

Spermophagus johnsoni BOROWIEC, 1986
(fig. 40, 289, 290)

Spermophagus johnsoni BOROWIEC, 1986 a: 788.

DESCRIPTION

Length: 2.2-2.3 mm, width: 1.8 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, mostly brown. White hair form two spots at anterior margin, three spots in the middle, six spots at base, also hind corners of pronotum white. Elytra with numerous, small, white spots: three at base of intervals 3, 5, 7, elongate spot behind scutellum, small spot slightly behind base of interval 2, and elongate spot behind the middle of interval 2, two spots on interval 3, 5, 7, and 9, one spot behind the base of interval 4 and 6, and one spot behind humerus (fig. 40). Pygidium uniformly grey pubescent or with basal, transverse band of lighter hair.

Body oval. Head short, eyes emarginate to 2/3 length. Frons as wide as width of eye, with distinct medial keel. Antennae short, extending to humeral callus. Segment 3 about 1.6 times longer than 2, segments 6-10 slightly longer than wide. Pronotum semicircular, doubly punctured. Large punctures disposed almost uniformly on whole pronotal disc. Pronotal margin in lateral view feebly convex. Elytral rows moderately punctate. Elytral intervals finely punctate, with irregular rows of large punctures. Pygidium densely punctate, large punctures almost touching each other. Ventral surface without diagnostic characters. Hind legs with no dimorphic characters, hind tibia with dorsolateral carina, lateral carina not serrate. Hind tibial spines straight, sharp, of equal length. Claws with large basal tooth.

Male. Ventral lobe short, ventral valve large, pentagonal, apex acute, dorsal valve slightly smaller than the ventral, pentagonal, also acute apically. Internal sac in anterior third with two longitudinal, lateral bands of needles, in the middle without sclerites, in posterior third with two large spines and one large cone-like sclerite, and at the end with two pin-like sclerites. Between large spines and pin-like sclerites numerous very small spines (fig. 289). Lateral lobes moderately long, tape-like, only slightly narrowed apically, apex rounded. Margins of lobes with several, long, dense hair, surface of lobe with several shorter hair. Basal plate at base with transverse, darkly pigmented area and shortly, densely pubescent (fig. 290).

Female unavailable.

Host plant unknown.

DISTRIBUTION

Burma.

TYPES

Holotype and paratype males, Birma, "*Spermophagus tessellatus* MOTSCH." (holotype in IZPAS, paratype in LB).

REMARKS

With *S. samuelsoni* it forms *S. johnsoni* group. Both species have elytra with distinct

pattern, internal sac with at least two pairs of large spines, and and at least one spinose plate, and lateral lobes moderately elongate, tape like, rounded apically. *S. samuelsoni* differs in median lobe subangulate apically (in *S. johnsoni* acute), spinose plate and first two spines fused (in *S. johnsoni* separate).

***Spermophagus kannegieteri* Pic, 1911**

(figs. 41, 230, 231, 244, 387)

Spermophagus kannegieteri Pic, 1911: 124, 1913: 60.

DESCRIPTION

Length: 3.5-3.7 mm, width: 2.7-2.8 mm.

Black, only hind tibial spines reddish.

Pronotal and elytral vestiture uniformly dark brown, dense, sometimes third elytral interval with small spot of greyish hair in 1/3 length, covering body surface (fig. 41). Scutellum contrasting white or yellowish pubescent. Pygidium and ventrites uniformly greyish pubescent.

Head short, eyes emarginate to 3/4 length. Frons slightly wider than eye, without median keel. Antennae moderately long, extending to humerus, segment 3 about 1.6 times longer than 2, segments 8-10 about 1.2 times longer than wide. Pronotum 1.6-1.7 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view slightly convex. Elytral rows moderately punctate, intervals with irregular rows of large punctures. Pygidium densely punctured, punctures almost touching each other. Hind legs with no sexual characters, hind tibia with dorso-lateral carina, lateral carina not serrate, hind tibial spines sharp, outer spine 1.4-1.6 times longer than the inner. Claws with large basal tooth.

Male. Sternum V emarginate to half length. Median lobe large, ventral and dorsal valvae transverse, internal sac in anterior part with two groups of needles, and in the middle with two groups of granules, surface of sac behind granules with small spines (fig. 230). Lateral lobes short, tape-like, angulate apically, margins with numerous sensory setae (fig. 244).

Female. Sternum V not emarginate. Ovipositor strongly modified, without oblique, pubescent suture, pecten and circular sclerite, apex angulate, with group of three long subapical sensory setae, and several short apical setae (fig. 387).

Host plant. Unknown.

DISTRIBUTION

Indonesia: Java.

TYPE

Holotype female, Mana-Riang, Ranau Palembang, April 90, 2-3000, T. Z. KANNEGIETER (MHNP).

MATERIAL EXAMINED

INDONESIA: Java, Mts Djampang, 1, MREANGER (MHNP).

Spermophagus kingsolveri BOROWIEC, 1986
(figs. 42, 160, 161)

Spermophagus kingsolveri BOROWIEC, 1986 a: 738.

DESCRIPTION

Length: 2.1-2.5 mm, width: 1.6-1.9 mm.

Black, only hind tibial spines reddish.

Vestiture scarce, yellowish-brown with several white spots (fig. 42). Pronotum with two spots at anterior margin, four in the middle, two on sides, and two at hind corners. Elytra with white spots at base of intervals 3 and 5, in front of the middle of intervals 3, 5, 7, 9, in 2/3 length of intervals 3, 5, 7. Pygidium with yellowish-brown pubescence and two or four small spots of light hair.

Body short, oval. Head short, eyes emarginate to 2/3 length. Frons about as wide as width of eye, without median keel. Antennae short, reaching to humeral callus. Segment 3 about 1.3 times longer than 2, segments 6-10 about 1.2-1.3 times longer than wide. Pronotum semicircular, doubly punctured. Large punctures distributed almost uniformly on whole pronotal disc. Pronotal margin in lateral view regularly convex. Elytral rows moderately punctate. Elytral intervals finely punctate with several large punctures in anterior third. Punctuation of pygidium dense, large punctures almost touching each other. Ventral surface without diagnostic characters. Hind legs without dimorphic characters, hind tibia with dorsolateral carina, lateral carina not serrate. Hind tibial spines straight, sharp, of equal length. Claws with large basal tooth.

