

A review of the genus *Serrimargo*, with description of new species and a new subspecies (Coleoptera: Carabidae: Lebiini)

Краткий обзор рода *Serrimargo* (Coleoptera: Carabidae: Lebiini) с описанием новых видов и подвида

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KEY WORDS: Coleoptera, Carabidae, *Serrimargo*, *Peripristus*, new species, new subspecies, new synonym, Vietnam, Oriental region.

КЛЮЧЕВЫЕ СЛОВА: Coleoptera, Carabidae, *Serrimargo*, *Peripristus*, новый вид, новый подвид, новый синоним, Вьетнам, Ориентальная область.

ABSTRACT. The monobasic Oriental genus *Peripristus* Chaudoir, 1869, **syn.n.**, is synonymized with the genus *Serrimargo* Chaudoir, 1869. Two new species, *S. bimaculatus* **sp.n.** from Vietnam and *S. impressifrons* **sp.n.** from Sri Lanka, and a new subspecies, *S. ater opacus* **ssp.n.** from Indochina, are described. Species status of *Serrimargo schenklingi* (Dupuis, 1912) is resurrected. Key to species is provided.

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РЕЗЮМЕ. Монотипический ориентальный род *Peripristus* Chaudoir, 1869, **syn.n.**, синонимизирован с *Serrimargo* Chaudoir, 1869. Описаны два новых вида – *S. bimaculatus* **sp.n.** из Вьетнама и *S. impressifrons* **sp.n.** с Шри Ланки, а также новый подвид – *S. ater opacus* **ssp.n.** из Индокитая. Восстановлен видовой статус *S. schenklingi* (Dupuis, 1912). Составлена определительная таблица видов.

Introduction

The genera *Serrimargo* Chaudoir, 1869 and *Peripristus* Chaudoir, 1869 include free-living arboricolous species. The adults are common on fallen dead trees in association with various Hymenomycetes. The members of the two genera are similar in appearance; the recently described *S. vietnamensis* Kirschenhofer, 2010 and *S. pahangensis* Kirschenhofer, 2010 show intermediate features.

In this paper we describe two new species and a subspecies of *Serrimargo* (= *Peripristus* Chaudoir, 1869, **syn.n.**). The genus is redescribed and a key to species and species groups is provided.

The bulk of the material has been collected during trips to several regions of Vietnam, sponsored by the

Russia-Vietnam Tropical Center. The acronyms used are: ZMMU — Zoological Museum of the Moscow State University; SIEE — the author's reference collection at A.N. Severtsov Institute of Ecology & Evolution, Russian Academy of Sciences, Moscow; ZISP, Zoological Institute, Russian Academy of Sciences, St. Petersburg.

The following parameters were analyzed: BL, maximum body length measured between apices of closed mandibles and apices of elytra; EL, maximum length of elytron, measured from highest point of base to apex; EW, maximum width of elytra; HW, width of head across eyes; PL, length of pronotum along median line; PLw, distance between pronotal apex and level of maximum width, measured along mid-line; PW, maximum width of pronotum; PWa, width of pronotum between apical angles; PWb, width of pronotum between basal angles. Measurements were taken using an eyepiece micrometer, to two decimal places. The number of specimens measured (n) is only given for the first ratio in the description. Data on labels of type specimens are in quotes.

Results

Serrimargo Chaudoir, 1869

Chaudoir, 1869: 134; Andrewes, 1939: 137; Jedlička, 1963: 369; Lorenz, 2005: 166. — *Peripristus* Chaudoir, 1869: 135 (type-species: *Peripristus ater* (Laporte de Castelnau, 1835), by subsequent designation [Jedlička, 1963: 370]), **syn.n.**; Lorenz, 2005: 145.

Type-species: *Thyreopterus guttiger* Schaum, 1860, by subsequent designation [Andrewes, 1939].

REDESCRIPTION. With characters of the subtribe Pericalina, Lebiini. Body macropterous, medium-sized, flattened, moderately shiny; elytra mostly dull from very coarse, granulate-aciculate, microsculpture, and densely yet shallowly punctulate (Fig. 12). Head with isodiametric microsculpture. Dorsum glabrous, brown to black, slightly to much paler along sides of pronotum and elytra, otherwise elytra concolourous or with a pale pattern. Mouthparts and antennae pale, reddish-yellow, scape mostly infuscated. Underside

with very sparse and short pubescence; prosternum, propleura and abdomen almost glabrous; extreme apex of prosternal process just ventral to mesothoracic peduncle, metasternum medially, mesocoxae, metacoxae, and mesofemora anteriorly with denser and longer pubescence/setae. Legs otherwise (including tarsi dorsally) rather sparsely pubescent.

Eyes large and hemispherical, genae short to nearly indistinct; clypeus barely sinuate. Labrum sexsetose, square, with very gently sinuate apex, to distinctly longer than wide and rounded apically. Antennae filiform, moderately long, surpassing base of pronotum by apical 3–4 segments; scape 3/5–3/4 as long as eye, antennomeres 1–4 length ratio 0.72–1.10 : 0.33–0.47 : 1 : 0.82–1.0; antennomeres 5–11 densely pubescent, antennomere 4 pubescent in apical 1/3–1/5 (sometimes 2/5). Gular setae absent, one pair of paragular setae present; submentum quadrisetose to bisetose, with outer setae sometimes clearly shorter than inner ones in *S. vietnamensis*, vestigial to missing in the *guttiger*-group. Mentum bisetose, with median tooth; ligula bisetose, rather narrow, with sides parallel or slightly diverging apicad, obtuse to acutangular apically; paraglossae fairly wide, adnate to, and extended beyond ligula. Maxillary stipes with two basal setae and one preapical seta (and often also with additional sparse, short basal pubescence). Penultimate labial palpomere internally with one, long, preapical seta in general.

Pronotum (Figs 1–9) mostly small, cordate to subquadrate, flat, barely wider than head in general; lateral margins widely explanate and reflexed. Base truncate, oblique laterally; basal angles right to obtuse, each with posterolateral seta; anterolateral seta missing. Apical angles projecting, more or less widely rounded. Basal foveae each extended forward into a sublateral line almost reaching apical angles. Disc densely cross-striated, densely rugulose laterally.

Elytra (Fig. 10) flattened, subquadrate and very wide, much wider than pronotum; humeri and posterolateral angles widely rounded; apices obtusely angulate opposite interval 2 or stria 2, with obtuse inward angle between the apices; sutural interval often minutely toothed. Apical truncature slightly oblique and gently sinuate. Lateral margin very widely explanate and finely beaded throughout, serrate and minutely denticulate posteriorly. Elytral striae well impressed, minutely and rather sparsely tuberculate at bottom or subinterrupted by these tubercles that bridge adjacent intervals. Intervals convex, all or some of them in form of a flattened ridge roof, 8th broadened in basal third, with a short intercalary striole along middle. Parascutellar setigerous pore adjoining basal ridge outside long parascutellar striole. Interval 3 in apical 1/3–2/5 with two discal setae separated from striae, posterior seta subequally distant from anterior one and elytral apex. Apical setae two, anterior seta long and inserted at apex of interval 3, posterior seta short. Interval 9 with umbilical seta series (USS) more or less distinctly divided into two groups, anterior, or subhumeral (8–10 setae), and posterior (six setae), plus an intermediate seta varying slightly in position.

