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## A revision of the Indonesian species of *Saprosites* REDTENBACHER, 1858 (Coleoptera: Scarabaeidae: Aphodiinae: Eupariini)

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**Abstract.** The 31 Indonesian members of the genus *Saprosites* REDTENBACHER are revised, including four species described as new: *Saprosites mahavus* n. sp. from Sulawesi, *S. matangi* n. sp. and *S. penrissenii* n. sp. from Borneo, and *S. pahangensis* n. sp. from Malay Peninsula. Lectotypes and paralectotypes are here designated for four species: *Saprosites coelebicus* PAULIAN, *S. fruhstorferi* PAULIAN, *S. implicatus* SCHMIDT and *S. verecundus* SCHMIDT. Seven new specific synonyms are proposed: *Saprosites coelebicus* PAULIAN (= *S. jacobsoni* PAULIAN, **syn. n.**), *S. implicatus* SCHMIDT (= *S. sumatranus* PETROVITZ **syn. n.**), *S. japonicus* WATERHOUSE (= *S. imperfuscus* SCHMIDT **syn. n.** and *S. coomani* PAULIAN **syn. n.**), *S. mjoebergi* GILLET (= *S. fruhstorferi* PAULIAN **syn. n.**), *S. narae* LEWIS (= *S. tonkinensis* BALTHASAR **syn. n.**), *S. verecundus* SCHMIDT (= *S. malaisei* PAULIAN **syn. n.**). A general diagnosis of the genus is associated with a key for identification based on principal morphological characters of 31 species. Habitus and male genitalia of several species are illustrated.

**Key words:** Lectotypes, descriptions, new species, new synonyms, *Saprosites*, Indonesia.

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### I. INTRODUCTION

The present study is a continuation of the series of papers dealing with world species of *Saprosites* REDTENBACHER and covers all species known to occur in Indonesia. The genus includes approximately 130 pantropical species distributed on the Southern Hemisphere and regional, local faunas have been treated or revised by the following authors: Indonesia (PAULIAN 1944), Central Africa (ENDRÖDI 1964), Madagascar (BORDAT et al. 1990), Australia (STEBNICKA & HOWDEN 1996; STEBNICKA 2009b), New Guinea with Pacific Islands (STEBNICKA 1998), New Zealand (STEBNICKA 2001b, 2005) and Neotropical Region (STEBNICKA 2001a, 2009a).

Among Indonesian, rain forest-inhabiting euparine species, members of *Saprosites* are prominent. These species, which are not easily recognized and belong to one of the most difficult taxonomically genera, offer a substantial taxonomic challenge. Most of the specific descriptions hitherto given relate to the superficial, secondary and often sex-

dependent characters of card-mounted individuals. A validity of most Indonesian species treated in BALTHASAR's monograph (1964) remained particularly enigmatic, since the typical specimens were not readily accessible and never studied. Consequently, the existing keys have become unworkable, leading to misidentification.

*Saprosites* is seemingly one of the oldest group of Eupariini, having the archetypal coleopteran structure – a somewhat flattened form with relatively short legs, non projecting coxae and short antennae. These structures are related to the species habitually taking refuge under loose bark of dead trees. The species of *Saprosites* live in moss, leaf litter, and in the dead, rotten trunks of many tree species, with adults probably feeding on the liquid fractions of rotten wood.

## II. MATERIAL AND METHODS

The area discussed herein includes Indonesian islands from Malay Peninsula to Irian Jaya, the western part of New Guinea. The study is based on the primary types of most species and on material obtained for identification. Lectotypes are here designated in order to clarify the taxonomic position of species by fixing the concept of the following names to a single specimens: *Saprosites jacobsoni* PAULIAN (now a synonym of *S. coelebicus* PAULIAN), *S. verecundus* SCHMIDT (valid name with synonymous *S. malaisei* PAULIAN), *S. imperfuscus* SCHMIDT (now a synonym of *S. japonicus* WATERHOUSE), *S. fruhstorferi* PAULIAN (now a synonym of *S. mjoebergi* GILLET), *S. implicatus* SCHMIDT (valid name with synonymous *S. sumatranus* PETROVITZ).

The English nomenclature used in this paper to describe external features follows that of HARRIS (1979) and somewhat modified terminology of STEBNICKA & HOWDEN (1996) and STEBNICKA (1998, 2001a, 2009a, 2009b). In the type data, type specimens label data are given verbatim with each line of text on the label separated by a forward slash. Names of four new species described herein derive from their type-localities.

The name-bearing types and other specimens studied may be found in the following repositories:

BPBM	Berenice P. Bishop Museum, Honolulu, USA
FSCA	Florida State Collection of Arthropods, Gainesville, Florida, USA
HNHM	Hungarian Natural History Museum, Budapest, Hungary
ISEA	Institute of Systematics & Evolution of Animals, Kraków, Poland
MCSN	Museo Civico di Storia Naturale "Giacomo Doria", Genova, Italy
MGFT	Museum Georg Frey, Entomologisches Institut, Tutzing, Germany
MHNG	Muséum d'Histoire Naturelle, Geneva, Switzerland
MNHN	Muséum national d'Histoire naturelle, Paris, France
NHML	Natural History Museum, London, England
NHMW	Naturhistorisches Museum Wien, Austria
NMNH	National Museum of Natural History, Smithsonian Institution, Washington DC, USA
NMP	National Museum, Prague, Czech Republic
NRS	Naturhistoriska Riksmuseet, Stockholm, Sweden
RPC	Riccardo Pittino Collection, Milano, Italy
SMNS	Staatliches Museum für Naturkunde, Stuttgart, Germany

SMTD	Staatliches Museum für Tierkunde, Dresden, Germany
ZMHB	Zoologisches Museum für Naturkunde der Humboldt Universität, Berlin, Germany
ZMUM	Zoological Museum, University of Moscow, Russia.

### III. RESULTS

#### **Genus *Saprosites* REDTENBACHER**

*Saprosites* REDTENBACHER, 1858: 436, et Auct.

*Ataenius* HAROLD, 1867: 82 (in part).

*Cylindropterus* MOTSCHULSKY, 1863: 464.

Type species. *Saprosites peregrinus* REDTENBACHER, 1858, by monotypy.

**Description.** Length 1.5-7.0 mm. Body elongate, subparallel-sided, shining, glabrous; colour rusty brown to black. Head usually large, unarmed, strongly convex at middle, clypeus emarginate medially, surface finely punctate, rarely granulate. Antenna 9-segmented, club circular or ovoid, 3-segmented. Pronotum rectangular or subquadrate, posterior angle rounded, truncate and/or emarginate, angulate basally or not; base margined or without marginal line; surface with fovea and/or tumosity laterally, simply punctate. Scutellum small, narrowly triangular. Elytron usually with basal bead and humeral denticle; 10 striae including marginal one distinctly impressed with moderate to coarse punctures; intervals convex to flat on disc, usually convex apically. Metathoracic wings developed, functional. Prosternum usually with triangular or trapezoid process. Mesosternum variously sculptured, mesocoxae located close together or more or less separated by meso-metasternal carina. Metasternum convex or slightly flattened, punctate or not, mid-line distinct; lateral metasternal triangle or sulcus distinct, vague or absent. Abdomen with 4-6 visible, coalescent sternites, sternites usually fluted along sutures; pygidium eroded basally with median longitudinal groove, exposed apical portion variously sculptured. Legs relatively short; profemora anteriorly often with perimarginal groove; meso- and metatibiae more or less widened toward apex, sometimes with transverse ridges or their traces, apex frequently with accessory spine, apical spurs arcuate, both located below tarsal insertion; tarsi short to moderate in length, claws slender. External sexual differences are apparent mostly on the ventral sclerites, in the number of visible sternites and their length, in the number of the tibial accessory spines (in some species), in the length of tarsal segments and in the shape of posterior angles of the pronotum, rarely in the sculpture of head. Male genitalia generally homogeneous in shape, moderately to strongly sclerotized. Labro-epipharyngeal complex weakly differentiated at species level.

**Remarks.** The above diagnosis almost entirely covers the world fauna of *Saprosites*. The Oriental species do not reveal any combination of the external characters indicating their geographic separation from all other congeners. On the other hand, the male genitalia of the Oriental and Australian species are less differentiated in shape, unlike to some Neotropical members of the genus.

**Distribution.** Pantropical.

Key to the Indonesian species of *Saprosites*

- 1 Head from anterior margin to frons granulate-wrinkled . . . . . 2
- Head from anterior margin to frons smooth or minutely to finely punctured . . . . . 3
- 2 Length 5.5-5.8 mm; clypeo-frontal area granulate-punctate with transverse carina; protibia with apical edge sharply angular behind protarsus. Borneo . . . . . *S. crockerensis*
- Length 4.0-4.2 mm; clypeo-frontal area transversely wrinkled or swollen with transverse groove posteriorly; protibia with apical edge obtuse behind protarsus. Malay Pen. . . . . *S. cariniceps*
- 3 Small species, length of body usually less than 4.0 mm . . . . . 4
- Medium sized and large species, length of body usually more than 4.5 mm . . . . . 21
- 4 Head broad, as wide as pronotal edge; pronotum wider than base of elytra . . . . . 5
- Head moderate in size, narrower than pronotal edge; pronotum as wide as base of elytra . . . . . 7
- 5 Pronotum alutaceous, base without marginal line, not crenate by punctures, surface punctures generally moderate, on disc separated by one their diameter. Malay Pen. . . . . *S. pahangensis* n. sp.
- Pronotum shiny, base finely margined by crenate line, surface punctures variable . . . . . 6
- 6 Base of pronotum straight, pronotal punctures moderate in size, on disc separated by 1-3 times their diameter; apex of metatibia without accessory spines. Borneo . . . . . *S. penrissemi* n. sp.
- Base of pronotum lobed medially, pronotal punctures mixed fine and coarse, the latter on disc separated by 1-2 times their diameter; apex of metatibia with three accessory spines. Borneo. . . . . *S. laticollis*
- 7 Pronotum relatively long, posterior angles truncate and/or emarginate to distinct basal angulation . . . 8
- Pronotum moderate in length, posterior angles truncate and/or emarginate or obtusely rounded to base . . . 9
- 8 Head impunctate, strongly shiny; base of pronotum with marginal line extending from basal angulation to fourth elytral interval; pronotal disc with minute, widely scattered punctures; colour black. Sulawesi . . . . . *S. mahavus* n. sp.
- Head slightly alutaceous, finely punctate; base of pronotum without marginal line, disc with fine punctures separated by 2-4 times their diameter; colour rufous. Irian Jaya, Papua. . . . . *S. dudichi*
- 9 Genae very small, obtuse, not exceeding eyes; pronotum everywhere uniformly finely punctured, punctures separated by about one their diameter . . . . . 10
- Genae right-angled or obtuse, exceeding eyes; pronotal punctures usually mixed fine and larger, irregularly spaced . . . . . 12
- 10 Pronotal base with fine marginal line; elytral humeral denticles produced, striae and stria punctures distinctly impressed; colour carbon black. Sumatra, Sulawesi . . . . . *S. mjoebergi*
- Pronotal base without marginal line; elytral humeral denticles very fine, striae and stria punctures shallow; colour rufous . . . . . 11
- 11 Length 2.0-2.3 mm; elytra 1.5 times as long as pronotum, striae and stria punctures very fine; apex of metatibia without spine-like setae in outer angle. Widely distributed . . . . . *S. pygmaeus*
- Length 2.5-3.2 mm; elytra 2.0 times as long as pronotum, striae and stria punctures moderate; apex of metatibia with two spine-like setae in outer angle. Widely distributed . . . . . *S. rufopolitus*
- 12 Clypeal emargination narrow, deep; pronotum with anterior angles wide, deplanate and reflexed, base with entire marginal line; elytra widened in apical third; colour dark brown. Borneo. . . . . *S. matangi* n. sp.
- Clypeal emargination wide, shallow; pronotal anterior angles narrowly deplanate and deflexed, base with fine marginal line widely broken at middle; elytra parallel-sided; colour carbon black . . . 13
- 13 Pronotal punctures mixed fine and moderate in size; punctures of elytral striae 7-9 larger and less dense than those of striae 1-6. Irian Jaya, Papua . . . . . *S. wauensis*
- Pronotal punctures mixed minute, fine and moderate to coarse; punctures of all elytral striae equal in size and spacing . . . . . 14
- 14 Genae right-angled or obtusely rounded, more or less prominent; pronotum without lateral depression and without median longitudinal line; colour black or rufous . . . . . 15
- Genae sharply protruding; pronotum with lateral depression and usually with median longitudinal line; colour castaneous . . . . . 19
- 15 Elytra narrower than pronotum, about 2.8 times of pronotal length. Irian Jaya. . . . . *S. enarotadii*
- Elytra as wide as pronotum, about 2.0-2.3 times of pronotal length . . . . . 16