Male. Sternum V emarginate to half length. Median lobe stout, parallel-sided, ventral valve very short, transverse, apex acuminate. Dorsal valve subpentagonal, apex obtuse. Internal sac in the middle with two elongate groups of very small sclerites (fig. 160). Lateral lobes moderately long, tape-like, narrowed apically, apex acute, external and basal margins with moderately dense and short hair, internal margin with about twice scarcely and twice longer hair. Basal plate of the lobes narrow, without medial sclerites (fig. 161).

Female unavailable.

Host plant unknown.

DISTRIBUTION

India.

TYPES

Holotype male, India, Bombay, 10 X 1981, leg. A. KUŠKA (IZPAS); paratype male, same data (LB).

MATERIAL EXAMINED

No additional material.

REMARKS

It is a member of *S. niger* group. With *S. aeneipennis* and *S. niger* it forms a subgroup with elongate group of small granules in the middle of external margin of internal sac. These three species differ in shape of ventral valve. *S. aeneipennis* has ventral valve regu-

larly triangular, in *S. niger* it is pentagonal, while in *S. kingsolveri* ventral valve is transverse. See also remarks under *S. aeneipennis*.

***Spermophagus klapperichi* BOROWIEC, 1985**
(figs. 43, 149-151, 388)

Spermophagus klapperichi BOROWIEC, 1985 a: 19.

Spermophagus caucasicus; WENDT, 1983: 97 (misidentification).

DESCRIPTION

Length: 1.3-1.4 mm, width: 1.0-1.1 mm.

Black, only hind tibial spines reddish.

Vestiture uniform, greyish or brownish, scarce, not covering body surface (fig. 43).

Body short, almost spherical. Head short, eyes emarginate to $\frac{3}{4}$ length. Frons about 1.3 times wider than width of eye, without median keel. Antennae short, reaching to humeral callus. Segment 3 about 1.2 times longer than 2. Segments 8-10 about equal in length and width. Pronotum semicircular, doubly punctured, large punctures disposed almost uniformly on whole disc. Pronotal margin in lateral view feebly convex. Elytral rows moderately punctate. Elytral intervals with only a few large punctures in basal part. Punctuation of pygidium dense, large punctures almost touching each other. Ventral surface without diagnostic characters. Hind legs without dimorphic characters, hind tibia without dorsolateral carina, lateral carina strongly serrate. Hind tibial spines sharp, of equal length. Claws with very small basal tooth, the tooth in male smaller than in female.

Male. Sternum V emarginate to half length. Median lobe elongate, Ventral and dorsal valvae elongate, pentagonal, with acute apex. Internal sac without sclerites (fig. 149). Lateral lobes elongate, tape-like, narrowed apically with apex acute (fig. 150). Margins of lobes crenulate with long hair (fig. 151).

Female. Sternum V not emarginate. Ovipositor of standard type, with oblique pubescent suture, distinct circular pigmentation, pecten short with no enlarged base, apical lobes subangulate (fig. 388).

Host plant unknown.

DISTRIBUTION

E Jordan.

TYPES

Holotype male, allotype female, and two paratype females, E Jordan, Homer near Amman, 600 m, 26 IV 1959, leg. J. KLAPPERICH (holotype, allotype and paratype in HNHM, paratype in LB).

MATERIAL EXAMINED

No additional material.

REMARKS

It is a member of *S. sericeus* group. It is a smallest species of the group. Reduced basal tooth of tarsal claws nears this species to *S. maafensis* and *S. altaicus*. The latter differs

distinctly in hind tibial spines black (reddish in *maafensis* and *klapperichi*), *S. maafensis* differs in antennal segments 8-10 longer than wide (in *klapperichi* as long as or shorter than wide), both species are also separated geographically - *S. klapperichi* occurs in Jordan, while *S. maafensis* is west mediterranean species recorded from S Spain, Morocco and Algeria. See also remarks under *S. sericeus*.

***Spermophagus kochi* DECELLE, 1975**

(figs. 44, 295-297, 389)

Spermophagus kochi DECELLE, 1975 b: 28.

Spermophagus kochi ssp. *corrocaensis* DECELLE, 1975 b: 30, n. syn.

DESCRIPTION

Length: 2.6-3.0 mm, width: 1.9-2.2 mm.

Black, only hind tibial spines reddish.

Vestiture dense, brown, yellow and white, covering body surface (fig. 44). Yellow hair forms band along suture to 3/4 length of interval 1, and elongate spot in the middle of interval 2. White hair form small spot in 1/3 length of interval 3, large transverse spot in the middle of intervals 7 to 9, oblique spot in 3/4 length of intervals 3 to 5, cover base of pronotum, base and apex of pygidium, median pygidial line, lateral plates of mesosternum, angles of hind coxa and angles of abdominal sternites. White spots on pygidium and pronotum bordered by yellow hair, or basal band on pygidium only in the middle white and on sides yellow.

Head short, eyes deeply emarginate with only three facets beyond emargination. Frons about 1.6 times wider than long, in male with short and sharp median keel, in female without keel. Antennae elongate, extending to half length of elytron, segment 3 about 1.3 times longer than 2, segments 8-10 about 1.4-1.5 times longer than wide. Pronotum about 1.5 times wider than long. Disc doubly punctured, large punctures deep and dense, surface of disc appearing slightly rough. Lateral margin in lateral view strongly convex. Elytral rows deep, intervals with rows of large punctures. Punctuation of pygidium extremely large and deep, in male distance between punctures as wide as puncture diameter, in female punctuation very dense, in apical part of pygidium appearing rugose. Hind legs without dimorphic characters, hind tibia without dorsolateral carina, lateral carina only in apical fourth slightly serrate, hind tibial spines long, sharp, of equal length. Tarsal claws without basal tooth.

Male. Antennae slightly longer. Sternum V emarginate to 2/3 length. Pygidium more convex, scarcely punctate. Median lobe

Female. Antennae shorter. Pygidium largely and densely punctate. Sternum V not emarginate, but pygidium horizontal. Ovipositor of standard type, with oblique pubescent suture, with circular pigmentation, pecten without enlarged base, apical lobe bent externally, setae along inner margin of oblique suture strong, spiniform (fig. 389).

The specimen described as ssp. *corrocaensis* is slightly narrower than typical male, with dorsal surface mostly pale brown, except pattern as in typical form, and almost uniformly chalk-white pubescence on ventral side. In my opinion it is only a local form, not a true subspecies. Male genitalia as in typical form.

Host plant unknown.

DISTRIBUTION

South Africa, Mozambique, Angola.

TYPES

Spermophagus kochi: holotype male, Tsumkwe, Kungveld, I 1958, C. KOCH (TM); allotype female, Abachaus, Damaraland, XII 1951, G. HOBBOHM (TM).

