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Review of Indo-Pacific Dicercina GISTL (Coleoptera: Buprestidae): *Psiloptera DEJ.*

Roman B. HOŁYŃSKI

PL-05822 Milanówek, ul. Graniczna 35, skr. poczt. 65, POLAND

e-mail: rholynski@o2.pl

Introduction

More extensive outline of the state of knowledge as regards the **Dicercina GISTL** has been provided in HOŁYŃSKI (2017), of which the present paper is the continuation containing the review of the last not yet updated and published part of my PhD dissertation (HOŁYŃSKI 1999): *Psiloptera DEJ.* This genus had been traditionally subdivided into four large subgenera: *Psiloptera DEJ. s.str.* (exclusively Neotropical), "*Damarsila THS.*" (continental African), "*Lampetis SPIN.*" (circum[sub]tropical) and *Polybothris SPIN.* (restricted to Madagascar and nearby archipelagoes); KUROSAWA (1993) discovered that the type-species of *Lampetis SPIN.* is *Buprestis bioculata OL.*, an unquestionable member of what had been hitherto known as *Damarsila THS.*, so the former subgeneric name is in fact a senior synonym of the latter, while the taxon formerly called *Lampetis SPIN.* must receive the next-oldest available name: *Spinthoptera CSY.* The Japanese author proposed also several taxonomic rearrangements, leaving in the genus *Psiloptera DEJ.* only the nominotypical subgenus, considering *Lampetis SPIN.* (*sensu novo*) a separate genus (with *Spinthoptera CSY.* as a subgenus), dividing the classical *Polybothris SPIN.* into three taxa (*Apateum SPIN.*, *Polybothris SPIN.* and *Icaria ALLD.*) and attributing generic ranks also to each of them – in my opinion, *Lampetis SPIN.* and *Spinthoptera CSY.* have not "evolved away" very far from *Psiloptera DEJ.* and should be left (separately!) as its subgenera; as to *Polybothris SPIN. s.l.* it should evidently be subdivided [even much more radically than KUROSAWA (1993) has done: as well *Sororcula HOŁ.* (HOŁYŃSKI 1993), as several taxa proposed by THOMSON (1878a, b) certainly deserve

acceptation], but at least some (plesiomorphous?) subgroups do not show differences justifying separation from *Psiloptera DEJ.* at more than subgeneric level.

I am aware of but one publication (HORNBURG 2004) concerning Indo-Pacific species of *Spinthoptera CSY.* (the only subgenus representing the genus *Psiloptera DEJ.* in that Region) having appeared since my unpublished thesis (HOŁYŃSKI 1999), so the formally published knowledge of their phylogenetical, taxonomical and biogeographical relationships has still remained at the stage summarized by KERREMANS (1910) and only partly (for Indochinese Peninsula) updated by AKIYAMA & OHMOMO (1994). The present paper – the modified version of my thesis – has been aimed at filling this blank spot in the study of the Indo-Pacific **Dicercina GISTL**, so that only one genus (*Ovalisia KERR.*, treated only at the subgeneric level – HOŁYŃSKI 2000) will remain unreviewed.

Terminology and abbreviations

Frontal depression: median concavity of front, widest at epistome and tapering to or beyond the level of upper margins of eyes

Anterior cavity of front: deeper anterior part of frontal depression, more or less distinctly separated from the rest by oblique elevations

Collar: short apical, constricted part of pronotum

Midlateral elevations of pronotum: longitudinal elevations on disk to both sides of median depressions

Subhumeral protrusion/denticle: moderately salient/prominently angularly protruding epipleural margin at humeri

Caudate elytra: of concave lateroapical margins and dorsal profile

Submarginal ridge: more or less regular stripe of smooth reliefs crossing proepisterna subparallel to lateral margin of pronotum

Midlateral: lying at *ca.* mid-distance betweel median line and side margins

Convergent/divergent: unless stated otherwise, always apicalwards (downwards on front, forwards on pronotum, backwardson elytra, &c.)

Phenun: unit of the cost of transformation and phenetic distance

Support quotient: measure of node support ("denominator" denotes the "corrected distance" between the immediate descendants, "divider" – the least distance between one of them and any other taxon remaining "in game" at the respective stage of the reconstruction)

BMNH = Natural History Museum, London, ENGLAND;
ISUA = Instituut voor Systematiek en Populatiebiologie, Universiteit van Amsterdam, Amsterdam, HOLLAND
KBIN = Koninklijk Belgisch Instituut voor Natuurwetenschappen, Bruxelles, BELGIUM;
MCGD = Museo Civico di Storia Naturale „Giacomo Doria", Genova, ITALY;
MNHN = Muséum National d'Histoire Naturelle, Paris, FRANCE;
NNHM = Nationaal Natuurhistorisch Museum, Leiden, HOLLAND;
RBH = Coll. Roman B. HOŁYŃSKI, Milanówek, POLAND;
USNM = Smithsonian Institution: National Museum of Natural History, Washington, USA
ZIRAN = Zoological Institute, Russian Academy of Sciences, Petersburg, RUSSIA

dfp = "dense-and-fine punctulation" or "densely-and-finely punctulate"; refers to the type of sculpture occurring mainly in depressed areas (foveae, sulci) and consisting of fine, dense, regular punctulation on usually distinctly microsculptured background, covered with dense pubescence and frequently pulverulent.
L = length
W = width
BW = basal width
AW = apical width
V = width of vertex between eyes
H = width of head with eyes
Θ, Θ &*c.* circular label with coloured frame
SQ = support quotient

SYSTEMATIC REVIEW OF INDO-PACIFIC TAXA

BUPRESTIDAE LEACH
BUPRESTINAE LEACH
Buprestini LEACH
Dicercina GISTL
Psiloptera DEJ.

Psiloptera DEJEAN 1833: 76

Type-species: *Buprestis attenuata FABRICIUS 1792*

General characteristics:

Pantropical genus, with *ca*. 500 known species, traditionally divided into four big subgenera: *Psiloptera "SOL." s.str.* restricted to South America; "*Damarsila THS.*" to subsaharan Africa; *Polybothris "SPIN."* to Madagascar area; and "*Lampetis SPIN.*", widely distributed in the Neotropical, Ethiopian, Indo-Pacific and southern parts of Nearctic and Palaearctic Regions. The nomenclature of, and taxonomic relations among, the taxa included in *Psiloptera DEJ.* have, however, not yet been fully clarified. KUROSAWA (1993) has shown, that the name *Lampetis SPIN.* refers in fact to what had been traditionally known as *Damarsila THS.*, while the subgenus hitherto called *Lampetis SPIN.* [in fact, SPINOLA (1837) attributed the name to DEJEAN, who indeed was the first to publish it, and only later authors on flimsy – see BARBER & BRIDWELL (1940) for more detailed argumentation – grounds declared the "Catalogue..." a nomenclaturally invalid work] should be properly referred to as *Spinthoptera CSY.*; and BELLAMY (1998) recently demonstrated also the priority of *Psiloptera DEJ.* [in fact, he quotes the name as "*Psiloptera* Serville in Dejean 1833", but the author of the respective publication is evidently DEJEAN himself, who only – according to the widespread custom of his time – credited SERVILLE, MEGERLE *&c.* with the authorship of what they used *in litteris* or as collection names] over *Psiloptera SOL.* As to the taxonomy, *Polybothris DEJ.* is an extremely heterogeneous group, justly subdivided by THOMSON (1878b), whose action has, however, not been followed by later authors; Australian *Notobubastes CART.* has little to do with the **Bubastina OBB.**, being in fact also a subgenus of *Psiloptera DEJ.* (HOŁYŃSKI 1988); the same is the proper status of Neotropical *Pseudolampetis OBB.*

Taxonomic subdivisions of *Psiloptera DEJ.* being poorly understood and apparently gravely misinterpreted in current classifications (recently summarized by KUROSAWA 1993), evidently further research, including all available species from the entire distribution area, is needed to clarify the phylogenetic and taxonomic relations within this speciose and widely distributed genus. Such a study remains obviously by far out of the scope of the present work, but until it is done, it would be futile to attempt the detailed reconstruction of the phylogenetic and/or zoogeographic history of the genus as a whole. Fortunately, only *Spinthoptera CSY.* is assuredly known to inhabit the study area – the occurrence there of two species of *Lampetis DEJ.*, suggested by old specimens labelled, respectively, "India Or." and "?Borneo", seems improbable – so I can restrict my study to that subgenus.

Key to the Indo-Pacific subgenera of *Psiloptera DEJ.*

1 (2) Anterior margin of prosternum straight or slightly sinuate, without protruding tubercles ..... ***Spinthoptera CSY.***

2 (1) Anterior margin of prosternum emarginate between two tubercles ..... ***[Lampetis DEJ.]***

Spinthoptera CSY.

Spinthoptera CASEY 1909: 71-72
Type-species: *Psiloptera valens* LECONTE 1858
[=*Buprestis drummondi* CASTELNAU & GORY 1836]
Lampetis SPINOLA 1837: 113
Type-species: *Buprestis fastuosa* FABRICIUS 1775

The largest [to be sure, with *ca.* 150 described species it yields precedence to *Polybothris* SPIN. *s.l.* including 250, but the latter is an evidently heterogeneous group to be split – as has already been done by THOMSON (1878a,b) – into several smaller taxa] and by far most widely distributed (occurring – except Australia – virtually all-over the area inhabited by *Psiloptera* SOL. as a whole) subgenus. It is best represented in America (reaching from central Argentina to central USA: Colorado, Kansas – NELSON 1986), from where more than 100 species are known; the remaining seem almost equally divided between Africa and South Asia, with three or four species of African provenience extending into Paleartic Region: *P. (S.) mimosae (KL.)* reaches to Caucasus and Kara-Kum, *P. (S.) argentata (MNNH.)* even to Beludjistan (RICHTER 1952). In the Indo-Pacific Region the subgenus is widely distributed all-over the Indian and Indochinese Peninsulae, and then appears again in the Malay Archipelago, along the southern arc (from Sumatra to Timor); to my knowledge, it has not (yet?) been reported from Borneo, Celebes, or Philippines).

There are some distinctive, unmistakable species among the Indo-Pacific *Spinthoptera* CSY., but most are very similar and/or difficult to diagnose (differing in characters like coarseness of sculpture or convexity of interstriae, which are sometimes even striking to experienced eye, but refract exact definition), making proper identification of a specimen at hand, or – especially – interpretation of published description, by no means an easy task.

Key to the Indo-Pacific species of the subgenus *Spinthoptera* CSY.

1(46) Elytral costae uniform (both even and odd interstriae flat or equally elevated; 3., 5., 7. and 9. usually interrupted by dfp foveae).....

2(43) Abdomen without distinctive dfp band, or pubescent dfp stripes run at lateral margins

3(12) Lateral margin of pronotum marked with distinct, regular, smooth carina reaching to at least two thirds of its length. Front relatively finely sculptured, smooth reliefs small and indistinct **(fig. 1)**

Fig. 1
P. (S.) caerulescens praecursor ssp.n.

Frontal sculpture

Fig. 2
P. (S.) nelsoni (A.O.)

4 (7) Elytral interstriae without any trace of dfp foveae

5 (6) Striae finer, more regular; interstriae wider and less convex. Sides of pronotum coarser but less confluently punctured, with rather large, irregular, smooth reliefs; disk with less dense punctulation. Dorsal slit separating apical parts of parameres extends to their midlength, navicular; lateroapical angles broadly rounded; tip of penis sinuately tapering ..... ***P. (S.) coerulescens (HBST.)***

6 (5) Striae coarser, less regular; interstriae narrower, more convex. Sides of pronotum with finer but more confluent punctures, no apparent smooth interspaces wider than a puncture; punctulation of pronotal disk denser. Parameres dorsally separated in

apical 2/5 by parallelsided slit, their lateroapical angles sharp or but narrowly rounded; extreme tip of penis roundedly tapering ..... ***P. (S.) fastuosa (F.)***

7 (4) Elytral interstriae interrupted with dfp foveae (sometimes apparent only on 9. interstria and/or represented only by coarse punctures)

8 (9) Elytral foveae concentrated along suture ..... ***[P. (S.) melancholica (F.)]***

9 (8) Interstrial foveae distributed over all elytral surface or only on sides

10(11) All elytral dfp foveae small, punctiform, occupying only the middle part of the width of the respective interstriae; undersurface (especially legs) bronzed ..... ***P. (S.) orientalis (C.G.)***

11(10) At least some foveae on 9. interstria large, rectangular, occupying all its width; underparts and legs golden-green or golden-cupreous ..... ***P. (S.) jasienskii sp.n.***

12 (3) Lateral carina of pronotum indistinct, broken, or disappears already in basal half among coarse punctures. Frontal sculpture very coarse, smooth reliefs large and prominent **(fig. 2)**

13(14) 9. interstria with large (much larger than those situated more medially) dfp spots contrasting with smooth elevated areas. Male genitalia yellowish-brown ..... ***P. (S.) cupreosplendens SND.***

14(13) Dfp foveae on 9. interstria similar to those on others, often small and inconspicuous. Male genitalia brownish-black

15(16) Lateral carina of pronotum regular, smooth on *ca.* basal fourth, then interrupted by coarse punctures but traceable to or beyond midlength. Median sulcus of abdomen restricted to 1. sternite. Colouration dark brown or bright golden-green ..... ***P. (S.) shanensis (HBG.)***

16(15) Lateral carina of pronotum smooth at most just at basal angles, or abdominal sulcus prolonged over 2. sternite and colouration dark purplish.

17(30) Elytral interstriae not costiform: flat or but slightly convex; if – very rarely – subcostiform, then colouration bright green, cupreous or purplish and foveae on odd interstriae present but weakly developed, not or but slightly depressed, not much differing from those occasionally appearing on even interstriae

18(19) Elytral sides with laterally projecting denticle behind humeri ..... ***P. (S.) psilopteroides (SND.)***

19(18) Elytral sides sometimes somewhat angular behind humeri, but without prominent denticular projection

20(21) Elevated smooth reliefs on dorsal surface deep violaceous-black, sharply contrasting with mostly purplish-red or coppery, depressed dfp areas ..... ***P. (S.) nelsoni (A.O.)***

21(20) Elevated, smooth reliefs on pronotum and elytra similar in colouration to depressed dfp areas

22(23) Lateral carina of pronotum smooth, regular in basal third. Median sulcus of abdomen extends over basal two sternites ..... ***P. (S.) errabunda sp.n.***

23(22) Lateral carina more or less regular at most just at basal angles. Abdominal sulcus restricted to 1. sternite

24(29) Elytral interstriae at most moderately convex. Dorsal sides lustrous. Pronotal sculpture at middle relatively sparse, spaces between punctures mostly wider than punctures themselves. If predominant colouration cupreous-red then at least elytral suture green

25(28) Coarse sculpture of proepisterna concentrated near notopleural margin but without forming appreciably individualized submarginal ridge

26(27) Colouration predominantly cupreouus ..... ***P. (S.) viridicuprea (SND.)***

27(26) Uniformly [golden-]green ..... ***[P. (S.) holynskii (A.O.)]***

28(25) Proepisterna with usually very irregular, but always appreciable, row of smooth reliefs clearly separated from lateral carina by strip of finely punctulate surface and running parallel as additional, submarginal ridge. Aedoeagus robust, apex of each paramere deeply emarginate between sharp angles ..... ***P. (S.) affinis (SND.)***

29(24) Interstriae strongly convex, costiform. Dorsal side rather mat. Sculpture of pronotum dense, spaces between punctures even at midline narrower than punctures. Colouration uniformly purplish-red ..... ***P. (S.) praeinsularis sp.n.***

30(17) Interstriae definitely costiform, strongly convex; if coulouration bright metallic, then elytral foveae developed only on odd interstriae but there very distinct, regular, deeply depressed

31(38) Odd and even interstriae similar, continuous or (exceptionally) almost so, dfp foveae absent or sparse, small, inconspicuous

32(35) Elytra metallic cupreous, bronzed or green. Abdomen almost uniformly, coarsely sculptured

33(34) Pronotum green to cupreous, elytra concolorous ..... ***P. (S.) eva (THS.)***

34(33) Pronotum dull bluish-black, elytra bronzed-cupreous. ..... ***P. (S.) draconis sp.n.***

35(33) Body black with or without metallic shine. Sides of abdomen dfp

36(37) Frontal sculpture very coarse; elevated reliefs cover at least as much of surface as depressed dfp spaces between them. Ventral pubescence less dense, surface of sclerites clearly visible. Body black without distinct metallic shine. Male genitalia yellowish-brown ..... ***P. (S.) baliana KERR.***

37(36) Frontal sculpture finer; elevated reliefs less extensive than depressed dfp background. Pubescence on sides of ventral surface (esp. of metacoxae and 1. sternite) very dense, making surface of sclerites practically invisible. Body black with strong (at least on front) metallic (violet or green) lustre. Male genitalia brownish-black ..... ***P. (S.) timoriensis (C.G.)***

38(31) Odd interstriae (costae) unbroken, even (intercostae) interrupted with large dfp foveae

39(40) Lateral carina on pronotum somewhat irregular but distinct at least to midlength..... ..... ***P. (S.) alorensis THY.***

40(39) Lateral carina on pronotum practically absent

41(42) Dorsal side black with cupreous elytral foveae. Pronotal sides definitely rounded before midlength. Long prosternal pubescence extends to, or even slightly beyond, the almost totally obliterated lateral carina and is clearly visible from above .... ***P. (S.) sumbana sp.n.***

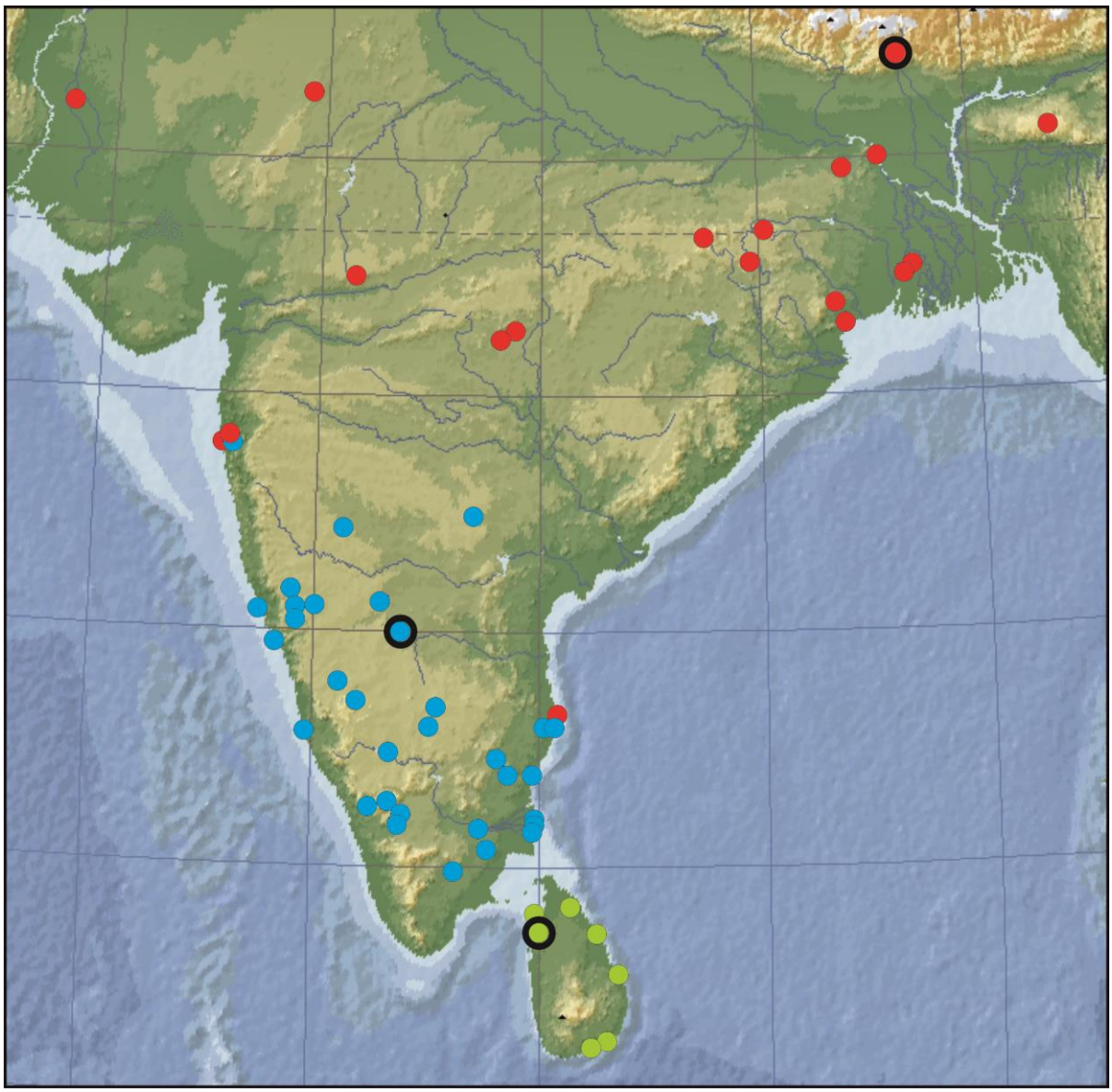
42(41) Dorsal side greenish-cupreous. Pronotal sides almost straightly convergent from base to apex. Prosternal pubescence not extending to sides, and not visible from above .... ***P. (S.) lombokiana sp.n.***

43 (2) Abdomen coarsely and sparsely punctured, with narrow pubescent band of dfp punctulation at some distance from each lateral margin

44(45) Elytra with numerous, almost uniform (though denser and somewhat bigger lateroapically) dfp foveae on odd interstriae ..... ***P. (S.) puncticollis (SND.)***

45(44) Each elytron with dfp lateral part of base, three obliquely arranged big round spots before middle, cuneate longitudinal lateroapical band, and few very small and indistinct foveae on 3., 5., and 9. interstriae ..... ***P. (S.) comottoi LSB.***

46 (1) Each elytron with 5 (incl. sutural) very prominent, regularly elevated and contrastingly (black) coloured costae, without intercostae (even – 2., 4., 6., 8. – interstriae flat, concolorous with pronotum) ..... ***P. (S.) scintillans WATH.***



Map 1

● ***P. (S.) coerulescens (HBST.) s.str.;*** ● ***P. (S.) coerulescens (HBST.) praecursor ssp.n.;*** ● ***P. (S.) fastuosa (F.)***

[Small simle symbols – exact localities; large encircled symbols – generalized areas]

Psiloptera (Spinthoptera) coerulescens (HBST.)