- 16 Pronotal punctures shallow, mixed minute and slightly larger, scattered. Irian Jaya, Papua . . . *S. fodori*  
 – Pronotal punctures deep, mixed fine and moderate to coarse, on disc separated by one their diameter or more . . . . . 17
- 17 Pronotum relatively long, base without marginal line, with row of punctures. Malay Pen., Borneo, Sumatra . . . . . *S. rufus*  
 – Pronotum moderate in length, base with distinct, slightly grooved marginal line . . . . . 18
- 18 Elytra with humeral angle prominent and reflexed; pronotum on disc with mixed minute and moderate punctures, on sides with larger ones. Java . . . . . *S. implicatus*  
 – Elytra with small, obtuse humeral denticle; pronotum on disc with punctures moderate in size, on sides with finer ones. Widely distributed . . . . . *S. japonicus*
- 19 Head strongly alutaceous, genae strongly protruding laterad. Widely distributed. . . *S. verecundus*  
 – Head slightly alutaceous, shiny, genae sharply prominent . . . . . 20
- 20 Elytra narrower than pronotum, slightly convergent apically, striae punctures large, nearly as wide as intervals. Banguay I., Irian Jaya. . . . . *S. banguayensis*  
 – Elytra as wide as pronotum, slightly divergent apically, striae punctures moderate in size, narrower than intervals. Widely distributed . . . . . *S. narae*
- 21 Large species, approximate length of body 6.0-7.0 mm . . . . . 22  
 – Medium-sized species, approximate length of body 4.5-5.8 mm. . . . . 23
- 22 Head alutaceous, finely distinctly punctate throughout; base of pronotum with row of punctures without marginal line, surface punctures on disc coarse, separated by 1-2 times their diameter. Borneo . . . . . *S. marchionalis*  
 – Head shiny with minute scattered punctures; base of pronotum with fine marginal line, surface punctures on disc mixed fine and larger, widely spaced. Irian Jaya, Papua . . . *S. cycloporum*
- 23 Metatibia at apex with 2-3 accessory spines . . . . . 24  
 – Metatibia at apex without accessory spines . . . . . 26
- 24 Pronotum with fine midline in basal third; punctures of elytral striae widely spaced, separated by two times their diameter or more. Malay Pen. . . . . *S. rougemonti*  
 – Pronotum without midline; punctures of elytral striae close, separated by one their diameter or less . . . . . 25
- 25 Pronotal base with fine marginal line, surface punctures mixed minute and moderate; elytra parallel-sided, slightly deplanate along suture. Java . . . . . *S. javanus*  
 – Pronotal base with strong marginal line, surface punctures mixed fine and coarse; elytra widened in apical third, convex. Borneo . . . . . *S. kinabalu*
- 26 Pronotal base with distinct marginal line usually crenate by punctures . . . . . 27  
 – Pronotal base without marginal line, edge usually with row of punctures . . . . . 28
- 27 Head smooth shiny, almost impunctate from anterior margin to vertex; lateral and basal marginal line of pronotum fine, not grooved; elytra with fine humeral denticle. Borneo, Sumatra, Java . . . . . *S. titschacki*  
 – Head slightly alutaceous, finely punctate; lateral and basal marginal line of pronotum strong, slightly grooved; elytra with obtuse, reflexed humeral angle; Borneo, Sulawesi . . . . *S. kapitensis*
- 28 Genae small, feebly exceeding eyes; sides of pronotum steep, invisible from above. Malay Pen., Borneo . . . . . *S. raffrayi*  
 – Genae right-angled, exceeding eyes; sides of pronotum visible from above . . . . . 29
- 29 Head smooth, nearly impunctate from anterior margin to vertex or minutely, scarcely punctate; basal edge of pronotum with irregular row of distant punctures. Malay Pen., Borneo, Sumatra, Sulawesi . . . . . *S. coelebicus*  
 – Head finely, shallowly punctate throughout; basal edge of pronotum with row of close, crenating punctures . . . . . 30
- 30 Pronotal punctures on sides separated by less than one their diameter; basal tarsomere of metatarsus shorter than upper tibial spur. Malay Pen., Java, Borneo, Sulawesi . . . . *S. difficilis*  
 – Pronotal punctures on sides separated by one their diameter or more; basal tarsomere of metatarsus longer than upper tibial spur. Malay Pen., Borneo, Sumatra, Sumbawa . . . . . *S. laeviceps*

*Saprosites pygmaeus* HAROLD

(Fig. 10)

*Saprosites pygmaeus* HAROLD, 1877: 91.- SCHMIDT 1922: 402; CARTWRIGHT & GORDON 1971: 267-268; BORDAT et al. 1990: 120-122; STEBNICKA 1993: 30; STEBNICKA & HOWDEN 1996: 148, figs 88, 113; STEBNICKA 1998: 879; STEBNICKA 2009b: 49, pls XI/75, 4/75.

**T y p e d a t a.** Holotype (sex not determined): /'Key Islands'/ [Indonesia, S Moluccas in Banda See], /coll. O. BECCARI/, in MCSN.

Other specimens (10). **Irian Jaya:** (1 ex) Biak I., Nabire S of Geelvink Bay; Waris, S of Hollandia, 450-500 m (ISEA). **Philippines:** (1 ex) Leyte, Visca N Baybay 200-500 m, primary forest, 10.III.1991, W. SCHAWALLER (SMNS). **Christmas Isl.:** (3 ex) Greta Beach, 16-19.IV.1989, J.F. LAWRENCE; Hugs Dale, 12-25.IV.1989, J.F. LAWRENCE (ISEA). **New Ireland:** (1 ex) Namatanat, 24.VII.1979, J. BOURNE (ISEA). **Vanuatu:** (3 ex) Espiritu Santo Isl., Cumberland Pen. (FSCA). **Hawaii:** (1 ex) Dahu (FSCA).

**D e s c r i p t i o n.** Length 2.0-2.3 mm. Body parallel-sided, reddish brown or yellowish brown, shining. Head almost as wide as pronotum, genae small, surface finely punctate anteriorly, punctures of vertex slightly closer. Pronotum subquadrate, lateral margins not completely visible from above, base without marginal line; surface finely evenly punctate, punctures generally separated by one diameter. Elytra parallel or slightly arcuate, humeral denticles fine, acute; striae shallow with rather fine punctures; intervals slightly convex, usually minutely punctate. Mesosternum smooth shining, convex anteriorly, transversely concave posteriorly at intercoxal carina and with few fine punctures laterally along mesocoxae to group of similar punctures on sides; metasternal disc with minute to fine punctures; abdominal sternites finely fluted along sutures, finely punctate from side to side, slightly concave at extreme sides, disc of pygidium shining, minutely punctate. Femora shining; protibia in under side with small denticle below tarsus; metatibia apically without accessory spine, outer angle with two spine-like setae; tarsi shorter than tibiae; basal tarsomere of metatarsus shorter than upper tibial spur and subequal to next two tarsomeres combined. Male genitalia as in Fig. 10.

**R e m a r k s.** *Saprosites pygmaeus* is structurally very close to the Neotropical *S. peregrinus* REDTENBACHER (STEBNICKA 2009a). It differs from that species by having the less protruding genae, and the elytral striae narrower than those in *S. peregrinus*. Specimens collected usually under bark of bread-fruit trees, in the soil and under dead bark of *Hibiscus tiliaceus*.

**D i s t r i b u t i o n.** Widespread throughout Pacific Islands, known from Key Islands, Caroline-Mariana-Marshall Islands, Tahiti, Hawaii, Kure, Philippines, Fiji, New Guinea, Solomon Islands, Australia (Christmas Island), Seychelles, Comores, Madagascar, Mascarenes.

*Saprosites rufopolitus* GILLET

(Fig. 11)

*Saprosites rufopolitus* GILLET, 1924: 103.- PAULIAN 1944: 73; BALTHASAR 1964: 503-504; DELLACASA 1988: 293 (catalogue).

**T y p e d a t a.** Holotype (sex not determined): /'Typus Medan [Sumatra] Mjöberg', /'Saprosites rufopolitus GILL.', in NRS.



Other specimens (14). **Borneo:** (1 ex) Sabah, Mt Kinabalu NP, area Eastern Ridge 1060 m, 17. VIII.1988, A. SMETANA (ISEA); (1 ex) Sabah, Mt Kinabalu, Poring Hot Springs, area Eastern Ridge 1060 m, 19.VII.1988, A. SMETANA (ISEA); (1 ex) Sabah, Kinabalu NP, Savap 1000 m, 25-29.XI.1996, W. SCHAWALLER (SMNS). **Java:** (1 ex) Col of Puncak et Cibodas, Lake Telaga Warna, VIII.1984, J. ROBERT (ISEA). **Malay Pen.:** (7 ex) Pahang, Cameron Highlands, Parit Falls, 25.III.1995, degraded rain forest, under bark, O. MERKL (HNHM, ISEA); (1 ex) Pahang, Cameron Highlands, 1520 m, Bukit Mendiga trail, 23.III.1993, LÖBL & BURCKHARD (MHNG); **Thailand:** (1 ex) Phetchaburi, Kaeng Krachan Nat. Park, 450 m, 18.XI.1985, BURCKHARD & LÖBL (MHNG). **Philippines:** (1 ex) Leyte, Visca N Baybay, primary forest, 200-500 m, 10.III.1991, W. SCHAWALLER et al. (SMNS).

**Description.** Length 2.5-3.2 mm. Body parallel-sided, reddish brown, shining. Head small, clypeal sides rounded to very small, obtuse genae, surface everywhere finely punctate. Pronotum subquadrate, lateral margins not completely visible from above, base without marginal line; surface finely evenly punctate, punctures generally separated by one diameter. Elytra parallel-sided, humeral denticles fine, acute; striae impressed with moderate punctures being half as wide as intervals; intervals slightly convex, usually minutely punctate. Mesosternum smooth shining, convex anteriorly, transversely concave posteriorly at intercoxal carina and with few fine punctures laterally along mesocoxae to group of similar punctures on sides; metasternal disc with minute to fine punctures; abdominal sternites finely fluted along sutures, finely punctate from side to side, slightly concave at extreme sides, disc of pygidium shining, minutely punctate. Femora shining; under side of protibia with small tooth below tarsus, apical two teeth approximate, third tooth separate, intervening denticle invisible; metatibia apically without accessory spine, outer angle with two spine-like setae; tarsi shorter than tibiae; basal tarsomere of metatarsus shorter than upper tibial spur and subequal to next two tarsomeres combined. Male genitalia as in Fig. 11.

**Remarks.** *Saprosites rufopolitus* is very closely related to *S. pygmaeus* and differs from that species only slightly by having a little larger size, smaller genae and larger punctures of the elytral striae.

**Distribution.** Sumatra, Borneo, Java, Malay Pen., Thailand, Philippines.

***Saprosites matangi* n. sp.**

(Fig. 1)

**Type data.** Holotype male: [Borneo] /'E Malaysia, Sarawak, Gn Matang, 20 km E Kuching 200 m, 26.V.1994, mix. Dipterocarpaceae forest # 12a, LÖBL & BURCKHARD', in MHNG. Paratype female, /'E Malaysia, Sarawak, Gn Penrissen 1000 m, 23.V.1994, edge of prim. montane forest # 9a, LÖBL & BURCKHARD', (MHNG).

**Dagnosis.** *Saprosites matangi* resembles *S. rufopolitus* and *S. pygmaeus* in having a similar size and colour. It differs significantly from both these species by following characters: head weakly convex; punctures of pronotum unequal in size, unevenly spaced; elytra widest behind the middle, striae very fine, thread-like, lateral striae reaching humeral edge; striae punctures round, deep, separated by one their diameter.

**Description.** Length 2.1-2.3 mm, body (Fig. 1) light castaneous to piceous, shining. Clypeal median emargination deep, sides straight toward small, rounded genae; surface of head microreticulate, weakly shiny, extremely minutely punctate. Pronotum

transverse, short, sides and base distinctly margined by line without crenating punctures, anterior angles broad, reflexed, posterior angles obtusely rounded; pronotal surface with punctures mixed minute and fine, the latter on disc separated by about two times their diameters, become laterally finer and closer. Elytra widest in apical third, humeral denticles distinct, acute; striae thread-like, shallow, stria punctures deep, separated by one diameter, crenating margins of intervals; all intervals almost flat with inconspicuous scattered punctures. Ventral sclerites shining; mesosternum gibbose medially, smooth, intercoxal carina wide, obtuse; metasternum smooth impunctate from side to side, discal midline deep; abdominal sternites convex, fluting very fine, equal in length in one-fourth on each sternite; disc of pygidium alutaceous, finely punctate. Femora minutely punctate; two apical teeth of protibia approximate, third tooth separated, intervening denticle invisible, under side with sharp tooth at base of terminal spur; meso- and metatibiae relatively thin with row of short setae apically; tarsi shorter than tibiae, basal segment of metatarsus equal in length to upper tibial spur and shorter than following three tarsomeres together.

Male. Disc of pygidium longer than in female, penultimate sternite shorter.

*D i s t r i b u t i o n*. Borneo.

### *Saprosites dudichi* ENDRÖDI

*Saprosites dudichi* ENDRÖDI, 1951: 150-160.- STEBNICKA 1984: 597-598, figs 5-6; DELLACASA 1988: 288.

*T y p e d a t a*. Holotype (sex not determined): /N. Guinea, Biro 96/, /Erima, Astrolabe Bay [Madang Prov.]/, /*Saprosites dudichi* ENDR./, in HNHM. Paratypes (4) – 2 same data as holotype, 2 -/Friedrich-Wilch-hafen [Morobe Prov]/, /Myrmecophil Nr 11/, in HNHM.

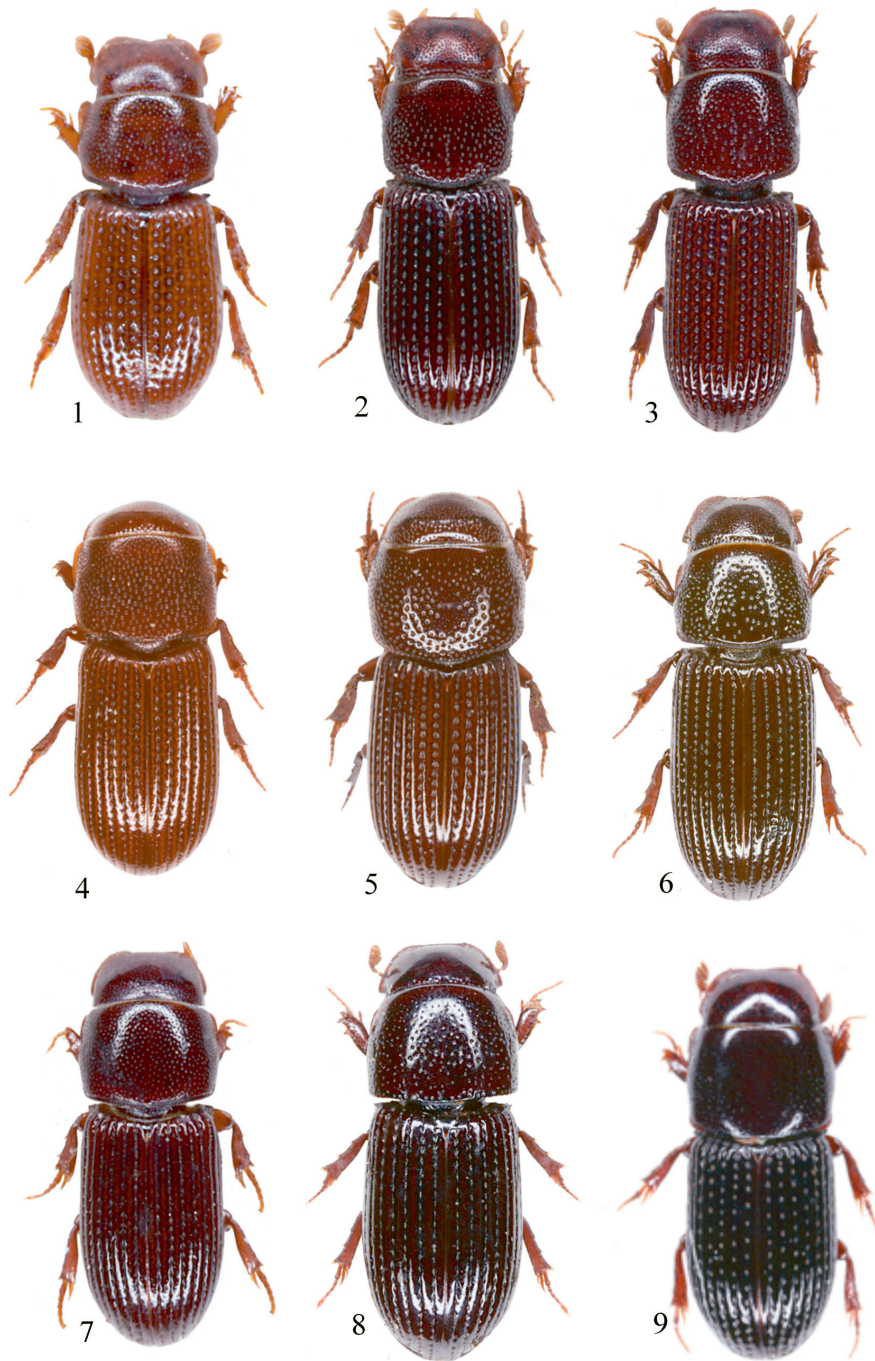
Other specimens (6). **Irian Jaya**: Nabire, S of Geelvink Bay. **Papua-New Guinea**: Central Province, Brown River; Morobe Province, Busu River, E of Lae, 100 m. (HNHM, ISEA).

