 - Specimen from West Malaysia: Lateral margin of elytron convex with maximum width at middle; intervals five to seven of elytron with indistinct reticulation; apex of aedeagus acutely pointed at tip and turns to a different direction as in the nominotypical subspecies. Body length 3.45 mm. Jahore, Kluang
..... *S. sinepunctatus kluangensis* ssp. nov.
- 3B Disk of pronotum with punctures; anterior margin of labrum convex; supraorbital plate smooth; interval eight of elytron or all intervals with reticulation; apex of aedeagus developed either as narrow acuminate spatula or securiform 4
- 4A Disk of pronotum laterally with few single punctures in the basal part; anterior margin of pronotum distinctly excised, anterior angle projecting; apex of aedeagus developed as narrow acuminate spatula; Body length 3.32-3.6 mm. New Guinea and Papua-New Guinea, Northeast Australia (Queensland): Cape York *S. papua*
- 4B Disk of pronotum with numerous punctures arranged laterally as paramedian and paralateral group; anterior margin of pronotum straight, anterior angle not projecting; apex of aedeagus securiform 5
- 5A All intervals of elytron longitudinally reticulated; pronotum with paramedian and paralateral band of punctures extending from anterior fifth to basal declivity; neck constriction complete and developed as rounded step; apex of aedeagus broadly securiform, stout. Body length 4.25-4.66 mm. Borneo *S. gradus* sp. nov.
- 5B Interval eight of elytron longitudinally reticulated (in some cases also interval seven); pronotum with more or less circular paramedian and paralateral group of punctures restricted to basal half; neck constriction incomplete and developed as lateral punctures with more or less wide gap in between; apex of aedeagus long securiform. Body length 3.51-4.32 mm. Hong Kong, Thailand, Cambodia, Vietnam (South), Malaysia, Singapore
..... *S. paradoxus* (= *S. trapezicollis*)

setigerous punctures. *Hind wings* fully developed. *Legs* in both sexes with front tarsomeres distinctly widened, intermediate tarsomeres moderately widened; widening in males more distinct and ventrally with small whitish setae; mesotibia with four setae laterally, preapical seta arising from small protuberance (Fig. 4). *Male genitalia* with aedeagus conspicuously curved, apical part elongated, apex more or less spatulate or securiform; parameres conspicuously asymmetric. *Female genitalia* with coxostylus one and two not completely fused, with cone-like seta in apical quarter.

Differential diagnosis: See key to the genera.

***Syleter paradoxus* (Putzeys, 1868)**

Figs 1, 4, 7, 14, 21

Ardistomis paradoxa Putzeys, 1868: 21.

Clivina trapezicollis Bates, 1889: 263.

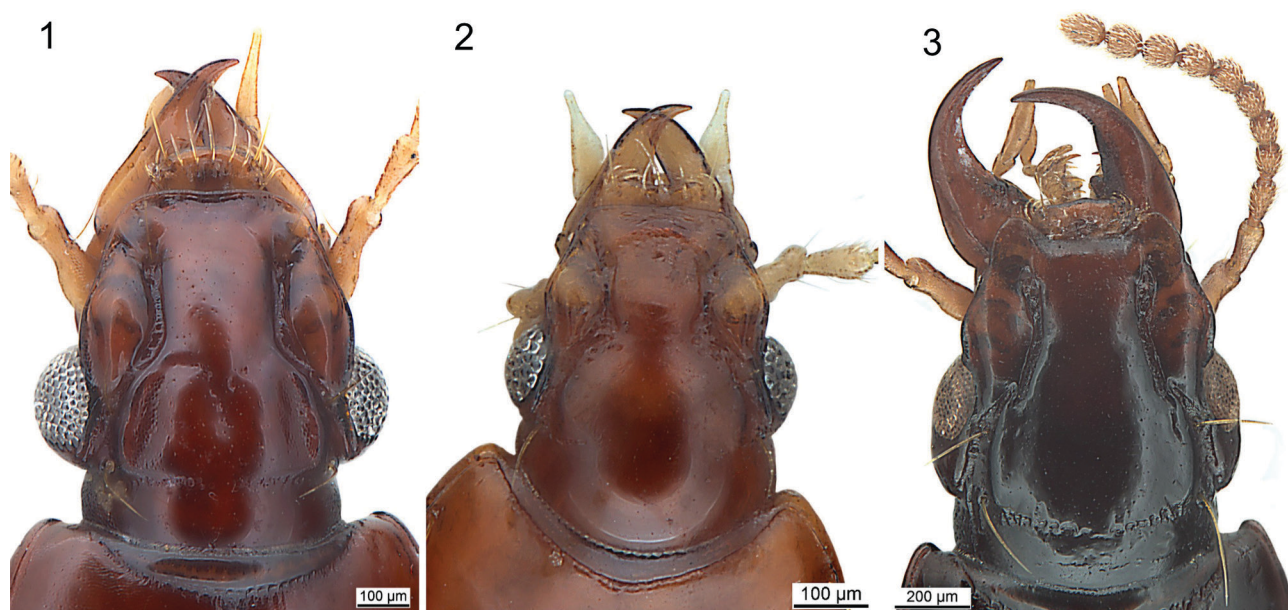
Psilus paradoxus. – Andrewes, 1926: 381. – Andrewes, 1927: 266. – Andrewes, 1929: 387, fig. 58. – Andrewes, 1930: 288.

Syleter paradoxus. – Lorenz, 1998: 138. – Balkenohl, 2001: 30, fig. 39. – Aston, 2016: 215. – Lorenz, 2005: 148. – Balkenohl, 2017: 260.

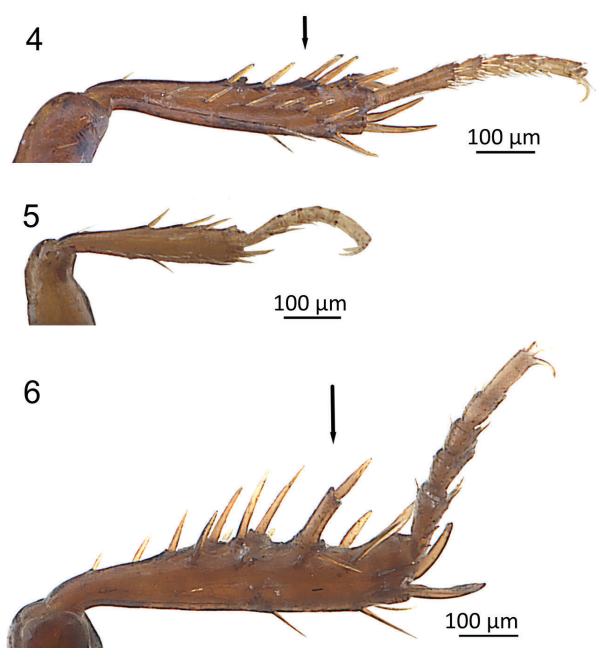
Type material examined: Holotype of *Syleter trapezicollis* (Bates, 1889): MNHN; with labels and data: white, handwritten in black ink “Conchin China” / white, handwritten in black ink “Clivina trapezicollis Bates” / red, printed “TYPE”.

Additional material: HONG KONG. MBCB; 1 ♀, H.K. Wu Kau Tang, moss/stream, leg. P. Aston, 7.II.13. – LAOS. NHMW; 1 ♀, N-Laos: Prov. Lg. Nam

Tha Luang Nam Tha, at light 19.6.1996, 550 m leg. Schillhammer. – PBCP; 1 spec., Laos c. Kammouan prov. Nam Theun env., alt. 500 m Route No 8, N 17°50.7' E 105°03.2', 2.-4.5.1998, E. Jendek, O. Sauša lgt. – CHINA. Specimens from Yunnan were investigated in 2001 by the author. – THAILAND. MBCB; 1 ♀, Thailand, Changwat, Chiang Mai, Chiang Mai, 250 m, 15.1.1989, leg. Trautner & Geigenmüller. – MFNB; 1 ♀, NO-Thailand, Khon Kaen, lux, 23.11.1989, leg. S. Saowakontha. – TACA; 1 ♀, Thailand, Bangkok, light trap, IX.8.52, W.E. Griffith. – NHMW; 2 ♂♂, 2 ♀♀, S-Thailand, Tale Noi, 7°47'N 100°13'E, Licht, 1.-2.5.1993, leg. Malicky. – MBCB; 1 ♀, 3 specimens, S Thailand, Sai Buri, Pattani dist., 23.-28.4.1993, J. Strnad leg. – ADCW; 1 ♂, 1 ♀, same data. – PBCP; 10 specimens, same data but 25.IV.1993. – ADCW; 1 ♂, 1 ♀, 2 specimens, same data but J. Horák leg. – CAMBODIA. RBINS; 1 ♂, Coll. I.R.Sc.N.B., Cambodia, Banteay Meanchey prov., Ang Trapeang Thmor, Malaise trap, 15.vi.2006, leg. loc ranger. – RBINS; 2 ♀♀, Coll. I.R.Sc.N.B., Cambodia Banteay M prov., Ang Trapeang Thmor W.S. Light Trap, Office Int. Crane F., 18.VI.2005, leg Var & Hagebaert. – NHMB; 1 spec., Indo Chine, Coll. Dussault, Battambang, 1913. – PBCP; 1 spec., Cambodia mer., Takfu, 5.V.84, leg. Frühbauer. – VIETNAM (SOUTH). BMNH; 1 ♀, Saigon, H.E.Andrewes Coll. B.M. 1945-97, figured specimen, *Psilus paradoxus* Putz. compared with type H.E.A. – MNHN; 1 spec., Saigon, 12.1926, Muséum Paris J. Duchaine 1928. – MNHN; 4 specimens [one of them without pronotum], same data but Coll. A. Bonhoure, 1909. – NHMW; 1 ♂, 3 ♀♀, 31 specimens, S-Vietnam, Nam Cat Tien Nat. Park, 1.-15.5.1994,



Figs 1-3. Head, dorsal view. (1) *Syleter paradoxus* (Putzeys, 1868). (2) *Parasyleter doriae* (Putzeys, 1873) comb. nov. (3) *Clypeuspinus validus* (Andrewes, 1936) comb. nov.