Buprestis coerulescens HERBST 1801: 192-193

Characters: Males [68] 12.5×4 – 22×8; females [55] 13.5×4.5 – 27×10.5 mm. Colouration variable, usually with striking contrast between green, golden, or cupreous sutural part of elytra (extending most often to 5., but sometimes only to 4. or even 3. stria) and bright green or blue, rarely cupreous or black lateral bands; extreme sides of elytra normally similar in colour to front, pronotum and underside. Structurally almost identical to *P. fastuosa (F.)*, – the only reliable distinguishing character I am aware of is longer navicular slit separating apical halves of parameres**.**

Geographical distribution: *P. coerulescens (HBST.)* occurs in southern India and Ceylon **[map 1]**; *P. japonica OBB.* was described from "Japan" (OBENBERGER 1914), but KUROSAWA (1989) is certainly right in placing this record on the list of erroneous data.

Remarks: Similarity of the commonest colour varieties, lack of hiatus in external morphology, and parapatric distribution with relatively narrow zone of "transgression", initially suggested to me that *P. coerulescens (HBST.)* is a southern subspecies of *P. fastuosa (F.)*, and so I have determined many specimens in various collections. Male genitalia seemed initially to support this opinion: in *P. fastuosa (F.)* they are variable, from very narrow with prominently angular lateroposterior angles of parameres [as describerd and figured by AKIYAMA & OHMOMO 1994 for *P. landeri (A.O.)*] to approaching *P. coerulescens (HBST.)* in robustness and "streamlined" shape. However, closer examination allowed to disclose consistent difference in apical slit, and showed a discontinuity – albeit rather narrow – in general outline, what must be interpreted as evidence of specific status. The pattern of geographical variability – best explanable by competitive character displacement: the distinctive features of *P. coerulescens (HBST.)* are much stronger developed in continental [sympatric with *P. fastuosa (F.)*] populations than in those from Ceylon [where the latter does not occur] – further corroborates this conclusion.

Key to subspecies of *P. (S.) coerulescens (HBST.)*

a (b) Colouration strikingly variable: usually head, pronotum and ventral side bluish-black, middle of elytral disk cupreous, laterally transgressing through green to blackish-blue; sometimes anteroventral parts of body green instead of blackish-blue, but even then extreme sides of elytra with at least slight bluish tinge; very rarely body uniformly cupreous-bronzed ..... ***P. (S.) coerulescens (HBST.) s.str..***

b (a) Head, pronotum, ventral side and lateral parts of elytra green withor without golden-cupreous shine but without any trace of blue ..... ***P. (S.) c. praecursor ssp.n***

Fig. 3
P. (S.) coerulescens (Hbst.) s.str.
♂ [BPlpi], India: Pondicherry

Fig. 4
P. (S.) c. praecursor ssp.n.
PT ♂, [BPdg-] Ceylon: Palatupana

Fig. 5
P. (S.) fastuosa (F.)
♂ [BPfbh], India: *ad* Nagpur: Gorewada

Psiloptera (Spinthoptera) coerulescens (HBST.) s.str.

Buprestis coerulescens HERBST 1801: 192-193
=Buprestis coerulea OLIVIER 1790: 21-22 [*nec THUNBERG 1789 (Meliboeus)*]
=Psiloptera japanensis OBENBERGER 1914

Material examined:

Syntypes: "Syntype"[Θ] "Type?"[Θ] "*Pondichéry*, Olivier" "Collection Chevrolat" "*Psiloptera coerulea Ol. Ent. 2. 3221, 13 pl. 4, ES Type, coerulescens Hbst., Ind. Or. Pondy., ex 191 in Oliv.*" "Kerremans 1903-59" "*coerulea Oliv. Type*" [1 ex. (BMNH)]; "Syntype"[Θ] "Type?"[Θ] "*Pondichéry*, Olivier" "Collection Chevrolat" "Kerremans 1903-59" "*coerulea Olivier Type*" [2 ex. (BMNH)]; "Syntype"[Θ] "Type?"[Θ] "*Madras*, Olivier" "Collection Chevrolat" "*coerulea Olivier Type*" "Kerremans 1903-59" [1 ex. (BMNH)]

Additional material: >500 ex.: 194 ♂, 190 ♀, *ca.* 150 ø

Characters [fig. 3]: Males [141] 12.5×4 – 22×8; females [149] 14×4.5 – 26.5×10.5 mm. Colouration variable: head and pronotum from (rarely) bright-green (exceptionally with slight cupreous-golden hue), through dark blackish-green to (usually) bluish-black; ventral side always similar to pronotum; middle of elytral disk (extending most often to 5., but sometimes only to 4. or even 3. stria) usually bright cupreous (only exceptionally concolorous green), lateral parts green, extreme sides similarly coloured to pronotum but even if green then with slight bluish tinge; very rarely (I have seen only two such specimens) body uniformly cupreous-bronzed. Structurally almost identical to *P. fastuosa (F.)*, even the few appreciable differences (sculpture of pronotal sides less dense and less evenly distributed, elytral striae finer and more regular, interstriae wider and flat, median part of prosternal process almost always smooth, finer and denser punctured submarginal space on proepisterna usually indistinct, with no trace of "submarginal ridge") being only "statistical" (with not infrequent intermediates and overlaps) – the only reliable distinguishing character I am aware of is longer (extending to midlength), wider, navicular slit separating apical halves of parameres.

Geographical distribution: *P. coerulescens (HBST.) s.str.* occurs in southern India **[map 1]**; Some collections (including mine) contain specimens allegedly coming from Siam (Chiang Mai: Doi Su Thep, 1 VII 1987), what however is evident mislabelling (dealer's material).

Remarks: The colouration variability in continental populations (those from Ceylon are nearly monomorphic) seems to show a very interesting pattern of several discrete (with no or very rare intermediates) "morphs", occurring almost always separately: all [with very rare, at least partly artifactual – effects of preservation and/or mislabelling – exceptions] individuals in any particular (even if very large, consisting of hundreds of specimens) sample examined by me were closely similar to one another (belonged to the same morph), though the localities harbouring various morphs were apparently erratically intermingled: no distinct geographic pattern was discernible.

Psiloptera (Spinthoptera) coerulescens (HBST.) praecursor ssp.n.

Material examined:

Holotype: "*CEYLON: SOUTHERN PROV., Palatupana, $6^0$17'N;$81^0$24'E, 6.I.1981, leg. Exp.Univ.Cracov.*" [♂ RBH: (BPdfa)]

Paratypes: "*CEYLON: SOUTHERN PROV., Palatupana, $6^0$17'N;$81^0$24'E, 8.I.1981, leg. M.Jasieński*" [8♂ (RBH: BPdfd-dfg and dfi-dfl), 4♀ (RBH: BPdfc, dfh, dfm, dfu)]; "*CEYLON: SOUTHERN PROV., Palatupana, $6^0$17'N;$81^0$24'E, 13.I.1981, leg. Exp.Univ.Cracov.*" [2♀ (RBH: BPdfn, dfo)]; "*CEYLON: SOUTHERN PROV., Palatupana, $6^0$17'N;$81^0$24'E, 15.I.1981, leg. Exp.Univ.Cracov.*" [1♂ (RBH: BPdfp)]; "*CEYLON: SOUTHERN PROV., Palatupana, $6^0$17'N;$81^0$24'E, 18.I.1981, leg. J. Grzywa*" [1♀ (RBH: BPdfq)]; "*CEYLON: SOUTHERN PROV., Palatupana, $6^0$17'N;$81^0$24'E, 20.I.1981, leg. E. Starszak*" [1♂ (RBH: BPdfr)]; "*CEYLON: SOUTHERN PROV., Palatupana, $6^0$17'N;$81^0$24'E, 28.I.1981, leg. Exp.Univ.Cracov.*" [1♂ (RBH: BPdfs)]; "*CEYLON: SOUTHERN PROV., Palatupana, $6^0$17'N;$81^0$24'E, 1.II.1981, leg. Exp.Univ.Cracov.*" [3♂ (RBH: BPdfv, dfx, dfy), 2♀ (RBH: BPdft, dfw)]; "*CEYLON: SOUTHERN PROV., Palatupana, $6^0$17'N;$81^0$24'E, 2.II.1981, leg. Exp.Univ.Cracov.*" [3♂ (RBH: BPdg-, dga, dgb), 2♀ (RBH: BPdfz, dgc)]; "*Ceylon; S.P., Hambantota, T.B.F., 8.Nov.08*" [1♀.(RBH: BPchv)]

Additional material: 12 ex.: 3 ♀, 9 ø.

Holotype [fig. 4]: Male 18×6.5. Cupreous-red elytral stripe does not extend beyond 3 perisutural interstriae, body otherwise green, with but traces of blue on sides of elytra (definitely blue lateral parts on **fig. 4** is photographic artifact!).

Variability: Males [18] 14×4.5 – 22×7.5; females [16] 15×5 – 27×10 mm. Colouration almost invariable: sutural part of elytra (usually narrower than in continental race: extending sometimes only to 2., rarely to 4. 5. stria) cupreous, sides (concolorous with the rest of body) green, rarely traces of blue. Very similar to *P. fastuosa (F.)*, but much brighter, green parts with at most slight cupreous-golden hue.

Geographical distribution: The new subspecies is endemic to Ceylon **[map 1]**.

Remarks: Apparently the ancestral race, almost unchanged descendant of ancient Ceylonese population; later double invasion to the continent and sympatric divergence led to *P. (S.) fastuosa (F.)* and what is now the nominotypic subspecies.

Psiloptera (Spinthoptera) fastuosa (F.)

Buprestis fastuosa FABRICIUS 1775: 216-217
=Lampetis landeri AKIYAMA et OHMOMO 1994: 22-23

Material examined:

>1300 ex.: 150 ♂, 126 ♀, >1000 ø

Characters [fig.5]: Males [148] 14×4.5–23×8.5; females [125] 12.5×4–27×10.5 mm. Usually dull cupreous with green sides of elytra, sometimes pronotum also more or less green; in some specimens lateral elytral bands are very narrow or even totally disappear, in others green colouration extends almost to suture; very rarely all the body is green. Front relatively finely sculptured, elevated reliefs dense, irregular, rather uniformly distributed. Sides of pronotum arcuately narrowed to apex, slightly sinuate at basal angles; pronotal punctures

moderately coarse and dense on disk, much more so at sides; lateral carina distinct in basal half, sometimes extends beyond anterior third. Elytral striae very coarse and irregular, interstriae narrow and (at least at sides) strongly convex, costiform; no trace of dfp foveae. Anterior margin of prosternum straight; median part of prosternal process rather coarsely but sparsely punctured, in some specimens almost smooth; punctures of proepisterna very coarse but rather sparse medially, much finer and very dense just beneath lateral carina, both areas being more or less sharply delimited and sometimes marked by irregular "submarginal ridge". Abdomen coarsely, almost uniformly punctured on disk, with dfp band along lateral margins; anal sternite narrowly rounded at apex in female, truncated or shallowly emarginated in male. Male genitalia markedly variable in shape, but always rather elongate; parameres posterolaterally more or less angular, separated with rather short (opening at *ca*. apical 2/5), narrow, parallelsided slit; these characters usually more accentuated in small specimens.

Geographical distribution: FABRICIUS (1775) considered *P. fastuosa (F.)* a North American species ("*Habitat in America septentrionali*"), but his mistake – repeated also by OLIVIER (1790) – has been corrected already by HERBST (1801): in fact the species is widely distributed in northern and central parts of India **[map 1]**, becoming very rare on the South, and absent on Ceylon (I have seen only one old specimen so [?mis]labelled).

Remarks: Closely resembling *P. coerulescens (HBST.)*, but duller and much less variable in colouration, with front, pronotum and underside almost invariably cupreous-bronzed, elytral sculpture usually somewhat coarser, and male genitalia slightly different. AKIYAMA & OHMOMO (1994) declared "*L. coerulescens*" to be "*only a color variation of L. fastuosa*", but this opinion was apparently based on misunderstanding: they seem to have compared a blue variety of *P. coerulescens (HBST.)* with less common green specimens of the same species (as seen from their publication they had seen only specimens from ***South*** India!), and thence – understandably... – "*have not been able to find any differences in body shape or male genitalia*". Apparently the only representative of the genuine *P. fastuosa (F.)* (very rare in South India) in their disposition did show such differences, and... has been described as a new species, *Lampetis landeri A.O.* – a comparison of their description and figures with beetles from northern India leaves no serious doubt as to the identity of these two taxa. Serious uncertainty has been introduced by their designation of the specimen in BMNH labelled as "*Ex BANKS coll.*" [no other data] as the lectotype: 1) as far as I know, the entire FABRICIUS **Coleoptera** collection had been housed partly in Copenhagen and partly in Kiel (now both parts are in Kiel), and indeed of the ***alleged*** (FABRICIUS has not specified the number of examined beetles) "*two type specimens*" mentioned by AKIYAMA & OHMOMO (1994) they "*could not examine the one in Kiel*", *i.e.* probably just the genuine [?holo-]type!; 2) the Authors do not quote any "Type", "Syntype" or similar label habitually attached to types in BMNH, nor any suggesting its provenience from "*America septentrionalis*", and indeed I have not seen any so labelled example during my rather detailled (with writing down the locality of each Indo-Pacific specimen, and exact entire label data of – certain or presumed – types) studies of BMNH collections in VII-XII 1978, what suggests that the attribution to the "type-series" was their own, original interpretation; 3) they do not quote any convincing proof for such interpretation (provenience from BANKS collection does not seem sufficient evidence); 4) FABRICIUS (1775) description fits well the traditional concept of *P. fastuosa (F.)*, but does definitely not fit the overwhelming majority of southern Indian *P. coerulescens (HBST.)*; 5) a variety of the latter, matching the characters listed in the original desription, is rather rare in continental India (it is typical of Ceylonese *P. c. praecursor ssp.n.*); 6) even the genital difference between males is not always easy to correctly interpret [the form of *aedoeagi* of some – especially large – specimens of *P. coerulescens (HBST.)* rather closely approaches that of typical *P. fastuosa (F.)* (in the traditional sense, *i.e. =landeri A.O.*)], whereas females of the green variety of the former are practically identical to –

especially large (the size of the selected lectotype, 27×10 mm., marks the upper limit of both species' range of variability!) – females of the latter (both non-sexual characters quoted by AKIYAMA & OHMOMO (1994) – emargination of clypeus and elytral sculpture – are overlappingly variable and anyway vague), so it is not easy to share the Authors' conviction that the BANKS collection specimen in BMNH is conspecific with *P. coerulescens (HBST.)* rather than with the traditional concept of *P. fastuosa (F.)*! To conclude: it is neither sure that the designation of lectotype was valid (had the BMNH specimen truly belonged to FABRICIUS' (1775) "type-series"?), nor that it truly belongs to what has been generally known as *P. coerulescens (HBST.)* rather than to the "traditional" *P. fastuosa (F.)* [=*landeri A.O.*], and it does not seem reasonable to bring unnecessary confusion by overturning, on such "swampy" grounds, the well established concepts of two most common Indian large buprestids. [The ISUA collection contains a specimen (♂) of *P. coerulescens (HBST.) s.str.* labelled „*Fastuosa F., Inde, Type, Gory*" „Koloniaal Instituut don. 1925", but evidently ***not*** being the type].

[Psiloptera (Spinthoptera) melancholica (F.)]

Buprestis melancholica FABRICIUS 1798: 134

Material examined: None

Geographical distribution: Described from "Indes".

Remarks: I have never seen any specimen attributable to this form, which has apparently never been rediscovered. The original description offers only two characters of any value: black colouration and elytral foveae concentrated in sutural region – perhaps the name denotes a dark variety of *P. orientalis (C.G.)*, or *e.g.* some African species (the published locality data at those times had frequently very little in common with real distribution, *e.g.* the truly Indian *P. (S.) fastuosa (F.)* was, instead, described from "*America septentrionalis*"!)?

Psiloptera (Spinthoptera) orientalis (C.G.)

Buprestis orientalis CASTELNAU et GORY 1837: 86
?=Lampetis crassicollis THOMSON 1879c: 12-13

Material examined:
119 ex.: 19 ♂, 53 ♀, 47 ø

Characters [fig. 6]: Males [19] 14.5×4.5 – 24×9; females [53] 13×4.5 – 27.5×11 mm. Colouration variable: typically head, pronotum, disk of elytra and ventral side bronzed-cupreous, elytral sides (from 6.-7. stria) graduating through green to dark blue; sometimes sternum and abdomen laterally or entirely green; often bronzed-cupreous is replaced with blackish-bronzed, green with cupreous and blue with green, or cupreous colour extends to the very lateral margins; one female ["*? INDIA: Balasore, 7 VII 1938 ?*" (RBH: BPgto)] is brownish-black with abdomen and inconspicuous lateral band (8.-10. interstriae) of elytra slightly more vivid, cupreous-brown. Frontal sculpture fine and irregular. Pronotum rather finely and sparsely punctured on disk, more coarsely and densely on sides; lateral carina long, reaching usually to anterior fourth. Interstriae flat or but slightly convex, at least some of them (usually 3. or 9.) with small, frequently inconspicuous, dfp foveae. Prosternal process smooth between finely punctured lateral striae; proepisterna rather coarsely sculptured, "submarginal ridge" none or indistinct; lateral dfp band on abdomen inconspicuous. Male genitalia rather robust, parameres regularly arcuately tapering to apices, with no trace of angular preapical dilatation.

Geographical distribution: Widely distributed over all the Indian subcontinent **[map 2]**, but apparently absent from Ceylon, where it is replaced by closely related *P. jasienskii sp.n.*

Remarks: Deceptively similar to *P. coerulescens (HBST.) s.str.*, but bronzed underside, wider discal patch of elytra, interstriae interrupted by small dfp foveae, and regularly arcuate

sides of parameres allow unambiguous identification. The original description of *Lampetis crassicollis THS.* offers no point to distinguish it from *P. orientalis (C.G.).*

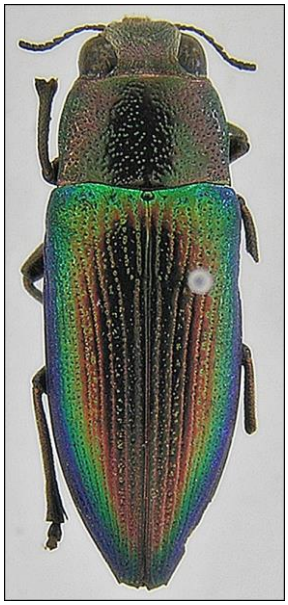


Fig. 6
P. (S.) orientalis (C.G.)
♀ [BPf-y], S-India: Nadugani

Fig. 7
P. (S.) jasienskii sp.n.
PT ♂, [BPbnr] Ceylon: Palatupana

Fig. 8
P. (S.) cupreosplendens (F.)
♂ [BPizj], India: Goa: Mormugao

Psiloptera (Spinthoptera) jasienskii sp.n.