*D e s c r i p t i o n*. Length 3.0-3.1 mm. Body oblong oval, shiny, rufous. Head convex, clypeal median emargination shallow, distinctly grooved, genae small, rounded; surface anteriorly alutaceous, finely punctate. Pronotum subquadrate, anterior angles obtuse, posterior angles narrowly truncate, sides and base margined to distinct basal angulation, base without marginal line; surface with generally fine, unevenly spaced punctures separated by 2-4 times their diameter. Elytra relatively short, about 1.8 times as long as pronotum, humeral denticles fine, striae moderately deep, punctures moderate; discal intervals wider than striae, slightly convex, with minute scattered punctures. Mesosternum strongly convex, smooth, with slight transverse depression in front of elevated intercoxal carina, metasternum smooth, midline impressed; abdominal sternites finely fluted along sutures, pygidium minutely punctate. Protibia with minute intervening denticle between first and median lateral teeth; meso- and metatibiae without accessory spines, apical spurs of metatibia slightly arcuate; basal segment of metatarsus equal in length to upper tibial spur and to following three tarsomeres combined.

*R e m a r k s*. *Saprosites dudichi* is most similar to *S. papuanus* STEBNICKA from Papua-New Guinea, but differs from that species by having finer punctures of the pronotum, shorter elytra and the abdominal sternites with distinct fluting.

*D i s t r i b u t i o n*. New Guinea (Irian Jaya, Papua).





Figs 1-9. Habitus of *Saprosites*: 1 – holotype of *S. matangi* n. sp. from Borneo. 2 – *S. narae* LEWIS, from Japan. 3 – *S. bangueyensis* PAUL, from Borneo. 4 – holotype of *S. pahangensis* n. sp. from Malay Pen. 5 – holotype of *S. penrissenii* n. sp. from Borneo. 6 – *S. kapitensis* PETR. from Borneo. 7 – *S. mjoebergi* GILL, from Sumatra. 8 – *S. coelebicus* PAUL, from Sulawesi. 9 – holotype of *S. mahavus* n. sp. from Sulawesi.

*Saprosites enarotadii* STEBNICKA

(Fig. 12)

*Saprosites enarotadii* STEBNICKA, 1998: 879-880, fig. 52.

**Type data.** Holotype male: /Irian Jaya, Wisselmeren, Enarotadi, 1750-1900 m, 11.VIII. 1962, J. SEDLACEK/, /*Saprosites enarotadii* STEBNICKA/, in BPBM. Paratypes (5), same data as holotype, in BPBM, ISEA. No other specimens found.

**Description.** Length 3.0-3.2 mm. Body elongate, shining black. Head convex, twice wider than long, clypeal median emargination shallow, slightly grooved, genae small, obtuse; surface minutely to finely punctate. Pronotum narrow, anterior angles obtuse, sides straight to slightly truncate posterior angles, sides and posterior angles finely, smoothly margined, base without marginal line; surface punctures on disc close, mixed fine and larger, separated by one their diameter or less, sides along lateral margin uniformly finely punctate. Elytra parallel-sided, about 2.8 times as long as pronotum, humeral denticles fine; striae and stria punctures moderately impressed, intervals flat or slightly convex with minute punctures or punctures invisible. Mesosternum as convex as metasternum, intercoxal carina narrow; five abdominal sternites visible, sternites 2-4 finely fluted along sutures, sternite 5 smooth, sternite 4 twice shorter than sternite 3, surface of sternites smooth. Protibia with small intervening denticle between first and median tooth; meso- and metatibiae without accessory spines; basal segment of metatarsus about one-third shorter than upper tibial spur and subequal to following two tarsomeres combined. Male genitalia as in Fig. 12.

**Remarks.** *Saprosites enarotadii* is closest to *S. cheesmani* PAULIAN from Papua-New Guinea, but is distinguished from that species by having the pronotum narrower, the pronotal base without marginal line and the pronotal punctures generally finer and closer.

**Distribution.** Irian Jaya (New Guinea).

*Saprosites fodori* ENDRÖDI

(Fig. 13)

*Saprosites fodori* ENDRÖDI, 1951: 161-162. — STEBNICKA 1984: 596, fig 7; DELLACASA 1988: 289 (catalogue); STEBNICKA 1998: 877-878, figs 49-51, 79.

*Saprosites ullrichi* STEBNICKA, 1984: 596, figs 1-2. — STEBNICKA 1998: 877 (syn.).

**Type data.** *Saprosites fodori*: holotype (sex not determined), /N. Guinea, Biro 1899/, /Sattelberg, Huon Golf/ [Madang Province], /*Saprosites Fodori* ENDR./, in HNHM. Paratypes (2), same data as holotype, in HNHM. *S. ullrichi*: holotype male /Papua-New Guinea, Eastern Highlands Province, Onerunka, vicinity of Kainantu, 12.IX.1979, W.G. ULLRICH/, /*Saprosites ullrichi* STEBNICKA/, in ISEA.

Other specimens (32). **Irian Jaya:** Wamena, Baliem Valley; Waris, S of Hollandia, 450-500 m. **Papua-New Guinea:** Central Province, 8 km of Kokoda, 800 m; Western Highlands Province, Aiyura, 1900 m; vicinity of Rintebe; Madang Province, Finistere Range, Saidor, Matoko; Morobe Province, Aseki, 1200 m; Lake Trist, 1600 m; Wau, Edie Creek, 1700-2050 m; Wau, Mt Kaindi, 7500 ft; Wau, Nami Creek, 1700 m; Southern Highlands Province, Woitape; Western Highlands Province, Dauro Pass (Asaro-Chimbu div.), 2000 m; Kandep, 800-8500 ft; Mt Otto, 2200 m (BPBM, ISEA, MHNG).

**Description.** Length 3.2-3.8 mm. Body elongate oval, shiny, black or reddish black. Head convex, clypeal median emargination shallow, grooved, genae small, obtuse; anterior of clypeus alutaceous, median area of head minutely punctate, vertex with few larger punctures. Pronotum transverse, convex, anterior angles obtuse, sides straight toward narrowly truncate posterior angles; sides and posterior angles smoothly margined by line, marginal line narrowly interrupted at middle of base; surface punctures variable, usually mixed minute and fine, with few larger punctures on disc. Elytra slightly arcuate toward apex, humeral denticles distinct; striae more or less deeply impressed, striae punctures usually moderate, more or less distinctly crenating margins of intervals; intervals rather flat, impunctate or with minute scattered punctures. Mesosternum convex, smooth with slight transverse depression in front of intercoxal carina, minutely punctate laterally; metasternum smooth, midline impressed; abdominal sternites finely fluted along sutures, all sternites equal in length, pygidium minutely punctate. Protibia with minute intervening denticle between first and median lateral teeth; meso- and metatibiae without accessory spines, apical spurs slightly arcuate; basal tarsomere of metatarsus shorter than upper tibial spur and equal in length or shorter than following three tarsomeres combined. Male genitalia as in Fig. 13.

**Remarks.** The species shows considerable variation, particularly in the shape of pronotum and elytra, and may be confused with *Saprosites enarotadii*; it differs from that species by having significantly shorter elytra.

**Distribution.** Irian Jaya, Papua (New Guinea).

***Saprosites wauensis* STEBNICKA**

(Fig. 14)

*Saprosites wauensis* STEBNICKA, 1984: 598-600, figs 11-12.- DELLACASA 1988: 341 (catalogue); STEBNICKA 1998: 877, figs 47, 48.

**Type data.** Holotype male: /Papua-New Guinea, Wau, Mt Kaindi, [Morobe Province] 19-24.VIII.1969, J. BALOGH/, /*Saprosites wauensis* STEBNICKA/, in HNHM. Paratypes (4), same data as holotype, in MHNG, ISEA.

Other specimens (3). **Irian Jaya:** Star Mts, Sibil Valley, 1245 m. **Papua-New Guinea:** Morobe Province, Mt Missim, 1980 m (BPBM).

**Description.** Length 3.5-3.9 mm. Body robust, strongly shiny, black or reddish brown. Head twice as wide as long, clypeal emargination shallow, slightly grooved, sides arcuate to small, right-angled genae; surface minutely to finely punctate. Pronotum transverse, convex; anterior angles obtuse, sides straight to truncate posterior angles; sides and base with distinct, smooth marginal line broken at middle of pronotal base; surface punctures on disc mixed fine and moderate in size, irregularly spaced, variable in density, separated by 1-3 times their diameter, sides along lateral margin finely punctured. Elytra convex, slightly arcuate before apex, humeral denticles distinct; striae deep with large punctures crenating margins of intervals; intervals convex, two times as wide as striae, surface minutely punctate. Mesosternum at same level with metasternum, intercoxal carina fine; abdominal sternites finely fluted along sutures, surface shiny, minutely punctate, sternite 4 about half as long as sternite 3. All femora shiny; protibia with small intervening denticle between first and median lateral tooth; meso- and metatibiae without accessory spines; basal segment of metatarsus about one-third as long as upper tibial spur and nearly equal in length to following three tarsomeres combined. Male genitalia as in Fig. 14.

**R e m a r k s.** *Saprosites wauensis* is most closely allied to *S. fodori*, but can be easily distinguished from that species by its robust body with markedly wider elytra.

**D i s t r i b u t i o n.** Irian Jaya, Papua (New Guinea).

### ***Saprosites narae* LEWIS**

(Figs 2, 15)

*Saprosites narae* LEWIS, 1895: 383.- SCHMIDT 1922: 402-405; BALTHASAR 1964: 498-499; NOMURA 1966: 72; DELLACASA 1988: 166 (catalogue); STEBNICKA 2006: 144 (catalogue).

*Saprosites tonkinensis* BALTHASAR, 1933: 46; PAULIAN 1945: 177-178; BALTHASAR 1964: 499-450; DELLACASA 1988: 293 (catalogue). **Syn. nov.**

**T y p e d a t a.** *Saprosites narae*: holotype (sex not determined): /Japan, Honshu (Nara)/, in NHML. *S. tonkinensis*: holotype (sex not determined): /Hoa Binh, Tonkin, A. de COOMAN leg/, /*Saprosites tonkinensis* sp. n. Dr V. BALTHASAR det./, in NMP.

**Other specimens (86).** **Malay Pen.:** (2 ex) Cameron Highland, Awana 1150 m, 3.IV.1993, LÖBL & CALAME (ISEA). **Japan:** (2 ex) Honshu, Nara Pref. Mt Kasuga, 16.IV.1951, Y. WADA; (40 ex) Nara-ken, Mt Kasuga, under *Quercus* bark, P. JAROSZYNSKI (FSCA); (6 ex) Nara, Mt Kasuga-yama, 21.II.1993, 25.IX.1995, K. HARUSAWA (ISEA); (30 ex) Nara, Koen, Kyoto, 21.III.2006, T. LACKNER (ISEA, SMNS). **Vietnam:** (2 ex) Tonkin, Thang Moi, B. PERROT (ISEA, MHNG). **India:** (4 ex) Assam, Meghalaya, Garo Hills, Songsak 400 m, 2.XI.1978, BESUCHET & LÖBL (ISEA, MHNG); (1 ex) Assam, Pall[c]ai Mts (NRS, coll. SCHMIDT).

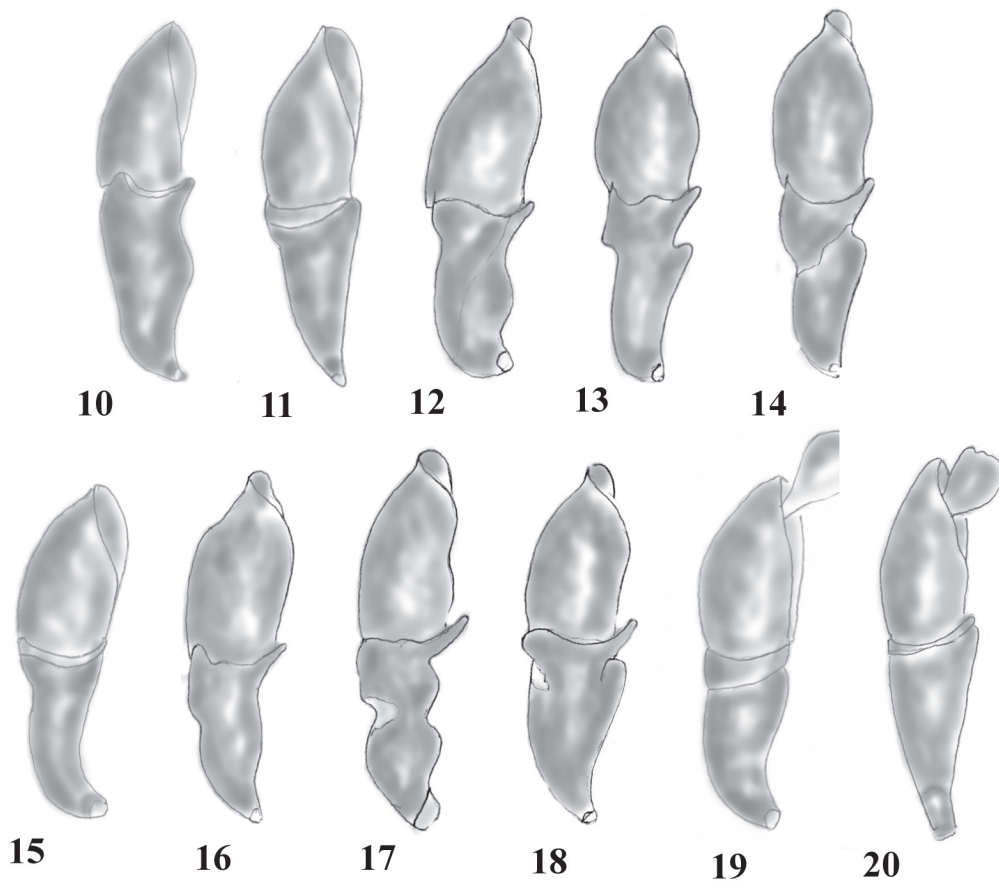
**D e s c r i p t i o n.** Length 2.8-3.3 mm. Body parallel-sided, dark castaneous, moderately shiny.