Figs 4-6. Right mesotibia. (4) *Syleter paradoxus* (Putzeys, 1868) showing the small preapical protuberance and its seta inserted apically (arrow). (5) *Parasyleter doriae* (Putzeys, 1873) comb. nov. with no tubercles at all. (6) *Clypeuspinus validus* (Andrewes, 1936) comb. nov. showing the long protuberance and its seta inserted laterally (arrow).

Pacholatko & Dembicky. – MNHN; 2 specimens, Vinh-Long, Nov 77, Vinh long Draubert, Muséum Paris ex Coll. R. Oberthür 1952. – MBCB; 1 spec., Vinh-Long, Lumiere Coch, I 48. – PBCP; 1 spec., Long Thanh. – NHMW; 3 specimens, S-Vietnam, 40 km NW An Khe Buon Luoi, 620-750 m, 14°10'N 108°30'E 28.3, 12.4.1995, Pacholatko & Dembicky. – MNHN; 2 specimens, Conchin China, Psilus trapezicollis [one of them found with empty abdomen]. – BMNH; 1 ♀, 3 specimens, Conchinchine, Bien Hoa, 12-1902, Cap. Fouquet, Psilus trapezicollis Bates, Museum Paris ex Coll. M. Maindron Coll. G. Babault 1930, one of them with additional label = *Psilus paradoxus* Putz. det. Kult. – BMNH; 1 ♀, Conchinchine, Long Xuyen, Dorr., Ex. Coll. E. Fleutiaux, Psilus trapezicollis Bates compared with type H.E.A., H.E. Andrewes Coll. B.M. 1945-97. – MALAYSIA. – BMNH; 1 ♂, Malaya, Kuan, at light, 28.XII.1926, G.H. Corbett., Gesch. 8.1938 von Andrewes, ex. coll. Brit. Mus., 3017, *paradoxus* Putz., F. van Emden Bequest. B.M. 1960129, Psilus paradoxus Putz. H.E. Andrewes det.; – NHMG; 1 ♂, Malaisie, Selangor, Sungei Buloh, Kuala Lumpur, 27-VII-72, T. Jaccoud; – BMNH; 1 ♀, Penang, Bowring 63.47*, Psilus paradoxus Putz. (over), compared with type H.E.A. – PBCP; 1 spec., Malaysia, Benom Mts., 15 kmE of Kampong Dong, 750 m, 3°53'N, 102°01'E, 1.iv.1998, Hauck lgt. – SINGAPORE. BMNH; 1 ♂,

Singapore, Parit Satu, at light, 28-29.xi.1960, C.H. Fernando, Brit. Mus. 1961-206.

Extended diagnosis: *Head* (Fig. 1) anterior eyes conspicuously elongated, with distinctly impressed punctured transverse clypeal furrow in form of an acute letter V, with a circular pore on the frons at the bottom of the V; clypeus smooth, with scattered micropunctures, clypeal wing and supraantennal plate smooth, frons with distinct isodiametric reticulation parallel to frontal carinae, reticulation often more indistinct at middle of frons; neck constriction developed as row of punctures, with or without gap at middle; labrum seven-setose; mandible conspicuously elongated, with apex hooked. *Pronotum* with reflexed lateral margin complete, straight but diverging in anterior half; lateral channel of pronotum of same width over entire length, flange convex, three times as wide as basal constriction; disk somewhat dull, distinctly isodiametrically to transversally reticulated, with more or less circular paramedian and paralateral group of punctures restricted to basal half; with posterior angle obtuse but distinct. *Elytron* with intervals one to seven smooth, interval eight with longitudinal reticulation, with distinct tubercle at basal declivity of third interval; striae wide, finely granulated, with punctures indistinct, umbilical setigerous punctures of equal distance, lateral margin at apex about 20% widened. *Male genitalia* (Fig. 14) with aedeagus regularly curved at middle, elongated to apex, at apex with conspicuous and widened securiform lamella, parameres asetose. *Female genitalia* (Fig. 21) with coxostylus regularly curved at apex, with moderately sized cone-like seta preapically, ventro-medially with thirteen nematiform setae, seven of them elongated, laterotergite with four long and one moderately long nematiform setae. *Measurements*. Body length 3.51-4.32 mm (\bar{x} = 3.96 mm*), width 1.21-1.39 mm (\bar{x} = 1.29 mm*), ratio length/width of pronotum 1.0-1.03 (\bar{x} = 1.0*), ratio length/width of elytra 1.61-1.74 (\bar{x} = 1.66*); (*n = 10).

Variability was observed in the extension of the two groups of punctures laterally on the pronotum. Interval eight of the elytron is narrower and flattened at apex in many specimens. The reticulation on interval eight is usually of moderate distinctness but in some specimens it extends more or less to intervals seven and six. The reticulation on the head is restricted to the frons but is in some specimens developed at the frontal furrows, in others it extends more or less to the middle. The V-like sulcus at the middle of the frons is more or less distinctly developed by punctures. The neck constriction is more or less distinctly developed, in some specimens nearly closed and in others with a distinct gap in the middle. The scattered micropunctures on the clypeus are different in number.

Distribution: Hong Kong, South of China, Thailand, Cambodia, Vietnam (South), Malaysia, Singapore.

According to label information, specimens were found from sea level up to an altitude of 750 m. Aston (2016) reports a specimen collected in Hong Kong in moss in a shallow stream.

Type locality: Bangkok.

Remarks: The holotype was found to lack the abdomen. The holotype of *S. paradoxus* collected in Bangkok was not studied. The redescriptive extended diagnosis is based on the comparison of the original description (Putzeys, 1868), the detailed redescription including figuring of the habitus by Andrewes (1929), the two specimens Andrewes compared with the type including the specimen figured by Andrewes, and additional material collected at and near by the type locality. Moreover, 49 additional specimens were available. In Lorenz (1998, 2005), *Clivina lignicola* Bouchard, 1903 is synonymized with *S. paradoxus*. This synonymization is not followed because the description clearly refers to another species group, most obvious by the large preapical protuberance of the mesotibia. According to current knowledge, *S. paradoxus* was not found in Sumatra as indicated in the description of *Clivina lignicola*. Although the MNHN is given as type depository (Bouchard, 1903), the type could not be located there.

Syleter acutipalpis (Putzeys, 1877)

Figs 8, 15, 22

Psilus acutipalpis Putzeys, 1877: XLVI.

Psilus paradoxus. – Andrewes, 1926: 381. – Andrewes, 1927: 266. – Andrewes, 1929: 387, fig. 58. – Andrewes, 1930: 288.

Syleter paradoxus. – Lorenz, 1998: 138. – Balkenohl, 2001: 30, fig. 39. – Lorenz, 2005: 148 – Balkenohl, 2017: 260.

Type material examined: RBINS; lectotype by present designation: ♂, with labels and data: yellow, handwritten in black ink “*Psilus acutipalpis* P Birma.” / white, handwritten in black ink and printed “*Psilus acutipalpis* Putz dét. J. Putzeys” / white, violet printed and framed “Soc. Ent. Belg. Coll. Putzeys” / white, handwritten in black ink and printed “*Psilus acutipalpis* Putz Cotype H. E. Andrewes det. 1928” / red, framed, printed and handwritten in black ink “Paratype de acutipalpis” / white, handwritten in black ink and printed “*Psilus paradoxus* Putz. = *P. acutipalpis* Putz. = *P. trapezicollis* Bates H. E. Andrewes det.”.

Additional material: RBINS; 1 ♂, with labels and data: yellow, handwritten in black ink “Birma”, white, handwritten in black ink “*Cl. Dyschirioides* m. Birma”, white, violet printed and framed “Soc. Ent. Belg. Coll. Putzeys”, white, black printed and handwritten in black ink “*Psilus acutipalpis* Putz dét. H. E. Andrewes 1920”. – NHMB; 1 ♀, handwritten and red framed: China, Lilong.

Extended diagnosis: *Head* anterior eyes moderately elongated, with moderately impressed transverse clypeal furrow and a second furrow in form of a letter V; clypeus, frons, and supraantennal plate smooth; neck constriction complete, developed as distinct sharp step with frons distinctly higher than neck; labrum seven-setose, mandible moderately elongated. *Pronotum* with reflexed lateral margin complete, diverging but slightly convex in anterior half; lateral channel of pronotum from posterior angle to base distinctly widened; basal constriction much wider than carina of flange, flange with acute carina; disk with isodiametric to transverse reticulation, with two groups of punctures laterally with the paramedian one elongated; with posterior angle obtuse but distinct. *Elytron* with all intervals longitudinally reticulated, reticulation with increasing distinctness towards interval eight, with small tubercle at declivity of third interval; striae moderately wide, finely granulated, with punctures indistinct, umbilical setigerous punctures of equal distance, lateral margin at apex about 20% widened. *Male genitalia* (Fig. 15) with aedeagus regularly curved, at apex conspicuously elongated in ventral view, in lateral view developed apically as widely rounded spatula, each paramere bisetose. *Female genitalia* (Fig. 22) with coxostylus regularly curved at apex, with moderately sized cone-like seta preapically, ventromedially with twelve nematiform setae, five of them elongated, laterotergite with three long and two moderately long nematiform setae. *Measurements.* Body length lectotype and additional specimen 3.61 / 3.64 mm, width 1.19 / 1.24 mm, ratio length/width of pronotum 0.99 / 1.01, ratio length/width of elytra 1.65 / 1.61.