Material examined:

Holotype: "*CEYLON: SOUTHERN PR.: Palatupana, 6⁰17'N; 81⁰24'E, 12.I.1981, leg. Exp. Univ. Cracov.*" [♂ (RBH: BPbnr)]

Paratypes: "*CEYLON: SOUTHERN PR.: Palatupana, 6⁰17'N; 81⁰24'E, 8.I.1981, leg. M. Jasieński*" [1♂ (RBH: BPbnq)]; "*CEYLON: SOUTHERN PR.: Palatupana, 6⁰17'N; 81⁰24'E, 20.I.1981, leg. Exp. Univ. Cracov.*" [1♂ (RBH: BPbns)]; "*CEYLON: SOUTHERN PR.: Palatupana, 6⁰17'N; 81⁰24'E, 20.I.1981, leg. E. Starszak*" [1♀ (RBH: BPbnt)]; "*CEYLON: SOUTHERN PR.: Palatupana, 6⁰17'N; 81⁰24'E, 24.I.1981, leg. Exp. Univ. Cracov.*" [1♀ (RBH: BPbnu)]; "Hambantote, litus Ceyloni mer., Казнаковь 96" [1♀ (ZIRAN)]; "Hambantote, litus Ceyloni mer., Казнаковь 96" "Kasnakov" [1♀ (ZIRAN)]; "Ceylon, Candy, Coll. *Semenov-Tian-Shansky*" (3♂, 1♀ (ZIRAN), 1♀ (RBH: BPhmy)]; „*Nalanda, Ceylan Horn*" „*VU PAR KERREMANS, cupreoslendens Saund., POUR SA MONOGRAPHIE*" „MUSEUM PARIS, 1935, coll. A. THÉRY" [1♀ (MNHN)]; "*Ceylan, Schenckl*" "*cupreosplendens Saund.*" "MUSEUM PARIS, COLL. CH. KERREMANS, 1923" [2♂ (MNHN)]; „Ceylon, (Redemann), 1892" „MUSEUM PARIS, 1935, coll. A. THÉRY [1♀ (MNHN)]; "Coll. Nonfried, Ceylon" "Psiloptera Sol. fastuosa Fabr., G. Suvorov. det." [1♀ (ZIRAN)]; "Ceylon, Radde 90" "к. Г. Сиверса" [1♂ (ZIRAN)]; "CEYLON" "Lampetis cupreosplendens Snd. 51, V. Stepanov det." [1♀ (ZIRAN)]; "Koll.Dʳ.A.Fr.v.Hoschek, Ceylon" "*3425*" "*cupreosplendens Sd.* Det. Hoscheck 192." [1♀ (KBIN)]; "Koll.Dʳ.A.Fr.v.Hoschek, Ceylon" "*3426*" "*cupreosplendens Sd.* Det. Hoscheck 192." [1♂ (KBIN)]; "CEYLON" "*orientalis CG*, Det. Hoscheck 19? " [1♂ (RBH: BPgtu)]; "*Psiloptera fastuosa (Ceylan)*" [1♀ (MNHN)]; „Ceylon" „Collectie C. et O. Vogt, Acq. 1960" [1♂, 2 ♀ (ISUA)]; "Ceylon" "*cupreosplendens*" "Museum Leiden, ex collection C.J.Dixon" [1♂ (NNHM)]; „61. Psiloptera fastuosa. Ceylon." „Museum Leiden, ex verz Z.L.Groningen" [1♂ (NNHM)]; "Madura, Madras, Br. Indië" „Madura, Brit. Ind." „Psiloptera fastuosa F." "*Psilpt.fastuosa*" "Museum Leiden, ex collection van der Vaart" [1♂ (NNHM)]; "Madura, Madras, Br. Indië" "Madura, Brit. Ind." "Psiloptera fastuosa F." "Museum Leiden, ex collection van der Vaart" [1♂, 1 ♀ (NNHM)]; "Psiloptera fastuosa, 50, Bengalen" [1♂ (ZIRAN)]; "Bengal. India" "*901*" "coll. K.J.W.BERNET KEMPERS" [1♂ (ISUA)]; "Koll.Dʳ.A.Fr.v.Hoschek, Java" "*3422*" "*orientalis CG*, Det. Hoscheck 192." [1♂ (KBIN)]; "Singapore, Dr. F.A.Phillips" [1♀ (KBIN)]. "*3424*" "*cupreosplendens Sd.* Det. Hoscheck 192." [1♀ (KBIN)]; "*7921*" "*cupreosplendens Sd*. Det. Hoscheck 192." [1♀ (KBIN)]

Additional material: 21 ex.: 9 ♂, 6♀, 6 ø

Holotype: Male, 21.5×7.5 mm. Green, with narrow (1. and 2. interstria) sutural band on elytra, median part of prosternum, outer surface of tibiae, and tarsi cupreous; antennae piceous-black with greenish hue, basal joint cupreous.

Epistome broadly arcuately emarginate, not separated from front. Front trapezoidal, flat; rather fine sculpture consists of dense, sharply defined, mostly longitudinally oriented,

confluent vermiculate reliefs on dfp background; pubescence long, recumbent, yellowish, denser laterally and anteriorly. Eyes rather prominent, twice longer than wide. V:H=0.47. Antennae reaching to midlength of pronotal sides; 1. joint egg-shaped, *ca.* 1.5× longer than wide; 2. spherical, distinctly narrower than 1.; 3. subcylindrical, *ca.* 1.5× longer than 2.; 4. elongately subtriangular with very broadly rounded external angle, as wide as 1. and 2× longer than 2.; 5. similar in shape and length to 4. but slightly wider; 6.-10. rhomboidal, progressively shorter and slenderer (10. as long as 3.and as wide as 4.); 11. egg-shaped, as wide as 10. but slightly longer.

Pronotum wide (L:BW:AW=1:1.6:1.1); sides very slightly convergent in basal, much more strongly so in apical half, in both posterior and anterior part shallowly but distinctly sinuate; basal and apical margins bisinuate. Disk convex, with shallow transverse depression along base; lateral carina (in side view) bisinuate, almost reaching to apical angles; pronotal sculpture moderately coarse, rather irregularly distributed, dense and confluent on sides, much sparser (spaces between punctures subequal to their diameters) on disk; small triangular prescutellar, longitudinal medial, and two rounded discal (closer to anterior margin and median line than to sides and base) reliefs very irregular, smooth. Scutellum roundedly trapezoidal, as long as wide, strongly convex.

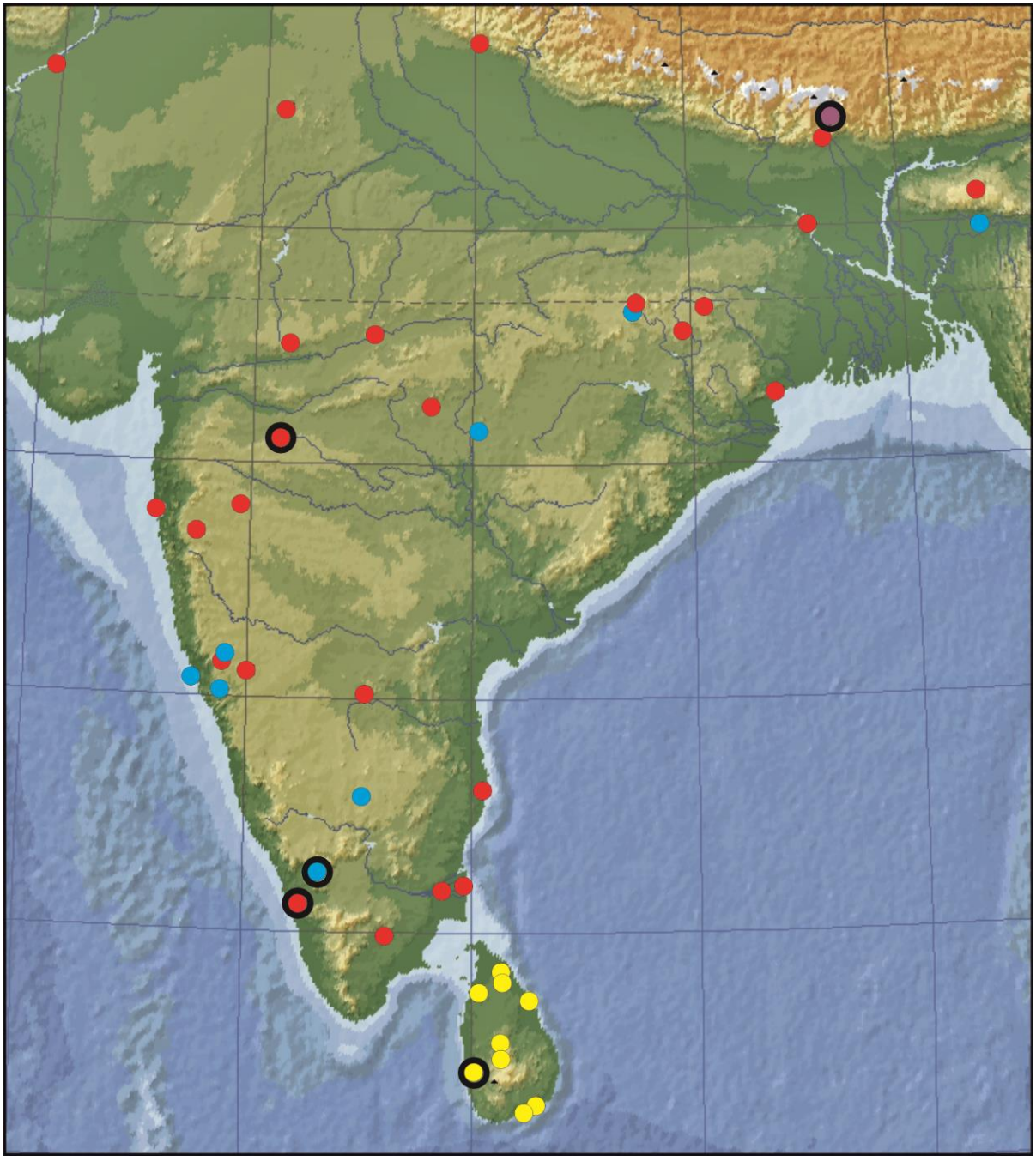
Elytra 2.1× longer than wide; base slightly wider than that of pronotum; sides subparallel in anterior fourth, then very slightly convergent to midlength, and much more strongly, cuneately so to obliquely truncate, sharply bidenticulate apices. Only 1. (perisutural; scutellar not counted), 2. (less strongly), and 10 (marginal) striae distinctly depressed on posterior 3/4, others represented by rows of coarse (finer towards apices), densely spaced punctures; medial 3 interstriae flat, 4.-10. sightly convex, only 10. subcostiform; 3. with several small foveae consisting of depressed groups of fine punctures; 5. and 7. with some coarse punctures; 9. with very big, rectangular posthumeral dfp depression, elongately cuneate one occupying almost all apical 2/5, and three smaller (but also very prominent) in between.

Prosternal process very slightly widened behind procoxae, then sinuately narrowed to rounded apex; both lateral and median portions smooth; lateral striae deep, sparsely and rather finely punctured; proepisterna dfp, becoming a little more coarsely punctured just below lateral carinae. Metasternum medially furrowed (except anterior fourth), median parts finely and very sparsely, sides densely and much more coarsely punctured; hind margin of metacoxae with very obtuse, rounded tooth at median third. Abdomen densely and very coarsely punctured, with irregular smooth reliefs on sides of 3. and 4. segments; 1. sternite furrowed medially; anal sternite not distinctly depressed at sides, apically rounded, with shallow, very inconspicuous emargination at tip. Aedoeagus yellowish-brown, with darker, piceous-black, apical 2/3 of parameres.

Variability: Vary in size (males [19] 15×5 – 22.5×7.5; females [19] 17×5.5 – 27.5×10 mm.), shape [some females are more robust, similar to *P. orientalis (C.G.)* in having both pronotum and elytra parallelsided in basal half, and more roundedly tapering apically; others are slenderer, with pronotum almost cuneate and elytra slightly but distinctly narrowed behind anterior fourth], colouration [sometimes cupreous may be to various degrees replaced with green and green with blue, so that in extreme variants dorsal side is almost unicorous dark blue; one male specimen – labelled "*Nova Guinea*"! – has head and pronotum blackish-green and elytra practically black; ventral side varies from golden-green to dark cupreous-bronzed], development of dfp foveae [in some specimens they are reduced to coarse punctures on 3. interstria, absent on 5. and 7., and – except the posthumeral – small and inconspicuous on 9. (very rarely even the posthumeral is not easily diagnostic)], sculpture [puncturation more or less coarse, pronotal reliefs sometimes hardly appreciable], *&c.* **[fig. 7]**.

Geographical distribution: The new species seems to be endemic to Ceylon **[map 2]**: "Nova Guinea" "Java", "Singapore", and even "Bengalen" are certainly mislabellings.

Remarks: The new species is very closely related to *P. orientalis (C.G.)*, differing mainly in slightly more elongate body, more green and less bronzed (even on the ventral side) colouration, coarser sculpture, and especially in large elytral dfp foveae (at least the posthumeral one on 9. interstria). In shape of body and in sculpture it is similar to *P. preorientalis sp.n.*, but the latter is totally brownish-black, shows prominent [like in *P. psilopteroides (SND.)*] subhumeral denticle on elytra, and has the foveae on 5. and 7. interstria slightly bigger, and those on 9. much smaller, than *P. jasienskii sp. n.*



Map 2

● ***P. (S.) orientalis (C.G.)***; ● ***P. (S.) jasienskii sp.n.***; ● ***P. (S.) cupreosplendens (SND.)***; ● ***P. (S.) errabunda sp.n.***

[Small simple symbols – exact localities; large encircled symbols – generalized areas]

Affinis-circle

Psiloptera (Spinthoptera) cupreosplendens SND.

Buprestis curvipes GORY *1840: 104 [nec* CHEVROLAT *1838: 60]*
Psiloptera cupreosplendens SAUNDERS *1871: 25*
=Psiloptera viridans KERREMANS *1893b: 329*

Material examined:

Syntypes [of *P. viridans* KERR.]: "Syntype"[Θ] "*Silhet*, Chevrolat" "Collection Chevrolat" "*viridans Kerr. Type*" "Kerremans 1903-59" [1 ex. (BMNH)]; "Syntype"[Θ] "*Inde Mér., Mus. Calc.*" "*viridans Kerr. Type*" "Kerremans 1903-59" [1 ex. (BMNH)]

Additional material: 46 ex.: 10♂, 13♀, 23ø

Characters [fig.8]: Males [9] 13.5×4 – 17×6; females [13] 19×6.5 – 25×9 mm. Usually green with dfp foveae and variable – from very narrow (only suture) to broad (5 interstriae on each side) – sutural stripe of elytra (reaching to apices, or but narrowly separated from them), sides of sternum, abdomen, antennae, and sometimes head and pronotum, golden- to bronzed-cupreous; sometimes dorsal side entirely dull-green or blackish-blue. Frontal sculpture consists of network of very coarse reliefs, with coarse foveolate punctures in meshes and narrow dfp stripe along at least lower half of oculofrontal margin; no distinct median relief. Pronotum rather coarsely and (especially on sides) densely, irregularly punctured, with only median relief more or less distinct; lateral carina well developed only at basal angles, then disappears among coarse sculpture. Elytral striae shallowly depressed, coarsely and densely punctured; interstriae convex, 1., 3., 5. and 7. with small dfp foveae (often represented only by coarse punctures), those on 9. interval large, rectangular. Prosternal process smooth; proepisterna very coarsely sculptured, no appreciable "submarginal ridge"; abdomen uniformly punctured, without lateral dfp band or smooth reliefs. Male genitalia pale brownish-yellow, sides of parameres regularly arcuate in apical half.

Geographical distribution: This species seems to occur from Assam or even Burma to Ceylon **[map 2]**, but I have never seen any recently collected specimen, while frequent mislabellings and notorious misidentifications make old labels and – especially – literature data not always reliable.

Remarks: Similar in colouration and pattern of elytral dfp foveae to *P. jasienskii sp.n.*, but differs in coarse sculpture of front and proepisterna, short lateral carina of pronotum, lack of smooth reliefs on sides of abdomen, pale aedoeagus, *&c.* KERREMANS (1893b, 1910) separates *P. viridans KERR.* on grounds of colouration (green) and elytral sculpture (very coarse), but these characters show neither clear-cut difference (there are all intermediates between the extreme forms), nor correlation with one another or with geographic origin; as my efforts to find any other distinguishing feature have also remained unsuccessful, I consider this form as a mere colour variety of *P. cupreosplendens SND.*

Psiloptera (Spinthoptera) shanensis (HBG.)

Lampetis shanensis HORNBURG *2004: 65-67*

Characters: Males [10] 13×4 – 19.5×6.5; females [7] 16.5×5.5 – 20.5×7 mm. [♂/♀: 14-26×4-9 mm. (HORNBURG 2004)]. Dorsal colouration varies from green through golden-cupreous and dark purplish to blackish-brown, ventral from green to bronzed. Front coarsely sculptured; lateral carinae of pronotum irregular, broken by coarse punctures, but traceable to midlength or even beyond; elytral interstriae narrow, convex, not interrupted by finely punctulate foveolae, unicoloured or at most (if green) with some inconspicuous elongated cupreous "mirrors"; 1. abdominal segment more or less deeply sulcate along midline; 2. and 3. sternite laterally with not deep but usually rather large and conspicuous depressions; aedoeagus pale yellow or dark brown (I have not seen intermediates), parameres *ca.* 3.5× longer than (together) wide, sides regularly rounded to very acute tips, penis sharply pointed.

Map 3

P. (S.) shanensis (HBG.) s.str.*; *P. (S.) shanensis (HBG.) hornburgi ssp.n.*; *P. (S.) affinis (SND.) s.str.*; *P. (S.) affinis (SND.) cochinchinae ssp.n.

[Small simple symbols – exact localities; large encircled symbols – generalized areas]

Geographical distribution [map 3]: Hitherto known from but 3 localities in Burma.

Remarks: Structurally resembles rather *P. fastuosa (F.)* or *P. coerulescens (HBST.)* of the *Fastuosa*-circle than representatives of its "own" *Affinis*-circle.

Key to subspecies of *P. (S.) shanensis (HBG.)*

a (b) Dorsal side dark brown ..... ***P. (S.) shanensis (HBG.) s.str.***
b (a) Dorsal side green to cupreous ..... ***P. (S.) s. hornburgi HOŁ.***

Psiloptera (Spinthoptera) shanensis (HBG.) s.str.
Lampetis shanensis HORNBURG 2004: 65-67

Material examined:

Paratypes: "Myanmar Shan-State, Nyaung-Shwe S/E (Inle-Lake), 20°41'11"N; 96°58'04"E, 970m, 20.XI.2003, leg. M.Hornburg" "Lampetis (Spinthoptera) shanensis, PARATYPUS, M. Hornburg det. 2004" "coll. M. Hornburg, BERLIN" [1♂ (RBH: BPkhg), 1♀ (RBH: BPkhh)

Additional material: none.

Characters [fig. 9]: Male 16.5×5.5, female 19.5×6.5 mm. [♂/♀: 14-26×4-9 mm. (HORNBURG 2004)]. Dorsal side dark blackish-brown (front with purplish reflexion); ventrally bronzed-green to purplish-bronzed. Dorsal side glabrous, ventral sparsely covered with very short whitish setulae. Front trapezoidal, as long as (above) wide, V:H≈0.5; antennae slender, reaching to *ca.* anterior third of pronotal sides, serrate from 5. joint, outer angle of joints 6.-10. in males distinctly truncated. Pronotum subtrapezoidal; sides slightly almost straightly convergent in basal part, then more strongly roundedly so to apices; basal angles definitely acute; basal margin shallowly arcuate in medial ¾, rather strongly obliquely bent backwards at humeri; apical margin very shallowly bisinuate, anterior angles obtuse. Scutellum small, roundedly subtrapezoidal, strongly regularly convex, impunctate. Elytral striae deep, rather coarsely uniserially punctate on disk, very coarsely and less regularly so on sides; interstriae markedly convex, practically impunctate. Anterior margin of prosternum almost straight; midlateral bordering striae on prosternal process deep, coarsely punctured; surface, except some coarse punctures at base, impunctate; puncturation of proepisterna very coarse but moderately dense; 1. sternite broadly sulcate along midline; abdominal puncturation very coarse, somewhat irregular; no dfp areas. Parameres dark brown.

Geographical distribution: The nominotypical race has been hitherto known only from the type-series, collected in two neighbouring (*ca.* 7 km. apart) localities NE of Inle Lake near Taunggyi, Upper Burma **[map 3]**; the additional specimen, mentioned by HORNBURG (2004) from Mandalay area, seems to belong rather to *P. s. hornburgi ssp.n.*

Remarks: Dark uniform bronzed-brown colouration makes *P. shanensis (HBG.) s.str.* easily recognizable.

Psiloptera (Spinthoptera) shanensis (HBG.) hornburgi ssp.n.

Material examined:

Holotype: "BURMA Pegu State, Hlawga Lake N17.00, E96.07 21-31.v.1951, G.B.Vogt" "BU-43 on petioles & terminals" "*Lampetis (Spinthoptera) holynskii*, det. Akiyama & Ohmomo, CLBellamy 1996" [♂ (USNM)]

Paratypes: "BURMA Pegu State, Hlawga Lake N17.00, E96.07 21-31.v.1951, G.B.Vogt" "BU-43 on petioles & terminals" "*Lampetis (Spinthoptera) holynskii*, det. Akiyama & Ohmomo, CLBellamy 1996" [1♀ (RBH: BPlrx), 1♀ (USNM)]; "BURMA Pegu State, Hlawga Lake N17.00, E96.07 22.vii.1951, G.B.Vogt" "BU-43 on stems, no evidence of feeding" "*Lampetis (Spinthoptera) holynskii*, det. Akiyama & Ohmomo, CLBellamy 1996" [2♂ (RBH: BPlrv, lrw), 2♂, 2♀ (USNM)]; "BURMA Pegu State, Hlawga Lake N17.00, E96.07 16-22.x.1951, G.B.Vogt" "BU-43" "*Lampetis (Spinthoptera) holynskii*, det. Akiyama & Ohmomo, CLBellamy 1996" [4♂, 1♀ (USNM)]

Additional material: 1♀

Holotype [fig. 10]: Male 18×6. Dorsal side green, ventral golden-green; elytral interstriae here and there with elongated cupreous "mirrors". Parameres dark chestnut-brown.

Variability: Males [9] 13×4 – 19.5×6.5, females [6] 16.5×5.5 – 20.5×7 mm. Dorsal colouration from green to golden-cupreous (front always green). Mirrors on elytral interstriae often indistinct. Proportions of *aedoeagus* sensibly variable; parameres of some males pale yellow .