Head broad, weakly shiny, finely punctate throughout, clypeal median emargination shallow, sides straight or slightly emarginate in front of right-angled, protruding genae, surface punctures fine but distinct, evenly distributed, closest on vertex. Pronotum subquadrate with median longitudinal line marked by row of coarse punctures, sides margined, basal edge with close punctures or with trace of marginal line, posterior angles narrowly truncate, in some specimens slightly emarginate; surface with more or less distinctly marked median longitudinal line and oblique lateral depressions, punctures mixed very fine to moderate and coarse, variable in density, usually on disc separated by 1-2 times their diameter, on sides closer. Elytra parallel-sided, humeral denticles very small, striae deep, usually a half as wide as intervals, stria punctures deep, strongly crenating inner margins of intervals; intervals smooth, convex, shoulders above stria 8 distinctly punctate. Mesosternum gibbose anteriorly, smooth, intercoxal carina narrow; metasternal disc with minute punctures in anterior half, lateral area coarsely punctate; abdominal sternites convex, shining, finely fluted along sutures, fluting increasingly longer from middle to sides, penultimate sternite and pygidium minutely punctate. Femora smooth, tibiae relatively short, tarsi as long as tibiae; apex of metatibiae without accessory spine; basal tarsomere of metatarsus equal in length to upper tibial spur and to following two tarsomeres combined. Male genitalia as in Fig. 15.

**R e m a r k s.** *Saprosites narae*, *S. banguyensis* and *S. verecundus* form a group of very similar externally and closely related species distributed from India to New Guinea. *Saprosites narae* is most similar to *S. verecundus*, but differs from that species by its smaller size, the smaller and less protruding genae and finer and closer pronotal punctures. Male genitalia of these species are similar in shape.

**D i s t r i b u t i o n.** Malay Pen., Japan (Honshu, Amami-ôshima Isl.), Vietnam, India (Assam).





Figs 10-20. Male genitalia of *Saprosites* in lateral view: 10 – *S. pygmaeus* HAR. 11 – *S. rufopolitus* GILL. 12 – *S. enarotadii* STEBN. 13 – *S. fodori* ENDR. 14 – *S. wauensis* STEBN. 15 – *S. narae* LEWIS 16 – *S. verecundus* SCHM. 17 – *S. rougemonti* PITT. 18 – *S. laticollis* PITT. 19 – *S. japonicus* WATERH. 20 – *S. raffrayi* PAUL.

### *Saprosites verecundus* SCHMIDT

(Fig. 16)

*Saprosites verecundus* SCHMIDT, 1909: 121.- SCHMIDT 1922: 403; PAULIAN 1944: 67; BALTHASAR 1964: 506 (ex SCHMIDT); DELLACASA 1988: 293 (catalogue).

*Saprosites malaisei* PAULIAN, 1944: 66-67; BALTHASAR 1964: 508; DELLACASA 1988: 291 (catalogue); STEBNICKA 1991: 7; STEBNICKA 1998: 875-876, figs 46, 77; PITTINO 2008: 128. **Syn. nov.**

**Type data.** *Saprosites verecundus*: lectotype female (here designated), /'Typus', /'Mentawai Si Oban IV-VIII, 1894, Modigliani' / /'S. verecundus type m.' and with lectotype label, in NRS (coll. SCHMIDT). *S. malaisei*: holotype female, /'Pajau River', /P. Borneo, Mjoeberg', /'Saprosites malaisei n. sp. R. PAULIAN det.', in NRS.

**Other specimens (77).** **Borneo:** (4 ex) Sabah, Kinabalu NP, Poring 500 m, 23-24.XI.1996, W. SCHAWALLER (SMNS); (4 ex) Kinabalu NP, Savap 1000 m,



25-29.XI.1996, W. SCHAWALLER (SMNS); (4 ex) Borneo, Kalimantan Baral, Gn Pulung Nat. Park, Cabang Panti researches site, 20.VII.2003, O. MERKL (HNHM); (1 ex) Borneo, Pengaron (NRS); (1 ex) Borneo, Gehr. W. MUELLER Vermäch 1909 (SMTD). **Sumatra**: (1 ex) Si-Rambe, III.1891, E. MODIGLIANI (SMTD). **Sulawesi**: (13 ex) Kotamobagu Modinding, Gn. Ambang, 1100-1450 m, 6.XIII. 1999, A. RIEDEL (SMNS). **Philippines**: (3 ex) Mindanao, Zamooanga (SMTD); (3 ex) Mindanao, Dansalan, 1924 (SMTD). **Thailand**: (2 ex) Ban Maso, Mae Hong Son Distr. 1250 m, 15.XII.1990, P. SCHWEDINGER (MHNG). **Malay Pen.**: (4 ex) Pahang, Cameron Highland 1520 m, Bukit Mendiga trail, 23.III.1993, LÖBL & CALAME; Cameron Highland, Awana 1150 m, 3.IV.1993, LÖBL & CALAME (MHNG); (35 ex) Pahang, Pulau Tioman trail between Juara and Tekek, lowland rainforest, specimens taken from logs with bracket fungi, 10-17.III.1995, O. MERKL; Pahang, Pulau Tioman 2 km S Kampung Juara, secondary forest, specimens taken from logs and bracket fungi, 15.III.1995, O. MERKL (HNHM). **Irian Jaya** [New Guinea]: (2 ex) Faktak, 16-18.VII.1996, leg. SCHÜLE (SMNS).

**Description.** Length 3.8-4.3 mm. Body parallel-sided, light to dark castaneous, strongly shining. Head broad, alutaceous, finely distinctly punctate throughout, genae right-angled, strongly prominent. Pronotum subquadrate, sides margined, basal edge usually with fine marginal line and close punctures, posterior angles narrowly truncate and, in some specimens, slightly emarginate; surface with more or less distinctly marked median longitudinal line and oblique lateral depressions, punctures mixed very fine to moderate and coarse, variable in density, usually on disc separated by 1-2 times their diameter, on sides closer; in some specimens fine punctures absent. Elytra parallel-sided, humeral denticles very small, striae deep, usually a half as wide as intervals, stria punctures deep, strongly crenating inner margins of intervals; intervals smooth, convex, shoulders above stria 8 distinctly punctate. Mesosternum gibbose anteriorly, smooth, intercoxal carina narrow; metasternal disc with minute punctures in anterior half, lateral area coarsely punctate, frequently wrinkled; abdominal sternites convex, shining, finely fluted along sutures, fluting increasingly longer from middle to sides, penultimate sternite and pygidium minutely punctate. Femora smooth, tibiae relatively short, tarsi shorter than tibiae; apex of metatibiae without accessory spine; basal tarsomere of metatarsus short, distinctly shorter than upper tibial spur and equal in length to or shorter than following two tarsomeres combined. Male genitalia as in Fig. 16.

**Variation.** The species is characterized by very advanced external variability, mostly in size of body, in size and density of pronotal punctures, in size of stria punctures of elytra, in presence or in absence of pronotal median line.

**Remarks.** *Saprosites verecundus* is most closely similar to *S. narae*; it differs from that species by its larger size, strongly protruding genae and larger punctures of the pronotum and the elytral striae.

Judging from a similar appearance of *S. verecundus* and *S. narae* and from distributional data of both species it seems most likely that *S. verecundus* may be a subspecies, having more southern distribution than that of *S. narae*. However, the fauna of Indonesian archipelago remains unsatisfactorily known and final statement as to the taxonomic position of these species is premature.

**Distribution.** Thailand, Borneo, Sumatra, Java, Sulawesi, Philippines, Malay Pen., Ambon Isl., Mentawai Isl., Papua-New Guinea.

*Saprosites rougemonti* PITTINO

(Fig. 17)

*Saprosites rougemonti* PITTINO, 2008: 119-121, figs 17-20.

**Type data.** Holotype male: /Cameron Highlands, Pahang Prov., Malaysia, 25-30.III.1984, G. ROUGEMONT/, in RPC. Paratypes (12), all collected in Pahang Prov. Holotype not seen by the author.

**Other specimens.** (1). Pahang, Pulau Tioman 2 km S Kampung Juara, secondary forest, specimens taken from logs and bracket fungi, 15.III.1995, O. MERKL (HNHM).

**Description.** Length 4.6-5.2 mm. Body shining black, ventral surface reddish brown. Head twice as wide as long, genae explanate, produced, frontal suture slightly raised, surface alutaceous, finely punctate. Pronotum slightly narrower than elytra with shallow, suboval fovea on sides and more or less distinctly impressed midline in basal third; lateral margin slightly lobed at middle, converging toward posterior angles; sides and base margined by line, basal marginal line grooved, crenate by punctures; surface punctures mixed very fine and coarse, the latter on disc separated by 1-3 times their diameter, on sides very close, subconfluent. Elytra about 2 times as long as pronotum, humeral denticles strong, acute; striae narrow, deep, stria punctures separated by two times their diameter or more, moderately crenating margins of intervals; intervals wide, flat on disc, convex laterally, with fine scattered punctures. Mesosternum strongly shagreened, discal midline deep, surface minutely punctate; abdominal sternites fluted on sides, pygidium eroded in apical half. Meso- and metatibiae short, apex of metatibia with short, unequal setae and three accessory spines, upper apical spur robust, arcuate; metatarsus shorter than tibia, first tarsomere subequal in length to upper tibial spur and to three following tarsomeres together. Male genitalia as in Fig. 17.

**Remarks.** The species seems to be most similar to *Saprosites verecundus*, sharing with that species some features of the head, pronotum and elytra, but differs by having the metatibial accessory spines and by the shape of male genitalia.

**Distribution.** Malay Peninsula.

*Saprosites bangueyensis* PAULIAN

(Fig. 3)

*Saprosites bangueyensis* PAULIAN, 1944: 65; BALTHASAR 1964: 505-506; DELLACASA 1988: 287 (catalogue).

**Type data.** Holotype (sex not determined): /'Borneo, île Banguey', /'Museum Paris coll. A. BOUCOMONT', /'Saprosites bangueyensis n. sp. R. PAULIAN det.', in MNHN.

**Other specimens** (2). **Borneo:** (1 ex) Sabah, Mt Kinabalu NP, Poring Hot Springs, 485 m, 19.VIII.1988, A. SMETANA (ISEA). **Irian Jaya** [New Guinea]: (1 ex) Angoram, 13-16.VIII.1969, J. BALOGH (ISEA).

**Description.** Length 2.5-2.6 mm. Body slender, castaneous, shining. Head alutaceous, clypeal median emargination shallow, sides straight to right-angled, small genae, surface punctures fine, evenly distributed. Pronotum subquadrate, sides margined, basal edge with close punctures, without marginal line, posterior angles narrowly truncate; surface with more or less distinctly marked median longitudinal line and oblique lateral de-

pressions, punctures fine to moderate, on disc separated by 1-2 times their diameter, on sides closer. Elytra parallel-sided, humeral denticles very small, striae deep, usually a half as wide as intervals, stria punctures deep, strongly crenating inner margins of intervals; intervals smooth, convex. Mesosternum gibbose anteriorly, smooth, intercoxal carina narrow; metasternal disc with minute punctures in anterior half, lateral area coarsely punctate; abdominal sternites convex, shining, finely fluted along sutures, fluting increasingly longer from middle to sides, penultimate sternite and pygidium minutely punctate. Femora smooth, tibiae relatively thick, tarsi short; apex of metatibiae without accessory spine; basal tarsomere of metatarsus two times shorter than upper tibial spur and subequal to following two tarsomeres combined.

**R e m a r k s.** *Saprosites banguyensis* is most similar to *S. narae*. It differs from that species by having smaller size, the narrower elytra with coarser stria punctures and the meso- and metatibiae thicker.

**D i s t r i b u t i o n.** Borneo (Banguay I.), Irian Jaya.

***Saprosites pahangensis* n. sp.**

(Fig. 4)

**T y p e d a t a.** Holotype male: /W Malaysia, Pahang, Genting Highlands 1650 m, 5.IV.1993, LÖBL & CALAME/, in MHNG. Paratype female, same data as holotype (MHNG).

**D i a g n o s i s.** Head shining, almost impunctate, genae very small, rounded. Pronotum widest at anterior angles, base without marginal line, surface punctures uniform in size and spacing. Abdominal sternites minutely fluted along sutures. *Saprosites pahangensis* is most close to *S. narae* but it differs from that species by all the above diagnostic characters.