Distribution: South of China, Myanmar.

Type locality: Myanmar (Birma).

Remark: The species was described by Putzeys (1877) and synonymized by Andrewes (1929). Putzeys based the description on two specimens. According to Andrewes (1926, 1929), the type was deposited in “the Stettin Museum and a cotype in the Brussels Museum”. The cotype is available (RBINS) and has been designated as lectotype for reasons of the stability of the nomenclature. In the lectotype the following body parts are missing: all tarsomeres of the left front leg, left antennomeres with exception of the scapus, right antennomeres from joint six onwards. In addition, the hook at the tip of the mandibles is broken. The description of Putzeys indicates both specimens came from Calcutta. According to Andrewes (1926) both specimens are labelled “Birma”. This is confirmed for the specimen deposited in RBINS.

Syleter fulvaster (Andrewes, 1927)

Figs 9, 16, 23

Psilus fulvaster Andrewes, 1927: 267. – Andrewes, 1930: 288.

Syleter fulvaster. – Lorenz, 1998: 138. – Lorenz, 2005: 148. – Balkenohl, 2001: 29, fig. 38.

Type material examined: *Holotype*: BMNH; ♀, with labels and data: white, printed, black framed “Riam Kanan Martapoera Z.O. Borneo Doherty VI.VII”, “Bought from Janson, 1918.”, “H.E.Andrewes Coll. B.M. 1945-97.”, red, black printed “Type”, white, handwritten and printed “*Psilus fulvaster* Andr. Type H.E.Andrewes det.”. Two apical antennomeres are missing on the left side.

Paratype: BMNH; ♂, with same labels and data but with circle, red framed “Cotype”.

Additional material: MFNB; 1 ♂, S.O. Borneo Grabowsky. – BMNH; 1 ♂, BORNEO, Sabah near Gum Gum, Lower Kinabatangan, light trap, June 2005, BMNH (E) 2005-178 H. Takano & T. Owen-Edmunds. – NHMW; 1 ♀, Indonesia, SE-Sulawesi, Rawa Aopa Nat. Park Aopa vill., 8.-10.2.1994, leg. M. Strba & I. Jenis. – BMNH; 1 ♀, Tjilatjap Java Drescher 19.IV.1936, And FCD 236, H.E. Andrewes Coll. B.M. 1945-97.

Extended diagnosis: *Head* anterior eyes conspicuously elongated, with moderately impressed transverse clypeal furrow in form of a letter V; clypeus and supraantennal plate nearly smooth, frons with distinct isodiametric reticulation; neck constriction incomplete, developed laterally as row of punctures with a wide gap at middle; labrum three-setose; mandible conspicuously elongated. *Pronotum* with reflexed lateral margin complete, straight but diverging in anterior half; lateral channel of pronotum of same width in its whole length, basal constriction narrow; flange flattened, six times as wide as constriction; disk smooth; with posterior angle completely rounded off but lateral margin knob like thickened. *Elytron* with all intervals smooth, without tubercle at declivity of third interval; striae developed as rows of distinct punctures, distance of umbilical setigerous punctures wider at middle, lateral margin at apex with distinctly widened emargination. *Male genitalia* (Fig. 16) with aedeagus conspicuously curved at middle, at apex flattened and distorted in ventral view, in lateral view spoon-like but asymmetrically widened at apex, rounded at tip of apex, each paramere quadrisetose. *Female genitalia* (Fig. 23) with coxostylus hook-like curved at apex, apically with large cone-like seta, ventromedially with thirteen nematiform setae, four of them elongated, laterotergite with three long and one short nematiform setae. *Measurements*. Body length 2.81-2.84 mm, width 0.93-0.96 mm, ratio length/width of pronotum 1-1.02, ratio length/width of elytra 1.64-1.65; (n = 4).

Distribution: Southeast and central Borneo, Java, Sulawesi.

Type locality: Borneo: Riam Kanan, Martapoera.

Syleter papua Darlington, 1962

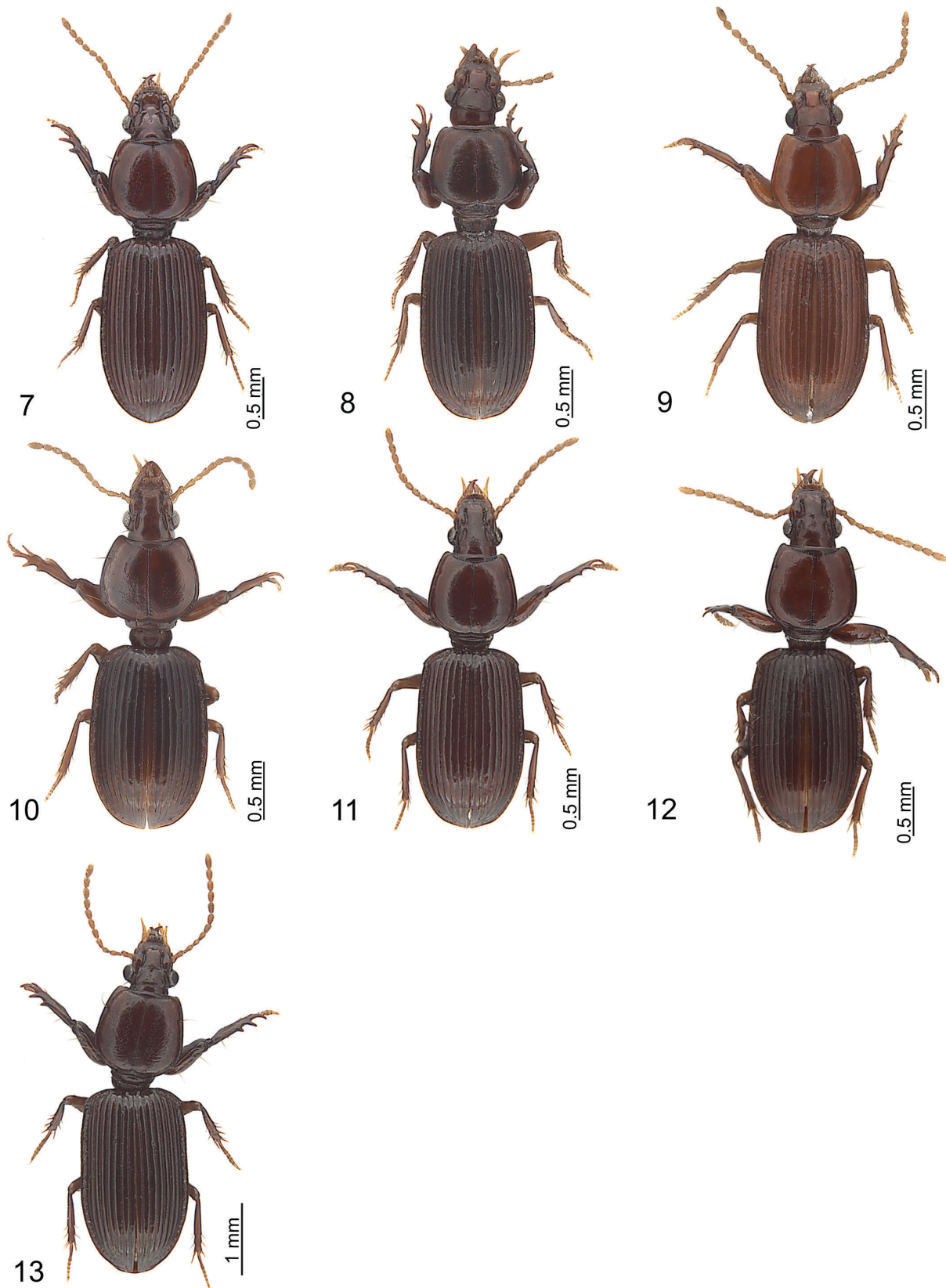
Figs 10, 17, 24

Syleter papua Darlington, 1962: 357. – Moore *et al.*, 1987: 78. – Lorenz, 1998: 138. – Lorenz, 2005: 148. – Balkenohl, 2001: 30. – Baehr, 2008: 13, figs 2, 16, 49, 62, 63, 177, 212.

Type material examined: *Paratypes*: BMNH; 1 ♂, TNHMUK 013460395, white, black printed “Dobodura, Papua, N.G., Mar-July, 1944, Darlington”, red, printed “Paratype *Syleter papua* Darl.”, white, printed “Brit. Mus. 1963-26.”, circle, yellow framed, black printed “Paratype”. – 1 ♀, TNHMUK 013460393, with labels and data white, black printed: “Muffin Bay Dutch N.G. Aug 1944 Darlington”, red: “Paratype *Syleter papua* Darl.”, white: “Brit. Mus. 1963-26.”, circle, yellow framed, black printed “Paratype”. Damaged specimen with right mesotibia, left tarsomeres of the mesotibia, and right antennomeres three to eleven missing. – 1 ♀, BMNH; same data but barcode with No 13460398. Specimen with missing antennomeres three to eleven bilaterally.