Geographical distribution [map 3]: Besides the type-series collected at Hlawga Lake (*ca.* 20 km. N Rangoon) I have one female (labelled "*Birmania*" without details) apparently belonging here but somewhat darker (pronotum dull purplish-green, elytra purplish-bronzed), what makes it somewhat similar to the nominotypical race; as colouration seems to be the only reliable diagnostic character of the subspecies, it prefer not to include it among paratypes.

Remarks: Besides clear-cut colour disparity, apical parts of elytra make appearance of being somewhat more narrowly cuneate than in *P. shanensis (HBG.) s.str.*, and *aedoeagi* more robust on the average – but these are only "statistical" and even so hardly discernible differences.

Fig. 9
P. (S.) shanensis (HBG.) s.str.
♂ [BPkhg], Burma: Shan St.: Inle L.

Fig. 10
P. (S.) s. hornburgi ssp.n.
HT ♂ [USNM], Burma: Pegu St.: Hlawga L.

Fig. 11
P. (S.) psilopteroides (SND.)
♀ [BPchj], Siam

Psiloptera (Spinthoptera) psilopteroides (SND.)

Lampetis psilopteroides SAUNDERS 1867: 304

Material examined:

Holotype: "Holotype"[Ơ] "Type" "*Siam*, Mouhot" "Saunders 74.18" "*psilopteroides (Type) Saund.*" [♀ (BMNH)]

Additional material: 2♀

Characters [fig. 11]: Males unknown to me; females [2] 30×10.5–34.5×13 mm. Dorsal side green with predominantly bronzed-cupreous pronotum and bronzed-brown elytral reliefs; sternum and abdomen medially cupreous, laterally green; legs green, antennae greenish-brown. Front with coarse, smooth elevated reliefs enclosing small, deeply depressed, irregular dfp foveae. Pronotum coarsely, densely, very irregularly punctured, without appreciable median ridge or anterodiscal spots; lateral carina very short, disappears among coarse punctures immediately before basal angles. Lateral margins of elytra with very distinct posthumeral denticle; striae rather coarsely punctured; interstriae almost flat, all with conspicuous (though poorly delimited), rectangular, smooth "mirrors". Median portion of prosternal process dfp with some moderately coarse, sparse elevated smooth reliefs; submarginal proepisternal ridge represented by indistinct, very irregular, coarsely punctured longitudinal elevation; 1. abdominal segment broadly and shallowly depressed along median line; laterodiscal smooth elevations on sternites very irregular, inconspicuous; apex of anal sternite rounded.

Geographical distribution: All specimens seen by me have been collected in Upper Burma (Bhamó) and Siam **[map 4]**; KERREMANS (1910) and AKIYAMA & OHMOMO (1994) reported the species also from Laos.

Remarks: With no males and only five females studied by modern authors [one – that figured on their phot. B – of the three non-types examined by AKIYAMA & OHMOMO (1994) is the specimen BPchj from my collection], this species remains somewhat enigmatic: except size and perhaps size-correlated (allometric) features (posthumeral denticle on elytra, traces of submarginal ridge on proepisterna) I failed to find any reliable character to distinguish it from *P. viridicuprea (SND.)*, and cannot exclude the possibility that the name *P. psilopteroides (SND.)* denotes simply very big females of the latter.

Psiloptera (Spinthoptera) nelsoni (A.O.)

Lampetis nelsoni AKIYAMA *et* OHMOMO *1994: 20*

Material examined:

Paratype: "Syntype"[Θ] "Type"[Θ] "*Pach.* Mouhot" "Saunders 74.18" "*Lampetis affinis (Type) Saund.*" "*Labelled by C.O.W.*" [1♀ (BMNH) – examined by me in 1978 as a syntype of *Lampetis affinis* SND.; later designated by AKIYAMA & OHMOMO (1994) as paratype of *Lampetis nelsoni A.O.*]

Additional material: 12 ex.: 3♂, 9♀

Characters [fig. 12]: Males [3] 22×7.5 – 27×10, females [9] 20.5×7 – 32.5×12 mm.. Dark reddish-bronzed to purplish-red; front, lateral margins of elytra and abdomen, and legs greenish, antennae dark green to blackish-blue; median line of pronotum not differentiated in colour; smooth reliefs on front, pronotum, abdomen and – especially – of elytra bluish-black, sharply contrasting with surrounding surface. Front with relatively sparse, narrow, boldly elevated smooth reliefs, and wide, flat, finely punctured depressions between them. Pronotum coarsely and densely punctured, with more or less appreciable, irregular, smooth median ridge; a pair of small, round smooth discal elevations just before midlength; and some very irregular reliefs here and there; lateral carina very short, disappears among coarse punctures at *ca.* basal sixth. Elytral striae fine, densely and very finely punctulated; interstriae almost flat, covered with coarser (especially on sides) puncturation, odd (3., 5., 7., 9.) ones with very conspicuous, rectangular, very slightly convex, smooth "mirrors" (those on 8.-9. interstriae at the level of suture between 1. and 2. sternites fused into one distinctly larger relief). Median portion of prosternal process rather coarsely, regularly punctured; proepisterna with no trace of additional, submarginal ridge; 1. abdominal segment more or less distinctly sulcate along median line; sternites 2., 3., and 4. with small, rounded, laterodiscal smooth elevation on each side (2. also with reliefed anterior angles); apex of anal sternite narrowly rounded. Male genitalia rather short and stout, with piceous-brown parameres *ca.* 3× longer than together wide.

Fig. 12
P. (S.) nelsoni (A.O.)
♂ [BPlry], Laos: Ban Van Eue

Fig. 13
P. (S.) errabunda sp.n.
HT ♂ [BPkhk], Sikkim

Fig. 14
P. (S.) viridicuprea (SND.)
♂ [BPgsp], Laos: Phou Khao Khouay

Fig. 15
P. (S.) holynskii (A.O.)
♂ [BPkhi], Burma: *ad* Hsipaw

Geographical distribution [map 4]: Almost all known specimens – the paratype from BMNH labelled "*Pach.*"[bon] (?=Muang Phetchabun in central Siam) being the only exception – have been collected in Laos.

Remarks: Very conspicuous and regular, contrasting, bluish-black reliefs (with characteristic larger posterolateral spot) on elytra and, to a somewhat lesser degree, of front,

pronotum and abdomen make this species rather distinctive (but small number of examined specimens does not allow to assess the limits of variability); from similar *P. affinis (SND.)* it clearly differs in lacking submarginal ridges on proepisterna and "normal" shape of parameres, but I have not been successful in finding any – except for the above-mentioned dark reliefs – reliable diagnostic character to distinguish females *P. nelsoni (A.O.)* from *P. viridicuprea (SND.)*.

Psiloptera (Spinthoptera) errabunda sp.n.

Material examined:

Holotype: "Sikkim" [♂ (RBH: BPkhk)]

Additional material: none

Holotype [fig.13]: Male, 25.5×9 mm. Dull brownish-purple with some green reflexions on sides of sternum and abdomen (greyish irregular areas seen on the picture represent artificial, post-mortem decolourizations). Pubescence white, very short semierect on anterior part of front, short recumbent on abdomen, otherwise not apparent.

Epistome broadly arcuately emarginate, not separated from flat trapezoidal front; frontal sculpture consists of moderately dense, deep, micropunctulate at bottoms, foveolae separated by network of smooth elevated reliefs; anterior depression slightly marked. Vertex rather wide: V:H≈0.5. Antennae reaching to midlength of pronotal sides; 1. joint egg-shaped, *ca.* 1.5× longer than wide; 2. spherical, distinctly narrower than 1.; 3. pear-shaped, *ca.* 1.5× longer than 2.; 4. subcylindrical, 2× longer than 3.; 5. still somewhat longer, distinctly widened distalwards; 6.-10. rhomboidal, progressively shorter and slenderer; 11. egg-shaped, as wide as 10. but slightly longer.

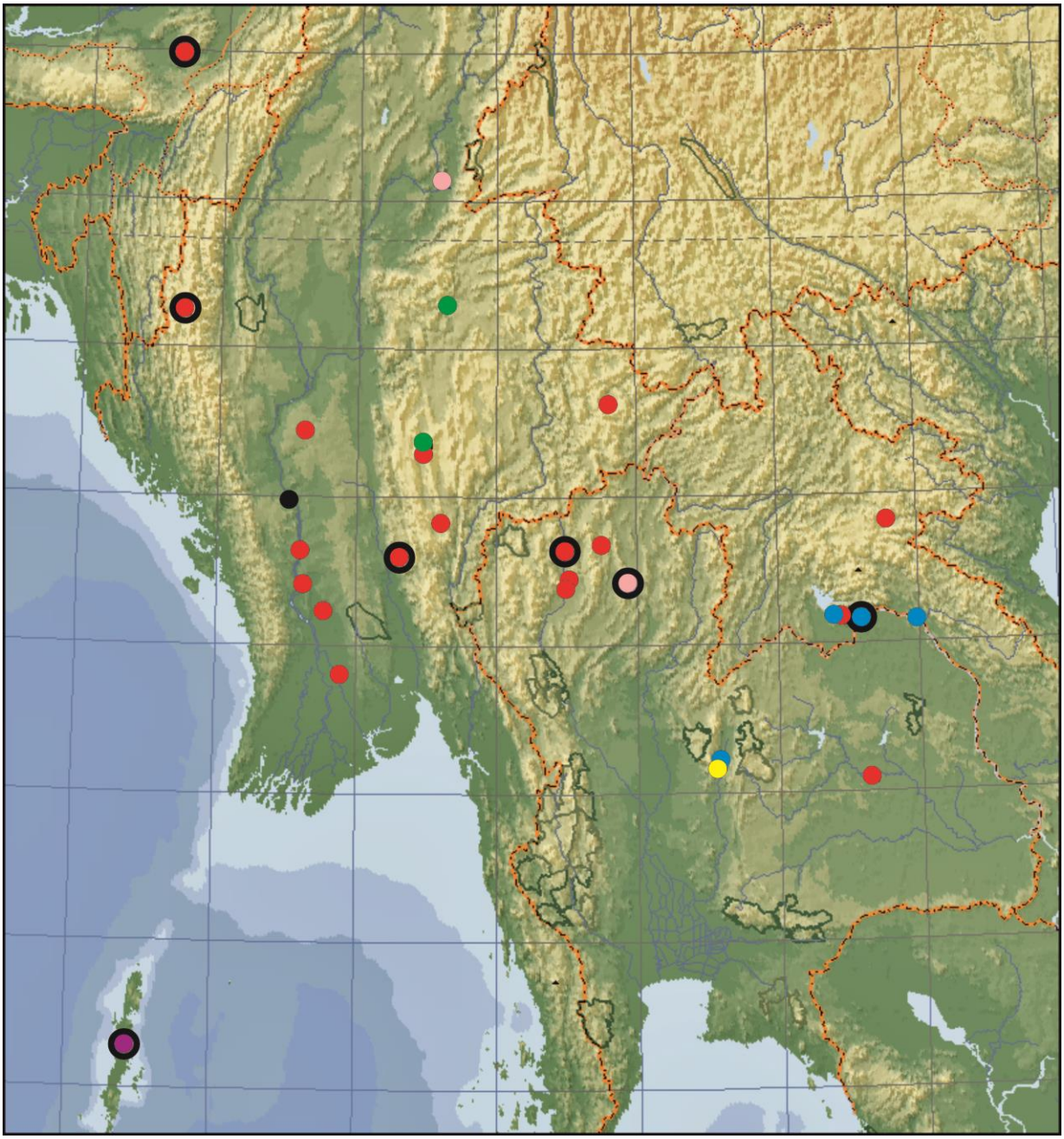
Pronotum wide (L:BW:AW=1:1.6:1.1), widest at *ca.* basal fourth; basal angles right, sides very slightly divergent just before base, then roundedly convergent to obtuse apical angles; basal and apical margins shallowly bisinuate. Disk almost regularly convex, with but shallow prescutellar depression; lateral carina sharp and smooth in basal third, then disappears among coarse punctures; pronotal sculpture rather coarse, irregularly distributed, moderately dense throughout (not confluen even at sides); narrow smooth median stripe poorly indicated. Scutellum roundedly trapezoidal, as long as wide, strongly convex.

Elytra 2.1× longer than wide; base slightly wider than that of pronotum; sides subparallel almost to midlength, then arcuately convergent to apical sixth and shallowly sinuate behind (making elytra slightly but distinctly caudate); apices obliquely truncated and sharply bidenticulate. Pre-metacoxal parts of lateral margins rather coarsely crenulated. Punctures in inner three striae fine, in others moderately coarse; interstriae convex, here and there irregularly interspersed with punctiform foveolae consisting of depressed groups of very fine punctures.

Prosternal process widely parallelsided; lateral striae deep, densely and rather finely punctured; medial part *ca.* 4× wider than lateral rims, slightly convex, smooth; proepisterna coarsely punctured, no trace of submarginal ridge. Metacoxae with obtuse denticle. 1. and 2. sternite medially sulcate; abdominal sculpture consists of very dense, irregular, coarse punctures only partly separated by narrow, still less regular smooth reliefs; anal sternite not distinctly depressed at sides, apically subtruncated. *Aedoeagus* dark testaceous, slender, parameres obliquely truncated apically.

Geographical distribution: Known only from the holotype, labelled "Sikkim".

Remarks: Superficially similar to *P. affinis (SND.)*, *P. viridicuprea (SND.)* or *P. nelsoni (A.O.)*, but differs from all of them in more elongated body, markedly rounded pronotal sides, lateral pronotal carina well developed in basal third, more distinctly caudate elytra, coarsely crenulated basal parts of elytral margins, and especially in deep median abdominal sulcus extended over the 2. sternite.



Map 4

● ***P. (S.) psilopteroides (SND.)***; ● ***P. (S.) nelsoni (A.O.)***; ● ***P. (S.) viridicuprea (SND.)***; ● ***P. (S.) holynskii (A.O.)***; ● ***P. (S.) puncticollis (SND.)***; ● ***P. (S.) comottoi LSB.)***; ● ***P. (S.) scintillans WATH.***

[Small simple symbols – exact localities; large encircled symbols – generalized areas]

Psiloptera (Spinthoptera) viridicuprea (SND.)

Lampetis viridicuprea SAUNDERS 1867: 304-305
?=Lampetis cambodgiensis THOMSON 1879c: 13
?=Psiloptera viridicuprea cambogdensis [sic!] OBENBERGER 1932: 212

Material examined:

Holotype: "Holotype"[Θ], "Type" "*Siam*, Mouhot" "*Lampetis viridicuprea (Type) Saund., Label written by C.O.Waterhouse*" "Saunders 74.18" [BMNH]

Additional material: 40 ex.: 8♂, 17♀, 15 ø [until the publication of AKIYAMA & OHMOMO (1994) I confused this species with *P. affinis (SND.)* so the present description is based on only few recently examined specimens].

Characters [fig. 14]: Males [8] 22×8 – 26.5×9.5; females [14] 19.5×7 – 32×12 mm. Golden-green to purplish-cupreous (elytra sometimes bronzed) with usually green front, median line and lateral margins of pronotum, suture and sides of elytra, margins of some sclerites on ventral surface, 1. antennomere, and greater part of legs; antennae piceous-black with greenish tinge on outer surface. Frontal sculpture consists of elevated, smooth, confluent ridges, and deeply depressed spaces in between; in males these spaces are broader and more coarsely microsculptured than in females. Pronotal sculpture coarse and confluent on sides, finer and much sparser on disk; smooth spaces (median line, discal spots) inconspicuous; lateral carina regular only just before basal angles, but traceable sometimes to near midlength. Elytra usually without subhumeral denticle, but occasionally in largest specimens it may be slightly developed; striae rather deep, coarsely punctured; interstriae convex, odd ones interrupted by very shallow, inconspicuous foveae consisting of groups of rather coarse punctures. Apical margin of prosternum truncated or shallowly emarginate between two rounded protrusions; proepisterna very coarsely and irregularly punctured, without any trace of additional "submarginal" ridge; median part of prosternal process with very sparse to rather dense, moderately coarse punctures; abdomen coarsely and irregularly punctured but without distinct reliefs or dfp spaces; first sternite with but traces of median sulcus in females, deeply sulcate in males. Male genitalia elongated, roughly parallelsided, piceous-brown with yellowish basal piece and sides of penis; sides of parameres apically roundedly narrowed to pointed tips.

Geographical distribution [map 4]: *P. viridicuprea (SND.)* seems to be rather widely distributed between Assam and Laos.

Remarks: Deceptively similar to *P. affinis (SND.)*, the lack of "submarginal ridges" on proepisterna and shape of male genitalia seem to provide the only reliable distinguishing characters. THOMSON's (1879b) original description is not sufficient to form any sound opinion as to the taxonomic position of *Lampetis cambodgiensis THS.*, and I place it in the synonymy of *P. viridicuprea (SND.)* after KERREMANS (1910); similarly, having not seen the type of *Psiloptera viridicuprea cambodgensis OBB.*, I must provisionally accept the opinion of its author, although his concept of *P. viridicuprea SND.* was not perfectly clear (I have seen in collections several specimens wrongly attributed by him to this species) and the "*einförmig, wie bei coerulea etc. gestreift punktierten Flügeldecken, mit gleichartig gebildeten Zwischenräumen, die nirgends kettenförmig unterbrochen sind*" seem extremely strange for any Indochinese species!

Psiloptera (Spinthoptera) holynskii (A.O.)

Lampetis holynskii AKIYAMA et OHMOMO 1994: 21

Material examined: 2 ♂, 1 ♀

Characters [fig. 15]: Males [2] 19.5×7 – 22.5×8 [24.5×9.0 (AKIYAMA & OHMOMO 1994)], female [1] 20.5×7.5 mm. Body slender; dorsal side green with or without midlateral stripe of golden-cupreous hue, ventral golden-green; "mirrors" on elytral interstriae variously coloured (from almost concolorous to purplish, violaceous or black). Frontal sculpture consists of very coarse reliefs; V:H≈0.5. Pronotum rather coarsely and (especially on sides) densely, irregularly punctured; with midlateral pair of more or less regular, rounded, concolorous or blackish smooth spots somewhat before midlength; no distinctly differentiated median relief; lateral carina well developed only at basal angles, then disappears among very coarse sculpture. Elytral striae rather fine, densely punctured; interstriae moderately convex, smooth, interrupted by small, densely punctulate foveolae (often represented only by coarse punctures). No appreciable "submarginal ridge", but very coarse elevated reliefs concentrate on lateral part of proepisterna, leaving rest of surface mostly dfp; prosternal process with rather sparsely distributed coarse, somewhat elongated punctures concentrated along midline;

1. sternite sulcate along midline; abdominal puncturation very coarse and rather dense; no distinct dfp stripes. Male genitalia brownish-brown, subparallelsided, parameres *ca.* 2.5× longer than together wide, apices somewhat obliquely emarginate.

Geographical distribution [map 4]: All specimens I am aware of have been collected in Shan Prov. (NE-Burma), between 500 and *ca.* 1300 m. asl.

Remarks: Very brief and unconvincing – restricted, in fact, to length and width of body and short (two characters) comparison with *P. viridicuprea (SND.)* – original description would not allow to form a safe opinion on this taxon – even the difference in male genitalia looked much less convincing on their photographs than on the not too exact drawings and might have easily represent intraspecific variability – but examination of actual specimens kindly provided by M. HORNBURG proved, and the male borrowed from USNM confirmed, the high diagnostic reliability of both colouration and *aedoeagi*. *P. holynskii (A.O.*), *P. affinis (SND.), P. viridicuprea (SND.), P. psilopteroides (SND.)* and *P. nelsoni (A.O.)* make a complex of closely related and deceptively similar, nearly "sibling" taxa: external differences between them are very slight and rarely fully diagnostic, and were it not for the evidently distinctive male genitalia I would suspect them to be varieties (or – if allopatric – subspecies) of single widely distributed species.

Psiloptera (Spinthoptera) affinis (SND.)

Lampetis affinis SAUNDERS 1867: 305

Characters: Front with irregular network of elevated ridges and rather coarse, dense punctures in between; lower two thirds of each lateral margin depressed to form regular periocular sulcus covered with very dense silky-white pubescence and separated from the rest of frontal surface by very prominent prolongation of supraantennal carina. Pronotal sculpture consists of irregular coarse punctures, becoming very coarse and confluent on sides, and leaving smooth spot on each side of disk slightly before midlength; lateral carina distinct and smooth in basal fourth, anteriorly disintegrated by very coarse puncturation. Elytral striae rather deep, coarsely punctured; interstriae narrow, convex; dfp foveae very small and indistinct on 1., becoming larger and more conspicuous on 3., 5., 7., and especially on 9. interval. Prosternal process rather densely punctured between lateral striae; proepisterna with moderately dense, coarse, smooth granulation on dfp background, and conspicuous (though very irregular) submarginal ridge parallel to lateral carina; first sternite deeply sulcate along median line; apex of anal sternite narrowly but distinctly emarginate. Parameres dark brown, tips obliquely truncated and deeply, broadly emarginate between two denticles, penis sharply pointed.

Geographical distribution [map 3]: Inhabits almost all Indochinese Peninsula from Dawna Hills in mid-eastern Burma to Cochinchine.