**D e s c r i p t i o n.** Length 2.9-3.0 mm. Body (Fig. 4) dark castaneous, shining. Head shining, impunctate or minutely scarcely punctate, frontal suture indicated by shining line; clypeal median emargination moderate, sides rounded to small genae. Pronotum subquadrate, wider than elytra, sides distinctly margined, base without marginal line, anterior angles slightly reflexed, posterior angles weakly truncate; surface with shallow oblique depression laterally and a trace of median longitudinal line, punctures moderate in size, deep, finer in anterior fifth. Elytra not quite parallel-sided, humeral denticles small, acute; striae not strongly impressed, stria punctures rather shallow, weakly crenate margins of intervals; intervals flat on disc, only weakly convex apically with minute punctures scattered. Ventral sclerites shining; mesosternum strongly transversely gibbose in anterior half, shining, impunctate, in posterior half concave in front of intercoxal carina with few punctures in row on each side of carina. Metasternum convex, shining, midline weakly marked, fine punctures in group only at extreme sides; abdominal sternites arcuate, smooth shining, fluting extremely fine from side to side, disc of pygidium shining, minutely punctate. Femora with minute scattered punctures; two lateral teeth of protibia approximate, third tooth separate, intervening denticle minute; meso- and metatibiae slightly arcuate, apex of metatibia with few setae, without accessory spine; tarsi shorter than tibiae; basal tarsomere of metatarsus shorter than upper tibial spur and subequal to next two tarsomeres combined.

**D i s t r i b u t i o n.** Malay Peninsula.

*Saprosites laticollis* PITTINO

(Fig. 18)

*Saprosites laticollis* PITTINO, 2008: 122-123, figs 25-28.

**T y p e d a t a.** Holotype male: /about 25 km East of Kapit, Sarawak, Borneo, Malaysia, III.1994, J. KODADA/, in NMW. Paratypes (10), same data as holotype, in NMW, RPC. Holotype not seen by the author.

Other specimens (1). Sabah, Mt Kinabalu Nat. Park, Poring Hot Springs 480 m, 20.VIII.1988, A. SMETANA (ISEA).

**D e s c r i p t i o n.** Length 3.3-4.1 mm. Body short, robust, reddish black. Head two times as wide as long, clypeus anteriorly almost truncate, genae prominent; surface punctures fine, uniformly spaced, vertex anteriorly smooth, impunctate laterally, posteriorly with close, coarse punctures. Pronotum wider than elytra, widest at middle, anterior angles broad, sides sinuate near posterior angles, base slightly lobed at middle with fine marginal line, margin grooved with row of close punctures; surface punctures mixed very fine and coarse, the latter on disc unevenly spaced, separated by less than 1-2 times their diameter, on sides form irregular clusters between impunctate areas. Elytra widened in apical third, about 2 times as long as pronotum, humeri sharply dentate; striae deep, stria punctures coarse, crenate margins of intervals; discal intervals slightly convex. Metasternum alutaceous, rugose laterally with coarse punctures at extreme sides, lateral triangle distinct, disc convex, midline deep, surface minutely punctate; abdominal sternites coarsely fluted along sutures, pygidium convex apically, punctures coarse throughout. Femora shiny; meso- and metatibiae short, robust, dilated apically; apex of metatibia with unequal setae and with three distinct accessory spines, upper apical spur strongly bent outwards; basal tarsomere of metatarsus shorter than upper tibial spur and equal in length to next two tarsomeres combined. Male genitalia as in Fig. 18.

**R e m a r k s.** This species appears most similar to *Saprosites pahangensis* n. sp. but differs from that species by having the metatibia accessory spines and by the shape of male genitalia.

**D i s t r i b u t i o n.** Borneo.

*Saprosites implicatus* SCHMIDT

*Saprosites implicatus* SCHMIDT, 1922: 100; PAULIAN 1944: 66 (non SCHMIDT, 1922); BALTHASAR 1964: 503; DELLACASA 1988: 291 (catalogue); STEBNICKA 1993: 30-31.

**T y p e d a t a.** *Saprosites implicatus*: Lectotype female (here designated): /Typus/, /Preanger Java P.F. SIJTHOFF/, /*S. implicatus* m./, red label /303/75/ and with lectotype label, in NRS (coll. SCHMIDT); paralectotypes (3): 1 – same locality as lectotype, 1 – /G. Merbaboe Java, V.1912 DRESCHER/, 1 – /G. Merbaboe XII. 1907 DRESCHER/, in NRS.

No other specimens found in the material examined.

**D e s c r i p t i o n.** Length 3.5-4.0 mm. Body parallel-sided, piceous black, bottom surface dark castaneous. Head finely punctate, frontal suture indicated by impunctate, shining line, genae small, slightly prominent. Pronotal lateral margins invisible from above, basal marginal line distinct, slightly grooved, disc with median longitudinal line; surface punctures mixed minute and moderate, the latter on disc separated by about 1-2 times their diameters, toward sides become finer and closer, laterally separated by less than one diameter. Elytral humeral epipleural angle acute, slightly reflexed, striae not very

deep, moderately punctate-crenate; intervals flat or only slightly convex. Mesosternum lower than metasternum, closely punctate; metasternal midline shallow, disc impunctate; abdominal sternites impunctate, fluting fine, longest laterally, inconspicuous medially. Legs moderate in length; basal tarsomere of metatarsus shorter than upper tibial spur and subequal to following two tarsomeres together.

Male. Penultimate abdominal sternite shorter than in female and less arcuate ventrally, disc of pygidium smooth, impunctate. Genitalia similar in shape to those of *S. verecundus*.

Female. Penultimate abdominal sternite strongly arcuate ventrally, disc of pygidium with irregularly spaced punctures and wide, shining apical lip.

**R e m a r k s.** *Saprosites implicatus* is similar to *S. japonicus*, but it differs from that species by having the pronotum with fine median longitudinal line, the pronotal punctures mixed minute and moderate, the elytral humeral angles larger and slightly reflexed and the abdominal sternites finely fluted only on sides.

**D i s t r i b u t i o n.** Java.

### *Saprosites japonicus* WATERHOUSE

(Fig. 19)

*Saprosites japonicus* WATERHOUSE, 1875: 93.- SCHMIDT 1922: 401, 405; PAULIAN 1945: 178-179; BALTHASAR 1964: 498; NOMURA 1966: 72; NOMURA 1973: 50; DELLACASA 1988: 92 (catalogue); STEBNICKA 1992: 13; STEBNICKA 2006: 144 (catalogue).

*Saprosites imperfuscus* SCHMIDT, 1922: 99; BALTHASAR 1964: 499; DELLACASA 1988: 291 (catalogue); STEBNICKA 2006: 144 (catalogue). **Syn. nov.**

*Saprosites coomani* PAULIAN, 1933: 135; PAULIAN 1945: 178, fig. 83; BALTHASAR 1964: 500 (non PAULIAN, 1933); DELLACASA 1988: 288 (catalogue); STEBNICKA 1992: 13, fig. 24; STEBNICKA 2006: 144 (catalogue). **Syn. nov.**

*Saprosites formosensis* NOMURA, 1939: 36; BALTHASAR 1964: 507.

*Saprosites sumatranus* PETROVITZ, 1961: 116; BALTHASAR 1964: 507; DELLACASA 1988: 293 (catalogue). **Syn. nov.**

**T y p e d a t a.** *Saprosites imperfuscus*: lectotype female (here designated): /Typus/, /Yunnan/ /*S. imperfuscus* type m./ and with lectotype label, in NRS (coll. SCHMIDT); paralectotypes (3), same data as lectotype, in NRS. *S. coomani*: holotype (sex not determined): /Hoa-Binh, Tonkin/, /*Saprosites coomani* n.sp. R. PAULIAN det./, in MNHN.

*Saprosites japonicus*: holotype not seen (sex not determined): 'Japan, Nagasaki', in NHML.

*Saprosites formosensis*: not seen, location of holotype unknown.

*Saprosites sumatranus*: Holotype (sex not determined): /Sumatra, Palembang/, /*Saprosites sumatranus* sp. n. PETROVITZ det./, in MHNG.

Other specimens (48). **Malay Pen.:** (1 ex) Pahang, Pulau Tioman between Juara and Tekek, 10-17.III.1985, lowland rainforest, from log with bracket fungi, O. MERKL (HNHM). **Borneo:** (1 ex) Sabah, Kinabalu NP, Savap 1000 m, 25-29.XI.1996, W. SCHAWALLER (SMNS); (1 ex) Sabah, Poring Hot Springs, Langanan River, 850 m, 14.V.1987, BURCKHARD & LÖBL (MHNG). **Bali:** (1 ex) N Tabanan, Pura Luhur Batu, 600 m, 15.XII.2007, R. GRIMM (ISEA); (1 ex) Trunjav Village, 26.II.1971, under bark, G. R. PALLMER (FSCA). **Japan:** (4 ex) Japan, coll. C. FELSCHE Kauf 20, 1918 (SMTD); (2 ex) Honshu, Nara Pref. 27-31.VII.1980, C. BESUCHET (MHNG); (1 ex) Nara Pref.



Mt Kasuga, 16.IV.1951, Y. WADA (ISEA); (1 ex) Osaka-fu, Kongosan, 2 km E of Amami, 300 m, 12.V.2002, leg. BOLM (SMNS); (7 ex) Aichi Prov. Toyota C. Nomi T. River Yahagi, 7.VI.1998, N. KANIE (ISEA); (7 ex) Okinawa, Iriomote Is., Tedoyama, 400 m, 13-22.V.2003, leg. BOLM; (1 ex) Okinawa, Yona vic. 50-400 m, 15-23.IV. 2003, leg. BOLM (ISEA, SMNS). **China:** (1 ex) Sichuan, Emei Shan, Waunian 1050 m, 19-30.III.1999, W. SCHAWALLER (SMNS). **Sikkim:** (1 ex) Rümtek 16, 2100 m, XI.1981, leg. CASAGNAU (MHNG). **Nepal:** (1 ex) Sankhua Sabha Distr., Arun Valley, Chichila 1900-2000 m, VI.1988, in forest, MARTENS & SCHAWALLER (ISEA). **Vietnam:** (3 ex) Lao Kai Prov., 16 km W Sa Pa 1800 m, 18.III.1998, under bark, PEREGOVITS & VÁSÁRHELYI (HNHM); (3 ex) Vietnam, Lam Dong Prov., Da Lat 18 km W of town, 10.X.1988, MAHUNKA & VÁSÁRHELYI (HNHM, ISEA). **Thailand:** (1 ex) Chiang Mai Rd to Wab Pang An, 50 km NE Chiang Mai 900 m, BURCKHARD & LÖBL (MHNG), (6 ex) Chiang Mai, Doi Suthep 1050 m, 5.XII.1985, BURCKHARD & LÖBL (ISEA, MHNG), Doi Suthep 930 m, 22.XI.1986, P. SCHWENDINGER (SMNS); (1 ex) Chiang Mai, Mae Nang Kaeo 900 m, 54 km NE Chiang Mai, BURCKHARD & LÖBL (MHNG), (2 ex) Chiang Mai, Ban Maeo Microwave, Mae Hong Son Distr. 1250 m, 15.XII.1990, P. SCHWENDINGER (SMNS); (1 ex) NE Bangkok, Khao Yai Nat. Park, 750-850 m, 26.XI-3.XII.1985, BURCKHARD & LÖBL (MHNG).

**Description.** Length 4.0-4.3 mm. Body parallel-sided, moderately shining, black. Head moderately gibbose medially, clypeal emargination moderate, genae small, right-angled; surface of head usually slightly alutaceous, from anterior margin to vertex finely, more or less deeply punctate, vertical band with unevenly spaced, larger punctures. Pronotum subquadrate, sides and base distinctly margined, basal marginal line slightly grooved, crenate by punctures, posterior angles slightly emarginate or not, in some specimens emargination distinct; surface punctures variable in size and distribution, usually moderate and equal in size, on disc separated by about 1-2 times their diameter, toward sides become closer, laterally separated by about one diameter. Elytra about 2.3 times as long as pronotum, humeral denticles small; striae more or less deeply impressed, moderately punctate-crenate; intervals flat or slightly convex, usually impunctate, shoulders laterally flattened, punctate, sometimes wrinkled. Mesosternum lower than metasternum, convex in anterior half and closely punctate, intercoxal carina narrow, triangular; disc of metasternum smooth impunctate, lateral area variably punctate; abdominal sternites impunctate, fluting fine but distinct from side to side of each sternite, pygidium strongly shiny, impunctate; basal tarsomere of metatarsus shorter than upper tibial spur and subequal to following two tarsomeres together.

**Male.** Penultimate abdominal sternite shorter than in female and less arcuate ventrally, disc of pygidium smooth, impunctate; genitalia as in Fig. 19.

**Female.** Penultimate abdominal sternite strongly arcuate ventrally, disc of pygidium with few punctures.

**Variation.** The species is very variable, specimens from periphery of its range are frequently difficult to recognize; most variable are the shape of pronotal posterior angles, the punctures of the head and pronotum and size of the striae punctures of elytra.

**Remarks.** *Saprosites japonicus* is most similar to *S. implicatus*, but it differs from that species by having the pronotum convex without median longitudinal line and with punctures moderate in size, the elytral humeral denticles smaller and the abdominal sternites distinctly fluted from side to side.

**D i s t r i b u t i o n.** Japan (Hokkaido, Honshu, Shikoku, Kyushu, Nakanoshima, Takarajima, Amami-ôshima) Nepal, Bhutan, Sikkim, south China, Taiwan, Vietnam, Thailand, Malay Pen., Borneo, Bali.

***Saprosites raffrayi* PAULIAN**

(Fig. 20)

*Saprosites raffrayi* PAULIAN, 1944: 68. - BALTHASAR 1964: 501; DELLACASA 1988: 292 (catalogue).

**T y p e d a t a.** Holotype (sex not determined): /Singapour, A. RAFFRAY/, /Ex Museum W. van der Poll/, /*Saprosites Raffrayi* n. sp. R. PAULIAN det./, in MNHN.

Other specimens (28). **Borneo:** (9 ex) Sabah, Bingkor N Keningau 300 m, 20-21.III.2007, W. SCHAWALLER; (3 ex) 400-500 m, 19-20.XI.1996, W. SCHAWALLER (SMNS); (1 ex) Sabah, Mt Kinabalu Nat. Park, Poring Hot Springs 480 m, 20.VIII.1988, A. SMETANA (ISEA); (15 ex) Kinabalu NP, 1050 m, 11-13.II.2006, R. GRIMM (ISEA, SMNS).