Underside. Prosternal process with dense and fairly long setae just ventral to mesothoracic peduncle. Metepisternum long. Abdominal sternites IV–VI with one pair of obligatory setae; sternite VII quadrisetose in both sexes, with apical margin straight in female while slightly to conspicuously emarginate in the middle in male.

Procoxa with 1–4, mostly 3, posterior setae; metacoxa with anterolateral seta and inner seta; trochanters with a seta; metafemur tri- or quadrisetose along ventro-apical margin. Tarsomere 5 with 3 pairs of ventral setae. Claws smooth.

Sexual dimorphism. Males are distinctive in having protarsomeres 1–3 slightly dilated, each with adhesive ventral

pad; mesotibia tuberculate toward apex of inner margin (*vs.* smooth). In the *guttiger*-group, profemur with dense and long ventral pubescence (*vs.* glabrous) while metaventricle with shorter and sparser pubescence anteriorly and posteriorly (*vs.* short and very sparse in female). Finally, the mandibles are clearly slenderer and conspicuously to much longer.

Aedeagus (Figs 13–28): median lobe well sclerotized, asymmetric; apical orifice well-defined. Right paramere small, geniculate, fairly wide, about as long as basal process which is narrow and unciform. Female gonocoxite IX subtriangular, curved outwards and pointed apically, with strong ensiform setae, one dorsal (inner) and two ventral (outer).

DISTRIBUTION. Most of the Oriental Region.

HABITATS AND HABITS. The members of the genus are closely associated with xylosaprotrophic fungi, such as *Lentinus*, *Phelinus* or Polyporaceae. Adults of *Serrimargo ater* are common in colonies of basidiocarps on dead, mostly fallen, trees. Basidiospores and much larger spores of anamorphic Ascomycota (Figs 29–30) are common in rectal content, suggesting that the adults (or perhaps the last-instar larvae) are fungivorous.

COMMENTS. The genera *Serrimargo* and *Peripristus* were described next to each other by Chaudoir [1869]; each included two species. *Peripristus femoratus* (Klug, 1833) was then moved to *Eurydera* Laporte de Castelnau, 1831, with the only remaining species, *P. ater* (Laporte de Castelnau, 1835), subsequently designated as type species [Jedlička, 1963], contrary to workers who believed it to be original designation [Lorenz, 2005].

Based on the original descriptions, *Serrimargo* differs from *Peripristus* primarily by barely longer, somewhat apically rounded labrum, combined with glabrous antennomere 4 (*vs.* truncate labrum and antennomere 4 pubescent apically). The former feature varies from species to species, while the latter simply doesn't work. My study revealed no genus-level differences other than shape of the pronotum and body colour pattern. In *Peripristus*, the body is black, with pronotum being rather short and apical pronotal angles unmodified, while in *Serrimargo* the body is brownish, with elytra minutely spotted and the apical angles explanate, broadened, and pale. *Peripristus* is further different from *Serrimargo* in having the pronotum broadest clearly behind its apical margin (*vs.* before or at the level of the middle of the apical margin); apical bead of pronotum obliterate (*vs.* conspicuous); femora glabrous ventrally in both sexes (*vs.* in female only); protarsi slightly more dilated in male, with more developed ventral adhesive pad on tarsomere 1; aedeagus with a well-developed flagellum. Otherwise the genera are very similar. The elytra are similar in shape and structure, and the striole between striae 7 and 8 is a salient feature. The mouthparts are similar, too.

The recently described *Serrimargo pahangensis* Kirschenhofer, 2010 and *S. vietnamensis* Kirschenhofer, 2010 exhibit intermediate features, including the shape of the pronotum. Both have uniformly black bodies, the pronotum broadest behind apex, the explanate lateral margins conspicuously broadened anteriorly, the apical bead missing, and the sides straight just behind apical angles. This character combination places these species much closer to *Peripristus* than to *Serrimargo*.

Finally, the differences between sexes in *S. guttiger* are much greater than between females of the two genera. For these reasons, there is no point in keeping *Peripristus* as a separate genus or even subgenus; we treat its members as the *ater* species group of *Serrimargo*.

This genus has no closer relatives other than the Madagascan *Eurydera*. Both have smooth tarsal claws, similar

mouthparts; usually one (posterolateral) seta on the pronotum; and distinctive elytra, including denticulate apical margin and two discal setae in interval 3 behind the middle.