Remarks: This species, characterized by the shape of parameres, well developed dfp stripe in lower half of oculofrontal margin, and presence of "submarginal ridge" on proepisterna, occurs in two geographical races:

Key to subspecies of *P. (S.) affinis (SND.)*

a (b) Dorsal side predominantly green ..... ***P. (S.) a. cochinchinae ssp.n.***
b (a) Dorsal side predominantly bright purplish-red ..... ***P. (S.) affinis (SND.) s.str.***

Psiloptera (Spinthoptera) affinis (SND.) cochinchinae ssp.n.

Material examined:

Holotype: "SAIGON, Cochinchina, COLLECTION LE MOULT" "Le Moult vend. LAMPETIS psilopteroides Saund." "*sec. J. Obenberger, Col. Cat.: Junk, xii, 1926-1935, p. 172*, P. (LAMPETIS) psilopteroides Saund." "R. Mus. Hist. Nat. Belg. I.G. 12.595" [♂ (KBIN)]

Paratypes: "SAIGON, Cochinchina, COLLECTION LE MOULT" "Le Moult vend. LAMPETIS psilopteroides Saund." "*sec. J. Obenberger, Col. Cat.: Junk, xii, 1926-1935, p. 172*, P. (LAMPETIS) psilopteroides Saund." "R. Mus. Hist. Nat. Belg. I.G. 12.595" [2♂ (KBIN)]; "SAIGON, Cochinchina, COLLECTION LE MOULT" "R. Mus. Hist. Nat. Belg. I.G. 12.595" "J. de Walsche det., 1943: P. Lampetis psilopteroides Saund." [1♀ (KBIN)]; "SAIGON, Cochinchina, COLLECTION LE

MOULT" [3♂ (2 KBIN, 1 RBH:BPgta), 3♀ (1 KBIN, 2 RBH: BPgsq, BPgt-)]; "*Saïgon*" "R.M.N.H.B. 15.962, coll. A. d'Orchymont" [1♂, 1♀ (KBIN)]; "*Saïgon*" [1♀ (RBH: BPgtb)]; "*Cap St. Jacques*" "*Lampetis viridicuprea Saund.*, Théry det" [1♀ (KBIN)]; "*Cap St. Jacques, Coch.chine*" [1♀ (RBH: BPgtd)]

Additional material: 3 ø

Holotype: Male, 23.5×8.5. Dorsal side green with very broad cupreous-red spots on sides of pronotal disk (median line, as well as lateral and apical margins, green); ventral side green medialy, cupreous on sides, tibiae cupreous, femora and tarsi green; antennae brown with bronzed-green shine.

Variability: Males [7] 15.5×5–21×7.5; females [8] 20×7–27×10.5 mm. Some show distinct brownish-cupreous shine on front and elytra, and in two the colouration does not differ from the nominotypical subspecies. Discal smooth spots on pronotum are frequently indistinct, interstriae usually flatter than in holotype, submarginal ridge on proepisterna more or less regular, sulcus on first sternite sometimes rather shallow; in females apex of anal sternite is always narrowly rounded.

Geographical distribution [map 3]: This race seems confined to Cochinchina.

Remarks: Markedly different colouration **[fig. 16]** makes this subspecies distinctive, while apparent lack of other differences, and occasional occurrence of reddish specimens, point to its conspecificity with *P. affinis (SND.) s.str.*

Psiloptera (Spinthoptera) affinis (SND.) s.str.

Lampetis affinis SAUNDERS 1867: 305

Material examined:

Lectotype: "Syntype"[Θ] "Type"[Θ] "Type" "*Camb.* Mouhot" "Saunders 74.18" "*Lampetis affinis (Type) Saund.*" [*recto*] "Labelled by C.O.W." [*verso*] [♀ (BMNH) – examined by me in 1978 as a syntype, later designated by AKIYAMA & OHMOMO (1994) as **lectotype**]

Additional material: 69 ex.: 19 ♂, 15 ♀, 35 ø

Characters [fig. 17]: Males [19] 16×5.5–23.5×8.5, females [14] 14×4.5–26.5×9.5 mm. Dorsal side usually bright red with golden-green to cupreous front and green median line, anterior margin and sides of pronotum and elytra, undersurface predominantly cupreous-red; in some specimens reddish colour is replaced with paler golden-cupreous and green parts are much wider; otherwise seemingly identical to *P. a. cochinchinae ssp.n.*

Geographical distribution: Widely distributed all-over the (apparently only southwestern – I have never seen specimens from northern parts of either Burma, Laos or Vietnam) Indochinese and perhaps (one specimen with old label "Malacca" in MCGD) Malay Peninsulae **[map 3]**.

Remarks: Typically dark bluish [like in *P. nelsoni (A.O.)*] elytral tips provide additional – even if neither clear-cut nor fully consistent – trait helping to differentiate this subspecies from deceptively similar *P. viridicuprea (SND.)*.

Fig. 16
P. (S.) a. cochinchinae ssp.n.
PT ♂ [BPgta], Cochinchine: Saigon

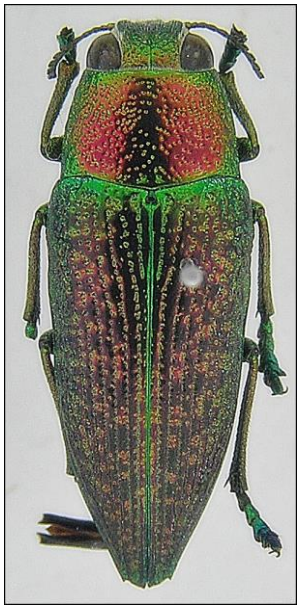


Fig. 17
P. (S.) affinis (SND.) s.str.
♂ [BPgtf], Siam: Khon Kaen: Chaiyaphum

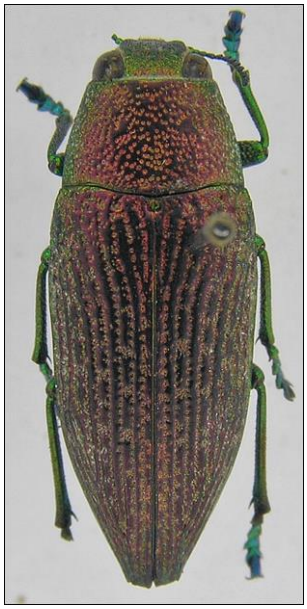


Fig. 18
P. (S.) praeinsularis sp.n.
♀ HT [BPhqy], Sumatra: Gedong Biara

Psiloptera (Spinthoptera) praeinsularis sp.n.

Material examined:

Holotype: "Sumatra N.E.coast, *Gedong Biara, 15-XII-1952*, R.Straatman leg" "*Psiloptera sp.*, det. Sv. Bílý" [♀ (RBH: BPhqy)]

Additional material: none

Holotype: 23.5×9 mm. Front, sides of prothorax, scutellum, epipleura, antennae and legs green (5. tarsal joint violet-blue), otherwise body dorsally and ventrally cupreous-red.

Epistome rather shallowly, roundedly-triangularly emarginate, with some coarse punctures concentrated on sides; not separated from generally flat; trapezoidal front. Frontal disc bordered on both sides with prominent smooth arcuate carina running roughly parallel to eye margin; space between these carinae covered with network of smooth reliefs enclosing rather broad depressed dfp foveae; periocular bands dfp, covered with short and dense yellowish pubescence – otherwise front but inconspicuously pubescent; vertex rather wide (V:H=0.5), covered with coarse and dense puncturation; eyes moderately prominent, *ca.* 2.5× longer than wide. 1. antennal joint egg-shaped, *ca.* 1.5× longer than wide; 2. cylindrical, *ca.* as long as wide, distinctly narrower than 1.; 3. conical, as wide as, but 1.5× longer than, 2.; 4. club-shaped, similar in length to 1. but thinner; 5. similar in shape but somewhat longer and wider; 6. still longer and definitely wider, triangular; 7.-10. rhomboidal, progressively shorter and narrower; 11. as long as 9., elongately and asymmetrically club-shaped.

Pronotum wide (L:BW:AW=1:1.5:1.2), trapezoidal; sides strongly, almost straightly convergent from base to apex (minimally less so in basal fourth); anterior margin very shallowly trisinuate, base bisinuate with median lobe protruding about as far back as sharply acute posterior angles. Disk shallowly transversely depressed along median half of base, otherwise almost regularly convex, lateral carina somewhat irregular but distinct to slightly before midlength; pronotal punctures coarse, very dense, forming reticulate sculpture on sides, somewhat finer and sparser (but still interspaces on average much narrower than diameters of punctures), irregularly spaced on disc; surfave between these "primary" punctures covered with very fine, rather sparse "secondary" punctulation on background of distinct (under 20× magnification) microsculpture; pair of discal reliefs very irregular and indistinct. Scutellum small, roundedly trapezoidal, as long as wide, convex.

Elytra 2.0× longer than wide; sides obliquely truncated at humeri (no posthumeral denticle), then parallel to metacoxae, slightly sinuate just behind, arcuately convergent from midlength to *ca*. apical $^{1}/_{12}$, and sinuately so to obliquely truncate apices; external apical denticle distinct but not prominent. Striae coarsely and densely punctured; interstriae smooth, convex, of equal elevation; odd ones (1., 3., 5., 7.) broken up into sections by well developed, depressed dfp foveae; basal portion of epipleural carina irregularly coarsely punctured, looking crenulated when seen from above.

Anterior margin of prosternum arcuately produced; prosternal process parallelsided to behind procoxae, then sinuately narrowed to broadly rounded apex; lateral striae indistinctly shallowly punctured anteriorly, cuneately tapering and smooth apically; median space wide, sparsely punctured at base, with only irregular median row of punctures behind; smooth lateral rims less than half as wide; median parts of proepisterna densely and finely granulated, separated from coarsely reticularly sculptured lateral portions by distinct though irregular "additional ridge". Metasternum convex, narrowly furrowed along midline, finely and sparsely punctulate medially, very densely, coarsely on sides; hind margin of metacoxae with but indication of tooth at median third. 1. sternite rather deeply depressed along median line; median parts of abdomen with coarse foveolate (consisting of depressed groups of fine punctures) sculpture, which laterally becomes much denser; no distinct dfp spaces or on sides of sternum or abdomen; lateral pubescence distinct but not forming appreciable bands or spots; anal sternite narrowly rounded at apex.

Geographical distribution: *P. praeinsularis sp.n.* is known only from the type-locality in NE-Sumatra **[map 5]**.

Remarks: *P. praeinsularis sp.n.* is a somewhat enigmatic form: it has been described in my unpublished dissertation as a distinct species and is tentatively treated as such also here, but based on the presently available evidence its status as a subspecies or even – mislabelled? – individual variety of deceptively similar *P. affinis (SND.)* seem almost equally conceivable. It differs in uniformly (without green midline almost always appreciable in the latter species) reddish-cupreous pronotum; coarser and denser pronotal puncturation and more distinct microsculpture; broad (wider than adjoining interstriae), irregularly punctured periscutellar stria; more regular and deeply depressed elytral foveae; "crenulated" basal section of epipleural carina; coarsely foveolate sculpture of abdomen; and some other minor details. As remarked twenty years ago, definitely costiform interstriae [very rare in *P. affinis (SND.)*] suggest some affinity to *P. alorensis THY.*, but dark colouration, much better developed lateroventral pubescence, and rufous pulverulence of the latter show that the relationship is probably not as close as it initially seemed.

Timoriensis-circle

Fig. 19
P. (S.) eva (THS.)
♀ [BPlrz], Timor

Fig. 20
P. (S.) draconis sp.n.
HT ♂ [BPBM], Komodo I.

Fig. 21
P. (S.) baliana KERR.
♂ [BPchg], Java

Fig. 22
P. (S.) timoriensis (C.G.)
♂ [BPgtq], Timor: Soe

Psiloptera (Spinthoptera) eva (THS.)

Lampetis Eva THOMSON 1879a: 169-170

Material examined:

Additional material: 3 ♀

Characters [fig. 19]: Male unknown, females [3] 23.5×8.5–29×11 mm. Dorsal side dull green with more or less strong purplish shine; undersurface purplish-green to purplish-cupreous; legs green, antennae bronzed-brown. Front with dense network of coarse, smooth elevated ridges leaving but little space to rather coarsely punctured depressed surface; vertex finely punctulate. Pronotum coarsely, densely, irregularly, confluently punctured on sides, somewhat less so at middle of disc; smooth median carina absent or flat and irregular, totally disappears at anterior third; lateral carina developed, if at all, only in basal fourth. Elytral sides shortly but very distinctly sinuate before apex; striae coarsely and densely punctured; interstriae moderately convex (with no distinction between odd and even), somewhat higher

laterally than towards suture; elytral foveae inconspicuous, sparsely spaced, mainly on odd intervals. Prosternal process sparsely punctured, lateral striae deep and regular; punctulation of proepisterna rather fine and very dense, traces of submarginal ridge appreciable. Abdomen rather densely covered with coarse rasp-like punctures and rather sparsely with white, recumbent pubescence; 1. segment broadly, very shallowly depressed along median line; anal sternite rounded apically.

Geographical distribution [map 5]: Described from Flores; specimens examined by me come from Solor and Timor, but the latter locality seems doubtful, referring rather – a not infrequent pratice in XIX century collections – to where the material had been shipped from.

Remarks: This species belongs to the *P. timoriensis (C.G.)* superspecies, characterized by equally convex interstriae with no or inconspicuous foveae; *P. eva (THS.)* differs at glance from the remaining representatives of this group in purplish-green colouration of the body.

Psiloptera (Spinthoptera) draconis sp.n.

Material examined:

Holotype: „INDONESIA: Lesser Sunda Is., Komodo I., 20.VIII.1965" "J. Winkler Collector, BISHOP" [♂ (BPBM)]

Paratypes: "*Indonesia, Komodo I. 19 08.1962*" [1♀ (RBH: BPhix)]; „INDONESIA: Lesser Sunda Is., Komodo I., 16.VIII.1965" "J. Winkler Collector, BISHOP" [1♂, 1♀ (BPBM), 1♂ (RBH: BPls-)]; „INDONESIA: Lesser Sunda Is., Komodo I., 19.VIII.1965" "J. Winkler Collector, BISHOP" [3♂, 9♀ (BPBM)]; „INDONESIA: Lesser Sunda Is., Komodo I., 20.VIII.1965" "J. Winkler Collector, BISHOP" [11♂, 27♀ (BPBM), 2♂ (RBH: BPlsa, lsd), 4♀ (RBH: BPlsb, lsc, lse, lsf)]; „INDONESIA: Lesser Sunda Is., Komodo I., 21.VIII.1965" "J. Winkler Collector, BISHOP" [1♂ (BPBM)]; "KOMODO isl, 20. 8. 1965, J.M.Štusák" "Coll. S.Bily" "*Psiloptera (Lampetis) sp. cum baliana Kerr.*, det. Sv. Bílý" [1♀ (SB)]

Additional material: none [the beetle shown (unfortunately without any data) as cover picture of *Jewel Beetles* **10** (2001) seems to represent this species]

Holotype [fig. 20]: 23.5×9 mm. Front green at middle, cupreous on sides, vertex and pronotum bluish-black, elytra and ventral side purplish-cupreous; antennae piceous; punctures on both dorsal and ventral side filled with whitish pulverulence.

Epistome arcuately emarginate, not separated from flat trapezoidal front. Frontal sculpture consists of dagger-like median ridge and network of smooth reliefs (better defined anteromedially), leaving ample space (especially on sides) for depressed dfp areas; vertex covered with moderately fine, dense punctulation, somewhat confluent into indistinct transverse strigosity. Pubescence dense, semierect, whitish. Eyes moderately prominent, twice longer than wide. V:H≈0.4. 1. antennal joint egg-shaped, *ca.* 2× longer than wide; 2. spherical, distinctly narrower than 1.; 3. conical, much shorter and thinner than 1.; 4. club-shaped, almost as long as 2. and 3. together; 5. triangular, somewhat longer and wider; 6. still longer and wider, triangular with broadly rounded outer angle; 7.-10. rhomboidal, progressively shorter and narrower; 11. longer than 10., elongately and asymmetrically club-shaped.

Pronotum wide (L:BW:AW=1:1.5:1.3); sides almost straightly convergent from base to apex, slightly sinuate in basal third; anterior margin almost perfectly straight, base bisinuate with median lobe protruding much further back than posterior angles. Disk convex, with hardly appreciable transverse depression along base; lateral carina irregular, inconspicuous; pronotal punctures coarse, irregularly spaced, very dense and confluent on sides, dense but isolated on disk; smooth median carina flat, very inconspicuous and irregular; no anterodiscal reliefs. Scutellum small, trapezoidal, as long as wide, convex.

Elytra 2.0× longer than wide; sides obliquely truncated at humeri (with no trace of posthumeral denticle), then parallel to behind metacoxae, and arcuately convergent to obliquely truncate apices; apical denticles not prominent. Striae continuous, with relatively coarse and dense irregular punctulation superimposed over coarser but shallow uniserial punctures; interstriae narrow, convex, more elevated on sides; usually without, rarely with unapparent foveolae.

Anterior margin of prosternum at middle almost straightly truncate; prosternal process parallelsided to behind procoxae, then sinuately narrowed to rounded apex; lateral striae slightly convergent backwards, continuous, finely and rather sparsely punctured, smooth lateral portions twice narrower than uniserially (single, regular row of coarse punctures along midline) punctured median space; proepisterna mottled with small smooth elevated reliefs on dfp background. Metasternum convex, narrowly depressed along midline, punctulation on median parts fine and sparse, on sides coarser and much denser, irregular; hind margin of metacoxae with obtuse, blunt tooth at median third. Abdomen rather coarsely, almost uniformly punctured; 1. segment shallowly but distinctly furrowed medially; anal sternite narrowly truncated at apex. *Aedoeagus* piceous-brown, stout (parameres *ca.* 2.5× longer than together wide).

Paratypes: Males 17×6–25.5×9.5, females 19.5×7–28.5×10.5 mm. Elytra often somewhat duller, greenish-cupreous; median row of punctures on prosternal process more or less regular; apex of anal sternite narrowly rounded in ♀, truncated with or without madian incision in ♂; otherwise very uniform.

Geographical distribution [map 5]: *P. draconis sp.n.* seems to be endemic for Komodo.

Remarks: *P. draconis sp.n.* differs from *P. eva (THS.)* in elytral sculpture, from the remaining [*P. baliana KERR., P. timoriensis (C.G.)*] members of the *Timoriensis*-circle in uniform (without lateral dfp bands) sculpture of abdomen, and from all of them in bicolorous (bluish-black pronotum, cupreous elytra) dorsal side.

Caution: In describing this species for my dissertation 20 years ago I must have selected as the holotype a female from my collection – one of the only two specimens (both females) then known to me; now, having in my disposition the long series from BPBM I decided to replace it with a male from that institution: I am aware that such change might perhaps cause some confusion (the dissertation, although formally unpublished, has been available and rather well known to interested students of Indo-Pacific buprestids), but seems nevertheless warranted.

Psiloptera (Spinthoptera) baliana KERR.

Psiloptera baliana KERREMANS 1900: 66

Material examined:

Holotype: "Holotype"[Θ] "*Bali, l.c., III-IV. 96, (W.Doherty)*" "*baliana Kerr. Type*" "Kerremans 1903-59" [♀ (BMNH]

Additional material: 2 ex. (1♂ and 1♀)

Characters [fig. 21]: Male [1] 17.5×6.5, females [2] 20.5×8.5–23.5×9 mm. Body black with faint (somewhat stronger on sides of ventral side, especially in female) bronzed shine; tarsi dark blue. Front with network of coarse reliefs emerging from depressed dfp surface; vertex with moderately coarse, not confluent puncturation; pubescence rather long, recumbent, yellowish along eye margins, otherwise inconspicuous. Pronotal puncturation coarse but rather sparse on disc, much denser and irregularly confluent on sides; median line almost undifferentiated, smooth anterodiscal spots well developed (male) or inconspicuous (female); lateral carina distinct only shortly at base. Elytral sides very obtusely angular behind humeri, but without posthumeral denticle; striae continuous, rather deep, coarsely and densely punctured; interstriae narrow, convex, more elevated on sides, odd and even alike except that the former are less regular, with traces of very inconspicuous foveae. Anterior margin of prosternum slightly arcuate; lateral rims of prosternal process narrow and smooth, median part twice wider and sparsely though rather coarsely punctured, lateral striae deep with row of coarse and dense punctures at bottom; proepisterna densely, very irregularly, finely punctured, with traces (more distinct in female) of submarginal ridge. First abdominal

segment deeply (male) or shallowly (female) sulcate; disc of abdomen rather sparsely but very coarsely punctured (individual "punctures" are in fact foveolae composed of depressed groups of several finer punctures), sides broadly dfp; pubescence of ventral side yellowish, recumbent, rather short and sparse medially, longer and dense (though leaving surface of sclerites clearly visible) on sides; anal sternite roundedly truncated (male) or narrowly rounded (female) at apex. Male genitalia brownish-yellow, becoming piceous-brown towards tips of parameres, with blackish streak along midline of penis; parameres obliquely truncate at apex.

Geographical distribution [map 5]: Described from Bali, both additional specimens have been collected on Java: male [RBH: BPchg] is labelled "*Java*" without any details, female [NNHM] "Banjuwangi, IV 1936, leg. Adj. L.b.C.".

Remarks: *P. baliana* KERR. is apparently rather rare species, deceptively similar (differing only in fine details of colouration, sculpture and pubescence) and undoubtedly closely related to *P. timoriensis (C.G.)*.

Psiloptera (Spinthoptera) timoriensis (C.G.)