**D e s c r i p t i o n.** Length 4.5-4.8 mm. Body cylindrical, convex, shining black. Head convex, moderately shiny, clypeus very weakly emarginate anteriorly or almost truncate, genae obtuse, slightly prominent, surface minutely punctate to vertical band of larger, not close punctures. Pronotum subquadrate, strongly convex at middle, steep laterally, base slightly tumid with irregular row of punctures, without marginal line; lateral marginal line fine, posterior angles narrowly truncate, in some specimens weakly emarginate; surface punctures moderate in size, irregularly spaced, generally separated by 1-3 times their diameters, group of finer punctures at anterior angles. Elytra parallel-sided, convex, about 2.3 times as long as pronotum, epipleural denticles small, triangular; striae deep, striae punctures contiguous, crenating inner margins of intervals; intervals convex, impunctate. Ventral sclerites strongly shiny, smooth, almost impunctate; mesosternum gibbose medially, intercoxal carina obtuse; abdominal sternites arcuate, finely uniformly fluted along sutures, pygidium smooth, impunctate. Protibia with lateral teeth equally separated, intervening denticle absent; meso- and metatibiae relatively thick without apical accessory spine; tarsi short, basal tarsomere of metatarsus about two times shorter than upper tibial spur and subequal to two following tarsomeres combined. Male genitalia as in Fig. 20.

**R e m a r k s.** *Saprosites raffrayi* is very characteristic by having the pronotum strongly convex medially with very steep sides. It is most similar to *S. penrissenii* n. sp., but differs from that species by its larger size and the less close, scattered pronotal punctures.

**D i s t r i b u t i o n.** Malay Pen. (Malacca), Borneo.

***Saprosites penrissenii* n. sp.**

(Fig. 5)

**T y p e d a t a.** Holotype female: /E Malaysia Sarawak, Gn. Penrissen 1000 m, 23.V.1994, edge of primary montane forest, LÖBL & BURCKHARDT/, in MHNG. Paratype female, same data as holotype (MHNG).

**D i a g n o s i s.** Clypeal median emargination shallow, sides emarginate in front of right-angled genae; surface shining, minutely punctate. Pronotal base without marginal line, with regular row of close, crenating punctures. *Saprosites penrissenii* n. sp. is most similar to *S. raffrayi* but differs from that species by having markedly smaller size and the

pronotum wider than elytra, with punctures crenating basal margin and with surface punctures denser and deeper, especially on sides.

**Description of females.** Length 2.8-3.0 mm. Body (Fig. 5) convex, dark castaneous, shining. Head strongly gibbose medially, clypeal median emargination shallow, sides laterally narrowly reflexed, distinctly emarginate in front of right-angled genae; surface shining, minutely punctate, vertex with band of larger, irregularly spaced, closer punctures. Pronotum transverse, wider than elytra; sides finely margined, base with trace of marginal line and row of close crenating punctures; surface with minute ground punctures and moderate punctures throughout, the latter on disc separated by 1-3 times their diameters, toward sides become smaller and denser, separated by one diameter. Elytra not quite parallel, slightly lobed apically, humeral denticles fine, shoulders slightly deplanate laterally, finely punctate; striae impressed, stria punctures moderate in size, crenate margins of intervals; intervals slightly convex, impunctate, intervals 7, 9 united before apex. Ventral side shining; mesosternum convex in anterior half, slightly deplanate posteriorly, intercoxal carina obtuse with row of fine punctures on each side; metasternum convex, smooth, slightly wrinkled laterally; abdominal sternites strongly arcuate (most likely sexual character of female) fluting on sides coarse and longer than that at middle of each sternite, penultimate sternite long (sexual character); disc of pygidium closely, deeply punctate with shining apical lip. Femora shining; two apical teeth of protibia approximate, third tooth separate, intervening denticle absent; tarsi shorter than tibiae; basal tarsomere of metatarsus equal in length to upper tibial spur and shorter than three following tarsomeres combined.

Male unknown.

**Distribution.** Borneo.

### *Saprosites marchionalis* HAROLD

(Fig. 21)

*Saprosites marchionalis* HAROLD, 1877: 89.- SCHMIDT 1922: 408; PAULIAN 1944: 72; BALTHASAR 1964: 505; DELLACASA 1988: 292 (catalogue); STEBNICKA 1991: 4, figs 4-5.

**Type data.** Holotype (sex not determined): /Borneo, Sarawak, coll. O. BECCARI/ /*Saprosites marchionalis* HAROLD 1877/, /Museo Civico di Genova/, in MCSN.

**Other specimens (21).** **Borneo:** (7 ex) Mt Kinabalu (SMTD); (2 ex) Mt Kinabalu, Liwagu Trail 1580 m, under bark with fungi, 27.IV.1987, (3 ex) Crocker Range on road Kota Kinabalu to Tambunan 1270 m, sieved in secondary forest with *Agathis*, 17.V.1987, BURCKHARDT & LÖBL (MHNG); (7 ex) Sarawak, Gn Penrissen 1000 m, edge of primary montane forest, 23.V.1994; LÖBL & BURCKHARDT (ISEA, MHNG); (1 ex) Sarawak, Semengoh For. Res. 15 mi S of Kuching, 21.IX.1966, J.F.G. CLARKE & F.M. CLARKE (ISEA); (1 ex) Crocker Range, Inabarg Substation, 16.VIII.2003, N. WHITING (FSCA).

**Description.** Length 6.0-6.5 mm. Body not quite parallel-sided, piceous, shining. Head broad, gibbose, clypeal median emargination shallow, sides slightly emarginate in front of protruding, right-angled genae; surface of head shining, fine punctures along anterior margin very close, rugose, those of median area separated by one their diameter, vertical band of larger punctures wide. Pronotum transverse, anterior angles slightly deplanate, sides and base narrowly margined and finely crenate by punctures, posterior an-

gles obtuse; surface everywhere with coarse punctures irregularly spaced on disc, closer toward sides. Elytra nearly 2 times as long as pronotum, humeral denticles very fine; striae deep, coarsely densely punctate-crenate, intervals shining, slightly convex, impunctate or with scattered, minute punctures. Mesosternum gibbose medially, not quite but almost at the same level as metasternum, intercoxal carina dimidiate with triangular depression within; metasternum with deep midline and depression at middle, very finely punctate on disc, slightly wrinkled laterally; abdominal sternites distinctly, deeply fluted along sutures, crenate-scabrous sculpture becomes longer toward sides, pygidium shiny. Protibia lateral teeth well separated, with apical margin sharply angular behind protarsus; meso- and metatibiae expanded toward apex, apical edge of metatibia with small accessory spine and 8-9 setae; basal tarsomere of metatarsus subequal to upper tibial spur and to following three tarsomeres combined.

Male genitalia as in Fig. 21.

**R e m a r k s.** *S. marchionalis* is very similar to *S. crockerensis*, sharing with that species a general appearance and size of body, but it may be easily recognized by sculpture of the head.

**D i s t r i b u t i o n.** Borneo.

### *Saprosites crockerensis* STEBNICKA

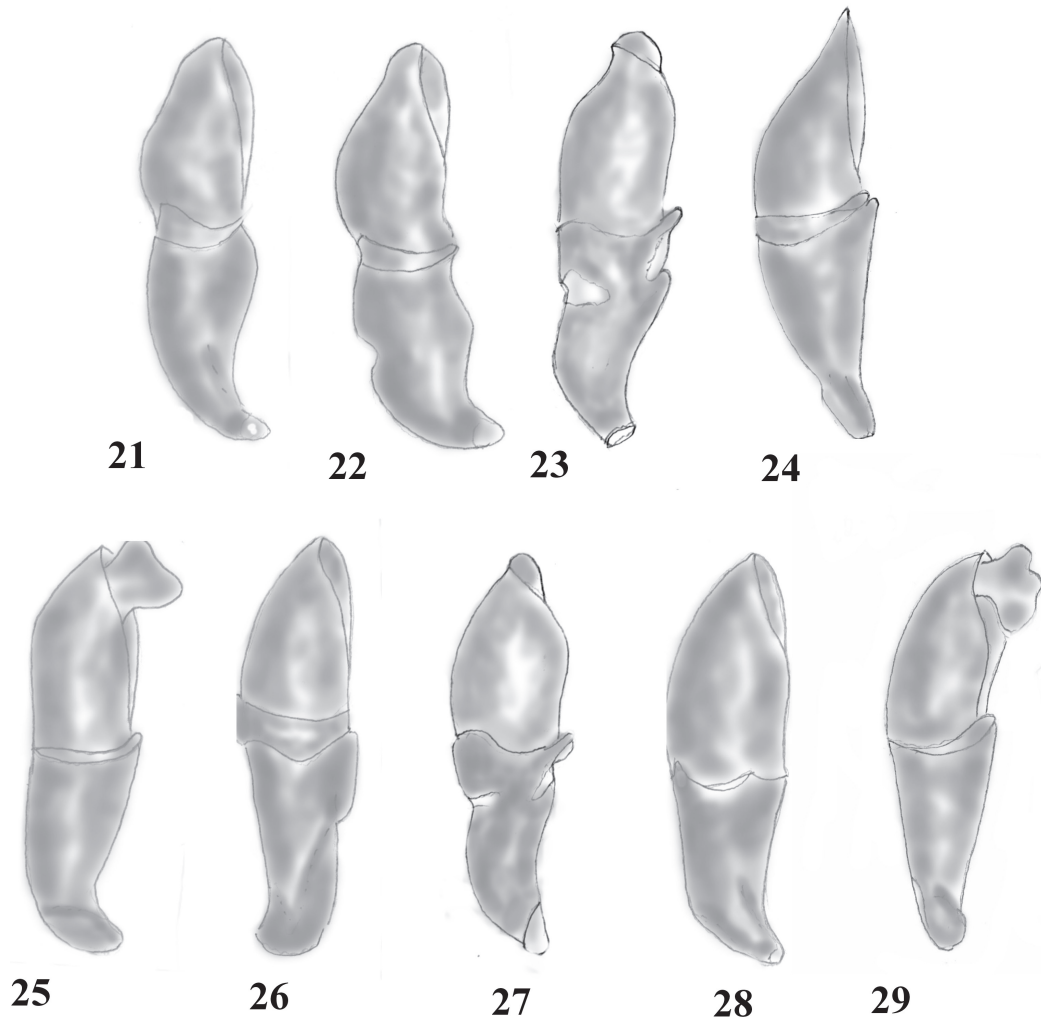
(Fig. 22)

*Saprosites crockerensis* STEBNICKA, 1991: 4-5, figs 6-9; DELLACASA 1996: 168 (catalogue).

**T y p e d a t a.** Holotype male: /Borneo Sabah Crocker Range eastern slope 1200 m, km 63 road Kota Kinabalu to Tambunan/ /secondary forest of *Lithocarpus-Castanopsis*, 19.V.1987, sieved in humid gully, BURCKHARDT & LÖBL/, in MHNG. Paratypes, 2 females, same locality as holotype, sieved under older trees of *Agathis* (ISEA, MHNG).

**D e s c r i p t i o n.** Length 5.5-5.8 mm. Body subparallel, piceous to black, shining. Head broad, gibbose, clypeal median emargination shallow, sides distinctly emarginate in front of protruding, triangular genae; surface of head slightly alutaceous with strong transverse carina just above emargination, dense punctures mixed with distinct granules, median gibbosity irregularly wrinkled, punctures above frontal suture simple, close. Pronotum transverse, anterior angles slightly deplanate, sides and base narrowly margined and finely crenate, posterior angles feebly emarginate; surface everywhere with mixture of very fine and moderately coarse punctures, the latter irregularly spaced on disc become closer toward sides. Elytra nearly 2 times as long as pronotum, humeral denticles not strong; striae deep, coarsely densely punctate-crenate, intervals shining, slightly convex with scattered, minute punctures. Mesosternum not quite but almost at the same level as metasternum, convex, intercoxal carina dimidiate with triangular depression within; metasternum with shallow midline and depression at middle, very finely punctate; abdominal sternites distinctly, deeply fluted along sutures, crenate-scabrous sculpture becomes longer toward sides. Protibia with apical margin sharply angular behind protarsus; meso- and metatibiae expanded toward apex, apical edge of metatibia with small denticles and 8-9 intervening setae; basal tarsomere of metatarsus shorter than upper tibial spur. Male genitalia as in Fig. 22.

**R e m a r k s.** *Saprosites crockerensis* is similar to *S. marchionalis*, sharing a general appearance and size of body, but it may be easily recognized by its unusual sculpture of the



**Figs 21-29.** Male genitalia of *Saprosites* in lateral view: **21** – *S. marchionalis* HAR. **22** – *S. crockerensis* STEBN. **23** – *S. cariniceps* PITT. **24** – *S. difficilis* HAR. **25** – *S. laeviceps* HAR. **26** – *S. kapitensis* PETR. **27** – *S. kinabalu* PITT. **28** – *S. rufus* PAUL. **29** – *S. coelebicus* PAUL.

head. The granulate head with transverse carina is characteristic for *S. dynastoides* and for the females of the Neotropical species *Saprosites dentipes* HAROLD (STEBNICKA 2009a).

**D i s t r i b u t i o n.** Borneo.

***Saprosites cariniceps* PITTINO**

(Fig. 23)

*Saprosites cariniceps* PITTINO, 2008: 125-126, figs 33-36.



**T y p e d a t a.** Holotype male: /Kampong Tekek, Tioman Is. Pahang Distr. Malaysia, 15-26.VII.1992, R. SCHUH/, in NHMW. Paratypes (2), same data as holotype, in NHMW, RPC. Holotype not seen by the author.

Other specimens (2). Pahang, Pulau Tioman between Juara and Tekek, 10-17.III.1985, lowland rainforest, from log with bracket fungi, J. ERBER (ISEA).

**D e s c r i p t i o n.** Length 4.0-4.2 mm. Body brownish black, shiny. Head very large, more than twice wider than long, alutaceous, clypeal emargination distinct, sides slightly sinuate near widely explanate, produced genae; clypeo-frontal area with distinct transverse wrinkles or swellings and posterior transverse groove, frontal suture slightly raised, vertex with band of mixed moderate and coarse punctures. Pronotum widest at middle, anterior angles broad, sides sinuate at posterior angles, sides and base with marginal line and row of punctures along margin; surface punctures mixed very fine and moderate, the latter irregularly spaced, on disc separated by 1-2 times their diameter, closer laterally. Elytra widest at middle, more than 2 times as long as pronotum, humeri sharply dentate; striae deep, stria punctures coarse, close, crenating margins of intervals; discal intervals nearly flat, slightly convex laterally and apically with very fine scattered punctures. Metasternal disc shiny, finely punctate, midline deep; lateral area roughly coarsely punctate; abdominal sternites shiny, finely fluted along sutures; pygidium in male with rough fovea on each side of median carina, in female entirely smooth and shiny, minutely punctate. Femora slightly alutaceous; meso- and metatibia weakly arcuate, apex of metatibia with three accessory spines and row of setae, upper apical spur robust; metatarsus as long as tibia, first tarsomere shorter than upper tibial spur and equal in length to following two tarsomeres together. Male genitalia as in Fig. 23.