Spermophagus kochi ssp. *corrocaensis*: holotype male, betw. Modamedes and Rio Coroca, S. Angola, sept. 1951, C. KOCH (TM).

MATERIAL EXAMINED

MOZAMBIQUE: Lumbo, 1 X 1918, 1, LOVERIDGE (LB); SOUTH AFRICA: 1 (HNHM).

REMARKS

It is a member of *S. kochi* group. All species of the group have similar elytral pattern, with pale band along suture apically with oblique pale spot extending to third or fourth elytral row, and large pale spot in the middle of external margin of elytra. This group includes also *S. albosuturalis* and *S. inlineolatus*. The latter species differs distinctly in lateral lobes narrow, and distance between bases of lobes about four times wider than width of each lobe at base. *S. albosuturalis* differs in basal plate of lateral lobes in basal half almost parallel-sided in distal half strongly narrowed, while in *S. kochi* basal plate of lateral lobes is gradually narrowed from base to apex.

Spermophagus kuesteri SCHILSKY, 1905

(figs. 98, 138-140, 390)

Spermophagus Küsteri SCHILSKY, 1905: no. 4; PIC, 1913: 60; ESCALERA, 1914: 493; HOFFMANN, 1945: 103; CALDERON, 1962: 215; DECELLE, 1975 a: 139, 1983: 240, ZAMPETTI, 1979: 206, 1981: 85; BRANDL, 1981: 11; WENDT, 1978: 358, 1984: 166, 1985: 283; BOROWIEC, 1983 a: 125, 1984: 300, 1985 a: 9; DECELLE and LODOS, 1989: 202.

Euspermophagus kuesteri: LUKIANOVITSH and TER-MINASSIAN, 1957: 496; POPOV, 1966: 9; BAGDASARIAN, 1967: 807; BATIASHVILI and ELERDASHVILI, 1969: 530.

Spermophagus albipilis CHOBOUT, 1898: 87.

Spermophagus swartukensis ALI HUSSAIN et KADHIM, 1986: 50 (*swartukensis* on p. 45), n. syn.

Spermophagus variolosopunctatus auct., part.

DESCRIPTION

Length: 2.0-3.0 mm, width: 1.5-2.4 mm.

Black, only hind tibial spines reddish.

Vestiture scarce, whitish, uniform on dorsal and ventral part of body, not covering body surface (fig. 98).

Head short, eyes emarginate to 2/3 length. Frons slightly wider than width of eye, without keel, sometimes with indistinct median impunctate line. Antennae moderately long, extending to humeral callus. Segment 3 about 1.5 times longer than 2, segments 8-10 slightly wider than long. Pronotum 1.5-1.6 times wider than long, doubly punctured, large punctures grouping mostly on sides of disc. Lateral margin in lateral view regularly convex. Elytral rows moderately punctate, intervals without or with indistinct large punctures.

Pygidium doubly punctured, large punctures shallow but dense, intervals 1.1-1.4 times wider than puncture diameter. Hind legs without sexual characters, hind tibia without dorsolateral carina or carina indistinct in basal half of tibia, lateral carina strongly serrate. Apical spines sharp, long, of equal length. Claws with large basal tooth.

Male. Sternum V emarginate to half length. Median lobe moderately long, ventral valve subtriangular, apex angulate, dorsal valve slightly narrower than ventral, triangular, apex angulate, internal sac without sclerites (fig. 138). Lateral lobes moderately long, tape-like, apex obtuse, margins with dense, long sensory setae. Basal plate of lateral lobes broad, strongly narrowed to 1/3 length, anterior margin on sides with group of dense setae (fig. 140). Spiculum gastrale not modified (fig. 139).

Female. Sternum V not emarginate. Ovipositor of standard type, with oblique pubescent suture, without circular pigmentation, pecten long with no enlarged base, apical lobes narrow, angulate apically (fig. 390).

Host plant. *Convolvulaceae*: *Convolvulus althaeoides*, *C. arvensis*, *C. cantabrica*.

DISTRIBUTION

Mediterranean Subregion, including North Africa and the Near East, north to northern Spain, Alps, Roumania, also in Iran, Afghanistan, and Russian Middle Asia.

TYPES

Spermophagus kuesteri: lectotype male, Anatolien, Ak Chehir, 1900, KORB (designated by BOROWIEC, 1985: 10, MNHU); two paralectotype females and paralectotype male, the same data (MNHU); two paralectotype males and two paralectotype females, Anatolien, Konia, 1899, KORB (MNHU); two paralectotype females, Konia, KORB (MNHU); paralectotype female, Ak Chehir, KORB (MNHU); Paralectotype male and paralectotype female, Tunis, HORN (MNHU).

Spermophagus albipilis: unknown to me.

Spermophagus swartukensis: unknown to me. The drawings of male genitalia beyond a doubt to show the identity of *S. swartukensis* with *S. kuesteri*.

MATERIAL EXAMINED

See BOROWIEC, 1985: 9. New material: ALGERIA: Bouira, 12 VI 1971, 1, 13 VI 1971, 3, HOFFER and HORAK (JS); Ait Hassem, 18 VI 1971, 2, HOFFER and HORAK (JS); BULGARIA: Nessebar, 24 VI 1965, 1, 13 IX 1966, 1, T. PALM (LU); Zlatni Piasaci, 1-21 VIII 1970, 4, T. PALM (LU); Albena, 19 VIII-1 IX 1983, 4, 22 VI-5 VII 1985, 11, T. PALM (LU); GREECE: Peloponessos, Argos, 23-26 IV 1981, 1, B. MALKIN and A. RIEDEL (BM); Sparta, Taygetos Mts, Hway Kalamata-Sparta, 10 km E of Artemisia, 1000-1100 m, 5-10 VI 1981, 1, B. and H. MALKIN (BM); Samos, Valionthates valley, near Aghios Konstantinos, 23 V 1981, 3, B. and H. MALKIN (BM); Korfu, Gastauri, V 1964, 1, T. PALM (LU); Rhodos, 24 VI-4 VII 1958, 4, T. PALM (LU); ITALY: Genova, 16 VII 1944, 1, F. CAPRA (MCSNG); SPAIN: Granada, Pinos Genil, 21 VI 1967, 1 (IZPAS); Playa de Aro, 2-17 VII 1963, 1, T. PALM (LU); Puerto Real, 10 VII 1973, 1, M. TÓTH; Marbella, 10-30 IV 1960, 11, 1-21 VII 1962, 2, T. PALM (LU), 4 IV 1966, 1, 18 VI 1966, 3, A. SUNDHOLM (LU); Mallorca, Alcudia, 6-20 VIII 1977, 3, T. PALM (LU); TURKEY: Gorome, Cappadocia, 13-14 VI 1979, 1, B. and H. MALKIN (BM); Bogazkale (Yasilikaya), 30 km SE of Sungurlu, 7 VI 1979, 1, B. and H. MALKIN (BM); YUGOSLAVIA: Istria, Portoroz, 30 VI-17 VII 1959, 1,