Buprestis timoriensis CASTELNAU et GORY *1837: 79-80*
= Lampetis curvipes CHEVROLAT *1838: 22*

Material examined:

Holotype of *L. curvipes* CHVR.: "Holotype"[Θ] "*curvipes Chevr.*" "Type"[Θ] "Saunders 74.18" [♀ (BMNH)]
Additional material: 18 ex: 11♂, 7♀

Characters [fig. 22]: Males [11] 16.5×6–25×9, females [8] 19.5×7.5–26×10 mm. Body black with faint to strong (always strong on front and tibiae) green, blue, or violet (sometimes bronzed or purplish on ventral side and elytral disk) shine; tarsi usually green or violet, rarely blue. Front with three (one along midline and two periocular) usually prominent longitudinal carinae and some small smooth reliefs between them, otherwise dfp; periocular stripes (between carinae and eye margins) densely pubescent, pubescence of remaining frontal surface inconspicuous (but all depressed dfp spaces distinctly pulverulent); vertex densely and relatively coarsely, but not confluently punctulate. Pronotal puncturation coarse and moderately dense on disc, much denser and irregularly confluent on sides; smooth median line and anterodiscal spots usually very inconspicuous; lateral carina distinct only at the very base (if at all). Elytra usually without, sometimes with traces of posthumeral denticle; striae continuous, rather deep, coarsely and densely punctured; all interstriae narrow, convex, almost equally elevated; foveae on odd intervals most often missing or hardly appreciable, only exceptionally well developed. Median part of prosternal process sparsely punctured, separated from much narrower smooth lateral rims by deep striae; proepisterna dfp without (or, exceptionally, with very fine trace of) submarginal ridge. First abdominal segment rather deeply sulcate; coarse and dense sculpture of abdominal disc represented by foveolately depressed groups of fine punctures; sides of ventral sides dfp; pubescence of ventral side yellowish, recumbent, rather short and sparse (especially in females) medially, longer and very dense (almost totally covering surface of sclerites) on lateral dfp band; apex of anal sternite roundedly truncated with more or less distinct incision at middle (male) or narrowly rounded (female). Parameres piceous-brown (slightly paler at base), penis yellowish-brown with dark median stripe.

Geographical distribution [map 5]: Both nominal taxa have been described from Timor, and indeed *P. timoriensis (C.G.)* is known only from that island.

Remarks: The closest relative of *P. timoriensis (C.G.)* is evidently *P. baliana* KERR., from which it differs mainly in distinct metallic shine of the body (especially front and legs), dark male genitalia, much sparser frontal reliefs, and very dense pubescence on lateral band of ventral side. KERREMANS (1910) separates *P. curvipes (CHVR.)* on grounds of colouration

("*Dessus noir ou noir bleuâtre ... timoriensis*", "*Dessus vert ... curvipes*"), but CHEVROLAT (1838) described it as "*Caput coeruleum, ... Thorax nigro coeruleus, ... Elytra violacea*", what agrees with my notes on the holotype ("*black with metallic – blue on head and pronotum, purplish on elytra, and bluish-violet on ventral side – shine*") and fits *P. timoriensis (C.G.)* very well. The clue to the understanding of KERREMANS' (1910) misinterpretation is his remark, that "*La description du Lampetis Eva Thoms. se rapporte exactement à un exemplaire que j'ai sous les yeux et que je considère comme une femelle du curvipes Chevrol.*" – apparently he had not seen the type of *Lampetis curvipes CHVR.* and based his concept of that taxon on a specimen belonging in fact to *P. eva (THS.)*! However, as well the geographical distribution as morphological details (colouration, elytral foveae, sculpture of vertex) clearly show, that *P. eva (THS.)* is not synonymous with *P. curvipes (CHVR.)* – instead, neither the original description nor the study of the holotype offers any point to separate the latter from *P. timoriensis (C.G.)*: of the only two apparent differences, the presence in *P. curvipes (CHVR.)* of elytral foveae remains comfortably within the limits of individual variability, while the strongly inflected (like broken) metatibiae of the holotype – interpreted by KERREMANS (1910) as sexual character of male – look decidedly unnatural and most probably represent some developmental or genetical abnormality.

Alorensis-circle

Psiloptera (Spinthoptera) alorensis THY.

Psiloptera alorensis THÉRY 1901: 108-109
Lampetis timoriensis var. Rossi OBENBERGER 1939: 67

Material examined:
Holotype: "*Alor*" "MUSÉUM PARIS, 1935, Coll. A.THÉRY" [♀ (MNHN)]
Additional material: 3 ex.: 2♀, 1ø

Characters [fig. 23]: Male unknown, females [3] 23×9–25×10 mm. Body black with green elytral foveae; labrum, basal two antennomeres, and tarsi blue to violaceous; tibiae with distinct violaceous shine. Front encircled with very irregular, here and there interrupted carina, consisting of (least distinct) transverse part along epistomal border, short oblique supraantennal ridges, vertical periocular (at some distance from each eye) portions, and – again transverse – upper arch; conspicuous cross-shaped elevation at middle, short more or less distinct vertical ridge on each side of it, and network of irregular reliefs anterolaterally, emerge from dfp bottom of this enclosure; periocular stripe dfp; frontal pubescence short and inconspicuous, dfp depressions pulverulent; vertex finely and shallowly but very densely punctulate, with slight tendency to form transverse rugae. Pronotum coarsely, at sides very densely and confluently punctured, smooth median line rather distinct, other reliefs very irregular; lateral carina well marked and reaching to anterior fifth, though all along obliterated by dense puncturation. Elytral sides with distinct posthumeral swelling; striae rather shallow, consist of rows of deep, coarse, dense punctures; all interstriae convex, odd intervals ("intercostae") – broken up by large dfp foveae into short (not much longer near suture, definitely shorter on sides, than foveae) sections – look lower than "costae", though in fact there is no appreciable difference in elevation. Median part of prosternal process sparsely punctured, lateral rims smooth, striae deep; proepisterna dfp with traces of submarginal ridge. First sternite rather deeply sulcate (male) or almost flat (female); puncturation of abdominal disc coarse (consisting in fact of depressed dense groups of fine "primary" punctures) and moderately dense; sides of sternum and of 1. abdominal segment broadly dfp, 2.–5. sternites with only very narrow lateral border and two to four small spots on each side dfp; pubescence of ventral side yellowish, recumbent, medially short and inconspicuous, on lateral dfp areas longer and dense; apex of anal sternite narrowly rounded in female.

Geographical distribution [map 5]: *P. alorensis THY.* is endemic to Alor I.

Map 5

● ***P. (S.) praeinsularis sp.n.***; ● ***P. (S.) baliana KERR.***; ● ***P. (S.) lombokiana sp.n.***; ● ***P. (S.) draconis sp.n.***
● ***P. (S.) sumbana sp.n.***; ● ***P. (S.) timoriensis sp.n.***; ● ***P. (S.) eva (THS.)***; ○ ***P. (S.) alorensis (THY.).***
[Symbols with central dot – exact localities; encircled symbols – generalized areas (islands)]

Remarks: *P. alorensis THY.* has been usually considered a synonym of *P. timoriensis (C.G.)*, but in fact it represents another, clearly distinguishable species. It differs from *P. baliana KERR.* and *P. timoriensis (C.G.)* mainly in large elytral foveae and in broad lateral dfp band of ventral side not (or but in rudimentary form) extending beyond 1. abdominal segment; of its two apparently closest relatives, *P. sumbana sp.n.* is recognizable by details of colouration, lack of lateral carina of pronotum, prosternal pubescence visible from above, elytra without subhumeral denticle, *&c.*, while good distinguishing characters of *P. (S.) lombokiana sp.n.* are bright colouration and absence of clearly developed lateral dfp band on sternum and abdomen. I have not seen the type of *Lampetis timoriensis var. rossi OBB.*, but the original description – restricted to distinctive colouration - is in fact quite typical for *P. alorensis THY.*, and as the type-locality is Alor, that form certainly belongs here: the genuine *P. timoriensis (C.G.)* occurs only on Timor.

Psiloptera (Spinthoptera) sumbana sp.n.

Material examined:

Holotype: "*Sumba Is., Indonesia, XII 1992*" "Akiyama Collection" [♀ (RBH: BPhuq)]
Paratype: "*Sumba*" [1♀ (RBH: BPgtp)]
Additional material: none

Holotype [fig. 24]: 22×8.5 mm. Elevated parts of body black with very slight bluish (dorsally) or strong golden-green (on ventral side) shine; depressed dfp areas cupreous; apical parts of epipleura, labrum and legs bluish-green; two basal antennomeres blue, remaining joints piceous-black.

Epistome rather shallowly, roundedly-triangularly emarginate, coarsely and densely punctured, not separated from generally flat; trapezoidal front. Frontal disc bordered on both sides with prominent smooth arcuate carinae running parallel to eye margin; between these carinae some small (mostly longitudinal) reliefs emerge from dfp depression; periocular bands dfp, covered with short and dense yellowish pubescence – otherwise front but

inconspicuously pubescent; vertex rather wide (V:H=0.5), covered with moderately coarse, dense but not confluent punctulation; eyes moderately prominent, *ca.* 2.5× longer than wide. 1. antennal joint egg-shaped, *ca.* 1.5× longer than wide; 2. cylindrical, shorter than wide, distinctly narrower than 1.; 3. conical, as wide as, but 1.5× longer than, 2.; 4. club-shaped, similar in length to 1. but slightly thinner; 5. similar in shape but somewhat longer and wider; 6. still longer and definitely wider, triangular; 7.-10. rhomboidal, progressively shorter and narrower; 11. as long as 8., elongately and asymmetrically club-shaped.

Fig. 23
P. (S.) alorensis (THY.)
♀ [BPchh], Alor: Bara Buru

Fig. 24
P. (S.) sumbana sp.n.
HT ♀ [BPhuq], Sumba I.

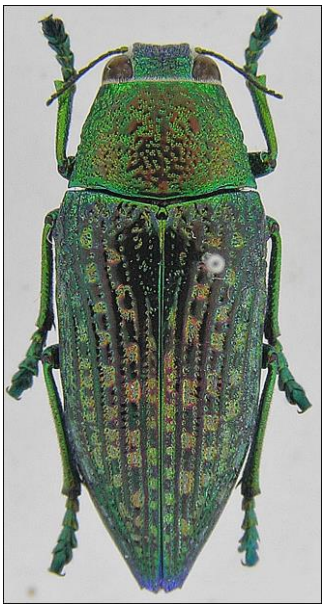


Fig. 25
P. (S.) lombokiana sp.n.
HT ♀ [BPhur], Lombok I.

Pronotum wide (L:BW:AW=1:1.5:1.1); sides strongly convergent in basal 1/7, then subparallel to near midlength, and regularly arcuately narrowed to apex; anterior margin almost straightly truncated, base bisinuate with median lobe protruding further back than posterior angles. Disk convex, with four (a pair at basal 1/4 and another at midlength, both nearly as far from median line as from sides) rather deep but irregular foveolate depressions; lateral carina absent, notosternal border broadly rounded off and densely punctured; pronotal punctures coarse, irregularly spaced, dense and somewhat confluent on sides, rather sparse and isolated on disc; no distinct discal reliefs appreciable. Scutellum small, trapezoidal, as long as wide, slightly convex.

Elytra 2.0× longer than wide; sides obliquely truncated at humeri (no posthumeral denticle), then parallel to metacoxae, slightly sinuate just behind, arcuately convergent from midlength to *ca*. apical 1/12, and sinuately so to obliquely truncate apices; external apical denticle distinct but not prominent. Striae coarsely and densely punctured; interstriae smooth, convex, of similar elevation (though "intercostae" look lower than "costae" as a result of being broken up into short – mostly shorter than large dfp foveae between them –sections).

Anterior margin of prosternum straightly truncate; prosternal process parallelsided to behind procoxae, then sinuately narrowed to broadly rounded apex; lateral striae slightly convergent backwards, continuous, rather densely punctured; median space wide, sparsely punctured anteriorly, with only irregular median row of punctures behind; smooth lateral portions twice narrower; proepisterna dfp, laterally intergrading without distinct border into coarse pronotal sculpture. Metasternum convex, narrowly furrowed along midline, sparsely puntulate medially, very densely on sides; hind margin of metacoxae with but indication of tooth at median third. 1. sternite broadly but shallowly depressed along median line; median

parts of abdomen with coarse foveolate (consisting of depressed groups of fine punctures) sculpture, which laterally becomes much finer but definitely denser; sides of 1. and progressively smaller spaces at anterior angles of 2.-4. sternites dfp; lateral dfp spaces of sternum and abdomen covered with long and dense rufous-ochraceous pubescence, extending so far on sides of prothorax as to be visible from above; anal sternite narrowly rounded at apex.

Paratype: 22×8.5 mm. Virtually identical to the holotype: slightly differs only in duller colouration of labrum and legs (especially of femora, which are concolorous with rest of ventral side), distinct (though weakly developed) frontoclypeal ridge, less prominent periocular carinae, lack of appreciable discal foveae on pronotum, its sides definitely convergent also in basal half, somewhat denser pronotal sculpture, deeper median groove on metasternum and 1. sternite, and more extensive lateral dfp areas on sternum and abdomen.

Geographical distribution [map 5]: The species apparently occurs only on Sumba I.

Remarks: *P. sumbana sp.n.* is very closely related to *P. alorensis* THY. and *P. lombokiana sp.n.* – see the key and remarks on *P. alorensis* THY. for differences.

Psiloptera (Spinthoptera) lombokiana sp.n.

Material examined:

Holotype: "*Lombok Is., Indonesia, I 1989*" "Akiyama Collection" [♀ (RBH: BPhur)]
Paratype: "*Indonesia, Lombok Is. VII-97. L. Hart*" „*Psiloptera puncticollis*" "2646, U. Nylander" [green label]
Additional material: none

Holotype [fig. 25]: 24×9 mm. Front and legs green, pronotum and elytra green with strong cupreous reflexions, labrum and ventral side cupreous, antennae piceous-brown with cupreous – strong on basal joints, slight otherwise – shine.

Epistome rather shallowly, triangularly emarginate, coarsely and densely punctured. Front generally flat; trapezoidal, not separated from epistome; discal part ornamented with network of prominent smooth ridges (including well marked median cruciform and pair of lateral carinae), leaving not much space to depressed dfp bottom; periocular stripes dfp, densely covered with rather long yellowish pubescence; discal part virtually glabrous; vertex rather wide (V:H=0.5); eyes moderately prominent, *ca.* 2.5× longer than wide. 1. antennal joint egg-shaped, *ca.* 1.5× longer than wide; 2. cylindrical, shorter than wide, distinctly narrower than 1.; 3. slightly conical, distinctly wider and 1.5× longer than 2.; 4. club-shaped, again markedly longer; 5. angularly clavate, still longer and wider; 6. of similar length, triangular, widest of all (almost as wide as long); 7.-11. rhomboidal, progressively shorter and narrower.

Pronotum wide (L:BW:AW=1:1.5:1.1); sides strongly convergent in basal 1/7, then somewhat less so to near midlength, and again a little stronger to apex; anterior margin almost straightly truncated, base bisinuate with median lobe protruding further back than posterior angles. Disk convex, prebasal depression shallow but distinct, lateral carina virtually absent, notosternal border broadly rounded off and densely covered with coarse and very irregular sculpture (making pronotal sides look irregularly crenulate in dorsal aspect); pronotal punctures coarse, irregularly spaced, rather dense and confluent even on disc, very strongly so on sides (this sculpture extending far to ventral side); median line almost undifferentiated, smooth anterodiscal reliefs rather well developed, another pair at anterior angles also appreciable. Scutellum small, trapezoidal, as long as wide, slightly convex.

Elytra 2.0× longer than wide; sides obliquely truncated at humeri, with small but rather distinct posthumeral denticle, then subparallel to midlength and arcuately convergent almost to apices (very shallowly sinuate just before); external apical denticle distinct but not prominent. Striae coarsely and densely punctured; interstriae smooth, convex, not differing in

elevation but "intercostae" broken up into short (mostly – except on 3. interval – shorter than large dfp foveae between them) sections.

Anterior margin of prosternum broadly rounded; prosternal process parallelsided to behind procoxae, then sinuately narrowed to broadly rounded apex; deep and coarsely punctured lateral striae also parallel, lateral rims smooth, twice wider median space coarsely and rather densely punctured anteriorly, very sparsely (with irregular row of punctures along median line) on middle and apical parts; proepisterna medially dfp, laterally covered with coarse sculpture similar to, and not clearly demarcated from, that of pronotal sides. Metasternum convex, deeply grooved apically, sparsely puntured on median parts, very densely on sides; hind margin of metacoxae with but broadly rounded indication of tooth at medial third. 1. sternite broadly depressed along median line; median parts of abdomen with coarse, elongately foveolate (consisting of depressed groups of fine punctures) sculpture, which laterally becomes much finer and very dense, but without typical dfp spaces; median parts of sternum and abdomen virtually glabrous, sides covered with long but sparse yellowish pubescence; apex of anal sternite narrowly rounded.

Geographical distribution [map 5]: The species is known only from Lombok I.

Remarks: The closest relatives of *P. lombokiana sp.n.* are undoubtedly *P. sumbana sp.n.* and *P. alorensis* THY.; it differs from both in bright colouration, lack of clearly developed dfp band on ventral side, and some other details.

Puncticollis-circle

*Psiloptera (Spinthoptera) puncticollis (*SND.*)*

Lampetis puncticollis SAUNDERS *1867: 303-304*

Material examined:

Holotype: "Holotype"[♂] "*Pach.*, Mouhot" "Saunders 74.18" "*puncticollis (Type) Saund.*" "Type" ♀ (BMNH)]

Additional material: 1 ♀

Characters [fig. 26]: Males unknown; females [1] 30×11mm. [30-32.5×11.5-12 mm. (AKIYAMA & OHMOMO 1994)]. Labrum, depressed parts of head, disc of pronotum, elytral foveae, almost all ventral side, femora, tibiae, and basal antennomeres cupreous; elevated parts of elytral interstriae cupreous-bronzed; prosternum medially purplish-bronzed; elevated frontal reliefs dull greenish-black; lateral (broad), basal and apical (narrow) margins of pronotum, marginal carina and epipleura of elytra, and some elevated smooth areas of undersurface green; tarsi greenish-blue. Front with irregular network of coarse, smooth elevated ridges emerging from deeply depressed dfp surface. Pronotal puncturation coarse, dense, very irregular, confluent on sides, becoming much finer and sparser towards midline; smooth median and anterodiscal spaces hardly appreciable; lateral carina well developed in basal fourth, traceable to apical third. Elytra definitely angular behind humeri, but without posthumeral denticle; sides very coarsely, median parts rather finely striatopunctate; interstriae almost flat, smooth, 1. (sutural) with some punctures in apical third, 3. (in apical half only), 5., 7. and 9. interrupted with rather sparse but very distinct dfp foveae, which become larger towards sides (especially in 9. interstria). Prosternal process very sparsely punctured, laterally bordered with only partly confluent rows of rather fine punctures; median parts of proepisterna irregularly, densely granulate-punctate, separated from dfp lateral parts by stripe of small, smooth, elongated reliefs forming distinct submarginal ridge; 1. abdominal segment broadly and shallowly depressed along median line; sternites coarsely but sparsely punctured except for very irregular dfp spaces at anterior angles and broken midlateral dfp stripe; anal segment rounded apically.

Geographical distribution: AKIYAMA & OHMOMO (1994) report it from "India", otherwise known only from northern Siam and Laos (BAUDON 1968) **[map 4]**.

Remarks: Like in the case of *P. psilopteroides (SND.)*, the material – two females – available for study [AKIYAMA & OHMOMO (1994) had only two females more: the third – that figured on their phot. A – is my specimen BPchi] is too scanty to allow a sound assessment of its variability (the specimen in my collection is practically identical with the holotype), but for the moment *P. puncticollis (SND.)* seems to be rather well differentiated species: distinct submarginal ridge on proepisterna suggest its affinities with *P. affinis (SND.)*, but sculpture of abdomen and peculiar pattern of elytral foveae makes it unmistakable.

Comottoi-circle

Psiloptera (Spinthoptera) comottoi LSB.

Psiloptera Comottoi VAN LANSBERGE 1885: 399-400

Material examined:

Holotype: "Minhla, *Birmania, D. Comotto 1883*" "TYPUS" "*Psiloptera Comottoi Lansbge.*" "det. J.W. van Lansberge" "HOLOTYPUS Psiloptera comottoi Lansberge, 1885" "Museo Civico di Genova" [♀ MCGD]

?Paratype: "Minhla, *Birmania, D. Comotto 18.....*" "*Psiloptera comottoi Lansb.*" "Museo Civico di Genova" [1 ♀ (MCGD)]

Characters [*Having now no access to the specimens i am unable to provide a photograph – please consult my disertation for a drawing*]**:** Males unknown; females 22.5-32×8-12.5 mm. Brownish-black with dfp depressions (partly greenish) and median parts of prosternum cupreous, front, lateral parts of sternum, and legs purplish-violet. Front with dense irregular network of elevated ridges and small depressed dfp spaces in between. Pronotal puncturation coarse, dense, irregularly confluent on sides, finer and much sparser on disc; no distinct smooth anterodiscal spots, impunctate space along midline poorly developed; lateral carina well marked, smooth in basal half, then either becomes irregular or disappears. Elytra without posthumeral denticle; striae consist of rows of fine punctures anteromedially, deeply depressed and coarsely punctured on sides and towards apices; interstriae almost flat, smooth, 3., 5. and 9. with some punctiform dfp foveae; transverse postbasal fascia (extending from humeri to 3. stria), obliquely arranged 3 spots on 3. (just before midlength), 5. and 7.-9. (at level of metacoxae – apparently representing the result of fusion of original two) interstriae, and cuneate stripe on what apically represents 6.-8. interstriae, dfp, densely pubescent and pulverulent. Prosternal process smooth or but very sparsely punctured; proepisterna covered with irregular, dense callosities emerging from dfp background, median part separated from lateral by more or less conspicuous stripe of smooth reliefs forming submarginal ridge; median part of metasternum very finely and sparsely punctulate, sides dfp with numerous smooth reliefs; metacoxae with large dfp space covered with very dense and long whitish pubescence; 1. abdominal segment very sparsely and finely punctured, narrowly sulcate along median line; abdomen otherwise rather coarsely but sparsely punctured, with four (two on each side – both widely removed from lateral margin; outer much narrower and less distinct than inner and not reaching anal segment) lines of dfp sculpture and dense long pubescence.