**R e m a r k s.** The species is most similar to *S. crockerensis*, but differs from that species by its smaller size and different male genitalia.

**D i s t r i b u t i o n.** Malay Peninsula (Tioman Is.).

### *Saprosites difficilis* HAROLD

(Fig. 24)

*Saprosites difficilis* HAROLD, 1877: 91.- SCHMIDT 1922: 406; PAULIAN 1944: 74; BALTHASAR 1964: 505; DELLACASA 1988: 288 (catalogue); STEBNICKA 1991: 7.

**T y p e d a t a.** Holotype (sex not determined): /Borneo, Sarawak, coll. O. BECCARI/, /*Saprosites difficilis* HAROLD 1877/, /Museo Civico di Genova/ in MCSN.

Other specimens (16). **Borneo:** (2 ex) Sarawak, confl. Sun Oyan and Mujong river, E Kapit 50 m, 18.V.1994, LÖBL & BURCKHARDT (ISEA, MHNG); (1 ex) Sarawak, Penrissen 1000 m, 23.V.1994, edge of primary montane forest, LÖBL & BURCKHARDT; (1 ex) Sabah, Poring Hot Springs 500 m, Dipterocarpaceae forest, sieved from rotten wood, 9.V.1987, LÖBL & BURCKHARDT; (2 ex) Crocker Range 1270 m, road Kota Kinabalu to Tambunan, secondary forest with *Agathis*, 17. V.1987, sieved from debris under old trees, LÖBL & BURCKHARDT (MHNG). **Java** merid.: (2 ex) Palabuan, 1892, H. FRUHSTORFER, coll. C. FELSCHE Kauf 20, 1918 (SMTD); (2 ex) Java occident. Mons Tjukurai 4000 ft, 1892, H. FRUHSTORFER, coll. C. FELSCHE Kauf 20, 1918 (SMTD); (2 ex) Java (handwritten label, *Saprosites orientalis* [?] HAROLD', C. FELSCHE Kauf 20, 1918 (SMTD). **Sulawesi:** (1 ex) Kotamobagu Modinding, Gn, Ambang, 1450 m, 6.XII.1999, A. RIEDEL (SMNS). **Malay Pen.:** (2 ex) Cameron Highlands, Pahang, VIII.1948, E. KRAUSS (ISEA); (1 ex) Pahang, Cameron Highlands 1600 m, 28.III.1993, LÖBL & CALAME (MHNG).

**Description.** Length 4.5-5.0 mm. Body parallel-sided, shining black; clypeal median emargination wide, shallow, edge weakly emarginate in front of small, right-angled genae; surface of head from anterior margin to vertex finely, shallowly punctate, punctures of vertical band deep, separated by one their diameter. Pronotum strongly convex, base with row of close punctures, posterior angles narrowly truncate, in some specimens slightly emarginate; surface punctures moderate, rather close, irregularly spaced on disc, separated by 1-3 times their diameters, on sides separated by one their diameter. Elytra with triangular, obtuse humeral denticles, shoulders flattened laterally, impunctate or minutely punctate; striae and stria punctures not very deep, intervals flat or slightly convex. Ventral sclerites shining; mesosternum with median area convex, smooth, transversely concave and carinately convex between mesocoxae; metasternum smooth, midline narrow; abdominal sternites 4-6 arcuately curved ventrally, smooth impunctate, fluting along sutures fine at middle, longer on sides, each sternite with shallow fovea laterally. Basal tarsomere of metatarsus equal in length to upper tibial spur and to three following tarsomeres combined.

**Male.** Pygidium broad, curved ventrally, finely punctate; penultimate abdominal sternite shorter than in female, fluting finer; genitalia as in Fig. 24.

**Female.** Body usually narrower than in male; pygidium small, with row of punctures basally and wide, impunctate apical lip; abdominal sternites longer than in male, fluting coarser, slightly irregular; penultimate sternite longest at middle.

**Variation.** The species has an advanced individual variability indicated mostly in the shape of the pronotal posterior angles and basal punctures; in some specimens of both sexes the pronotal posterior angles are distinctly emarginate, in some also basal marginal line is clearly marked. The characters of both sexes of *S. difficilis* and *S. laeviceps* were mistakenly interpreted by PAULIAN (1944) and BALTHASAR (1964).

**Remarks.** *Saprosites difficilis* may be separated from *S. laeviceps* by having the less protruding genae, the slenderer elytra and the pronotal punctures on disc less dense than in *S. laeviceps*.

**Distribution.** Malay Pen., Java, Borneo, Sulawesi.

### *Saprosites laeviceps* HAROLD

(Fig. 25)

*Saprosites laeviceps* HAROLD, 1877: 90.- SCHMIDT 1922: 406; PAULIAN 1944: 69; BALTHASAR 1964: 504; DELLACASA 1988: 291 (catalogue); STEBNICKA 1991: 4.

**Type data.** Holotype (sex not determined): /Borneo, Sarawak, coll. O. BECCARI/, /*Saprosites laeviceps* HAROLD, 1877/, /Museo Civico di Genova/, in MCSN.

**Other specimens (26).** **Borneo:** (4 ex) Sabah, Kinabalu NP, Headquarters 1500-1600 m, 11-15.XI.1996, W. SCHAWALLER (SMNS); (1 ex) Kinabalu NP, Liwagu Trail 1580 m, 27.IV.1987, under bark with fungi, BURCKHARDT & LÖBL, (4 ex) Mt Kinabalu, between Headquarters and Liwagu river, 1495 m, 12.VIII.1988, A. SMETANA (ISEA, MHNG); (1 ex) Sarawak, Semengoh For. Res. 15 mi S of Kuching, 21.IX.1966, J. F. G. CLARKE & M. CLARKE (ISEA); (3 ex) Crocker Range, Ranau, 18.IV.2004, Crocker Range, Trus Madi, 14.IV.2005 (FSCA). **Sumatra:** (4 ex) Barat, Lembah Anat Resort (Kandang Ampek), 15 km SE Padang Panjang, 500 m, III.1996, C. ZORN (ISEA); Si-Rambe, XII.1890-III.1891, E. MODIGLIANI, coll. C. FELSCH Kauf. 20, 1918 (SMTD); (4 ex) Barat, Lembah Anat

Resort (Kandang Ampek), 15 km SE Padang Panjang, 500 m, III.1996, C. ZORN (ISEA). **Sumbawa Isl.**; (4 ex) coll. C. FELSCH Kauf. 20, 1918 (SMTD); **Malay Pen.**: (1 ex) Pahang, Cameron Highland, Tanah Rata, 21.III.-2.IV.1995, edge of degraded rainforest, at light, O. MERKL (HNHM).

**Description.** Length 5.0-6.0 mm. Body not quite parallel-sided, rufous to piceous, shining. Head strongly gibbose, clypeal median emargination deep, sides slightly reflexed, rounded to right-angled, prominent genae; surface from anterior margin to vertex minutely to finely punctate, punctures of vertical band deep, separated by about 1-2 times their diameters. Pronotum transverse, moderately convex, posterior angles rounded or slightly truncate, in some specimens with trace of emargination, base with row of not close, moderate punctures; surface with minute punctures throughout and moderate punctures, the latter on disc separated by 1-4 times their diameters, on sides by more than one diameter. Elytra widest behind the middle with triangular, obtuse humeral denticles, shoulders laterally flattened, impunctate or with minute punctures; striae and stria punctures not very deep, intervals flat or slightly convex, polished. Ventral surface shining; mesosternum with median area convex, smooth, transversely concave and carinately convex between mesocoxae; metasternum smooth, midline narrow; abdominal sternites 4-6 arcuately curved ventrally, smooth impunctate, fluting along sutures fine at middle, longer on sides, each sternite with shallow fovea laterally; disc of pygidium in both sexes shining, finely punctate. Basal tarsomere of metatarsus equal in length to upper tibial spur and shorter than following three tarsomeres combined.

**Male.** Body usually smaller than in female, disc of pronotum more convex; genitalia as in Fig. 25.

**Remarks.** *Saprosites laeviceps* differs from *S. difficilis* in having the elytra distinctly widened in apical third. Both these species resemble *S. coelebicus* but may be distinguished from that species by their distinctly punctate head and relatively longer elytra.

**Distribution.** Malayan Peninsula, Borneo, Sumatra, Sumbawa.

### *Saprosites kapitensis* PETROVITZ

(Figs 6, 26)

*Saprosites kapitensis* PETROVITZ, 1973: 309.- DELLACASA 1988: 291 (catalogue).

**Type data.** Holotype (sex not determined: /Malaysia [Borneo] Sarawak, Kapit, V.1966/, /*Saprosites kapitensis* m. det. R. PETROVITZ/, in MGFT. Paratype, same data as holotype (MHNG).

**Other specimens (6).** **Borneo:** (2 ex) Sabah, Mt Kinabalu, 1580 m, 22.V.1987, LÖBL & BURCKHARDT (MHNG); Sabah, Range NP, NW Keningau, 900-1200 m, 16-20.XI.1996, W. SCHAWALLER (ISEA). **Sulawesi:** (4 ex) 25 km E Mamasa (Kalama), 1100 m, 119.28.31 E, 3.02.10 S, 1-3.XII.2001, leg. BOLM (ISEA, SMNS).

**Description.** Length 4.8-4.9 mm. Body (Fig. 6) parallel-sided, shining black. Head strongly gibbose, clypeal median emargination moderately deep, sides slightly reflexed, straight to right-angled, prominent genae; surface from anterior margin to vertex minutely to finely punctate, punctures of vertical band deep, separated by about 1-2 times their diameters. Pronotum relatively short, transverse, moderately convex, posterior angles narrowly truncate and slightly emarginate, sides and base distinctly margined by line; surface without visible ground punctures, with moderate in size, not close punctures, on

disc irregularly spaced, separated by 1-5 times their diameters, on sides slightly finer and closer, separated by one their diameter. Elytra parallel-sided about 2.5 times as long as pronotum, humeral denticles small, obtuse, shoulders laterally flattened, finely deeply punctate; striae moderately impressed, stria punctures almost contiguous, slightly crenating inner margins of intervals; intervals only slightly convex, polished. Ventral surface shining; mesosternum convex in anterior half, finely distinctly punctate with narrow carina in posterior half; metasternum convex, smooth from side to side, midline narrow; abdominal sternites 4-5 slightly arcuately curved ventrally, smooth, very finely fluted along anterior fourth; disc of pygidium in both sexes shining, finely punctate. Lateral teeth of protibia equally separated; meso- and metatibiae with traces of transverse carina, apex of metatibia with row of short setae, without accessory spine; metatarsus as long as tibia, basal tarsomere subequal in length to upper tibial spur and shorter than following three tarsomeres combined. Male genitalia as in Fig. 26.

**R e m a r k s.** *Saprosites kapitensis* is most similar to *S. javanus*; it differs from that species by its somewhat larger size, wider head and the lack of apical denticles of metatibia.

**D i s t r i b u t i o n.** Borneo, Sulawesi.

### *Saprosites kinabalu* PITTINO

(Fig. 27)

*Saprosites kinabalu* PITTINO, 2008: 123-125, figs 29-32.

**T y p e d a t a.** Holotype male: /Gunung Emas, 50 km East of Kota Kinabalu, Crocker Mountains, Sabah, Borneo, Malaysia, 16-27.IV.1993, J. JENIS/, in NHMW. Paratypes (5), same data as holotype, in NHMW, MHNG, RPC. Holotype not seen by the author.

**D e s c r i p t i o n.** Length 4.5-5.3 mm. Body shiny, brownish black to dark reddish brown. Head moderate in size, strongly alutaceous; clypeal emargination distinct, genae produced, frontal suture slightly raised; surface punctures minute, vertical area shiny, irregularly, very closely punctate. Pronotum subquadrate, slightly wider than elytral base; anterior angles wide, sides slightly sinuate, sides and base strongly margined by line; surface punctures mixed fine and coarse, the latter on disc separated by 1-3 times their diameter, laterally form close groups between impunctate areas. Elytra widened in apical third, more than 2 times as long as pronotum, humeral denticles blunt; striae rather deep, stria punctures close, coarse, crenating margins of intervals; intervals very wide, slightly convex on disc, inconspicuously punctate. Metasternum alutaceous, disc convex, midline fine, surface minutely punctate, lateral area roughly, closely punctate; abdominal sternites shiny, distinctly fluted along sutures, pygidium eroded in apical half. Femora slightly alutaceous; meso- and metatibiae short, almost straight, apex of metatibia with three accessory spines and short setae, upper spur robust, bent outwards; metatarsus nearly as long as tibia, basal tarsomere shorter than upper tibial spur and subequal in length to following two tarsomeres combined. Male genitalia as in Fig. 27.

**R e m a r k s.** The species seems to be most similar to *S. kapitensis*, but differs from that species in having the metatibia with accessory spines and different male genitalia.

**D i s t r i b u t i o n.** Borneo.

*Saprosites rufus* PAULIAN

(Fig. 28)

*Saprosites rufus* PAULIAN, 1944: 73.- BALTHASAR 1964: 507; DELLACASA 1988: 293 (catalogue).

**T y p e d a t a.** Holotype (sex not determined): /Sumatra/, /Museum Paris, Collection Leon FAIRMAIRE 1906/, /*Saprosites rufus* n. sp. R. PAULIAN det./, in MNHN.

**Other specimens.** (13). **Borneo:** (1 ex) Sarawak, Penrissen 1000 m, 23.V.1994, primary montane forest, LÖBL & BURCKHARDT (MHNG); (1 ex) Sarawak, Gn Matang 20 km W Kuching 800 m, 13.V.1994, submontane forest, LÖBL & BURCKHARDT (ISEA); (1 ex) Sabah, Poring Hot Springs 500 m, 7.V.1987, LÖBL & BURCKHARDT (MHNG). **Sumatra:** (1 ex) Res. Langkat, border of Bohorok, V-VII.1984, J. ROBERT (ISEA). **Malay Pen.:** (7 ex) Pahang Gombak, 1.IV.1993, forest litter, LÖBL & CALAME (ISEA, MHNG); (2 ex) Pahang, Batu Caves, N Kuala Lumpur, 31.III.1993, LÖBL & CALAME (MHNG).