Extended diagnosis: *Head* anterior eyes conspicuously elongated, with clypeal furrow slightly indicated by indistinct lateral rugae, smooth at middle, with an indistinct longitudinal pore on frons; clypeus and frons with distinct isodiametric reticulation, supraorbital plate almost smooth; neck constriction almost incomplete, developed as row of punctures with a more or less wide gap at middle; labrum seven-setose; mandible moderately elongated. *Pronotum* with reflexed lateral margin complete, diverging but slightly convex in anterior half; anterior margin excised, anterior angle projecting; lateral channel of pronotum of same width over entire length; basal constriction half as wide as flange, flange convex; disk with reticulation and small group of few punctures; with posterior angle marked as obtuse tooth. *Elytron* with all intervals longitudinally reticulated, with small tubercle at declivity of third interval; striae moderately wide, finely granulated, with punctures indistinct, umbilical setigerous punctures of equal distance, lateral margin at apex about 40% widened. *Male genitalia* (Fig. 17) with aedeagus regularly curved, at apex conspicuously acute in ventral view, in lateral view developed apically as asymmetric distorted spatula curved ventrally, rounded at tip of apex, parameres asetose. *Female genitalia* (Fig. 24) with coxostylus gently curved at apex, with large cone-like seta, ventromedially with eighteen nematiform setae, five of them elongated, laterotergite with three long and two moderately long nematiform setae. *Measurements*: Body length 3.32-3.6 mm; for other measurements see Baehr (2008).

Remark: The species is well described by Darlington (1962) and additional general characters are provided by Baehr (2008) including measurements based on



Figs 7-13. *Syleter* spp., habitus. (7) *S. paradoxus* (Putzeys, 1868), specimen from Bangkok, female. (8) *S. acutipalpis* (Putzeys, 1877), lectotype. (9) *S. fulvaster* (Andrewes, 1927), paratype, male. (10) *S. papua* Darlington, 1962, paratype, female. (11) *S. sinepunctatus sinepunctatus* sp. nov., holotype. (12) *S. sinepunctatus kluangensis* ssp. nov., holotype. (13) *S. gradus* sp. nov. holotype.

ten specimens, and description of the male and female genitalia. The ink sketches of the male genitalia and the shape of the female coxostyli in general reflect more or less the reality. However, the two females investigated show a different setae pattern as figured in Baehr (2008), and the subapical setose organ figured could not be observed (500 fold, Polyvar compound microscope with optimized condenser). The female specimens investigated by Baehr (2008) were from Dobodura whereas the females investigated in this contribution were found in the Indonesian part of the island (Vogelkop). Therefore it is possible the two populations belong to different forms.

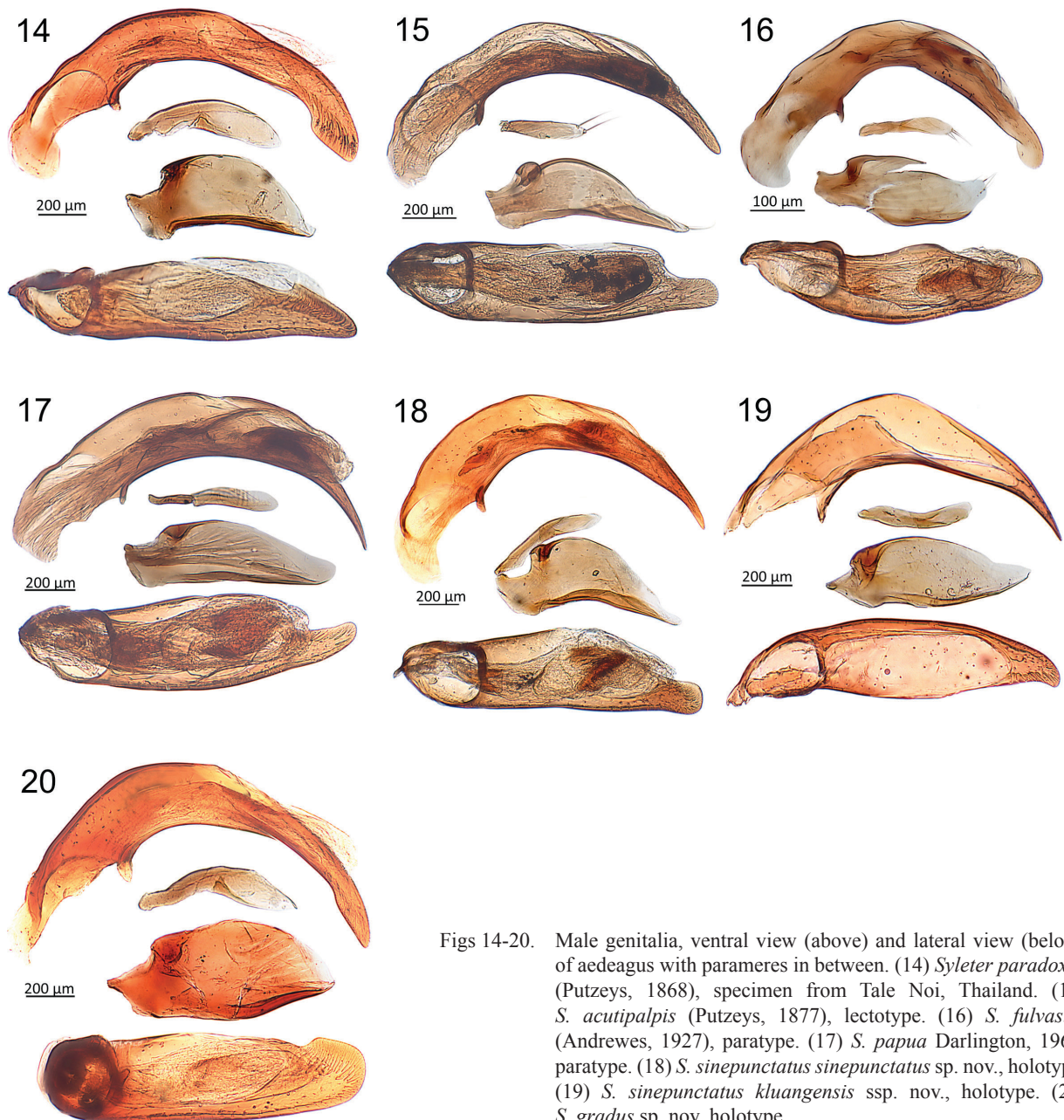
Distribution: New Guinea: Papua-New Guinea: Dobodura; Indonesia: Muffin Bay (Darlington, 1962). Northeast Australia (Queensland): Cape York (Moore, 1987; Baehr, 2008).

Type locality: Dobodura in Papua-New Guinea.

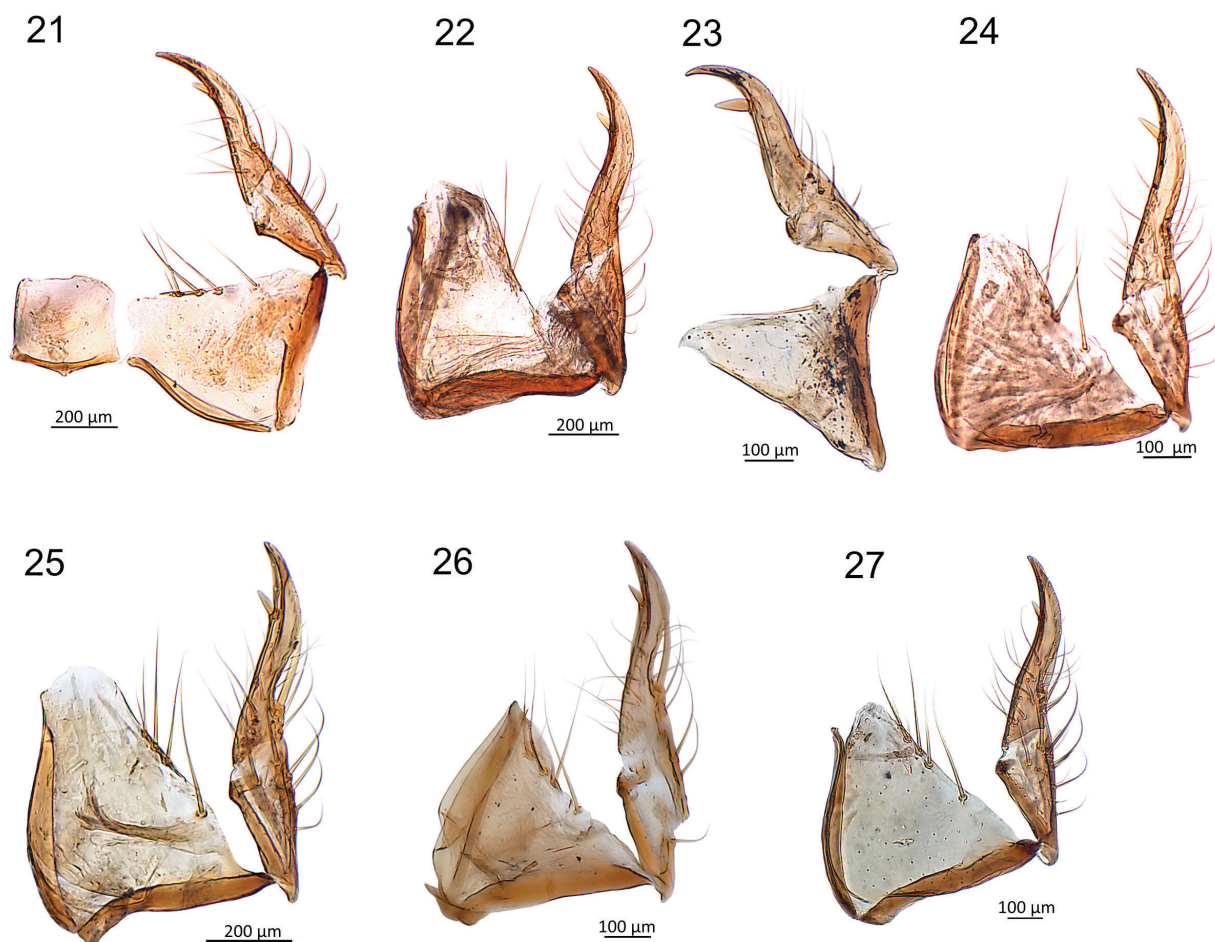
Syleter sinepunctatus sinepunctatus sp. nov.