T. PALM (LU); 14 km ENE of Dubrovnik, 29 VI 1975, 1. L. CEDERHOLM (LU).

REMARKS

It is a member of *S. sericeus* group. Reddish hind tibial spines and large basal tooth of tarsal claws near this species to *S. confusus*, *S. pubiventris* and *S. canus*. *S. confusus* distinctly differs in elytral vestiture very short, dark brown and pygidium with transverse basal band of chalk-white hairs. *S. canus* and *S. pubiventris* differ in elytral vestiture dense, covering body surface (not covering body surface in *S. kuesteri*), and in different structure of lateral lobes - very short in *S. canus* and elongate, tape-like, acute apically in *S. pubiventris* (in *S. kuesteri* lateral lobes are moderately elongate, obtuse apically). Forms of *S. calystegiae* with reddish hind tibial spines are very similar to *S. kuesteri* but in *S. calystegiae* lateral lobes are long, tape-like, acute apically more similar to lateral lobes of *S. pubiventris* than to those of *S. kuesteri*. See also remarks under *S. sericeus*.

Spermophagus kuskai BOROWIEC, 1986

(figs. 45, 224, 225)

Spermophagus kuskai BOROWIEC, 1986 a: 782.

Spermophagus albosparsus: ARORA, 1977: 88 (misidentification).

DESCRIPTION

Length: 2.2 mm, width: 1.7 mm.

Black, only hind tibial spines reddish.

Vestiture scarce, brown and white. White hair forms on pronotum two spots at anterior margin, four in the middle, and four at base, also hind corners of pronotum with white hair. Elytra with white spots at base of intervals 3 and 5, white spot in front of the middle of interval 3, white band in front of the middle between intervals 5 and 9, and white band in posterior third between intervals 4 and 9 with interruption on interval 6 (fig. 45). Pygidium with white basal band and median line, and with two large, brown patches.

Body short, oval. Head short, eyes deeply emarginate, with only three facets beyond emargination. Frons about as wide as width of eye, without median keel. Antennae moderately long, reaching to half body length. Segment 3 about twice longer than 2, segments 6-10 about 1.7-1.8 times longer than wide. Pronotum semicircular, doubly punctured, large punctures distributed almost uniformly on whole pronotal disc. Pronotal margin in lateral view regularly convex. Elytral rows moderately punctate. Elytral intervals finely punctate, with irregular rows of large punctures. Pygidium densely punctate, large punctures almost touching each other. Ventral surface without diagnostic characters. Hind legs without dimorphic characters, hind tibia without dorsolateral carina, lateral carina not serrate. Hind tibial spines straight, sharp, of equal length. Claws with large basal tooth.

Male. Sternum V emarginate to half length. Ventral lobe very long, parallel-sided, ventral valve subpentagonal, apex acuminate. Internal sac without sclerites (fig. 224). Lateral lobes long, narrow, tape-like, narrowed apically with apex acuminate, margins with long hair (fig. 225).

Female unavailable.

Host plant. *Malvaceae*: *Abelmoschus esculentus* L. (after ARORA, 1977: 88).

DISTRIBUTION

India.

TYPE

Holotype male, India, Bombay, 10 X 1981, leg. A. KUŠKA (IZPAS).

MATERIAL EXAMINED

No additional material.

REMARKS

It is a member of *S. albosparsus* group. It the only species of the group with internal sac without apical spines. See also remarks under *S. albosparsus*.

***Spermophagus latithorax* BOHEMAN, 1829**
(figs. 99, 236-238, 391)

Bruchus latithorax BOHEMAN, 1829: 116.

Spermophagus latithorax: SCHÖNHERR, 1833: 108; PIC, 1913: 60; DEBELLE, 1984: 54.

Spermophagus tomentosus KLUG, 1835: 42; PIC, 1913: 62; WENDT, 1978: 363, n. syn.

Spermophagus gossypi CHEVROLAT, 1871: 8; PIC, 1913: 59, n. syn.

Spermophagus natalensis FAHRARUS, 1871: 445; PIC, 1913: 60, n. syn.

Bruchus trogodermoides FAIRMAIRE, 1902: 247; PIC, 1913: 62, n. syn.

Spermophagus latipennis PIC, 1918 b: 9, n. syn.

Spermophagus sp. near *gossypii*: PRIEVETE, 1966: 178, 1971: 285.

DESCRIPTION

Length: 2.4-3.4 mm, width: 1.7-2.7 mm.

Black, hind tibial spines reddish, first, and occasionally second, antennal segment completely or only its ventral side reddish or reddish-brown.

Vestiture dense, covering body surface, brownish, ochraceous or yellowish. Pronotum and elytra usually with several small spots of paler, whitish or greyish, hairs forming a marble pattern (fig. 99). Occasionally whitish hairs form indistinct irregular transverse bands in 1/3 and 2/3 elytral length. Scutellum usually with white hairs. Sometimes pale and darker hairs are mixed and do not form a distinct pattern, occasionally vestiture uniform brownish or ochraceous. Vestiture of pygidium varying from uniform, paler than vestiture of elytra, to variegate with irregular dark spot in the middle, or with basal band of ochraceous hairs and narrow median line, or with two dark spots apically. Ventrites uniformly pubescent or with mixed paler and darker yellowish or greyish hair.

Head short, eyes emarginate to half length. Frons slightly narrower than width of eye, usually with short median keel, extending from frontoclypeal suture to 2/3-3/4 length of frons, sometimes frons roof-like convex but without keel. Antennae moderately long, extending to humeral callus, segment 3 about 1.4-1.5 times longer than 2, segments 8-10 about 1.1 times longer than wide. Pronotum 1.7 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view strongly convex. Elytral rows moderately punctate, intervals with several large punctures. Punctuation of pygidium in anterior half moderately dense to dense, intervals 1.2-1.5 times wider than puncture diameter, in posterior half extremely dense, punctures almost

touching each other, surface appearing rugose. Hind legs with no sexual characters, hind tibia with distinct dorsolateral carina, lateral carina not serrate, hind tibial spines sharp, straight, outer slightly longer than inner. Claws with large basal tooth.