KEY TO SPECIES AND SUBSPECIES OF *SERRIMARGO*

- 1(12) Elytra unicoloured brown to black, or each with a round pale spot behind the middle. Pronotum broadest behind the level of apical margin, with apical bead obliterate and base slightly wider than apex in general; explanate lateral margins subequally wide throughout or only a little wider anteriorly than posteriorly.
- 2(11) Elytra unicolored.
- 3(6) Antennae pale, reddish-yellow.
- 4(5) Elytra dull from very coarse, granulate and somewhat aciculate microsculpture; intervals each in form a flattened ridge roof and minutely tuberculate along middle, with minute and rather dense yet very shallow punctures hardly traceable against the background of coarse microsculpture. Frons with a deep transverse impression on a level with anterior supraocular seta. Lateral margins of pronotum very widely explanate and reflexed; sides sinuate posteriorly and then scarcely diverging towards nearly right basal angles. Legs red, meso- and metatibiae externally and femora except apices infuscated. Elytra in lateral view very slightly concave behind the middle, a little convex on basal slope while nearly flat apically; intercalary striole very shallow, uneven and fairly short. — Sri Lanka *S. impressifrons* sp.n.
- 5(4) Elytra rather shiny, much more so apicad, with isodiametric meshes substituted for granulate-aciculate microsculpture throughout (Fig. 11), except for at sides of base; intervals slightly convex to nearly flat, neither tuberculate nor subcarinate along middle, faintly subcarinate at sides of base only. At least intervals 4–9 conspicuously punctulate, with punctures becoming increasingly dense to partly confluent outwards. Frons without or with a very shallow transverse impression behind frontoclypeal suture. Reflexed lateral margins of pronotum moderately wide. Femora infuscated. Elytra in lateral view nearly flat on disc while slightly and subequally convex on basal and apical slopes, without distinct extensive depressions outside anterior discal seta; intercalary striole more or less deep, broken and often shortened from behind. — Southern China, northern Vietnam *S. schenklingi* (Dupuis, 1912)
- 6(3) Antennae with scape and sometimes also antennomeres 3 and 4 infuscated.
- 7(8) Pronotum larger, EW/PW 2.06 at the most, its sides well rounded in anterior half and more or less widely rounded at apical angles; explanate lateral margin subequally wide anteriorly and posteriorly. Only scape infuscated. Elytra with very superficial extensive depressions traceable outside anterior discal seta. Genae meeting neck at obtuse angle *S. ater* (Laporte de Castelnau, 1835)
- a(b) At least four inner elytral intervals indistinctly carinate to nearly flat, more so at base. Elytra dull, head and pronotum clearly shinier due to sculpture and microsculpture rather superficial and leaving lateral regions of pronotum nearly smooth in basal half. Sides of pronotum sinuate in front of and clearly diverging towards basal angles, these mostly very slightly acute to right. Elytra very sparsely and/or very shallowly and thence indistinctly punctate throughout except on explanate lateral margin; in lateral view depressed in apical third, less convex on apical than on basal slope and barely concave on a level with or just before anterior discal seta; shallow extensive depression behind middle more distinct. Elytral intercalary striole mostly even, deep and long. — Malay Peninsula, Greater Sunda Is, Myanmar? India? *S. a. ater* (Laporte de Castelnau, 1835)
- b(a) Elytra as in item 4, but intervals slightly less clearly tuberculate along middle. Head and pronotum much more coarsely sculptured and microsculptured, only a bit shinier than elytra. Pronotum mostly parallel-sided in front of basal angles; these blunted, subrectangular or obtuse. Elytra in lateral view subequally high and subequally, albeit very slightly, convex all along except at extreme bases and apices; extensive depressions on a level with anterior discal seta almost indistinct. Elytral intercalary striole usually uneven, irregularly punctate or broken. — Southern and central Vietnam to northern Thailand *S. a. opacus* sp.n.
- 8(7) Pronotum smaller, EW/PW 2.09–2.13; its sides slightly converging to and straight before base; apical angles distinct, sharp or narrowly rounded and projecting a little laterad; explanate lateral margin clearly wider anteriorly than posteriorly. Genae extended into neck in a smooth curve.
- 9(10) Antennae red, with scape infuscated. Body smaller, BL 10.4–13.2 mm. — Central and southern Vietnam *S. vietnamensis* Kirschenhofer, 2010
- 10(9) Antennomeres 1, 3 and 4 infuscated. Body large, BL 16 mm. — Malay Peninsula (Pahang) *S. pahangensis* Kirschenhofer, 2010
- 11(2) Each elytron with a round yellow spot on intervals 2–5 behind the middle. Antennae pale. Pronotum subquadrate, small, narrow, with very narrow reflexed lateral margins; apex barely sinuate; apical angles scarcely produced. — Southern Vietnam *S. bimaculatus* sp.n.
- 12(1) Elytra unicolored black or brown black, with small separate spots or strokes, or broken wavy transverse bands. Pronotum broadest before or on a level with the middle of apical margin, mostly slightly to much wider at apex than at base; apical bead conspicuous; explanate lateral margins much wider anteriorly than posteriorly. Sublateral furrows deep and adjoining lateral groove behind apical angles. Profemora with a more or less dense ventral pubescence in male. Right paramere oblong, slightly longer and narrower, internal sac of aedeagus without distinct flagellum the *guttiger*-group
- 13(18) Elytral pattern consisting of separate spots or short strokes on intervals 3, 5 and 7, some of them sometimes extended to allied intervals.
- 14(17) Pronotum (Figs 6, 9) cordate, with sides more clearly subangulate at middle; apex emarginate in a smoother curve; apical angles close to neck or widely rounded.
- 15(16) Pronotal apical angles close to neck, with sides widely rounded just outside and rather deeply sinuate in front of right or slightly obtuse basal angles. Dorsum slightly shinier, head more so due to almost obliterate isodiametric microsculpture. Elytral intervals slightly higher even at bases; striae distinctly crenulate. Granulate-aciculate microsculpture barely more superficial so that elytral apices mostly shiny due to isodiametric meshes substituted for granules. Separate pale spots each occupying mostly one elytral interval, occasionally posterolateral spot on intervals 7 and 8. Profemora moderately while meso- and metafemora rather sparsely pubescent ventrally in male. Median lobe of aedeagus with apical lamella very small and rounded (Figs. 16–18). BL 8.8–11.6 mm. — Sumatra, Malay Peninsula (Pahang) *S. grouvellei* Bouchard, 1901
- 16(15) Pronotal apical angles mostly widely rounded; sides less deeply sinuate in front of obtuser basal angles. Dorsum, especially head, duller. Elytral intervals as in

item 4, but flatter, flat at bases, with punctulation traceable on explanate lateral margin only; striae very gently crenulate. Granulate-aciculate microsculpture slightly coarser, mostly reaching or almost reaching apex. Elytral inner and posterolateral separate spots mostly wider; anterior spot (that on interval 3) expanding onto intervals 2 and/or 4, posterior two spots on intervals 2–3 and on 7(–8). Profemora glabrous ventrally. BL 8.8–11.6 mm

- *S. guttiger* (Schaum, 1860), ♀♀.
 17(14) Pronotum (Figs 7–8) inversely obtapezoidal, with sides nearly straight and converging basad; apex deeply emarginate, V-shaped; apical angles obliquely truncate inwards to subsinuate, with tips outside eyes. Mandibles very long. Body large, BL 11.7–15.5 mm. Femora densely pubescent ventrally. Median lobe of aedeagus with apical lamella small, triangular in ventral view and pointed in lateral view (Figs. 26–28). — Malay Peninsula, Sumatra, Borneo *S. guttiger* (Schaum, 1860), ♂♂.
 18(13) Elytron with two transverse wavy interrupted bands, anterior band consisting of five spots on intervals 2–7, posterior band including six spots on intervals 2–8. BL 14.5 mm (*ex descr.*). — Malay Peninsula
 *S. verrucifer* (Chaudoir, 1869)

The *ater* species group

DIAGNOSIS. Elytra unicoloured dark brown to black, each sometimes with a round pale spot behind the middle. Pronotum (Figs 1–10) broadest 1/3–1/4 from apex (PLw/PL 0.26–0.34, n=23); apical bead obliterate; explanate lateral margin subequally wide throughout or only a little wider anteriorly than posteriorly. Forward extensions of basal foveae (sublateral lines) shallow or very shallow. Labrum as long as wide and slightly sinuate anteriorly to a little longer than wide, with barely convex apical margin. Antennae shorter than in the *guttiger*-group, scape ca. 0.6 times as long as eye, antennomere 3 slightly longer than 4. Femora glabrous ventrally in both sexes but fixed setae. Right paramere short and wide, internal sac of aedeagus with a conspicuous flagellum. Eyes mostly less protruding than in the *guttiger*-group, genae distinct, meeting neck at obtuse angle. Ligula apically narrow, acutangular yet blunt. USS: anterior group (8 setae) and posterior group widely separated, with intermediate seta being closer to the former.

The group includes four species: *S. ater*, *S. schenklengi*, *S. impressifrons* sp.n., and *S. bimaculatus* sp.n.