Figs 11, 18, 25

Holotype: BMNH; ♂, with labels and data: white, handwritten in black ink “32 BRUNEI Bukit Sulang Nn hamunin, 28.VIII.-5.IX.82, B.E. Stork B.M. 1982-388”, printed “at light”.



Figs 14-20. Male genitalia, ventral view (above) and lateral view (below) of aedeagus with parameres in between. (14) *Syleter paradoxus* (Putzeys, 1868), specimen from Tale Noi, Thailand. (15) *S. acutipalpis* (Putzeys, 1877), lectotype. (16) *S. fulvaster* (Andrewes, 1927), paratype. (17) *S. papua* Darlington, 1962, paratype. (18) *S. sinepunctatus sinepunctatus* sp. nov., holotype. (19) *S. sinepunctatus kluangensis* ssp. nov., holotype. (20) *S. gradus* sp. nov. holotype.



Figs 21-27. Female coxostyli with laterotergite. (21) *Syleter paradoxus* (Putzeys, 1868), specimen from Tale Noi, Thailand, with latero- and mediotergite. (22) *S. acutipalpis* (Putzeys, 1877), specimen from Lilong, China. (23) *S. fulvaster* (Andrewes, 1927), holotype. (24) *S. papua* Darlington, 1962, paratype. (25) *S. sinepunctatus sinepunctatus* sp. nov., paratype. (26) *S. sinepunctatus kluangensis* sp. nov., paratype. (27) *S. gradus* sp. nov. paratype.

Paratypes: BMNH; 1 ♀, with labels and data: orange, handwritten in black ink “Kuching SARAWAK 28.7.1961”, “at light”, white, black printed “R.O.S.Clarke. B.M. 1970-557.”, green, handwritten with pencil “*Syleter* n.sp. nr. *paradoxus* PUTZ. det. Balkenohl, 2000”. – MFNB; 1 ♀, with labels and data: beige, black printed “S.O. Borneo Grabowsky.”, “Zool. Mus. Berlin”. – ADCW; 3 ♂♂, 2 ♀♀, 7 specimens., with labels and data: white, black printed “INDONESIEN: Kalimantan Timur, Tanjung Isuy 20.1.1995 leg. Seyfert & Greindl (34)”. – ADCW; 1 ♂, 3 ♀♀, 5 specimens, same data but “(33)” and “(34)” and orange, handwritten: “Coll. Zettel Wien”.

Diagnosis: A medium sized species with seven-setose labrum, and the clypeus and frons isodiametrically reticulated. Differentiated from the similar species *S. paradoxus* and *S. gradus* sp. nov. by the missing punctures on the disk of the pronotum and the missing clypeo-frontal furrow. *S. paradoxus* differs in addition by the smooth clypeus. *S. gradus* sp. nov. differs in

addition by the complete and step-like developed neck constriction, and by the larger size.

Etymology: The name refers to the completely missing punctures on the disk of the pronotum (Latin: sine – without).

Description

Measurements: Body length 3.37-3.8 mm (\bar{x} = 3.64 mm*), width 1.16-1.27 mm (\bar{x} = 1.22 mm*), ratio length/width of pronotum 1.01-1.05 (\bar{x} = 1.03*), ratio length/width of elytra 1.58-1.66 (\bar{x} = 1.62*); (*n = 10).

Colour: Piceous to fuscous. Legs fuscous. Antenna, tarsomeres and palpomeres testaceous.

Head: A third narrower than pronotum, frons and clypeus anterior eye-level conspicuously elongated. Clypeus straight anteriorly, with lateral angle obtuse rounded; completely fused with clypeal wing and supraantennal plate, all reflexed margined, clypeus convex, separated from elongated convex supraantennal plate by parallel running deep and conspicuously wide clypeal furrows,

extending up to anterior eye-level; supraantennal plate extended up to mid-eye level; clypeus separated from frons by indistinct transverse nearly not traceable change of the direction of the convexity. Frons moderately convex, with wide frontal furrows, with distinct lateral carina separating frontal furrow from supraorbital furrow, frontal furrow and lateral carina wide, slightly diverging and extending nearly up to neck constriction. Clypeal, frontal, and supraorbital furrow not connected. Clypeus and frons with distinct isodiametric reticulation, clypeal wing and supraantennal plate with longitudinal reticulation. Neck at middle at same level as frons, constriction developed laterally as row of punctures. Eye moderately projecting laterally. Gena indistinct. Antenna reaching over posterior angle of pronotum, antennomeres four to ten elongate (around 1.8 times longer than wide). Labrum straight anteriorly, reticulated, seven setose.

Pronotum: Disk in lateral view moderately convex, convex in frontal view. Outline trapezoid. Reflexed lateral margin smooth, nearly straight attenuated in anterior half, widest at posterior third; anterior angle slightly projecting; posterior angle developed as distinct rounded tooth, tooth laterally much less projecting than widest part of lateral margin. Lateral channel as wide as reflexed lateral margin, anterior setigerous punctures removed from channel by diameter of pore, posterior setigerous puncture situated in the channel close to the tooth of the posterior angle. Median line moderately narrow; anterior transverse line slightly wider than median line, joining with median line. Surface with isodiametric to transverse reticulation; basal constriction distinct, flange 2.5 times wider than constriction.

Elytron: Disk slightly convex in anterior half in lateral view, convex on frontal view. Around 1.6 times as long as wide, slightly dilated in apical half, maximum width slightly behind middle. Reflexed lateral margin smooth. Scutellar striole short but visible. Base of elytron with setigerous tubercle at base of second interval, with a small tubercle at base of third interval. Striae moderately deep, crenulate-striate, four to seven reaching base, the seventh at level of the humerus, humerus marked by distinct tooth. Stria one running to apex, six and seven joining apically, the others partly joining at apex (variable). Intervals moderately convex. Third interval with three setigerous punctures, first distinctly removed from base and approaching third stria, the second situated at middle of the interval, the third approaching second stria. Interval one to seven smooth, glossy, interval eight with indistinct longitudinal reticulation.

Hind wings: Fully developed.

Lower surface: Proepisternum covered with isodiametric reticulation and few transverse wrinkles. Sternites of abdomen transversely sulcate, with transverse reticulation.

Legs: Profemur dorsally sulcate. Protibia covered with longitudinal reticulation, with two slender spines of moderate length, the third one obtuse, movable spur regularly arcuate.

Male genitalia (Fig. 18): Median lobe regularly curved in basal half, gently curved towards apex, apically distinctly acute in ventral view, in lateral view widened at middle, developed apically as asymmetric distorted spatula, broadly rounded at tip of apex; endophallus with two longitudinal groups of bristles; parameres asetose.

Female genitalia (Fig. 25): Coxostylus one and two partly fused; coxostylus two gently curved at apex, ventromedially conspicuously narrowed and with conspicuously wide and long nematiform seta, apically with moderately large cone-like seta, with twelve long and one short nematiform setae, coxostylus one with two long nematiform apical setae, ventromedially with four moderately long setae, with two shorter setae at middle; laterotergite with five moderately long nematiform setae, one of them situated basally.

Variability: The reticulation on interval eight is more or less distinct. At the apex of the elytron the striae two to five are more or less joining.

Distribution: Known from two locations in Borneo (Brunei and South East Borneo).

Syleter sinepunctatus kluangensis ssp. nov.

Figs 12, 19, 26

Holotype: BMNH; ♂, with labels and data: white, printed and handwritten in black ink “WEST MALAYSIA Jahore Kluang” and backside “m. V. Trap”, “MARDI M9918 27-483 TAX. EXPDN.” and backside “Piper nigrum”, “Pres by Comm Inst Ent B.M. 1983-1”, yellow, black printed “C.I.E. COLL. A. 15326”, white, black printed and handwritten “Syleter sp. det. R.B. Magde, 1983”, green, handwritten in pencil “Syleter n.sp. Balkenohl 2000”.

Paratype: NHMG; 1 ♀, with labels and data: white, printed “Selangor Sungei Buloh Kuala Lumpur 20-IX-72 T. Jaccoud”.

Diagnosis: The subspecies differs from the nominotypical subspecies mainly by the elytron with its slightly more convex lateral margin, the indistinct reticulation on the lateral intervals, the wider frontal furrows of the head, and the pronotum with its smaller posterior angle. In addition, the apex of the aedeagus is acutely pointed at the tip and turns dorsally. In contrast to the nominotypical subspecies it is not found in Borneo.