Male. Sternum V emarginate up to base. Median lobe moderately long, ventral valve short, rectangular, with small apical, medial process. Internal sac in anterior half divided into two granulose lobes, in the middle with pair of extremely large spines and pair of elongate serrate plates, behind the plates with 8-15 extremely large spines (fig. 236). The serrate plates varying in various populations from straight to arcuate (fig. 237). The number of apical sclerites is not correlated with geographic distribution or size of beetle. Lateral lobes short, almost circular, rounded apically, inner margin with a few short setae. Basal plate narrowed basally and apically (fig. 243). Spiculum gastrale slightly modified (fig. 238).

Female. Sternum V not emarginate. Ovipositor of standard type, elongate, with oblique pubescent suture, with short circular sclerite, pecten without enlarged base, apical lobes short, obtuse (fig. 391).

Host plant. *Convolvulaceae*: *Ipomea asarifolia*; *Caesalpiniaceae*: *Cassia didymobotrya*.

DISTRIBUTION

Gambia, Prince Is., Cap Verde Is., Togo, Ghana, Sierra Leone, Cameroon, Sudan, Ethiopia, Kenya, South Africa, Madagascar.

TYPES

Bruchus latithorax: holotype female, S. Leona, AFZELIUS (NRS).

Bruchus tomentosus: holotype male, Ile de Pr., ERM. (ZMHU).

Spermophagus gossypi: Lectotype female, Natal, Paris (NRS, present designation); paralectotype female, grain on Caty (NRS).

Spermophagus natalensis: lectotype female, Caffraria, J. VAHL (present designation, NRS).

Bruchus trogodermoides: holotype female, Madagascar (MHNP).

Spermophagus latipennis: holotype female, Brit. O. Afrika (MHNP).

MATERIAL EXAMINED

CAMEROON: Tome near Victoria, 22-31 I 1980, 1, Polish Student Exp. (LB); CAP VERDE IS: Brava Achada Favatal, 3 III 1954, 1, LINDBERG (LB); Rombos Ilheu Grande, 27 II 1954, 1, LINDBERG (LB); Fogo Rib. Fonte Garinha, 17 II 1954, 1, LINDBERG (LB); Boavista Rabil, 31 I 1954, 3, LINDBERG (LB); ETHIOPIA: Vallis Erer, 1, KOVÁCS (HNHM); Sodere, sweep-netted, 17 XI 1980, 1, A. DEMETER (HNHM); GAMBIA: Bathurst, Jan. 68, 7, T. PALM (LU, LB); GHANA: Accra Plain ad Akuse et Osudoku Hill, 30 VII 1963, 1, M. PRÓSZYNSKA and J. PRÓSZYNSKI (IZPAS); KENYA: Malindi, aus Gerüsch geklopft, 25 VIII 1983, 1, H. J. BREMER (HNHM); Shantz, in seeds *Cassia didymobotrya*, 12 VI 20, 9, W. S. FISHER (USNM); TOGO: Bismarckburg, 3-10 XII 92, 1, L. CONRADT (ZMHU); SOUTH AFRICA: Tshakoma, Zpb., Nov. 1931, 1, G. VAN SON (TM); Sea Park, VI 1950, 1, A. L. CAPENER (TM); SUDAN: Prov. N Darfur Haluf, 750 m, 10 km N of El Fasher, feuchtes Wadi, gekätschert, 31 VII 1977, 4, H. J. BREMER (HNHM, LB).

REMARKS

With *S. maynei* it forms *S. latithorax* group. Both species are large, length above 2.4 mm, with elytral vestiture forming a pattern, lateral lobes oval to circular and internal sac with extremely large sclerites. *S. maynei* differs in elytral vestiture scarce, ground colour of elytra brownish (in *S. latithorax* vestiture is moderately dense to dense, ground colour of elytra yellowish-brown), lateral lobes oval, longer than wide (in *S. latithorax* circular about as wide as long), internal sac without elongate serrate sclerite.

***Spermophagus ligatus* CHEVROLAT, 1877**
(figs. 46, 313-315, 392)

Spermophagus ligatus CHEVROLAT, 1877: CXXXIV; PIC, 1913: 60.
Spermophagus atroapicalis PIC, 1929: 12.

DESCRIPTION

Length: 2.8-2.9 mm, width: 2.2-2.4 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense to dense, almost covering body surface. On pronotal disc marble pattern with yellowish or olive-grey and brown hairs. Elytra with large apical, semicircular spot of dark brown hairs (fig. 46). In front of the apical spot vestiture varying from uniform, yellowish or greyish, to variegate, with several spots of paler hairs on intervals 3, 5, 7, and 9, and usually front margin of the apical spot bordered with paler hairs. Pygidium with basal bicoloured band: anterior margin white or grey, posterior margin rusty. Other part of pygidium uniformly whitish or greyish pubescent, or with mixed whitish and yellowish hairs. In specimens with dorsal vestiture uniform, yellowish (except apical spot), pygidium is usually also uniformly pubescent or with indistinct basal band of dense hairs. Ventriles uniformly greyish or yellowish pubescent.

Head short, eyes emarginate to $2/3$ length. Frons as wide as width of eye, with sharp median keel, extending from frontoclypeal suture to the middle of vertex, sometimes with small pit at end. Antennae moderately long, extending to humeral callus. Segment 3 about 1.5 times longer than 2, segments, 8-10 about 1.2 times longer than wide. Pronotum about 1.7 times wider than long, doubly punctured, large punctures deep, dense, disposed almost uniformly on whole disc. Elytral rows moderately punctate, intervals with several large punctures. Large punctures on pygidium dense, intervals about 1.1-1.3 times wider than puncture diameter. Hind legs with no sexual characters, hind tibia with sharp dorsolateral carina, lateral carina not serrate. Apical spines sharp, straight, inner spine about 1.3 times longer than the outer. Claws with large basal tooth.

Male. Sternum V emarginate to $3/4$ length. Median lobe moderately long, ventral valve very short, broadly oval, apex truncate, dorsal valve oval, apex regularly rounded. Internal sac in anterior half squamose, in apical part with a pair of extremely large, hook-like sclerites (fig. 313). Surface of sac above spines with several long setae. Lateral lobes short, elongate oval, apex obliquely truncate, margins with dense, long setae, surface with several short setae. Basal plate of lateral lobes narrow, almost parallel-sided (fig. 314). Spiculum gastrale not modified (fig. 315).

Female. Sternum V not emarginate. Ovipositor of standard type, short, with oblique pubescent suture and circular pigmentation, pecten with slightly enlarged base, apical lobes densely pubescent (fig. 392).