COMMENTS. *Serrimargo ater* was described from Java and later recorded in Myanmar, India and Java [Schmidt-Göbel, 1846]. Bates [1889, 1890, 1892] reported this species



Figs 1–9. Pronotum: 1 — *Serrimargo ater ater*; 2 — *S. schenklengi*; 3 — *S. vietnamensis*; 4 — *S. ater opacus* ssp.n.; 5 — *S. impressifrons* sp.n.; 6 — *S. grouvellei*, ♂ from Pahang, Malay Peninsula; 7–9 — *S. guttiger*, 2 ♂♂, ♀ from Sabah, Borneo.

Рис. 1–9. Переднеспинка: 1 — *Serrimargo ater ater*; 2 — *S. schenklengi*; 3 — *S. vietnamensis*; 4 — *S. ater opacus* ssp.n.; 5 — *S. impressifrons* sp.n.; 6 — *S. grouvellei*, ♂ из Паханга, п-ов Малакка; 7–9 — *S. guttiger*, 2 ♂♂, ♀ из Сабаха, Борнео.

from Cambodia, additional Myanmar localities, Assam, Java, Sumatra, and the Malay Peninsula. Andrewes [1929] considered *S. ater* to be rare in India, and provided additional records, including Sikkim, Nilgiri, Anaimalai Hills, and Cochin State (now in Kerala). Later he [Andrewes, 1933] added multiple localities in Sumatra, along with Nicobar Islands, Thailand, and Borneo.

Based on my studies, this species is oligotypic and includes several groups of populations (Fig. 31). The nominotypical subspecies is southern, reaching much of Myanmar in the north; *S. a. opacus* ssp.n. ranges from northern Thailand to southern and central Vietnam; and *S. a. schenklingi* is confined to the northeastern part of the species range. I have seen no specimens from India, and thus have to treat the Indian records of *S. ater* as referring to *S. a. ater*.

All these taxa and *S. impressifrons* sp.n. look very similar, including male genital features (Figs 13–15, 19, 24–25), and have rather vicariant distributions. Furthermore, elytral

microsculpture in some specimens of *S. a. schenklingi* from peripheral populations (Son La Province in Vietnam; Andaman Islands; Yunnan, China) looks transitional to that of *S. ater*. This suggests that subspecific status may be appropriate for all or most of these taxa. However, *S. impressifrons* sp.n. and the vast majority of the examined specimens of *S. a. schenklingi* can be easily separated from *S. ater* based on external characters. Because of that I prefer treating the three taxa as separate species, which also better accommodates the Andaman record of *S. a. schenklingi* (see below) and reflects closer relationship between *S. a. schenklingi* and *S. impressifrons* sp.n.

There also exists rather a confusing double mount, one specimen of *S. a. schenklingi* and one of *S. a. opacus* ssp.n., from Quang Tru in northern Vietnam, according to the label. If the two have indeed been taken in the same spot, they belong to different species. But a possibility of label mix-up in this case seems likely, because *S. a. schenklingi* is common in the area, whereas *S. ater* is not otherwise known to me from northern Vietnam.

Serrimargo ater ater (Laporte de Castelneau, 1835),
comb.n.

Figs 1, 13–15, 19, 24–25.

Laporte de Castelneau, 1835: 149 (*Thyreopterus*; Java); Schmidt-Göbel, 1846: 79; Chaudoir, 1869: 136 (*Peripristus*); Bates, 1889: 283; 1890: 110; 1892: 408; Andrewes, 1923: 46; 1929: 313; 1933: 364; Jedlička, 1963: 370; Louwerens, 1964: 188.

MATERIAL. ♀ (SIEE), Malaysia, Pahang, Tioman island, Juara, 18–28.III.2011 (A. Kompantsev); 1 ex. (ZISP), ‘Pulo Penang’; 1 ex. (ZISP), ‘Tenasserim, Meetan, Fea, Apr. 1887’; 1 ex. (ZISP), ‘Katha, Birmania, Fea, 29.XI.1886’; ♀ (SIEE), Borneo, Sabah, 80 km W of Lahad Datu, N 04°58.0872, E 117°48.362, 17–20.IV.2012, A. Kompantsev leg.; 2 ♀♀ (SIEE), Sumatra, Aceh Prov., 43 km N of Kutacane, Ketamba-Gurah, 03°412133 N, 97°392 E, 1–7.XII.2014, h=134 m, A. Kompantsev leg.; ♂ (SIEE), Sumatra, Daerah Istimewa Aceh Province, Alas River, NW of Ketambe vill., 03°412433 N, 97°392073 E, h=383 m, 30.XI–5.XII.2014, I. Melnik leg.; ♂, 3 ♀♀ (SIEE), same data, but 03°412133 N, 97°382593 E, h=134 m; 1 ex. (ZISP), ‘I. Sumatra’.

REDESCRIPTION. Unnecessary here, except as follows. Body black; labrum and mandibles at middle slightly reddish; explanate lateral margins of elytra and pronotum at apical angles slightly paler, brown rather dark; antennae except scape, tarsi and usually also palps red; tibiae red, with outer margins and often also bases infuscated; sometimes tibiae ifuscated or entire protibiae red. Microsculpture isodiametric on head, moderately coarse almost throughout, weak and partly obsolete on neck; pronotum with moderately transverse meshes in general, but isodiametric along sides of disc, isodiametric to moderately longitudinal over explanate lateral margin.

Head. Labrum quadrate, subsinuate anteriorly. Frontal foveae shallow, parallel and short, slightly surpassing anterior supraocular seta. Frons with a few, dense, V-shaped striae at middle and 2–3 blunt and not quite even carinae just inside anterior supraocular seta; vertex with dense yet fine striae converging slightly towards neck; neck nearly smooth, with short, fine or very fine wrinkles.

Pronotum (Fig. 1) fairly narrow: PW/PL 1.36–1.49 (1.42, n=7), PW/HW 1.05–1.11 (1.07); apical angles rather narrowly rounded and shifted slightly outwards. Area between lateral groove and sublateral line flat or slightly concave in basal 1/2–3/5, slightly convex anteriorly, together with lateral groove and reflexed lateral margin throughout merging into a wide and evenly concave lateral gutter, narrower anteriorly and wider posteriorly. Lateral areas in basal half nearly smooth



Figs 10. *Serrimargo bimaculatus* sp.n., dorsal habitus.
Рис. 10. *Serrimargo bimaculatus* sp.n., габитус сверху.

owing to rather a fine sculpture. Disc densely and finely cross-striated, with very fine lateral wrinkles outside; explanate lateral margin nearly smooth, more so basally, finely and rather sparsely punctate.

Elytra: EL/EW 1.34–1.36 (1.35), EW/PW 1.98–2.06 (2.01).

DISTRIBUTION. The Greater Sunda Isles, Malay Peninsula, Myanmar.

HABITATS AND HABITS. Apparently same as in the following subspecies.