Geographical distribution: Known only from the type-locality: Minhla in central Burma **[map 4]** – there are at least two localities of this name in Burma: one *ca.*140, the other *ca.* 375 km NNW of Rangoon; in the XIX century the latter was apparently much larger and better known than the former, so I suppose the type-series to have been collected there).

Remarks: A very distinctive species: elytral sculpture, and especially arrangement of dfp spots, make it unmistakable among (not only Indo-Pacific) *Psiloptera DEJ.* Its true affinities remain unclear: in the cladogram it appeared as related to (also geographically close) *P. puncticollis (SND.)*, to which indeed it shows several intriguing similarities.

The label of the smaller specimen is the same as that of the holotype, except that it lacks the hand-written specification of the year ("83"). VAN LANSBERGE (1885) did not mention the

number of specimens in the type-series (and the size given as "*Long.* 28 *mill.*" may suggest a single holotype), but he dedicated this species to Captain COMOTTO, "*auquel le Musée Civique de Gênes est redevable* ***des exemplaires*** *qu'il en possède*" [boldface mine – RBH]. On the other hand, KERREMANS (1910) gives the measurements as "Long. 23-23 [*sic!*]; long. [*sic!*] 8-13 mm.", so he evidently also saw more than one specimen. The size quoted in the original description does not agree with the specimen labelled as holotype in MCGD (there are some other minor discrepancies too), but this should be ascribed to inexactitude of the description rather than questioning the identity of the type-specimen; however, if we replace the "upper" 23 mm. with 32 and the second "long." with "larg." (what certainly was the intention of the author), the range given by KERREMANS (1910) agrees very well with the measurements of the two individuals examined by me. In view of these circumstances, it seems almost sure that the second specimen is a paratype.

Scintillans-circle

Psiloptera (Spinthoptera) scintillans WATH.

Psiloptera scintillans WATERHOUSE *1877: 6*
=Lampetis costata THOMSON *1878b: 32*

Material examined:

Holotype: "Holotype"[Θ] "Andaman Is., 81-61" "*Psiloptera scintillans (Type) C. Waterh.*" [♀ (BMNH)]
Syntype[?] of *L. costata* THS.: "*Th*, TYPE" [red label] "Ex Musaeo James Thomson" "*Costata Thomson, ex typis, =scintillans Waterh., Théry*" [1 ø (BMNH)]
Additional material: 48 ex.: 4♂, 14♀, 30ø

Characters [fig. 27]: Males [4] 15.5×5.5–17.5×6, females [15] 17×6–24.5×9.5 mm. Labrum and front green; pronotum and elytra dull cupreous with green bottoms of punctures and piceous-black elytral costae; ventral side greenish-cupreous; tarsi bluish-grren. Epistome shallowly arcuately emarginate, coarsely and densely punctured, not separated from front; frontal sculpture consists of rather dense network of smooth reliefs encircling coarse, regular (of virtually identical shape and size) ocelliform punctures; supraantennal ridges short, median ridge irregular and not conspicuous, no individualized clypeofrontal or periocular carinae; periocular band less coarsely punctured, but neither clearly demarcated nor conspicuously pubescent; 6. to 11. antennomeres similar in shape and size: rhomboidal, very slightly diminishing in length. Pronotum strongly convex, prebasal depression very shallow; puncturation coarse and rather dense on disc, still coarser and very dense, irregularly confluent on sides; smooth median line inconspicuous, other reliefs very irregular; lateral carina well marked, smooth in basal $^2/_3$, traceable still somewhat further. Elytra without posthumeral denticle; striae consist of not or but very shallowly depressed rows of deep, coarse punctures; odd intervals (costae) smooth, continuous, markedly elevated; intercostae (even interstriae) flat, finely and sparsely punctulate. Median part of prosternal process smoth, not wider than lateral rims; striae deep, parallel; proepisterna densely covered with very coarse ocelliform punctures. Metasternum flat, grooved along midline, puncturation finer and sparser, simple at middle, coarse and very dense, irregularly ocelliform on sides; metacoxal tooth represented by broadly rounded lobe. First sternite rather deeply sulcate along median line; abdominal sculpture foveolate (consisting of depressed dense groups of fine "primary" punctures) on disc, finer and very dense, irregularly granular laterally; anal segment with rather sparse but coarse, ocellate punctures; pubescence (even on sides of sternum and abdomen) inconspicuous; apex of anal sternite truncated in males, narrowly rounded in females. Male genitalia ferrugineuos, sides of parameres regularly rounded to tips, penis sharply pointed.

Geographical distribution [map 4]: Endemic to Andaman Is.: "Nepal" (one specimen in NNHM) and "Imalaja" (one in MCGD) are certainly mislabellings).

Remarks: Regularly elevated costae and depressed intercostae make *P. scintillans* WATH. unmistakable. Its affinities are unclear [*"Dicercomorpha" alluaudi (KERR.)* from Seychelles – belonging in fact undoubtedly to *Psiloptera DEJ.*, as evidenced by striatomarginate prosternal process, lack of prehumeral sulci on pronotum or pubescent spots on elytra, *&c.* – shows somewhat similar elytral structure, but profound differences in other characters leave no doubt as to convergent nature of this similarity], but seem to remain within the Indo-Pacific Region: joining some peculiarities of the "continental" lineage (*e.g.* frontal and abdominal sculpture) with costate interstriae closer to those in the "insular" group, it seems to represent an ancient offshoot of the common ancestral stem.

Fig. 26
P. (S.) puncticollis (Snd.)
♀ [BPchi], Siam

Fig. 27
P. (S.) scintillans Wath.
♂ [BPchf], Andaman Is.

Fig. 28
P. (L.) praeorientalis sp.n.
HT ♂ [BPgtm], India

Fig. 29
P. (L.) zona (Ths.)
♂ [BPchd], "Borneo?"

*[*S**g. *L a m p e t i s D E J.]***

Lampetis DEJEAN 1833: 76
Type-species: *Buprestis bioculata OLIVIER 1790*
=Damarsila THOMSON 1879b: 163-164 [nec THOMSON 1878b: 36]
Type-species: *Lampetis spissiformis THOMSON 1879a*

Large subgenus, comprising some 100 described species known, until now, only from Africa. This group has traditionally been characterized by the anterior margin of prosternum emarginated at middle and flanked by a pair of sometimes prominent, sometimes only indicated denticles; however, the same can be observed not only in several other genera (*e.g. Ectinogonia SPIN., Oedisterna LAC., Dicercomorpha DEYR., Tristria g.n., Touzalinia THY.*), but even within *Psiloptera SOL.*: in one species [*P. (P.) weddeli LUC.*] of the nominotypical subgenus, in many representatives of *Polybothris SPIN. (s.l.), &c.* Truly unambiguous differential diagnosis of *Lampetis DEJ. vs. Psiloptera DEJ. s.str.* or *Polybothris DEJ.* has, to my knowledge, never been formulated, and is evidently out of the scope of the present work (it would demand careful examination of several hundred species, none of which occurring in the Indo-Pacific).

KUROSAWA (1993) quotes KERREMANS (1903) as the "inventor" of the attribution of name *Damarsila THOMSON 1878b* to the "bituberculate" subgenus of *Psiloptera DEJ.* – the interpretation unanimously followed throughout almost the entire XX c., but not quite exact: *Damarsila THS. sensu* KERREMANS (1903) was not *Damarsila THOMSON 1878b* [junior subjective (type-species *Buprestis bisulcata C.G.*) synonym of *Oedisterna LAC.*] but

Damarsila THOMSON *1879b* [type-species *Lampetis spissiformis* THS.]! To be sure, THOMSON (1879b) attempted only to change the type-species (an action invalid according to the rules of zoological nomenclature), but notwithstanding his intentions he has effectively established a new nominal taxon, a subjective synonym of *Lampetis* DEJ.!

The subgenus does not seem to occur in the Indo-Pacific Region: the specimen in my collection labelled "Borneo?" **[fig. 29]** is apparently identical with West African *P. (L.) zona (THS.)*, and has evidently been mislabelled; on the other hand, old labels ("India or.") of the two specimens preliminarily designated in my unpublished dissertation as types of *P. praeorientalis sp.n.* also do not seem convincing, but – having been unable to identify them with any African species, either – I tentatively provide the description here.

Psiloptera (Lampetis) praeorientalis sp.n.

Material examined:

Holotype: "*Indes or.*" [♂ (RBH: BPgtm)]
Paratype: "*Indes or.*" [1♀ (RBH: BPgtn)]
Additional material: none

Holotype [fig. 28]: Male, 19.5×7 mm. Dorsal side, as well as labrum, antennae and legs) uniformly brownish-black with metallic bronzed bottoms of punctures; ventrally dark cupreous-brown on sides, becoming brighter cupreous-red medially.

Epistome very shallowly arcuately emarginate, not separated from flat; trapezoidal front. Moderately coarse frontal sculpture consists at vertex of dense, sharply defined, longitudinally oriented, confluent reliefs leaving little space for punctured depressions; towards epistome of similarly dense reticulate reliefs; and in between of prominent irregular longitudinal median carina and sparse small reliefs on dfp background. Pubescence rather short, recumbent, yellowish. Eyes moderately prominent, twice longer than wide. V:H=0.4. 1. antennal joint egg-shaped, *ca.* 1.5× longer than wide; 2. spherical, distinctly narrower than 1.; 3. similar to 2. but slightly longer; 4. club-shaped, as wide as 1. and as long as 2. and 3. together; 5. triangular, similar in length to 4. but slightly wider; 6.-7. rhomboidal, decidedly wider than 5. and as long as (6.), or slightly shorter than (7.) wide; distal part of left antenna, and almost all (3.-11. joints) right antenna missing.

Pronotum wide (L:BW:AW=1:2.0:1.1); sides distincttly convergent in basal 3/5, much more strongly so in anterior part, lateral margin both basally and apically (except short "collar" just behind anterior angles) nearly straight; anterior margin very shallowly arcuately emarginate, base bisinuate. Disk convex, with shallow transverse depression along base; lateral carina reaching to apical fourth, arcuate basally, then nearly straight; pronotal sculpture moderately coarse, irregularly spaced, not markedly denser on sides than on disk; longitudinal medial, two small irregular discal (closer to anterior margin and median line than to sides and base), obliquely elongate at each anterior angle, and several very irregular reliefs here and there, smooth. Scutellum roundedly trapezoidal, as long as wide, convex.

Elytra 1.9× longer than wide; base slightly wider than that of pronotum; sides obliquely truncated at humeri, with obtuse and rounded but prominent denticle at end of truncature, then parallel to above metacoxae, deeply sinuate just behind, and arcuately convergent to obliquely truncate apices; apical denticles not prominent. All elytral striae fine (coarser basally), continuous, finely and densely punctulate; medial interstriae flat, lateral progressively more convex, 9. and 10. distinctly costate; odd interstriae disrupted with rather large (occupying all the width of interval and as long as, or somewhat longer than, wide), rectangular dfp foveae (only on 9. and – especially – 1. interstria foveae are smaller); even interstriae with rows of coarse punctures.

Anterior margin of prosternum at middle straight between two indistinct tubercles, laterally very shallowly sinuate; prosternal process parallelsided to behind procoxae, then sinuately narrowed to rounded apex; both lateral and (definitely wider) median portions

smooth; lateral striae deep, sparsely and very finely punctulate; proepisterna dfp. Metasternum flat with but indication of longitudinal furrow, median parts finely and sparsely, sides densely and coarsely, irregularly punctured; hind margin of metacoxae with obtuse, blunt tooth at median third. Abdomen densely and coarsely punctured medially, dfp laterally, with but very small smooth reliefs at sides of 3. and 4. sternite; 1. segment furrowed medially; anal sternite not distinctly depressed at sides, apically broadly truncated. Aedoeagus piceous-brown with paler, yellowish-brown penis.

Variability: Paratype female virtually identical to the holotype, but larger (24.5×9 mm.), anterior part of front purplish, ventral side and bronzed-cupreous, frontal sculpture more evenly distributed, median relief on the pronotum lacking, elytral foveae a little bit smaller, apex of anal sternite regularly rounded (sexual character).

Geographical distribution: The geographical distribution of *P. preorientalis sp.n.* needs clarification: "India or." on old labels may mean anything from Pakistan, Sikkim and Burma to Ceylon [and – worse still – is one of the most notorious forms of crude mislabellings, so that the possibility of its African (like that of the remaining members of the *Pupillata*-circle) rather than Asian provenience does seem by no means unlikely].

Remarks: This species seems to be related to African *P. pupillata (KL.)*, classified as belonging to *Lampetis DEJ.*, and indeed *P. praeorientalis sp.n.* shows the main distinctive characteristics of that subgenus: [very slightly] bituberculate anterior margin of prosternum. However, its similarity to *P. orientalis (C.G.)* and *P. jasienskii sp.n.* is also striking, and the respective cladograms [figs. 7, 10] in HOŁYŃSKI (1999) support the affinity of the *Pupillata*-circle to *Spinthoptera CSY.*, thence I leave the question of its occurrence in India open for the moment, and tentatively treat *P. praeorientalis sp.n.* in this paper as belonging to the Indo-Pacific fauna. *P. orientalis (C.G.)* differs in more rounded sides of pronotum, coarsely punctured proepisterna and usually bright metallic colouration; besides, its frontal sculpture is finer and more regular, without distinct median relief, pronotum without smooth spaces at anterior angles, elytra without subhumeral denticles, elytral foveae much smaller and less conspicuous, 9. interstria wide and flat, apical denticles of elytra longer and sharper, no tubercles on apical margin of prosternum. *P. jasienskii sp.n.* is also almost always metallic-coloured, has frontal sculpture, anterior margins of pronotum and prosternum, and shape of elytra similar to those in *P. orientalis (C.G.)*, no smooth reliefs at apical angles of pronotum, and 9. interstria flat with very large dfp foveae (at least posthumeral one).

PHYLOGENETIC RELATIONSHIPS

As in case of my other recent papers, phylogenetic reconstruction has been performed with MICSEQ – the program conceived, and as a basic procedure ("algorithm") elaborated, by me (HOŁYŃSKI 2001) and "translated" into several successively improved computerized versions by my Hungarian friend, Márton BERTY; alas, Márton worked on MICSEQ only in his spare time which soon became in too short supply to continue, so the version 5.2 from 2008 is the last available – and will probably remain so: I myself am not a computer programmer, and have not been successful in finding anybody wishing to finish what Márton had started. Fortunately, already in the presently used version all essential faults seem to have been eliminated, it only remains not so "user friendly" as it should be (*e.g.* initial "input" must be done "by hand" and is possible only with MICSEQ 4.1 from which it must then be "imported" to 5.2, *&c.*). Anyway, numerous reconstructions done in the last years evidence that MICSEQ 5.2 – although still somewhat cumbersome in handling – as regards its merits works correctly.

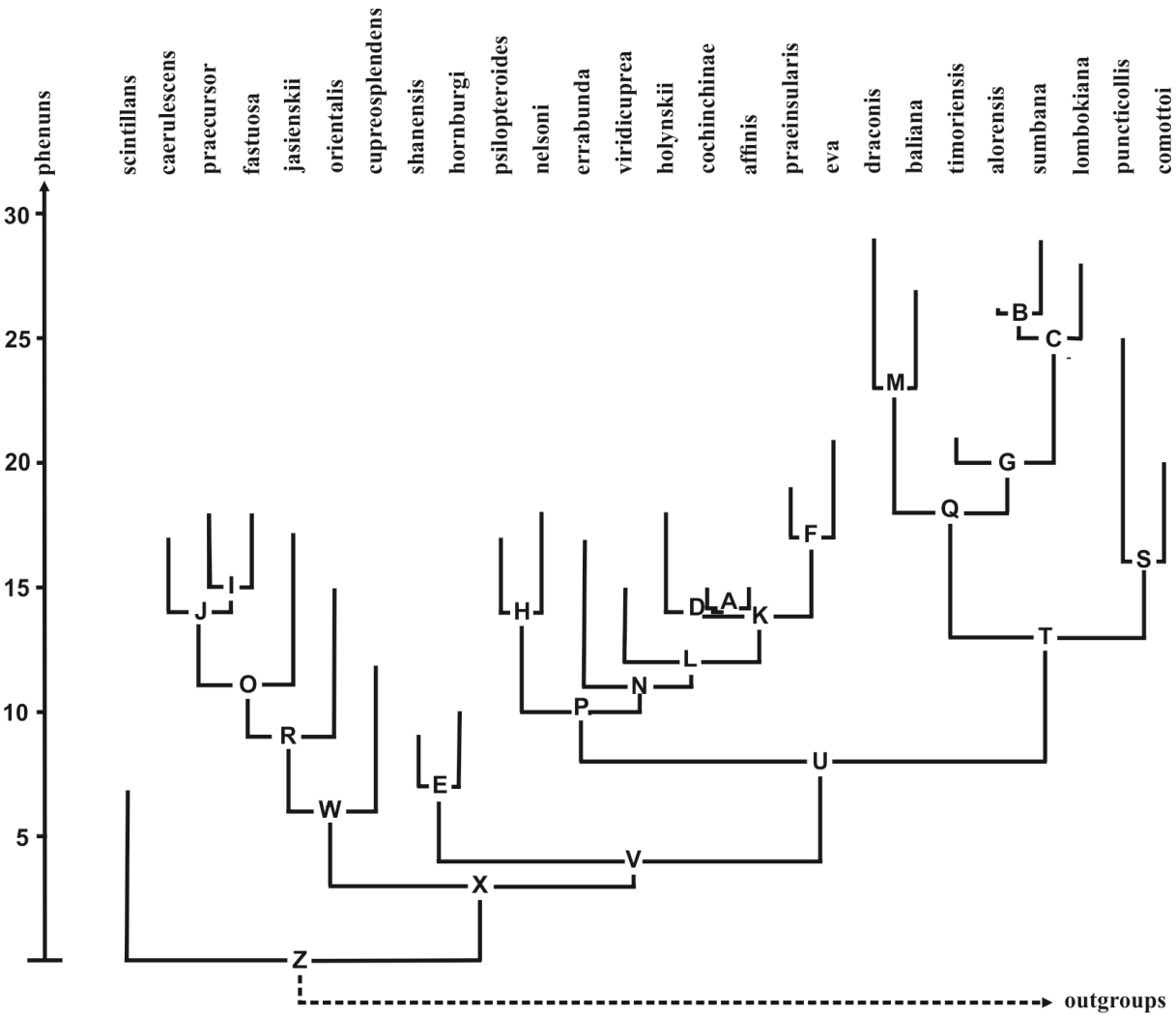
Characters have been chosen, weighted and interpreted (as "ordered" or "unordered") according to my – to use Albert EINSTEIN's formulation (NEWTON 1996) – "*intuition*

supported by experience": so constructed initial data-matrix makes what can be treated as a kind of "null hypothesis" to be verified by the analysis. Also largely intuitive was the selection of outgroups, and – character sampling having been seriously "biased" towards making the analysis of the ***ingroup*** pattern most reliable – the "recovered" relationships between ***outgroups*** must not be taken too seriously, and will neither be further discussed, nor the respectve portion of the cladogram shown [the ingroup emerged from the reconstruction as holophyletic, with the clade inhabiting Indian Ocean islands – represented in the analysis by *P. (S.) comorica MNNH., P. (S.) alluaudi (KERR.)* and *P. (S) exophthalma (GUÉR.)* – as the proximal out-group].

Individually reliable, "solid" characters in the analysed groups are, unfortunately, rare – the majority of those used here must be evaluated as poor: difficult to define, overlapping, with frequent reversals and convergences. Although many scientists would prefer to neglect such traits and avoid to include them in the data-matrix, in my opinion this would mean unjustified loss of potentially useful information: as long as a feature passes unchanged through, on the average, more than every second node, it can improve the reconstruction and so should be used.