Host plant. Unknown.

DISTRIBUTION

India, Vietnam.

TYPES

Spermophagus ligatus: holotype male, Ind. or., Neelgheris roy., PERROTEL (NRS).

Spermophagus atroapicalis: Lectotype female, Hoa Binh (present designation, MHNP).

MATERIAL EXAMINED

INDIA: S. India, Nedungadu, 1936, 2, P. S. NATHAN (MHNP); Bangalore, 1936, 3, P. S. NATHAN (MHNP); Bengal, Barrackpore, 20 V 44, 1, D. E. HARDY (USNM); VIETNAM: Dalat, 1500 m, 26-27 IX 1960, 3 (USNM); 20 km S Dalat, 1300 m, 12 IX 1960, 1, J. L. GRESSITT (USNM).

REMARKS

It is a member of *S. ligatus* group. It differs from all species of the group, as well as from all other world species of the genus in elytral pattern with large semicircular apical spot. See also remarks under *S. excavatus*.

Spermophagus lindbergorum DECELLE, 1975 (figs. 47, 181-183)

Spermophagus lindbergorum DECELLE, 1975 a: 140.

DESCRIPTION

Length: 1.9 mm, width: 0.8 mm.

Black, only hind tibial spines reddish.

Vestiture dense, covering body surface, olive-greyish with indistinct marble pattern of lighter hair (fig. 47). Pygidium and ventral surface with uniform olive-greyish hairs.

Body almost spherical. Head short, eyes emarginate to 2/3 length. Frons as wide as width of eye, without median keel. Antennae short, extending to humeral callus. Segment 3 about 1.3 times longer than 2, segments 8-10 slightly longer than wide. Pronotum 1.6 times wider than long. Lateral margin in lateral view almost straight. Puncturation of disc doubly, large punctures disposed almost uniformly on whole pronotal disc. Elytra slightly longer than wide. Rows distinctly punctured, intervals with a few shallow, large punctures. Pygidium regularly convex, shallow but largely punctured, distance between punctures about 0.3-0.5 times shorter than puncture diameter. Ventral surface without diagnostic characters. Hind legs with no sexual characters, hind tibia without dorsolateral carina, lateral carina serrate. Hind tibial spines sharp, external slightly shorter than the internal. Claws with large basal tooth.

Male. Last sternum emarginate to 3/4 length. Median lobe elongate, ventral valve regularly pentagonal, apex acute, dorsal valve similar to the ventral. Internal sac in anterior third with numerous small spines and large sclerite composed of two long clubs (fig. 181). Posterior half of internal sac without sclerites. Lateral lobes moderately long, tape-like, with rounded apex. Each lobe with long sensory hair on margins, and distinct row along

external margin (fig. 182). Base almost parallel-sided. Spiculum gastrale strongly modified (fig. 183).

Female unavailable.

Host plant unknown.

DISTRIBUTION

Canary Is. (Tenerife).

TYPE

Holotype male, Canary Is., Tenerife, Barr. S. Antonio, 4.2.49, LINDBERG "*Spermophagus Küsteri*" SCHILS. Harald LINDBERG det., typ. no. 15145 coll. Mus. Helsingfors (ZMHU).

MATERIAL EXAMINED

No additional material.

REMARKS

It is a member of *S. humilis* group. See remarks under *S. humilis*.

Spermophagus maafensis BOROWIEC, 1985 (figs. 49, 145-148, 393)

Spermophagus maafensis BOROWIEC, 1985 a: 17.

DESCRIPTION

Length: 1.7-2.2 mm, width: 1.4-1.7 mm.

Black, only hind tibial spines reddish.

Vestiture scarce, greyish, uniform, not covering body surface (fig. 49).

Head short, eyes deeply emarginate, with only three facets behind incision. Frons 1.5 times wider than width of eye, without median keel, sometimes with indistinct, narrow median impunctate line. Antennae moderately long, extending to 1/4 length of elytra, segment 3 about 1.3 times longer than 2, segments 8-10 about 1.3 times longer than wide. Pronotum about 1.6 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view moderately to strongly convex. Elytral rows moderately punctate, intervals with several large punctures. Punctuation of pygidium dense, large punctures almost touching each other. Hind legs with no sexual characters, hind tibia without dorsolateral carina, lateral carina serrate, hind tibial spines sharp, straight, of equal length. Claws of fore and mid legs without basal tooth, of hind legs with very small basal tooth.

Male. Sternum V emarginate to half length. Median lobe elongate, ventral and dorsal valvae elongate-pentagonal. Internal sac without sclerites (fig. 146). Lateral lobes long, narrow, tape-like, acute apically, margins with dense, long setae (148). Basal plate of lateral lobes narrow, from base to 1/3 length distinctly narrowed, the remaining part parallel-sided (fig. 147). Spiculum gastrale as in fig. 145.

Female. Sternum V not emarginate. Ovipositor of standard type (fig. 393).

Host plant unknown.

DISTRIBUTION

S Spain, Morocco, Algeria.

TYPES

Holotype male, Morocco, Moyen Atlas, Azrou, 24 VI-2 VII 1926, leg. Lindberg (HU); paratype male, S Spain, Algeciras, 18 VII 1926, leg. LINDBERG (HU); paratype male, Algeria, Maafa (HNHM).

MATERIAL EXAMINED

ALGERIA: Bouira, 12 VI 1971, 1, 18 VI 1971, 1, HOFFER and HORAK (JS); Alger env., 15-16 V 1971, 2, HOFFER and HORAK (JS, LB); MOROCCO: Meknes (550 m), 1919, 1, R. BENOIT (MHNP); Maroc, 1 (NMB); Tanger, 1 (NMB).

REMARKS

It is a member of *S. sericeus* group. Reduced basal tooth of tarsal claws nears this species to *S. altaicus* and *S. klapperichi*. See remarks under *S. klapperichi*.

Spermophagus maai n. sp.
(figs. 50, 316, 317)

DESCRIPTION

Length: 2.9 mm, width: 2.3 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, not covering body surface. Pronotum and elytra with marble pattern of brown and whitish spots (fig. 50). Pygidium mostly brown pubescent with basal transverse band of rusty, dense hairs, and narrow median line. Ventrites mostly greyish pubescent, sides of hind margins of abdominal sternites with rusty hairs.