Etymology: The name is a noun and refers to the type locality, Kluang in West Malaysia.

Description:

Measurements: Body length 3.45 / 3.59 mm, width 1.15 / 1.26 mm, ratio length/width of pronotum 1.0 / 0.99, ratio length/width of elytra 1.59 / 1.55.

The subspecies differs from the nominotypical subspecies in the following characters:

Head: Frontal furrow widened towards the middle at the front.

Pronotum: Posterior angle indistinct, obtuse.

Elytron: Lateral margin indistinctly subcrenulated, convex at middle, maximum width at middle; intervals with indistinct reticulation on intervals five to seven with increasing distinctness towards interval eight.

Male genitalia (Fig. 19): Median lobe apically conspicuously acute in ventral view, in lateral view acuminate and asymmetric curved dorsally.

Female genitalia (Fig. 26): Laterotergite with four long and one small nematiform setae.

Distribution: Known from West Malaysia (Kluang in Johore, and Sungei Buloh near Kuala Lumpur).

***Syleter gradus* sp. nov.**

Figs 13, 20, 27

Holotype: BMNH; ♂, white, handwritten in black ink “Talang Borneo Grabowsky I. 82”, black printed “H.E.Andrewes Coll. B.M. 1945-97.”, white, black handwritten and printed “*Psilus acutipalpis* Putz. Compared with type H.E.A.”, black printed “H.E.Andrewes Coll. B.M. 1945-97.”.

Paratypes: BMNH; 1 ♀, white, handwritten in black ink “Talang Borneo Grabowsky”, black printed “H.E. Andrewes Coll. B.M. 1945-97.”. – ADCW; 5 ♀♀, with labels and data: white, black printed “INDONESIEN: Kalimantan Timur, Tanjung Isuy 20.1.1995 leg. Seyfert & Greindl (33)”, orange, handwritten “Coll. Zettl Wien”.

Diagnosis: A larger sized species with seven-setose labrum, and the clypeus and frons isodiametrically reticulated. Differentiated from the similar species *S. paradoxus* and *S. sinepunctatus sinepunctatus* sp. nov. by the stepped and complete neck constriction, the longitudinal reticulation of the intervals one to seven, and the larger size. In addition, in *S. sinepunctatus sinepunctatus* sp. nov. the punctures on the disk of the pronotum are missing, and in *S. paradoxus* the clypeus is not reticulated.

Etymology: The name is a noun and refers to the stepped neck constriction (Latin: *gradus* – step).

Description

Measurements: Body length 4.25-4.66 mm (\bar{x} = 4.41 mm*), width 1.32-1.55 mm (\bar{x} = 1.46 mm*), ratio length/width of pronotum 0.99-1.02 (\bar{x} = 1.01*), ratio length/width of elytra 1.62-1.72 (\bar{x} = 1.67*); (*n = 7).

Colour: Piceous to fuscous. Intermediate and hind leg fuscous. Antenna, tarsomeres and palpomeres testaceous. **Head:** A third narrower than pronotum, frons and clypeus anterior eye-level conspicuously elongated. Clypeus straight anteriorly, with lateral angle obtuse rounded; completely fused with clypeal wing and supraantennal

plate, all reflexed margined, clypeus flattened, separated from elongated convex supraantennal plate by parallel running deep and wide clypeal furrows, slightly diverging posteriorly, extending up to a quarter of anterior eye-level; supraantennal plate extended up to mid-eye level, clypeus separated from frons by a distinct transverse line of partly fused punctures and obtuse flat furrow, furrow turning posteriorly in form of an acute letter V, with a longitudinal pore on the frons at the bottom of the V. Frons moderately convex, with wide frontal furrow, with distinct lateral carina separating frontal furrow from supraorbital furrow, frontal furrow and lateral carina wide, distinctly diverging and extending up to neck constriction. Clypeal, frontal, and supraorbital furrows not connected. Clypeus, clypeal wing, and frons with distinct isodiametric reticulation, supraantennal plate smooth, with small depression posteriorly. Neck at middle deeper than frons, constriction developed as distinct step. Eye laterally distinctly projecting. Gena indistinct. Antenna reaching up to base of pronotum, antennomeres four to ten elongate (around twice as long as wide). Labrum distinctly convex anteriorly, reticulated, seven setose.

Pronotum: Disk in lateral view moderately convex, convex in frontal view but slightly flattened at median line. Outline oblongo-trapezoid. Reflexed lateral margin smooth, straight to slightly convex attenuated in anterior half, widest at posterior third; anterior angle not projecting; posterior angle developed as distinct obtuse tooth, tooth laterally much less projecting than widest part of lateral margin. Lateral channel as wide as reflexed lateral margin, anterior setigerous puncture located directly beside the channel, posterior setigerous puncture situated in the channel close to the tooth of the posterior angle. Median line moderately narrow; anterior transverse line slightly wider than median line, joining with median line. Surface with isodiametric to slightly transverse reticulation, with longitudinal paramedian and paralateral band of punctures; basal constriction distinct, flange more than three times wider than constriction.

Elytron: Disk flattened in anterior half in lateral view, convex on frontal view. Around 1.7 times as long as wide, lateral margin nearly parallel at middle, maximum width at middle. Reflexed lateral margin crenulated. Scutellar striae short, indistinct. Base of elytron with setigerous tubercle at base of first stria, with a small tubercle at base of third interval. Striae moderately deep, crenulate-striate, four to seven reaching base, the seventh at level of the humerus, humerus marked by distinct tooth. Stria one running to apex, two ending free at apex, three and four joining, five, six, and seven ending free apically. Intervals moderately convex, eighths slightly carinate apically. Third interval with three setigerous punctures, first distinctly removed from base and approaching third stria, the second and third approaching second stria. All intervals longitudinally reticulated, reticulation more intensive laterally.

Hind wings: Fully developed.

Lower surface: Proepisternum covered with isodiametric reticulation and few transverse wrinkles. Sternites of abdomen slightly transversely sulcate, with transverse reticulation.

Legs: Profemur dorsally sulcate. Protibia sulcate, covered with longitudinal reticulation, with three slender spines of moderate length, movable spur regularly arcuate.

Male genitalia (Fig. 20): Median lobe in ventral view distinctly and regularly curved in basal half, elongated in apical third, apex conspicuously securiform, in lateral view slightly widened at middle, apex developed as asymmetric slightly distorted wide hatchet, broadly rounded at tip of apex; endophallus with a longitudinal group and three small groups of bristles; parameres asetose.

Female genitalia (Fig. 27): Coxostylus one and two partly fused; coxostylus two gently curved at apex, ventromedially distinctly narrowed and with conspicuously wide and moderately long nematiform seta, apically with small cone-like seta, with thirteen long and one short nematiform setae; coxostylus one with two long nematiform apical setae, ventromedially with five moderately long setae, with six shorter setae at middle; laterotergite with three long, and two short setae, and with one long seta situated basally.

Variability: On the head, the V-shaped transverse line between the clypeus and frons shows more or less fewer punctures and is more or less impressed. On the pronotum the paramedian and paralateral band punctures varies regarding the number of punctures and the bands can be more or less wide and more or less extended nearly up to the anterior margin. The crenulation at the lateral margin of the elytron shows variability in their distinctness.

Distribution: Known from two locations in the Indonesian part of Borneo.

Specimens incertae sedis: MNHN; 2 specimens, labels with identical handwriting in black ink: Sumatra Palembang. One with additional label “*Syleter sumatraensis*”.

Remark: Both specimens are incomplete and in bad condition with broken elytra and missing abdomen. One is obviously a female due to some remains in the hind body. *S. sumatraensis* is not a valid name. – MFNB; 1 ♀, with labels and data: S.O. Borneo Grabowsky, Zool. Mus. Berlin. This incomplete specimen is close to *S. sinepunctatus* but might represent a new species.

Genus *Parasyleter* gen. nov.

Figs 2, 5, 28, 29, 30

Type species: *Dyschirius doriae* Putzeys, 1873: 14.

Genus diagnosis: Size 1.8 to 2.3 mm. **Head** (Fig. 2) with clypeus and frons distinctly elongated and flattened anteriorly; clypeus and clypeal wing fused, delimitation between clypeal wing and supraantennal plate observable as indistinct obtuse notch in two of the

species; clypeus straight or slightly convex anteriorly, as far as or slightly more projecting than clypeal wing; mandible elongated, narrow in apical third, laterally nearly straight or convex, hooked at apical tip; labrum three- or five-setose; maxillary palpomere distinctly narrowed and slender towards apex, nearly straight, two apical segments securiform; antenna with scapus and pedicellus eccentrically attached; eye without or with distinct reduction, gena small or extended posteriorly. Mentum not elongated, with lateral lobe convex, median tooth as wide as lateral lobe, acute, distinctly more projecting than lateral lobe, surface with slight transverse rugae. **Pronotum** square or indistinctly trapezoid, with reflexed lateral margin incomplete, running from anterior angle up to posterior setigerous puncture, posterior angle rounded off without tooth, lateral channel of equal width, median line narrow, finely or just not joining basal constriction; proepisternum visible basally in dorsal view; flange at base convex, as narrow as or up to two times as wide as basal constriction. **Elytron** with interval eight convex, lateral channel distinctly flared apically, with interval eight distinctly emarginated apically and row of umbilical setigerous punctures distinctly following the emargination, interval eight with distinct emarginated carina at apex; third interval without setigerous punctures. **Hind wings** fully developed or reduced. **Legs** with front and intermediate tarsomeres slightly widened, more distinct in males; mesotibia with four setae laterally, preapical seta either without any protuberance or arising from minute tubercle (Fig. 5). **Male genitalia** (Fig. 29) with aedeagus distinctly curved, apical part elongated, apex more or less spatulate or securiform. **Female genitalia** (Fig. 30) with coxostylus one and two completely fused, with evident cone-like seta in apical third; laterotergite with isolated setae.