Serrimargo ater opacus Fedorenko, **ssp.n.**

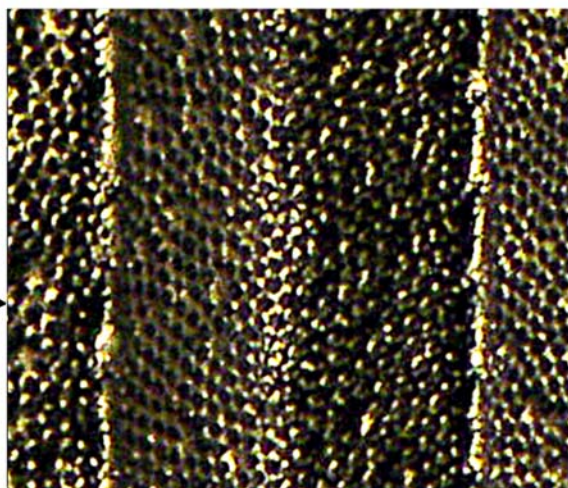
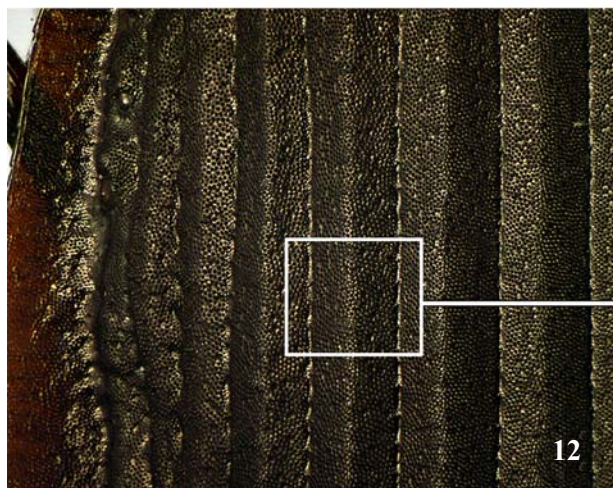
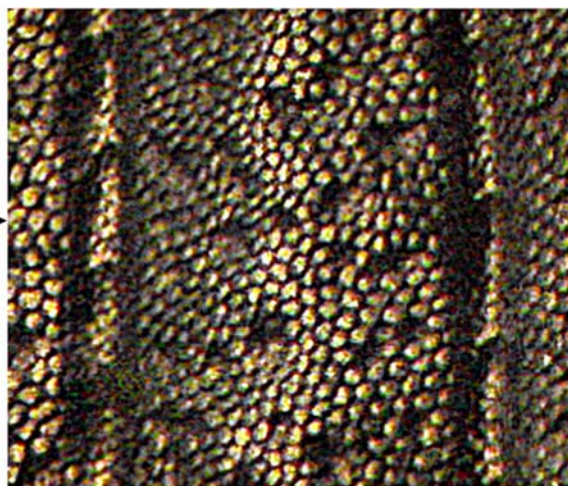
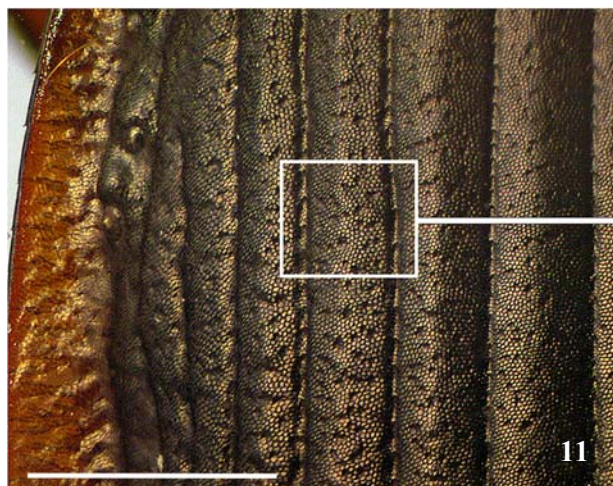
Figs 4, 12.

MATERIAL. Holotype ♂ (ZMMU), 'S[outhern] Vietnam, N[orthern part of] Dongnai Pr[ovince], Nam Cat Tien Nat[ional] Park [11°252183 N 107°252443 E], Exped[ition]. [of the Joint] Russ[ian]-Vietnamese Tropical Center, 24.X.2004, leg. D. Fedorenko'. Paratypes (SIEE, ZISP): 5 ♂♂, 12 ♀♀, same data, but 1–3.XII.2004, various dates between 22. and 26.X.2004, as well as between 18.V. and 6.VI.2005; 6 ♂♂, 2 ♀♀, Binh Phuoc Prov., Bu Gia Map Natn. Park, 12°112373N, 107°122213E, h=350–540 m, 10. and 11.IV.2009, D. Fedorenko leg.; ♀, Dak Lak Prov., Chu Yang Sin Natn. Park, 12°222403N 108°212113E, 1.5 km W [of] Chu Pan Phan Mt, h=1650 m, 30.III–11. IV.2012, D. Fedorenko leg.; ♀, same data, except 12°232483 N, 108°202593 E, upper flow of Krong Kmar River, h=1000 m, 30.III–14.IV.2012; ♀, Gia Lai Province,

~40 km ENE of Pleiku, 14°122113N 108°182543E, Kon Ka Kinh NP, h=890 m, 21–22.V.2017, D. Fedorenko leg. (window trap); ♂, same locality, except for ~55 km ENE of Pleiku, 14°182403N 108°262373E, h=730 m, 8–20.V.2017; ♂, ♀, Kon Tum Province, Kon Plong Distr., Dak Khe River, 14°432203 N, 108°192 E, h=1030 m, 8–23.IV.2015, D. Fedorenko leg.; ♀, Kon Tum Province, Chu Mom Ray National Park, 14°302 N, 107°432 E, dak Car River, h=730 m, 28.III–4.IV.2015, D. Fedorenko leg. 2 ♀♀ (SIEE), Thailand, Chiang Mai Province, Doi Fah Hom Pok National Park, 19°582083N, 99°092133 E — 19°572183N, 99°092513 E, 16–20.V.2013, I. Melnik leg.

DESCRIPTION. Same as the nominotypical subspecies except as follows. Body black; labrum and mandibles reddish; tibiae infuscated, sometimes protibiae red. Head and pronotum dull from much coarser sculpture and microsculpture. Pronotal microsculpture distinctly less transverse, with considerable admixture of isodiametric meshes at middle of disc, predominantly isodiametric, almost granulate along sides, except for extreme lateral margin.

Pronotum (Fig. 4) slightly broader: PW/PL 1.39–1.50 (1.46, n=8), PW/HW 1.08–1.14 (1.10); apical angles usually more rounded, with tips not or less shifted outwards. Area between lateral groove and sublateral line flat to subconvex throughout, more or less distinctly separated by lateral groove from a narrow reflexed margin; lateral groove slightly wider anteriorly. Sculpture coarse, rugose-punctate along sides.



Figs 11–12. Elytral microsculpture: 11– *Serrimargo schenklingsi*; 12 — *S. ater opacus* **ssp.n.** Scale bar 1 mm.

Рис. 11–12. Микроскульптура надкрылий: 11 — *Serrimargo schenklingsi*; 12 — *S. ater opacus* **ssp.n.** Масштаб 1 мм.