Although some subgroups of what is currently called *Spinthoptera CSY.* should probably be excluded from the subgenus, the remainder seems to be a monophyletic, relatively ancient group: several fossils dated as early as Eocene seem to be rather safely attributable to it – (WEDMANN & HÖRNSCHEMEYER 1994). Its present distribution (South America, Africa, southern Asia, with but minor "excursions" into southernmost parts of Nearctic or Palaearctic Regions) might suggest Gondwanan origins, and indeed the previous phylogenetic analysis (see fig. 10 in HOŁYŃSKI 1999) seemed to support the old southern supercontinent as the place of early development of *Spinthoptera CSY.*: among the then analyzed taxa, the basalmost clade was represented by southern-Neotropical *P. torquata DALM.* and *P. aurifera (OL.)*, showing some striking and possibly homologous similarities to (also exclusively Neotropical) *Psiloptera DEJ. s.str.*; the next two branches [*P. comorica MNNH.* and *P. alluaudi (KERR.)*], pointed to the Madagascan area and were followed by again Neotropical *P. tucumana GUÉR.*, Burmese *P. comottoi LSB.*, Ethiopian *P. funesta (F.)*, and evidently also Ethiopian by provenience (albeit now southern-Palaearctic) pair of sibling species *P. argentata MNNH.-P. mimosae (KL.)*. However, that reconstruction was based on glaringly insufficient selection of non-Indopacific taxa, and anyway Tertiary occurrence of the subgenus in Europe (WEDMANN & HÖRNSCHEMEYER 1994) reminds that the recent pattern may be the result of later dispersal.

The uncertainties concerning outgroups shakes also the reliability of morphological characterization of common ancestor **(Z)** of the analysed taxa, so it could only be treated as an aproximation allowing to begin the reconstruction of descendants. So, it (**Z**) can be tentatively described as moderately sized (~20-25 mm.), uniformly green beetle without dfp spots or distinct pubescence on dorsal side, having subparallelsided epistome, coarsely and densely sculptured front wihout distinct anterior cavity, moderately wide vertex (V:H≈0.5), basally subparallel sides of regularly convex, not very densely punctured pronotum without distinct smooth spaces, lateral carina reaching to *ca.* midlength, small subequilateral scutellum, smooth lateroapical margins of slightly caudate elytra, no subhumeral expansion, bidenticulate apices, strongly convex subequal interstriae irregularly interspersed with punctiformly small dfp foveolae, straightly truncated anterior margin of prosternum, impunctate medial (between marginal striae) suface of prosternal process, coarsely punctured proepisterna, obliterated metacoxal denticle, no metacoxal or abdominal dfp spots, medially sulcate 1. sternite, 3. antennomere subequal to 2. Morphological transformations in the descendants of **Z** interested readers may easily trace on final character matrix and list of characters (see APPENDIX), making their description here apparently superfluous, so I will restrict my comments to some evolutionary and biogeographical aspects.



Z gave rise to two extremely unequal "daughter"-branches: a single species, Andaman Is. endemite – *P. scintilans* WATH. – on the one hand and the ancestor **(X)** of all the remaining Indo-Pacific *Psiloptera* DEJ. on the other. Besides some trifling modifications (smaller body, punctured prosternal process, denser abdominal sculpture) *P. scintilans* WATH. developed characteristic, unique within the genus [somewhat approached by Seychellean *P. alluaudi (*KERR.*)*] heavily costate elytra (odd interstriae – intercostae – flat and deeply depressed). The function of such modification is not evident to me, but the fact that it usually appears in species inhabiting isolated islands – among the **Chrysochoina** CAST. *e.g.* in *Chrysochroa holsti* WATH. or several representatives of the genus *Paracupta* DEYR., like Samoan *Paracupta (Callistroma) samoensis* SND., Fidjian *P (Callicupta) kioana* HOŁ., New Hebridean *P (Gibbicupta) basicornis* FRM. or *P (s.str.) rennelli* HOŁ. – leaves little doubt as to its adaptive nature. Interestingly, the Andamanese representative of related genus *Dicercomorpha* DEYR. – *D. (Mirolampetis) farinosa* THS. – is strikingly similar in this respect to *P. scintilans* WATH.: both may be hypothesized to represent relics of ancient lineages, outcompeted on (present or – as *e.g.* Sunda Shelf – past) continental areas and surviving only on isolated Andamans, where apparently similar selection pressure (of unfortunately unknown character) has resulted in morphological convergence.

X, the "sister"-species of *P. scintilans* WATH., seems to have inhabited continental areas at the northern coast of the Bay of Bengal (the present northeastern India, Bengalia, Burma), and given rise to two main, geographically divergent lineages: one of them practically restricted to India and Ceylon, the second spread over the Indochinese Peninsula and Malay

Archipelago. Similarly vicariant distribution (Indochina + Sumatra *vs.* Lesser Sunda Is.) seem to show the descendants of **U**, the only disturbing exception being *P. eva (THS.)* what, however, may prove to be an artifact of inadequate character sampling (and/or weighting): node **F**, resulting from association of *P. eva (THS.)* with *P. praeinsularis sp.n.*, is poorly supported (SQ=6/7), what might mean that its true "sister" is, in agreement with geography, *P. draconis sp.n.* At last, the position of *P. puncticollis (SND.)* and – especially – *P. comottoi LSB.* remains uncertain: both look rather unusual among the Indo-Pacific *Spinthoptera CSY.* and their "sister"-relation may have resulted from a kind of "long branch attraction", whereas the node **T**, joining their suggested common ancestor (**S**) with that of the insular branch (**Q**) is very poorly supported (SQ=10/11): three other relevant pairings (**S**-**P**, **S**-**E** and **Q**-**P**) would be by only one phenun less justified!

In general outline the present analysis confirmed the results obtained 20 years ago (HOŁYŃSKI 1999): largely sympatric and, at that, poorly known distribution does not allow to disclose the details of zoogeographic history of members of particular main (Indian, Indochinese and insular) clades, but their content is practically the same, and even the relationships within them do not in most cases differ significantly: besides some differences resulting directly from disparate taxon sampling (inclusion of taxa unknown in 1999, and especially omission of all non-Indopacific representatives of the subgenus) and above-mentioned cases of *P. eva (THS.)*, *P. puncticollis (SND.)* and *P. comottoi LSB.* – only the disagreeing placement of *P. cupreosplendens SND.* seems to warrant a special comment. With its confusing mixture of features suggesting affinity to the *Fastuosa*-circle (geographical distribution, distinctive perimarginal elytral foveolae, pattern of colouration) with those characteristic of the Indochinese branch (sculpture of front, lateral carina of pronotum) it is indeed even intuitively a problematic taxon, probably a (widely modified by numerous autapomorphies) remnant of ancient plesiomorphous group close to the common ancestor of both lineages.

Anyway, the present reconstruction, however well agreeing with external evidence (geographical distribution) and intuitive assessments, still needs verification with comprehensive, including all or at least the majority of "extralimital" representatives of the subgenus: we cannot exclude the possibility that the Indo-Pacific assemblage is paraphyletic in relation to some others, or, on the contrary, some of here treated species (*P. scintillans WATH.*? *P. comottoi LSB.*?) may be "sisters" of some African, Madagascan or – as suggested by the previously (HOŁYŃSKI 1999) obtained cladogram – American taxa.

At last, worth mentioning are two cases of paraphyly: acording to this reconstruction, *P. alorensis THY.* does not differ (not a single character has changed) from its "ancestor" (**B**), so in fact, it is itself not a "sister" but "mother" of *P. sumbana sp.n.* Still more interesting example is lack of discernible differences between **K** and **D** and then between **D** and **A**, suggesting their conspecificity (**A**=**D**=**K**) and "mother" (paraphyletic ancestor) position in relation to "quadruplets" *P. holynskii (A.O.)*, *P. a. cochinchinae ssp.n.*, *P. affinis (SND.) s.str.* and **F**! Of course a phylogenetic reconstruction like this does not offer any possibility to ***prove*** conspecificity, so paraphyly at the species level remains "only" an – in the light of presently available evidence – most probable hypothesis, but ***all*** scientific conclusions and interpretations are "only hypotheses" ("*facts ... are nothing more than highly corroborated hypotheses*" – ELDREDGE & CRACRAFT 1980)!

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APPENDIX: Characters used in phylogenetic analyses

Codes and weights

Upper line – codes of character-states; ***[bold italics]*** – terminal automorphies
Lower line – weights (costs of transformation):
0↔1↔2=2: additiv equidistant (distance between 0 and 1 the same (=2) as between 1 and 2, that between 0 and 2 =2+2= 4); 0↔1=1; 1↔2=2 – additive non-equidistant (distance between 0 and 1=1), between 1 and 2=2, between 0 and 2 =1+2= 3); (sub)=3: equidistant within group (s↔u=u↔b=b↔s=1);
bcgv↔n=1: equidistant between groups (b↔n=c↔n=g↔n=v↔n=1)

1. Body size – [***0***] <20; [1] 20-25; [***2***] >25
   0↔1↔2=1
2. Colour: elytra – [***0***] unicolorous; [***1***] bicolorous
   0↔1=2
3. Colour: elytra (sides) – [***n***] black; [***b***] bronzed; [c] cupreous; [g] green; [***v***] blue
   (b↔c↔g↔v)=1; bcgv↔n=1
4. Colour: pronotum – [***c***] concolorous with elytral sides; [***b***] cupreous; [***n***] bluish-black
   c↔b=1; bc↔n=2
5. Colour: elytral interstrial "mirrors" – [***0***] none; [1] not contrasting; [***2***] bluish-black
   0↔1↔2=1
6. Pubescence: dorsal – [0] none; [1] long erect
   0↔1=3
7. Pubescence: dfp – [***0***] none or white; [***1***] rusty
   0↔1=2
8. Epistome: sides – [***0***] subparallel; [***1***] expanded before antennal grooves
   0↔1=2
9. Epistome: position – [***0***] normal; [***1***] declined, separated from front by carina
   0↔1=3
10. Front: sculpture – [***0***] fine dense; [1] coarse dense; [***2***] very coarse, leaving extensive depressions
    0↔1↔2=1
11. Front: anterior cavity – [***0***] none; [1] indistinct; [***2***] well marked
    0↔1=1; 1↔2=2
12. Pronotum: sides basally – [***0***] sinuate; [1] subparallel; [***2***] convergent
    0↔1↔2=1
13. Pronotum: midlateral sculpture – [***0***] separate punctures; [1] partly confluent; [***2***] dense coarse irregular
    0↔1↔2=1
14. Pronotum: midline – [0] undifferentiated; [1] regularly sulcate
    0↔1=3
15. Pronotum: median relief or dark stripe – [***0***] undifferentiated or traces; [***1***] regular
    0↔1=1
16. Pronotum: midlateral relief – [0] none; [1] present
    0↔1=2
17. Pronotum: anterolateral reliefs – [***0***] none; [1] traces; [***2***] distinct
    0↔1↔2=1
18. Pronotum: lateral carina (length) – [***0***] <<midlength; [1] *ca.* midlength; [***2***] >>midlength
    0↔1=1; 1↔2=2
19. Pronotum: lateral carina (structure anteriorly) – [***0***] fine regular punctures; [1] moderately coarse [***2***] very coarse irregular
    0↔1↔2=1
20. Elytra: subhumeral expansion – [***0***] none; [1] traces; [***2***] prominent
    0↔1↔2=1
21. Elytra: lateroapical margin (shape) – [***0***] slightly sinuate; [***1***] strongly caudate
    0↔1=2
22. Elytra: punctures in striae – [***0***] fine; [1] moderate; [***2***] coarse
    0↔1↔2=1
23. Elytral even interstriae: convexity – [***0***] slightly convex; [***1***] subcareniform
    0↔1=1
24. Elytral intercostae: elevation – [***0***] equal to costae; [1] slightly less convex; [***2***] rudimental
    0↔1=1; 1↔2=2
25. Elytra: intercostal striae – [0] 2; [1] 3
    0↔1=3
26. Elytral foveolae: discal – [***0***] none; [1] inconspicuous/irregularly scattered; [***2***] regularly spaced on odd (3, 5, 7) interstriae
    0↔1↔2=1
27. Elytral foveolae: perimarginal – [***0***] none or normal; [***1***] strikingly large
    0↔1=2
28. Elytral dfp: patches – [***n***] none; [***m***] multiple; [***a***] apico-perimarginal stripe
    n↔m=2; nm↔a=1
29. Prosternal apex – [s] straight; [u] unituberculate; [b] bituberculate
    (sub)=3
30. Prosternal process: bordering striae – [0] none; [1] regular
    0↔1=3
31. Prosternal process: sculpture medially – [*s*] smooth; [*r*] single row; [*i*] irregular
    (sri)=1
32. Proepisterna: sculpture – [***0***] uniformly coarse; [1] medially finer; [***2***] uniformly fine
    0↔1↔2=1
33. Proepisterna: submarginal ridge – [***0***] none; [1] traces; [2] distinct

0↔1↔2=1

34. Metacoxal denticle – [***0***] broadly obliterated; [***1***] obtuse but well marked; [2] right angled or acute
    0↔1=1; 1↔2=2
35. Metafemoral sulcus – [0] none; [1] well marked
    0↔1=3
36. 1. sternite – [***0***] regularly convex/flat/inconspicuously depressed; [1] narrowly sulcate [***2***] broadly depressed
    0↔1↔2=1
37. Abdomen: midlateral sculpture – [***0***] separate punctures; [1] partly confluent; [***2***] dense coarse irregular
    0↔1↔2=1
38. Abdomen: lateral reliefs – [***0***] none; [1] indefinite; [***2***] regular
    0↔1↔2=1
39. Abdomen: midlateral dfp – [***0***] none/indistinctive; [1] separate spots; [2] continuous band
    0↔1↔2=1
40. Antennae: 3. joint – [***0***] ≈ 2.; [***1***] ≈ 4.
    0↔1=1

Final character-matrix

Ingroup

```
                          1           2           3           4
                    12345 67890 12345 67890 12345 67890 12345 67890
=============================================================================
                    12345 67890 12345 67890 12345 67890 12345 67890
                    12²¹½1 32231 ½1131 21½11 211½3 12²33 111½3 11111
=============================================================================
scintillans         00gc0 00001 01000 00110 01120 00ns1 i1000 11000=7
caerulescens        11vc0 01000 01000 00010 02000 00ns1 s0110 10001=3
praecursor          11gc0 01000 00000 00000 02000 00ns1 s0000 00101=3
fastuosa            11gb0 01000 01000 00000 01000 00ns1 i0010 10101=3
jasienskii          11gc0 01000 01000 01010 01000 11as1 s1010 11100=6
orientalis          11vb0 01000 00000 00000 00000 10ns1 s2000 10100=6
cupreosplendens     11gb1 00001 01100 00010 01000 11ns1 s0000 10000=5
shanensis           00bc0 00001 02000 00110 01000 10ns1 s0000 11100=2
hornburgi           00gc1 00001 02000 01110 01000 10ns1 s0000 11110=3
psilopteroides      20gc2 00102 02000 00022 00000 10ns1 i1000 10100=3
nelsoni             10cc2 00102 02100 02020 00000 10ns1 i0000 10100=4
errabunda           10cc1 00002 01000 00110 00000 10ns1 s1010 12000=6
viridicuprea        10cc1 00002 01000 00020 00000 10ns1 i1100 01100=3
holynskii           10gc2 00002 01000 02020 00000 10ns1 r1100 10100=4
cochinchinae        10gc1 00002 01000 01010 00000 10ns1 r1100 10100=1
affinis             10cc1 00002 01000 00010 00000 10ns1 r1100 10100=1
praeinsularis       10cc1 00002 02000 00010 01100 10ns1 r1100 20100=2
eva                 10gc0 00002 02000 00000 00100 10ns1 r1000 21100=4
draconis            10bn0 00002 02000 00000 00100 10ns1 i2000 10000=6
baliana             00nc0 01002 01000 00000 01100 10ns1 i2100 11000=4
timoriensis         10nc0 01002 12000 00000 01100 10ns1 r2000 12000=1
alorensis           10nc0 01002 12100 00010 01110 20ns1 r2000 21000=0
sumbana             10nc0 01002 11000 00010 00110 20ns1 r2000 21000=3
lombokiana          10gc0 01002 12100 00020 01110 20ns1 r1000 20000=3
puncticollis        20bb0 00002 02000 00101 01000 21ns1 i2110 10110=9
comottoi            20nc0 00002 02100 00100 01000 10ms1 i0100 10020=5
A                   10gc1 00002 01000 00010 00000 10ns1 r1100 10100=0[ 2/ 4]
B                   10nc0 01002 12100 00010 01110 20ns1 r2000 21000=1[ 3/ 4]
C                   10nc0 01002 12100 00010 01110 20ns1 r2000 20000=5[ 4/ 6]
D                   10gc1 00002 01000 00010 00000 10ns1 r1100 10100=0[ 4/ 7]
E                   00gc0 00001 02000 00110 01000 10ns1 s0000 11100=3[ 5/10]
F                   10gc1 00002 02000 00010 00100 10ns1 r1100 20100=3[ 6/ 7]
G                   10nc0 01002 12000 00000 01100 10ns1 r2000 10000=2[ 6/ 6]
H                   10cc2 00102 02000 00020 00000 10ns1 i1000 10100=4[ 7/10]
I                   11gc0 01000 01000 00000 02000 00ns1 s0010 10101=1[ 7/ 7]
J                   11gc0 01000 01000 00010 02000 00ns1 s0010 10101=3[ 7/ 9]
K                   10gc1 00002 01000 00010 00000 10ns1 r1100 10100=2[ 7/ 7]
L                   10cc1 00002 01000 00010 00000 10ns1 i1100 10100=1[ 8/ 9]
M                   10nc0 01002 02000 00000 01100 10ns1 i2000 10000=5[ 8/10]
N                   10cc1 00002 01000 00010 00000 10ns1 i1000 10100=1[ 9/10]
O                   11gc0 01000 01000 00010 01000 10ns1 s0010 10100=2[10/10]
P                   10cc1 00002 02000 00010 00000 10ns1 i1000 10100=2[10/10]
Q                   10nc0 01002 02000 00000 01100 10ns1 i2000 10000=5[10/12]
R                   11gb0 01000 01000 00010 01000 10ns1 s0000 10100=3[11/14]
S                   20nc0 00002 02000 00100 01000 10ns1 i2100 10020=3[11/12]
T                   10nc0 00002 02000 00000 01000 10ns1 i2000 10020=5[10/11]
U                   10cc0 00002 02000 00010 01000 10ns1 i1000 10100=4[10/12]
V                   10gc0 00001 02000 00010 01000 10ns1 s0000 10100=1[10/12]
W                   11gb0 00001 01000 00010 01000 10ns1 s0000 10100=3[11/13]
X                   10gc0 00001 01000 00010 01000 10ns1 s0000 10100=3[10/12]
Z                   10gc0 00001 01000 00110 01100 10ns1 s0000 10000= [13/16]
```

Outgroups

```
P.(A.)comorica        10gc0 00111 21001 01210 00000 00ns1 r2000 20110
P.(A.)alluaudi        10nc0 00110 11000 00200 01120 00ns1 r2010 10200
P.(A.)exophthalma     00bc1 00012 22101 10110 00100 10ns1 s0000 21000
P.(L.)praeorientalis 10nc2 00000 01100 01201 00000 20nb1 s2000 10000
P.(P.)attenuata       20gc0 00101 12200 00022 10100 00au1 s0020 22000
P.(P.)olivieri        20vc0 00102 12100 00020 10100 20as1 s0020 22101
P.(P.)weddelli        20nc1 00002 20000 00012 10000 10nb1 s0010 20201
TOUZALINIA            20cc2 10002 01200 00022 12100 10nb1 s1010 11001
ZOOLRECORDIA          00gc2 00102 01110 10020 00121 10nb1 s0001 00101
DICERCOMORPHA         10gc1 00102 00200 00010 01110 20nb0 i0001 20001
Y                     20vc0 00102 12100 00022 10100 10as1 s0020 22101
                        g           2                   u
AA                    10gc2 00102 01100 00010 00110 20nb1 s0001 10001
                                                  2
BB                    10gc0 00111 21001 00210 00100 00ns1 r2000 20100
CC                    10gc0 00011 21001 00210 00100 10ns1 s0000 20000
DD                    10gc0 00001 01000 00210 00100 10ns1 s0000 10000
EE                    10gc2 00000 01100 00210 00100 20nb1 s0000 10000
                                                    1
FF                    20vc0 00102 12100 00022 10100 20as1 s0020 22101
                        g 1   0   202       1    0   0 nu     1   00
                        n           0                 1  b          2
GG                    10gc2 00000 01100 00210 00100 20nb1 s0000 10000
                              1 1         0       1  1          1 2   1
                                2                 2                0
```

Species used to represent outgroup taxa

DCM – DICERCOMORPHA: *Dicercomorpha (s.str.) vitalisi* BRG.
ZRC – ZOOLRECORDIA: *Zoolrecordia (s.str.) cupreomaculata (*SND.*)*
TZL – TOUZALINIA: *Touzalinia (s.str.) belladonna* HOŁ.*)*
PPa – PSILOPTERA (S.STR.): *Psiloptera (s.str.) attenuata (F.)*
PPo – PSILOPTERA (S.STR.): *Psiloptera (s.str.) olivieri* SND.
PPw – PSILOPTERA (S.STR.): *Psiloptera (s.str.) weddelli* LUC.
PLp – PSILOPTERA (LAMPETIS: *Psiloptera (Lampetis) praeorientalis sp.n.*
PSe – PSILOPTERA (SPINTHOPTERA): *Psiloptera (Apateum) exophthalma (*GUÉR*)*
PSc – PSILOPTERA (SPINTHOPTERA): *Psiloptera (Apateum) comorica* MNNH.
PSa – PSILOPTERA (SPINTHOPTERA): *Psiloptera (Apateum) alluaudi (*KERR.*)*

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PL-05822 **Milanówek**, ul. Graniczna 35, skr. poczt. 65, **POLAND**
e-mail: rholynski@o2.pl