Differential diagnosis: See key to the genera.

Etymology: The name is a combination of the Greek adjective para- (besides) and the original genus name.

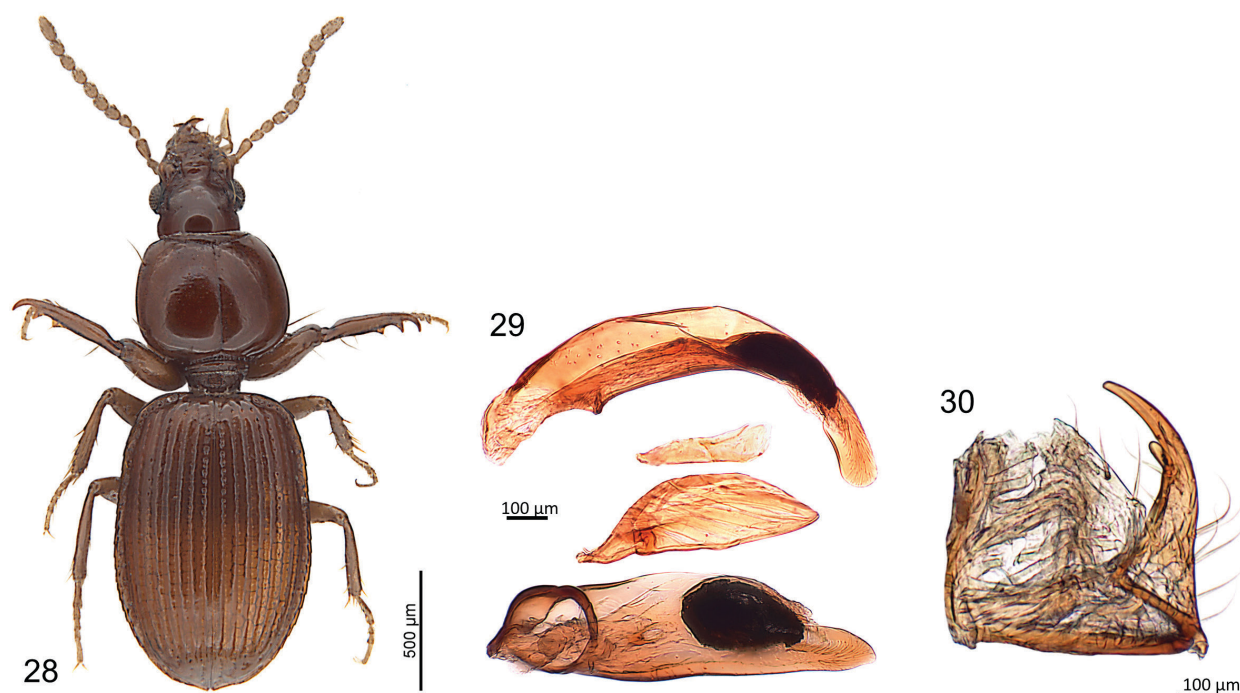
Species: Three described species belong into the genus: *Dyschirius doriae* Putzeys, 1873 known from Indonesia (Figs 2, 5, 28, 29, 30), *Psilus malayicus* Andrewes, 1927 distributed in Malaysia, and *Psilus porphyreus* Andrewes, 1923 known from Sri Lanka. The genus includes also species not described yet and is currently in revision by the author.

Genus *Clypeuspinus* gen. nov.

Figs 3, 6, 31, 32

Type species: *Psilus validus* Andrewes, 1936: 202.

Genus diagnosis: Size 4.8 mm. **Head** with clypeus and frons conspicuously elongated, convex; clypeus, clypeal wing, and supraantennal plate separated by obtuse



Figs 28-30. *Parasyleter doriae* (Putzeys, 1873) comb. nov., specimen from Sarawak collected by G. Doria. (28) Habitus, male. (29) Male genitalia, ventral view (above) and lateral view (below) of aedeagus with parameres in between. (30) Female coxostyli and laterotergite.

notch; clypeus straight and sloping anteriorly, clypeal wing conspicuously projecting anteriorly; mandible distinctly elongated, narrow in apical third, laterally convex, regularly convex in apical half, bent dorsally; labrum five-setose; maxillary palpomere elongated, slightly securiform; antenna with scapus and pedicellus eccentrically attached; eye relatively flat but not reduced, not projecting laterally, gena as long as eye. Mentum moderately elongated, with lateral lobe wide and convex, median tooth obtuse angled, projecting as far as lateral lobe, surface with rough longitudinal rugae. Pronotum with pentagonal longitudinal outline, with reflexed lateral margin complete, running from anterior angle up to basal constriction, posterior angle with moderately acute tooth projecting laterally, lateral channel distinctly widened between the two lateral setigerous punctures, median line wide, joining broadly basal constriction, proepisternum invisible in dorsal view, flange at base carinate, as wide as basal constriction. Elytron with interval eight carinate from humerus to apex; lateral channel of equal width from humerus to apex; third interval with three (left side) respectively four (right side) setigerous punctures. Hind wings fully developed. Legs with tarsomeres not widened (one female investigated); mesotibia with long protuberance preapically furnished with seta. Male genitalia unknown. Female genitalia with coxostylus one and two nearly completely fused, without cone-like seta.

Differential diagnosis: See key to the genera. However, the most similar species are *Basilewskyana villiersi* Basilewsky, 1948 and *B. brittoni* Kult, 1959 both from West Africa. These two species are completely black and much larger (7.2 and 7.8 mm). In addition, they differ mainly by a cylindrical shape, the clypeal wings slightly projecting, a deep facial furrow with distinct facial carina, without any clypeal suture, a wider labrum, the elytron with missing humeral tooth, more convex intervals, and the elytral setigerous punctures situated in the middle of the third interval. Members of the American genus *Ardistomis* Putzeys, 1846 also show a considerable elongation of the anterior part of the head and their mandibles are evidently elongated. But the maxillary palpomeres and the widened tarsomeres of the front and intermediate legs are very similar to *Syleter*. However, the pronotum, elytron and the plica at the apex of the elytron is very different.

Etymology: The name is a combination of two nouns, clypeus and spinus. Clypeus points to the conspicuously lobate-like projecting clypeal wings. Spinus highlights the long protuberance at the mesotibia (Latin: spinus – spur).

***Clypeuspinus validus* (Andrewes, 1936) comb. nov.**

Figs 3, 6, 31, 32

Psilus validus Andrewes, 1936: 202.

Syleter validus. – Lorenz, 1998: 138. – 2005: 148. – Balkenohl, 2001: 30. – Balkenohl, 2021a: in press.

Type material examined

Holotype: BMNH; ♀, with labels and data: white, handwritten in black ink “Battaramulla W.P. Ceylon 7-V-30”, white, handwritten in black ink “3520”, white, black printed “Brit. Mus. 1936-628”, white, circle, red framed and black printed “Type”, white, handwritten in black ink “*Psilus validus* Andr. Type H. E. Andrewes det.”, white, handwritten in blue ink “*Oxygnathus validus* Andr. det. K. Kult 47”. The two apical tarsomeres of the left mesotibia and the right hind tibia with tarsomeres are missing. The holotype is the only available material.

Redescription

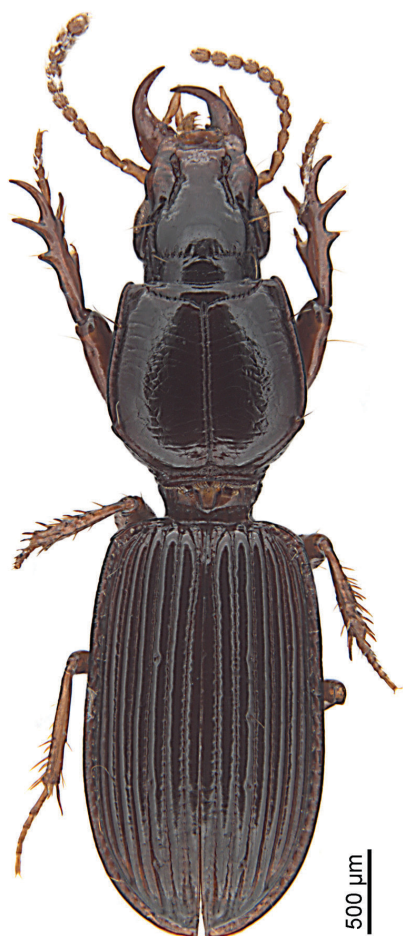
Measurements: Body length 4.81 mm; width 1.46 mm; ratio length/width of pronotum 0.98; ratio length/width of elytra 1.75.

Colour: Dorsal and ventral surface glossy; piceous with fuscous tinge; clypeus, wing of clypeus, supraantennal plate, and mandible fuscous, other mouthparts, antenna and legs paler yellowish-fuscous.