Head short, eyes emarginate only to half length, frons slightly wider than width of eye, without keel. Antennae moderately long, extending to humerus, segment 3 about 1.2 times longer than 2, segments 8-10 about 1.2-1.3 times longer than wide. Pronotum 1.6 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view strongly convex. Elytral rows moderately punctate, intervals with several large punctures. Hind legs with no sexual characters, hind tibia with dorsolateral carina, lateral carina not serrate. Hind tibial spines sharp, straight, inner spine about 1.5 times longer than the outer. Claws with large basal tooth.

Male. Sternum V emarginate to 3/4 length. Median lobe moderately long, ventral valve very short, subsemicircular, anterior margin regularly rounded, dorsal valve similar to ventral but anterior margin not as regular as in ventral valve, subangulate. Internal sac in the middle with a pair of extremely large, hook-like sclerites, sac behind sclerites strongly narrowed with tube-like structure along the middle (fig. 316). Lateral lobes short, apex broadly rounded, margins with dense long setae, surface with several short setae. Basal plate moderately broad, slightly narrowed apically (fig. 317).

Female. Unavailable.

Host plant unknown.

DISTRIBUTION

Thailand.

TYPE

Holotype male, Thailand (NW), Doi Suthep, 1278, III-29-V-4-1958, T.C. MAA collector (BM).

REMARKS

It is a member of *S. ligatus* group. See remarks under *S. excavatus*.

Spermophagus madecassus Pic, 1917
(figs. 53, 118)

Spermophagus madecassus Pic, 1917: 8.

DESCRIPTION

Length: 2.8 mm, width: 2.3 mm.

Black, only hind tibial spines reddish.

Vestiture extremely short and scarce, dark brown, not covering body surface (fig. 53).

Ventral surface with extremely short brown hair.

Body short-oval. Head short, frons without median keel. Antennae short, extending to hind pronotal corners. Segment 3 about 1.3 times longer than 2, segments 8-10 slightly wider than long. Pronotum about 1.7 times wider than long. Disc duple punctured, large punctures disposed almost uniformly on whole surface of disc. Lateral margin in lateral view regularly convex. Elytral rows indistinctly punctured, intervals with several shallow, large punctures. Pygidium with extremely large and dense punctures but not appearing rugose. Hind tibia sexually dimorphic, lateral carina not serrate. Claws with large basal tooth.

Male. Hind tibia almost straight with dorsolateral carina. Inner margin with dense long hair, first tarsomere without hair (fig. 118). Internal apical spine about twice longer than the external. Genitalia not available to study (in the only known specimen abdomen has been partly destroyed by a dermestid beetle and genitalia are missing).

Female unavailable.

Host plant unknown.

DISTRIBUTION

Madagascar.

TYPE

Holotype male, Madagascar, Tananarive (MHNP).

REMARKS

It is a member of *S. hottentotus* group. Like *S. bimaculatus*, *S. newtoni* and *S. ciliatipes* it has no dense hairs on ventral edge of male first tarsomere. *S. bimaculatus* differs in bi-

coloured elytra, *S. newtoni* in pygidium with basal band of extremely dense, chalk-white hairs, and *ciliatipes* differs in elytral greyish vestiture (dark brown in *S. madecassus*).

***Spermophagus malvacearum* DECHELLE, 1971**
(figs. 51, 209-211, 394)

Spermophagus malvacearum DECHELLE, 1971: 254, 1975b: 28; ZAMPETTI, 1988: 109.

DESCRIPTION

Length: 2.0-2.1 mm, width: 1.3-1.4 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, almost covering body surface, mostly yellowish, pronotal disc with indistinct spots of darker yellowish-brown hairs in front of the scutellum, and in the middle of each side of basal margin. Elytra with indistinct spots of yellowish brown hairs in 1/4 length of interval 4, in the middle pf intervals 5, 6 and 9, 10, and with large apical spot (fig. 51). Pygidium and ventrites uniformly yellowish pubescent.

Head short, eyes emarginate to 3/4 length. Frons slightly wider than width of eye, without median keel. Antennae moderately long, extending to humeral callus, segment 3 about 1.2-1.3 times longer than 2, segments 8-10 slightly longer than wide. Pronotum only 1.4 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view moderately convex. Elytral rows moderately punctate, intervals with irregular row of large punctures. Puncturation of pygidium dense, intervals 1.1-1.3 times wider than puncture diameter. Hind legs with no sexual characters. Hind tibia without dorsolateral carina, lateral carina not serrate, hind tibial spines straight, sharp, of equal length. Claws with large basal tooth.

Male. Sternum V emarginate to 2/3 length. Median lobe moderately long, ventral valve pentagonal with distinctly concave sides, apex acuminate, dorsal valve subtriangular with slightly concave sides, apex angulate. Internal sac divided into two tapes, in anterior fourth with band of dense needles along margins, other part of sac without distinct sclerites (fig. 209). Lateral lobes elongate, basal part of each lobe widened, cordiform, apex rounded to subangulate, outer margin with moderately long setae in basal 3/4 length, inner margin with only 5-7 long setae in basal half (fig. 210). Spiculum gastrale not modified (fig. 211).

Female. Sternum V not emarginate. Ovipositor of standard type, long, with oblique pubescent suture, without circular pigmentation, pecten with enlarged base, apical lobes densely pubescent (fig. 394).

Host plant. Probably *Malvaceae*, beetles have been collected from pinkflowered Malvaceous weed.

DISTRIBUTION

Ethiopia, Kenya, Zair, Rwanda, Angola.

TYPES

Holotype male, Ethiopia, Djem-Djem Forest, 8000 ft, 8/9 X 1926, from pinkflowered Malvaceous weed, Dr. H. SCOTT (BMNH); five paratype males and five paratype females (BMNH).

MATERIAL EXAMINED

KENYA: Kitale, Vasin Gishu, 2100 m, 1, Mission de l'Omo (MHNP); M. Elgon, 2000 m, 30 I 79, 1, T. PALM (LU); ZAIRE: Kisanu, VIII 1920, 1, P. VANDERIJST (MRAC); Luebo, 7 IX 1921, 1, H. SCHOUTEDEN (MRAC);

REMARKS

With *S. murtulai* and *S. schroederi* it forms *S. malvacearum* group characterized by elytra with pattern, tarsal claws with large basal tooth, internal sac without large sclerites, lateral lobes moderately elongate, narrow, each lobe with enlarged base. *S. schroederi* differs in contrasting elytral pattern, white hairs forming a transverse band in the middle of elytra (in *S. malvacearum* and *S. murtulai* elytral vestiture lacks contrasting white hairs). *S. malvacearum* and *S. murtulai* are very similar, but in *S. malvacearum* ventral valve is subtriangular while in *S. murtulai* ventral valve is square, basal plate of lateral lobes in *S. malvacearum* has triangular basal pigmented area (no such area in *S. murtulai*) and anterior margin truncate or concave (with triangular process in *S. murtulai*).