Elytra barely shorter, EL/EW 1.29–1.34 (1.31), EW/PW 1.92–2.02 (1.97).

DIAGNOSIS. See the key.

NAME. Refers to the dull dorsum, especially elytra.

DISTRIBUTION. Thailand, southern and central Vietnam (Dong Nai, Binh Phuoc, Dak Lak, Gia Lai, and Kon Tum provinces), and probably also Laos, Cambodia and northern Myanmar. The record in Pnom Penh [Bates, 1889] seems to refer to this subspecies, too.

HABITATS AND HABITS. Adults are common among *Lentinus* spp. basidiomes on logs in monsoon forests, mostly lowland, and less commonly found on or near basidiomes of other xylosaprotrophic Hymenomycetes, such as *Phelinus* sp. or Polyporacea; occasionally taken under tree debris on the ground. Rectum of some individuals has been found to be filled with basidiospores.

Serrimargo schenklingi (Dupuis, 1912), **stat. resurr., comb.n.**

Figs 2, 11.

Dupuis, 1912: 288 (*Thyreopterus*; ‘Kosempo’, Taiwan); 1913: 82; Csiki, 1932: 1356 (*Peripristus ater* var.).

MATERIAL. 3♀♀ (SIEE), Vietnam, Phu Tho Province, ~90 km W of Hanoi, Xuan Son National Park, h=300 m, 21°07'25.83" N, 104°55'24.53" E, river-valley, 6–15.VI.2014, D. Fedorenko leg.; ♀ (SIEE), same locality, but 21°06'23.93" N, 104°57'22.53" E, h = 400 m; ♂, ♀ (SIEE), same data, except for 21°07'25.23" N, 104°57'20.73" E, h=400–470 m; ♀ (SIEE), ~25 km N of Hai Phong, Cat Ba is., National Park, ~25 km N of Cat Ba [City], 20°47'25.63" N, 106°59'24.73" E, 16.X.2011, D. Fedorenko leg.; ♀ (ZISP), Quang Binh Province, mountains NW of Dong Hoi, ‘Raote’ [transcribed from Russian], 560 m a.s.l., 26.III.1963, O.N. Kabakov leg.; 2♂♂ (ZISP), [Vinh Phuc Province?], NW of Tam Dao Son Zuong [Mt. Ridge], 300 m, 22.III & 3.IV.1962, O.N. Kabakov leg.; ♀ (ZISP), Mts 50 km NE of Thai Nguen, 20.XII.1962; ♂, 2♀♀ (ZISP), same data, but 300 m a.s.l., 15.XII.1962 & 8.III.1963, O.N. Kabakov leg.; 1 ex. (ZISP), Son La Province, env. Song Ma, 5.V.1986, Gorokhov leg.; 1 ex. (ZISP), [former] Province Bac Thai, Quang Tru, 15–17.IV.1986, Gorokhov leg.; ♂, ♀ (ZISP), S-China, Yunnan: Santaishan [transcribed from Russian], 30 km SW of Mangshi, 1200 m, 18.V.1955, Bushchik & Chzhou Cha-Yun leg.; 1 ex. (ZISP), same locality, but env. Puvenh [transcribed from Russian], 900 m, 2.IV.1957, D. Panfilov leg.

REDESCRIPTION. Unnecessary here, except for the following features (see also the key).

Body slightly paler and shinier than in *S. ater*; the sheen is due to much more superficial microsculpture (Fig. 11). Dorsum brown to dark-brown, slightly reddish, underside red or reddish-brown; antennae, legs, mouthparts, labrum, entire clypeus or its greater part reddish-yellow; femora infuscated, but often less so than in the other species. Sculpture of head and pronotum vary, being mostly transitional between those of *S. a. ater* and *S. a. opacus ssp.n.*

Head: labrum quadrate, subsinuate apically.

Pronotum (Fig. 2) slightly smaller and thence narrower relative to elytra than in *S. a. ater*, PW/PL 1.43–1.55 (1.48, n=5), PW/HW 1.09–1.13 (1.11); sides sinuate posteriorly and parallel or slightly diverging towards slightly obtuse basal angles; apical angles widely rounded and projecting forward. Lateral groove obliterate in basal half or barely separating between evenly concave reflexed lateral margin and disc outside sublateral line. Sculpture rather superficial, more so along sides of disc.

Elytra as in *S. a. ater*, but in lateral view straight-line and subequally high throughout except at base and at apex; EL/EW 1.32–1.40 (1.35), EW/PW 1.83–1.95 (1.90).

DIAGNOSIS. In addition to the features given in the the key, differs from *S. ater* in having the elytra subequally declivous basally and apically.

DISTRIBUTION. Restricted to southern China (Taiwan and the westernmost Yunnan) and northern Vietnam, most likely allopatric with *S. ater*. One older female specimen (ZISP) is labelled ‘Iles Andaman’.

HABITATS AND HABITS. All the adults collected by the author in northern Vietnam were found to live on and near basidiomes of xylosaprotrophic Polyporacea grown on larger, standing or fallen, dead trees in monsoon forests. Basidiospores and spores of such anamorphs as *Brachysporiella* sp. are common rectal content in adults.

Serrimargo impressifrons Fedorenko, **sp.n.**

Fig. 5.

MATERIAL. Holotype ♀ (ZMMU), ‘Sri Lanka, Kitugala, forest floor, 20.II.1997, leg. P. Udovichenko’.

DESCRIPTION. With characters of the genus. Very similar to *S. ater opacus ssp.n.* except as follows. Scape of antennae, as well as protibiae and apices of femora reddish-yellow. Frons with a deep transverse impression just before anterolateral supraorbital setae.

Pronotum slightly more transverse (PW/PL 1.51, PW/HW 1.17, EW/PW 1.89), broadest a little less than a third from apex (PLw/PL 0.30), base slightly broader than apex, PWb/PWa 1.11. Explanate lateral margin evenly concave, very wide, especially so in apical half, less reflexed in apical half than in *S. a. opacus ssp.n.* Base truncate, 2.5 times as wide as its sides; these straight and slightly oblique; basal angles barely more than right. Apical margin evenly concave; apical angles projecting a little while slightly oblique outwards, moderately rounded at tips. Sides rounded in apical 2/3, sinuate behind and barely diverging basad. Disc rather flat, both paralateral lines and lateral grooves shallow yet traceable; area between them flat in basal half and barely convex in apical half. Both transverse impressions, basal and apical, moderately deep, obtusangular. Sculpture and microsculpture slightly shallower than in *S. a. opacus ssp.n.*

Elytra similar, but very slightly depressed behind the middle in lateral view (as in *S. a. ater*), EL/EW 1.32; intervals very finely yet more distinctly tuberculate, each with a slight median carina.

DIAGNOSIS. Distinctive in the combination of pale scape and femoral apices, wider pronotum with a very wide reflexed lateral margin, and transversely impressed frons. The only other congener with paler scape is *S. schenklingi*; in elytral surface, *S. impressifrons sp.n.* is most similar to *S. a. opacus ssp.n.* More material is required to decide between species and subspecies status of *S. impressifrons sp.n.* and *S. ater*.