Head (Fig. 3) with dorsal surface smooth, with scattered micropunctures. One third narrower than pronotum,

conspicuously elongated. Clypeus with middle part narrower than labrum, with straight and anteriorly sloping margin, with indistinct clypeal suture, wing of clypeus moderately wide, conspicuously lobate-like projecting anteriorly, separated from clypeus by obtuse emargination, clypeal setigerous punctures situated in deep frontal furrows (setae rubbed off but the setigerous punctures are visible). Supraantennal plate vaulted, elongated, anteriorly separated from clypeal wing by indistinct notch, reflexed margined in posterior half. Frons elongated anteriorly, moderately convex. Supraorbital furrow deep, wide, converging at middle of eyes, bilaterally with two supraorbital setae situated at posterior eye- and posterior gena-level. Supraorbital carina blunt. Frontal furrow wide, well impressed. Neck constriction nearly complete, composed of bigger punctures. Eye of regular size, somewhat flattened in dorsal view but moderately convex in lateral view. Gena broad, conspicuously elongated, surface with few irregular rugae. Antenna not elongated, reaching to middle of pronotum, antennomere two slightly longer than three, attached eccentrically to scapus, scapus with indistinct irregular reticulation, with the seta situated

31



32



Figs 31-32. *Clypeuspinus validus* (Andrewes, 1936) comb. nov., holotype. (31) Habitus. (32) Female coxostyli with laterotergite.

dorso-frontally at apical quarter. Labrum slightly pointed anteriorly, five-setose, with indistinct irregular reticulation. Mandible conspicuously elongated, falcate, bend slightly dorsally, scrobe visible in dorsal view. Apical segment of maxillary palpus slender, moderately elongated, slightly securiform. Segment two of labial palpus bisetose. Ligula pointed, deeply embedded. Mentum with lobes carinate, moderately wide, convex anteriorly, epilobe narrow, with pointed central tooth projecting as far as lateral lobe, surface with rough rugae. *Pronotum*: Outline longitudinal pentagon-like, flattened on disc (lateral view), moderately convex in frontal view. Anterior angle projecting. Posterior angle marked by a distinct tooth which interrupts the lateral channel and projects laterally. Reflexed lateral margin straight in anterior half, diverging posteriorly, gently convex posteriorly to posterior angle, reaching from anterior angles up to base. Marginal channel distinctly widened between the two lateral setigerous punctures, foveolate. Lateral anterior setigerous puncture situated in distinct fovea in the channel, posterior one slightly removed from channel. Reflexed margin narrow, with indistinct notches. Proepisternum just visible posteriorly in dorsal view. Anterior transverse line deep, composed of punctures, joining with median line. Median line deep, moderately wide, distinctly joining base. Surface with distinct transverse wrinkles, with scattered micropunctures, with isodiametric reticulation in basal third, at base vaulted laterally. Flange narrow, carinate, as wide as basal constriction.

Elytron: Outline subelongate, flattened on disk in anterior half (lateral view). Lateral margin nearly straight in anterior half, slightly contracted to base and regularly convex in apical half, maximum width slightly behind middle. Humerus distinct, with distinct humeral tooth. Base convex. Reflexed lateral margin smooth, marginal channel with uninterrupted series of setigerous punctures. Stria one with setigerous tubercle at base of first stria, with distinct tubercle at base of third interval. Scutellar stria moderately developed. Striae moderately deep, punctato-striate; stria one joining basal tubercle, stria two and three free at base. Striae one and seven reaching apex, two to six ending apically at vault of interval seven. Intervals convex, convexity more evident laterally, eighth carinate from humerus nearly up to apex, seventh carinate at humerus. Third interval with three setigerous punctures on the left and with four punctures at the right elytron, all approaching more or less third stria, setae upright, of moderate length. Surface of intervals with indistinct isodiametric reticulation, slightly more distinct at outer intervals.

Hind wings: Fully developed.

Ventral surface: Proepisternum indistinctly isodiametrically reticulated, with transverse rugae. Last four tergites with two accessory setae at middle, with transverse reticulation, terminal segment with the two apical setigerous punctures widely separated.

Legs: Protibia with the three terminal spines long, slender, curved distinctly laterally; movable spur nearly as long as spine, turned slightly ventrally, surface with slight sulcus and isodiametric to longitudinal reticulation. First tarsomere of front leg longer than tarsomeres two to four together. Intermediate tibia with long protuberance preapically furnished with seta (Fig. 6). Tarsomeres of front and intermediate leg not widened.

Male genitalia: Unknown.

Female genitalia: With coxostylus one and two nearly completely fused (Fig. 32), moderately broadened at base, slightly curved in apical half, dorsally with nine long and slender and one distinctly elongated and robust nematiform setae in the middle part, ventrally with six smaller setae, no subapical setose organ. Laterotergite with four long nematiform setae.

Variability: The number of setigerous punctures on interval three of the elytra is different (three and four setae).

Distribution: Known from the type locality in Battaramulla, Western Province of Sri Lanka.

DISCUSSION

The characterization of *Clypeuspinus* gen. nov. raises the question of its relationship. The existence of the long protuberance at the mesotibia, the shape of the mandible and maxillary palpus, the different type of the mentum, the anteriorly projecting clypeal wings with the clypeus in between sloping, the wide foveolate lateral channel of the pronotum, the regular lateral channel of the elytron at apex, and the different coxostyli clearly demonstrate the genus differs extraordinarily from *Syleter* or *Parasyleter* gen. nov.

However, it is clearly a genus among the subtribe Clivinini (according to Kryzhanovskij, 1976, 1983, Baehr, 2008). So, the question of the taxonomical position of *Clypeuspinus* gen. nov. among the Clivinini is challenging. In contrast to the Scaritinae, phylogenetic assessments are available only for some Clivinini groups [e.g., *Schizogenius* Putzeys, 1846 (Whitehead, 1972), *Trilophus* Andrewes, 1927 (Balkenohl, 1999)] but no comprehensive phylogenetic assessment for the subtribe is available at present. Therefore, relationships are described historically and until today on the basis of similarities observed when genera and species are compared, morphologically. This approach has been shown to be correct over wider groups but it also reflects opinions because a general stringent assessment is missing. For the comparison of *Clypeuspinus* gen. nov. and in the absence of a better tool the traditional approach has been followed.

When looking at the Oriental Clivinini, the eye-catching anteriorly projecting clypeal wings with the sloping clypeus in between is found also in *Sparostes* Putzeys, 1867 but without matching of all the other characters.

This similarity was also seen by Andrewes (1936) when he described the species *validus*.

Comparing Oriental genera more closely, an anteriorly somewhat elongated head with deep frontal furrows, the flattened eyes with the genae distinctly elongated, falcate mandibles, the type of the maxillary palpus, and a spur at the mesotibia can be found in *Oxygnathus* Dejean, 1826. This is obviously the reason why Kult added a handwritten label under the holotype specimen with the following content: “*Oxygnathus validus* Andr. det. K. Kult 47” by underlining *Oxygnathus*. However, in *Oxygnathus* the head is anteriorly only slightly prolonged, the clypeal wings are slightly projecting over the level of the clypeus, and in the antennae the scapus and pedicellus are not eccentrically attached. The asetose scapus shows a specialized shape with a short basal part and nearly right angled flexed very long apical part. This is also true for *Oxygnathopsis* Louwerens, 1953 but to a somewhat different degree.

So, there is no genus in the Oriental region to which *Clypeuspinus* gen. nov. is more closely similar. This astonishing finding resulted in a comparison against the African, Australian, and Neotropical genera. Among the genera of these three regions there is one genus most similar to *Clypeuspinus* gen. nov. It is *Basilewskyana* Kult, 1959 known with the two described species *B. villiersi* Basilewsky and *B. brittoni* Kult, both from West Africa, sharing many of the basic characters including the type of fused coxostyli. The male genitalia could not be compared because the female holotype of *C. validus* is unique and no other material is available.

The two Oriental genera, *Syleter* Andrewes and *Parasyleter* gen. nov. are separated mainly by the pronotum, the different type of the female coxostyli, and the mentum with the characters given in the key provided above. Exactly these different characters of the pronotum served Jeannel (1957) for recognizing different phyletic lines and genera (i.e. among Reicheiina). It basically also separates the genera *Trilophus* Andrewes from *Trilophidius* Jeannel, 1957.

In both of the African groups, *Syleter* Andrewes and *Afrosyleter* Basilewsky, 1959, the reflexed lateral margin of the pronotum runs from the anterior angles up to the basal constriction, the median line is complete at the base, and the proepisterna are not visible in dorsal view. The two genera were separated by Basilewsky (1959) mainly due to a smaller and subparallel pronotum with more or less toothed posterior angles, the serrulate elytra, and the presence of four setigerous punctures on interval three. In addition, the male aedeagus demonstrated a completely different type in *Afrosyleter* with both of the parameres bisetose.

Relationships of *Syleter* with the genus *Ancus* Putzeys, 1867 are supposed by Baehr (2008) because of the “similar securiform palpi”. However, the palpi in *Ancus* are distinctly shorter and not as pointed apically as in *Syleter* and *Parasyleter*. Moreover, all the other features

characterizing *Syleter* and *Parasyleter* do not match with *Ancus*.

It is believed *Syleter* and *Parasyleter* belong to a circle of small Oriental clivinid genera including *Trilophus* Andrewes, *Trilophidius* Jeannel, and *Leleuporella* Basilewsky, 1956.

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