**D e s c r i p t i o n.** Length 2.8-3.0 mm. Body parallel-sided, rufous to castaneous, shiny. Head wide, clypeal margin shallowly but widely emarginate, genae right-angled, prominent; surface moderately shiny, finely shallowly punctate throughout. Pronotum subquadrate, sides straight toward truncate, feebly emarginate posterior angles, base with fine, close punctures without marginal line; surface with fine and moderate, deep punctures variable in spacing, fine punctures in band along anterior margin, moderate punctures extending to base and lateral margin, separated by about 1-2 times their diameter. Elytra very slightly widened before apex, humeral denticles sharply directed laterad; striae impressed, punctures contiguous, nearly same size as moderate pronotal punctures; striae 8-9 shortened below smooth shoulders; intervals slightly convex, impunctate. Ventral surface shiny; mesosternum convex, minutely punctate on sides; metasternum impunctate from side to side; abdominal sternites slightly arcuate, grooved and finely fluted along sutures, pygidium shiny, finely closely punctate. Lateral teeth of protibia well separated; femora shiny, tibiae slender, apex of metatibia without accessory spine; tarsi slender; basal tarsomere of metatarsus subequal in length to upper tibial spur and longer than three following tarsomeres combined. Male genitalia as in Fig. 28.

**R e m a r k s.** The species is most similar to *Saprosites mjoebergi*; it differs from that species by having the genae right-angled, protruding and the pronotal punctures 2 times larger than in *S. mjoebergi*.

**D i s t r i b u t i o n.** Malay Pen., Borneo, Sumatra.

*Saprosites mjoebergi* GILLET

(Fig. 7)

*Saprosites mjoebergi* GILLET, 1924: 104.- PAULIAN 1944: 69.*Saprosites mjoebergi*: BALTHASAR 1964: 504; DELLACASA 1988: 292 (catalogue).*Saprosites fruhstorferi* PAULIAN, 1944: 71; BALTHASAR 1964: 508-509. **Syn. nov.**

**T y p e d a t a.** *Saprosites mjoebergi*, holotype (sex not determined): /Typus, Sumatra, Brastagi, Mjoeberg/, in NRS. *S. fruhstorferi*, lectotype female (here designated): /S Celebes, Bua Kraeng 5000 ft, Febr. 1896, H. FRUHSTORFER/, /Ex Museum W. van de Poll/, /*Saprosites Fruhstorferi* n. sp. R. PAULIAN det./, in MNHN. Paralectotype female, with the same locality as lectotype and handwritten label '*Saprosites* sp.', in SMTD.



Other specimens (2). **North Sumatra**, vic. of Partungkoan Samosir 1600 m, rain forest, 28.VIII.1991, leg. ERBER (ISEA).

**Description.** Length 2.9-3.0 mm. Body (Fig. 7) carbon black, shiny. Head convex medially, clypeal median emargination very narrow and deep at middle, genae small, almost truncate, not exceeding eye; surface of head very minutely punctate throughout. Pronotum slightly transverse, base with very fine marginal line, posterior angles slightly truncate; surface punctures everywhere fine, separated by about one their diameter. Elytra parallel-sided, humeral denticles fine, acute; striae narrowly impressed, stria punctures shallow, slightly transversely crenate margins of intervals, striae 8-9 reaching shoulders; intervals flat, very minutely punctate. Ventral sclerites shiny; mesosternum convex, minutely punctate on sides; metasternum impunctate from side to side; abdominal sternites very finely fluted along sutures, pygidium smooth, impunctate. Legs slender; lateral teeth of protibia well separated; metatibia apically without accessory spine, tarsi slender; basal tarsomere of metatarsus short, shorter than upper tibial spur and subequal to two following tarsomeres combined.

**Remarks.** *Saprosites mjoeberti* and *S. rufopolitus* are similar in general appearance, but *S. mjoeberti* may be distinguished by having the pronotal base finely margined by line, the elytra relatively longer and the elytral striae deeper. In a general appearance, *S. mjoeberti* resembles some species of the genus *Ataenius* HAR.

**Distribution.** Sumatra, Sulawesi.

### *Saprosites titschacki* BALTHASAR

*Saprosites titschacki* BALTHASAR, 1941; 168.- PAULIAN 1944: 74 (non BALTHASAR 1941); DELLACASA 1988: 293 (catalogue).

**Type data.** Holotype (sex not determined): /Java, Gunung Tangkuban Prah/Mai 1933, 1000-1800 m/, /*Saprosites titschacki* n. Dr. V.BALTHASAR det./, in NMP.

Other specimens (3). **Java:** (1 ex) Col of Puncak and Cibodas, Lake Telaga Warna, 4.VIII.1984, J. ROBERT (ISEA); **Sumatra:** (1 ex) Jambi W Mt Tujuh Lake 1400 m, 14.XI.1989, AGOSTI & LÖBL & BURCKHARDT (MHNG). **Borneo:** (1 ex) Sabah, Tambunan, 16-20.V.1987, LÖBL & CALAME (MHNG).

**Description.** Length 4.5-4.8. Body brownish black to black, shiny. Head strongly gibbose medially, clypeal median emargination shallow, genae small, right-angled, slightly prominent; surface from anterior margin to frons smooth or very minutely, inconspicuously punctate, punctures of occipital area same size as those along anterior pronotal margin. Pronotum subquadrate, basal marginal fine, densely crenate by punctures, posterior angles obtusely rounded; surface punctures mixed minute and moderate, the latter scattered, irregularly spaced on disc, closer laterally and here separated by one their diameter or less. Elytra parallel-sided, humeral denticles small, obtuse, striae and stria punctures moderately impressed, intervals slightly convex or flat. Ventral surface smooth, shiny; mesosternum lower than metasternum, finely punctate, metasternal disc smooth, midline fine; abdominal sternites 3-5 arcuate, fluting fine, longest laterally, sternite 2 with longer fluting; surface of sternites impunctate. Meso- and metatibiae apically with row of setae, without denticles between setae; metatarsus as long as tibia, basal tarsomere subequal to upper tibial spur and longer than two following tarsomeres combined. Male genitalia similar in shape to those of *S. laeviceps*.

**R e m a r k s.** *Saprosites titschacki* is very similar to *S. javanus*; it differs from that species by having smaller head with minute punctures or impunctate, by denser pronotal punctures, the less deep elytral striae and apex of the metatibia without denticles.

**D i s t r i b u t i o n.** Borneo, Sumatra, Java.

***Saprosites javanus* BALTHASAR**

*Saprosites javanus* BALTHASAR, 1941: 170.- PAULIAN 1944: 70; BALTHASAR 1964: 502, fig. 190; DELLACASA 1988: 291 (catalogue).

**T y p e d a t a.** Holotype female: /Typus Java, Goenoeng Tangkoeban Prahoe/, /*Saprosites javanus* n. Dr V. BALTHASAR det./, in NMP (seen in 1986).

Other specimens (1 female). **Sumatra:** Si-Rambe, III.1991, leg. ERBER (ISEA).

**D e s c r i p t i o n o f f e m a l e.** Length 3.8-4.0 mm. Body brownish black or black, strongly shiny, almost parallel-sided. Head gibbose medially, clypeal emargination wide but shallow, genae prominent, slightly directed back; surface slightly alutaceous, finely distinctly punctate from anterior margin to vertex, punctures very close near genae, occipital area with band of larger punctures intermixed. Pronotum subquadrate, basal marginal line fine, crenate by close punctures, sides nearly straight toward slightly truncate posterior angles; surface punctures mixed minute and moderate, the latter scattered, irregularly spaced on disc, closer laterally and here separated by one their diameter or less. Elytra with small humeral denticles, striae deep, coarsely punctate-crenate, intervals slightly convex, impunctate, shoulders flattened, finely punctate. Mesosternum lower than metasternum, finely punctate, metasternal disc smooth, midline fine; abdominal sternites 3-5 arcuate, fluting fine, longest laterally, sternite 2 with longer fluting; surface of sternites impunctate; pygidium narrow, disc smooth, minutely punctate. Meso- and metatibiae with few small denticles apically; metatarsus as long as tibia, basal tarsomere shorter than upper tibial spur and equal to following two tarsomeres combined.

Male unknown.

**R e m a r k s.** *Saprosites javanus* is most close to *S. titschacki*; it differs from that species in having the head larger with distinct punctures, the elytral striae coarser and the metatibia with small denticles apically.

**D i s t r i b u t i o n.** Sumatra, Java.

***Saprosites coelebicus* PAULIAN**

(Figs 8, 29)

*Saprosites coelebicus* PAULIAN, 1944: 70.- BALTHASAR 1964: 508; DELLACASA 1988: 288 (catalogue).

*Saprosites jacobsoni* PAULIAN, 1944: 70; BALTHASAR 1964: 506-507; DELLACASA 1988: 291 (catalogue); STEBNICKA 1991: 7, fig. 10. **Syn. nov.**

**T y p e d a t a.** *Saprosites coelebicus*: lectotype male (here designated), /Celebes [Sulawesi] Lompa Battau 3000 ft., Marz 1896, H. FRUHSTORFER/, /Museum Paris, coll. A. BOUCOMONT/, /*Saprosites coelebicus* np. sp. R. PAULIAN det./ and with lectotype label, in MNHN. *S. jacobsoni*: lectotype male (here designated), /Sumatra Fort de Kock 920 m, 1925 E. JACOBSON/, /*Saprosites laeviceps* Har. det. BOUCOMONT/, /sous écorce d'arbre mort [under bark of dead tree]/, /*Saprosites Jacobsoni* n. sp. R. PAULIAN det./ and with lectotype label, in MNHN; paralectotypes (4) same data as lectotype, in MNHN. Lectotype of *S. jacobsoni* was selected from five specimens pinned together with a single label 'Type'.

Other specimens (5). **Sumatra:** (1 ex) Prov. Aceh-Selatan, Babahrot, 15-20.VIII.1983, J. KLAPPERICH (ISEA); (1 ex) Barat, Lembah Anat Resort (Kandang Ampek, 15 km SE Padang Panjang, 500 m, III.1996, C. ZORN (ISEA). **Borneo:** (1 ex) Sabah, Kinabalu Nat. Park, Headquarters 1500-1600 m, 11-15.XI.1996, W. SCHAWALLER (SMNS). **Malayan Pen.:** (2 ex) Pahang, Cameron Highlands, Parit Falls, 25.III.1995, degradet rainforest, under bark of tree, O. MERKL (HNHM).

**Description.** Length 4.2-5.2 mm. Body (Fig. 8) convex, piceous to black, shiny. Head gibbose medially, clypeal median emargination wide, shallow, genae small, right-angled, weakly prominent; surface strongly shiny, very minutely, inconspicuously punctate from anterior margin to vertex, occipital area with narrow band of fine, not close punctures. Pronotum convex, steep laterally, sides distinctly margined, base with row of punctures, without marginal line, hind angles slightly truncate but not emarginate in both sexes; surface punctures moderate in size, in some specimens minute ground punctures occur, moderate punctures irregularly spaced, separated by 1-3 times their diameter, become closer laterally. Elytra not quite parallel-sided, humeral denticles small, obtuse; striae and stria punctures deep, intervals convex, impunctate. Mesosternum with median area convex, smooth, transversely concave and carinately convex between mesocoxae; metasternum smooth, midline narrow; abdominal sternites 4-6 arcuately curved ventrally, smooth impunctate, fluting along sutures fine at middle, longest on sides. Pygidium in both sexes relatively small. Protibia lateral teeth well separated; metatarsus shorter than tibia, basal tarsomere equal in length to upper tibial spur and longer than following two tarsomeres together.

**Male.** Disc of pygidium with moderate punctures separated by about one their diameter; genitalia as in Fig. 29.

**Female.** Disc of pygidium with row of fine punctures at base with smooth apical lip.

**Remarks.** *Saprosites coelebicus* is most closely similar to *S. laeviceps*, but differs from that species in having the head with minute, vanishing punctures and the elytra relatively shorter.

**Distribution.** Borneo, Sumatra, Sulawesi, Malay Pen.

***Saprosites mahavus* n. sp.**

(Fig. 9)

**Type data.** Holotype male: /Sulawesi Tomohon, Rurukan, Gn. Mahavu 1200 m, 30.XI.1999, leg. A. RIEDEL/, in SMNS. Paratype female: /Sulawesi, Kotamobagu Modinding, Gn. Ambang 1100-1450 m, 6.XII.1999, leg. A. RIEDEL/ (SMNS).

**Diagnosis.** *Saprosites mahavus* seems to be closest to the Papuan *Saprosites dudichi-papuanus* complex, being most similar to *S. komumi* STEBNICKA (1998) from Western Highlands Province (1850 m) of Papua-New Guinea. It differs from *S. komumi* by having slenderer body, smoother surface of the head and pronotum and the less coarse punctures of the elytral striae.

**Description.** Length 2.8-3.2 mm. Body (Fig. 9) oblong-oval, piceous shining, legs reddish. Head convex, clypeal margin finely reflexed, rounded each side of moderate median emargination, genae very small, only slightly exceeding eyes; surface smooth without visible punctures. Pronotum subquadrate, weakly convex, sides invisible from above; anterior angles obtuse, sides straight, posterior angles truncate and emarginate to

obtuse, prominent basal angulation; sides and base to fourth elytral interval distinctly margined, then marginal line interrupted and middle of base and edge with row of very fine punctures; surface almost impunctate, few minute punctures on disc widely scattered, laterally become more distinct with few fine punctures intermixed. Elytra subparallel, weakly convex, relatively short, about 1.8 times as long as pronotum, humeral denticles minute; striae deep, stria punctures moderate in size, crenate margins of intervals; intervals 7, 9 united before apex and prolonged apically to interval 5, surface of intervals impunctate. Mesosternum convex, smooth lengthwise at middle with transverse depression in front of intercoxal carina; metasternum short, smooth, midline weak; abdominal sternites smooth, very finely fluted along sutures, disc of pygidium smooth shining. Protibia with two apical teeth approximate, third separate, intervening denticle minute; meso- and metatibiae with traces of transverse ridges, apex of metatibia with thin spurs, without accessory spine; tarsi as long as tibia; basal tarsomere of metatarsus one-third shorter than upper tibial spur and subequal to following three tarsomeres combined.

Male. Elytra and penultimate abdominal sternite relatively shorter than in female.

*D i s t r i b u t i o n.* Sulawesi.

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