NAME. Refers to the sculpture of the head.

DISTRIBUTION. Sri Lanka.

Serrimargo bimaculatus Fedorenko, **sp.n.**

Fig. 10.

MATERIAL. Holotype ♀ (ZMMU), ‘Vietnam, Dak Lak Prov[ince]., Chu Yang Sin Natn. Park, 12°23'24.83" N/ 108°20'25.93" E, upper flow of Krong Kmar riv[er]., h=1000 m, 30.III–14. IV.2012, D. Fedorenko leg.’.

DESCRIPTION. With characters of the genus. Body as in Fig. 10. Dorsum black, antennae, mouthparts, labrum, clypeus, tibiae, reflexed lateral margin of pronotum in apical third and explanate lateral margins of elytra pale, reddish-yellow; meso- and metatibiae with darker strips along outer margins. Each elytron behind middle with a round yellow spot on intervals 2–5. Underside reddish-brown, abdominal sternites deep red in basal two thirds. Microsculpture isodiametric over head. Ppronotal microsculpture slightly transverse to isodiametric, moderately transverse behind the middle, isodiametric laterally. Elytral microsculpture granulate-aciculate before middle, isodiametric

behind; intervals 1–5 each with isodiametric meshes extended much farther basad along middle; similarly, granulate microsculpture almost reaching apex outside stria 7 and reaching apical third along sides of interval 7. Micropunctation imperceptible, only explanate lateral margins of elytra very shallowly rugulose-punctate. Head and pronotum shining, elytra dull in basal third (on inner intervals) to middle (laterally), otherwise shiny and nearly glossy over intervals 1–5.

Head with protruding hemispherical eyes, genae short yet distinct, meeting neck at obtuse angle. Neck constriction indistinct. Clypeus and greater part of frons smooth, vertex with two fine acutangular V-shaped striae at middle and dense yet still finer striae outside; neck almost smooth, with nearly obliterate cross-striations or wrinkles. Labrum quadrate, as long as wide, gently sinuate apically. Antennae surpassing base of pronotum by apical three antennomeres.

Pronotum subcordate, nearly square, small and narrow (PW/PL 1.29), narrowest in the genus, as wide as head (PW/

HW 1.01), broadest a third from apex. Base slightly convex posteriad, as wide as a gently sinuate apex, PWb/PWa 1.01; basal angles slightly obtuse; apical angles barely projecting, rounded laterally, nearly truncate anteriorly. Sides slightly rounded in apical 3/4, more converging basad than apicad, sinuate in front of basal angles, almost parallel before base. Disc rather convex throughout, including outside shallow yet distinct sublateral lines, with reflexed lateral margins very narrow all along. Basal transverse impression angulate forward, obtusangular; apical transverse impression obsolete; median line moderately deep in between. A pair of shallow and round paramedian foveae a third from apex, slightly closer to lateral margin than to median line. Sculpture almost obliterate in apical half, basal half shallowly cross-striated; sides with shallow wrinkles, finely and very sparsely punctate.

Elytra as for the genus, EL/EW 1.35, EW/PW 2.16; apical truncature slightly sinuate, its inner angle (elytral apex) and sutural angle blunt. Intervals subcarinate (each as a ridge roof) in basal 1/3–2/5, convex behind.



Figs 13–28. Aedeagus: 13–15, 19, 24–25 — *Serrimargo ater*; 16–18, 22–23 — *S. grouvellei*; 20–21, 26–28 — *S. guttiger*; 13–18, 26–28 — median lobe; 19 — internal sac everted and inflated with air; 20, 22, 24 — right paramere; 21, 23, 25 — left paramere; 13, 16, 26 — left aspect; 14, 17, 27 — ventral aspect; 15, 18, 28 — right aspect. Scale bars 1 mm.

Рис. 13–28. Эдеагус: 13–15, 19, 24–25 — *Serrimargo ater*; 16–18, 22–23 — *S. grouvellei*; 20–21, 26–28 — *S. guttiger*; 13–18, 26–28 — средняя доля; 19 — вывернутый и надутый воздухом внутренний мешок; 20, 22, 24 — правая парамера; 21, 23, 25 — левая парамера; 13, 16, 26 — слева; 14, 17, 27 — снизу; 15, 18, 28 — справа. Масштаб 1 мм.

DIAGNOSIS. Very distinctive in having small pronotum with a very narrow reflexed lateral margin, bimaculate elytra, and a particular elytral microsculpture.

NAME. Refers to the elytral pattern.

DISTRIBUTION. Known from the type locality only.

HABITATS AND HABITS. The only specimen have been taken on the underside of a large tree limb on the ground.

Serrimargo vietnamensis Kirschenhofer, 2010

Fig. 3.

Kirschenhofer, 2010: 18 (Gia Lai Province, Vietnam).

MATERIAL. ♀ (SIEE), Vietnam, Lam Dong Province, 25 km NW of Bao Loc, Loc Bao env., h=800 m, 11°44'21.83"N 107°42'20.83"E, 5–20.IV.2013, D. Fedorenko leg.

REDESCRIPTION. Unnecessary, except for the following points. BL 10.4–13.2 mm. Microsculpture superficial isodiametric on head, with meshes obliterate or vague at apex of frons and in frontal foveae; pronotum with coarser and moderately transverse meshes becoming isodiametric laterally; elytral microsculpture isodiametric, becoming granulate-tuberculate in basal quarter. Pronotum (Fig. 3) with lateral margin moderately wide and strongly reflexed in basal half, widely explanate and scarcely reflexed in apical half; sublateral line wide and shallow, almost reaching apex; disc with oblong paramedian impressions. Elytral edges nearly smooth, minutely denticulate posteriorly; intervals convex, those 2 to 6 vaguely carinate and minutely tuberculate along middle in basal third. PW/PL 1.41–1.50, PW/HW 1.18–1.20, PWb/a 0.92–0.98, EL/EW 1.24–1.31, EW/PW 2.09–2.13.

COMMENTS. The species was described from a female specimen, with no reference to its previous misidentification with *Sfitakantha impressa* [Kirschenhofer, 1996]. Together with *S. pahangensis*, it is closer to the *ater*-group, being transitional to the *guttiger*-group in some characters, including reflexed lateral margin of the pronotum distinctly wider anteriorly than posteriorly, fairly long labrum, and USS barely interrupted at middle. The all-black body, the obliterated apical bead of the pronotum, and the truncate labrum are

among the features of the *ater*-group. USS containing ten setae in anterior group is unique within the genus.

DISTRIBUTION. Hitherto known from two localities in central and southern Vietnam.

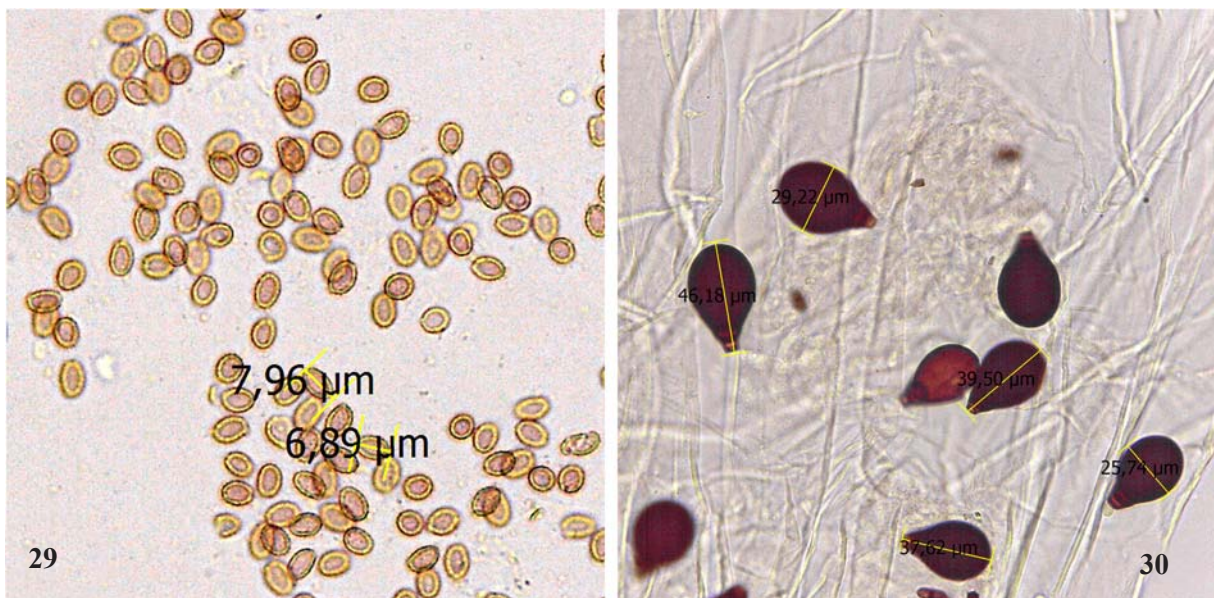
HABITATS AND HABITS. The female specimen above has been taken under exfoliated bark of a medium-sized rotten log at the edge of a monsoon forest.

The *guttiger* species group

DIAGNOSIS. See key to species. Additional features include: Labrum as long as or longer than wide, with apical margin slightly to very convex. Antennae a little longer than in the *ater*-group, scape about 0.75 times as long as eye, antennomeres 3 and 4 subequally long. Femora ventrally with a more or less dense long pubescence in addition to fixed setae. Right paramere oblong; internal sac of aedeagus without flagellum. Eyes as in the *ater*-group or (mostly) much more protruding, with posterior margins slightly projecting, and slightly acute re-entrant angle between neck and very short gena. Ligula rather wide apically, mostly rectangular to obtuse, sometimes truncate. USS anterior (9 setae) and posterior groups barely separated and subequally distant from an intermediate seta.

The group includes three species, two of them very common in the Malay Peninsula, Borneo and Sumatra. Secondary sexual differences are very slight in *S. grouvellei* yet prominent in *S. guttiger*, the males of the latter being sometimes almost twice as large as females.

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Figs 29–30. *Serrimargo schenklengi*, rectal content of the imago: 29 — basidiospores; 30 — spores of *Brachysporiella* (anamorphic Ascomycota).

Рис. 29–30. *Serrimargo schenklengi*, содержимое прямой кишки имаго: 29 — бизиdiosпоры; 30 — споры *Brachysporiella* (анаморфные Ascomycota).

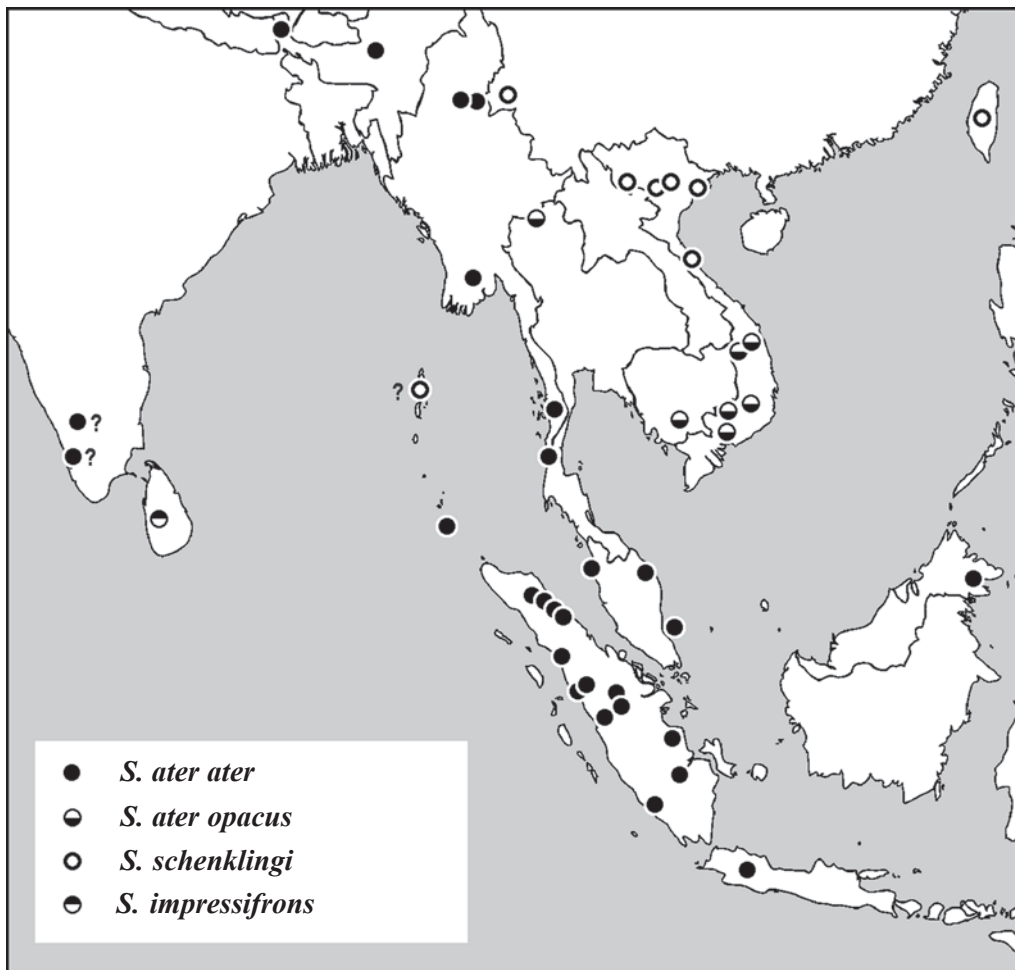


Fig. 31. Geographical distribution map of *Serrimargo ater* and allied species.

Рис. 31. Распространение *Serrimargo ater* и близких видов.

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