***Spermophagus mannarensis* DECELLE, 1986**
(figs. 52, 124, 352-354, 395)

Spermophagus mannarensis DECELLE, 1986: 451.

DESCRIPTION

Length: 1.8-2.1 mm, width: 1.4-1.6 mm.

Black, hind tibial spines reddish. First two antennal segments always paler coloured than remaining segments, reddish, brownish-red or brownish, sometimes only on ventral side reddish. Apices of fore and mid femora, and fore tibiae often reddish to brownish, sometimes also mid tibiae in the middle or in apical half reddish.

Vestiture moderately dense, not covering body surface. Pronotum brownish pubescent with several paler spots, the spots partly coalescent. Elytra with elongate spots at base of intervals 3 and 5, elongate spot in the middle of interval 2, and two narrow bands in 1/3 and 2/3 elytral length between intervals 3-9, often interval 2 and 4 with elongate spot near apex, scutellum and anterior half of suture usually with white hairs (fig. 52). Pygidium with band of paler hairs at base, and usually two paler spots in the middle, sometimes pygidium uniformly yellowish-brown pubescent. Ventrites uniformly greyish pubescent.

Head very short, eyes emarginate to 2/3 length. Frons slightly wider than width of eye, without median keel. Antennae very long, extending to 1/2-2/3 elytral length, segment 3 about 1.5 times longer than 2, segments 8-10 about 1.7-2.0 times longer than wide. Pronotum 1.7 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view almost straight. Elytral rows moderately punctate, intervals with irregular row of large punctures. Punctuation of pygidium dense, punctures almost touching each other. Hind legs with no sexual characters, hind tibia with sharp dorsolateral carina, lateral carina not serrate, apical spines straight, sharp, the inner slightly longer than the outer. Claws with large basal tooth.

Male. Antennae longer, reaching to 2/3 elytral length, segments 8-10 about twice longer than wide (fig. 124). Sternum V emarginate to 2/3 length. Median lobe moderately long, ventral valve strongly modified, transverse, short, anterior margin with triangular

emargination, dorsal valve rectangular with regularly rounded anterior margin. Internal sac in anterior part with band of needles, in the middle with small group of needles medially and two long bands of needles along margins (fig. 352). Lateral lobes strongly modified, their bases fused with large plate, dorsolateral corners of the plate with narrow, acuminate tapes, ventral margin of the tapes with long, dense sensory setae. Basal part of lobes narrow, almost parallel-sided (fig. 353). Spiculum gastrale modified (fig. 354).

Female. Antennae shorter, reaching to half length of elytra, segments 8-10 about 1.7 times longer than wide. Sternum V not emarginate. Ovipositor of standard type, elongate, with oblique pubescent suture, with short circular pigmentation, pecten with strongly enlarged base, apical lobes angulate (fig. 395).

Host plants. *Malvaceae*: *Hibiscus esculenta*, *Merremia chryseides*.

DISTRIBUTION

India, Ceylon, Vietnam.

TYPES

Holotype male, Ceylan, Northern Province, Mannar District, Mannar Island, 2 mi. W Pesalai, 24 III 1970, 10 ft., DAVIS et ROWE leg (USNM); two paratypes males, the same data (USNM).

MATERIAL EXAMINED

CEYLON: 1 (NMB); INDIA: intr. to Wash., seed of *Hibiscus esculenta*, 28 VI 49, 1 (USNM); intr. to Wash., okra seed, 25 V 49, 1 (USNM); Bombay, Surat, 6 VI 04, 1 (USNM); Mangalore, Nov. 1926, 1, J. C. BRIDWELL (USNM); Mangalore, Feb. 1927, in *Merremia chryseides*, 6 (USNM); Coimbatore, 16 VII 13, 1 (USNM); Assam, 6 mi N of Tinsukia, 16 III 44, 1, D. E. HARDY (USNM); VIETNAM: Thanh-My-An, 20 II 49, J. BARBIER, Saigon, 1, J. BARBIER, pare à combustibles, "*Spermophagus filicornis* det L. BOROWIEC, Holotype" (MHNP); Saigon, 27 III 49, "*Spermophagus filicornis* det. L. BOROWIEC, Paratype", 2, J. BARBIER (MHNP, LB); Hanoi, 21 V 1966, 1, R. BIELAWSKI and B. PISARSKI (IZPAS); Hanoi, 2-6 V 90, 3, R. DOBOSZ (USM, LB); Hoa binh, Ha son binh prov., 4-7 VI 1986, 1, J. HORAK (JS).

REMARKS

It is a member of *S. mannarensis* group. See remarks under *S. coimbatorensis*.

Spermophagus marmoreus n. sp. (figs. 54, 274-276, 396)

DESCRIPTION

Length: 1.7-2.3 mm, width: 1.3-1.6 mm.

Black, hind tibial spines reddish, basal antennal segment varying from yellowish brown to dark brown, second antennal segment often paler coloured than segments 3-11, brown with yellowish base, or brownish-black.

Vestiture moderately dense, not covering body surface. Pronotum and elytra usually with marble pattern of brown and greyish hairs (fig. 54). Sometimes, especially in small

specimens greyish spots mostly reduced and surface of pronotum and elytra appearing uniformly brown. Base of pygidium with transverse band of dense, rusty hairs, other parts with mixed brown and greyish hairs. Ventral surface uniformly greyish, upper corner of hind coxa usually with spot of dense hairs.

Head short, eyes emarginate to $2/3$ length. Frons as wide as width of eye, without median keel. Last segment of maxillary palpi moderately elongate, apex obliquely truncate. Antennae moderately elongate, extending to $1/3$ elytral length, segment 3 about 1.4 times longer than 2, segments 8-10 about 1.4 times longer than wide. Pronotum 1.5 times wider than long, doubly punctured, large punctures scarce but disposed almost uniformly on whole disc. Elytral rows finely punctate, intervals without or with several indistinct, shallow punctures. Pygidium densely punctate, large punctures almost touching each other. Hind legs with no dimorphic characters, hind tibia with obtuse dorsolateral carina, lateral carina not serrate, hind tibial spines sharp, the outer about 1.4 times longer than inner. Claws with large basal tooth.

Male. First abdominal sternum in the middle with brush of extremely dense hairs. Sternum V emarginate to $3/4$ length. Median lobe moderately elongate, ventral valve subtriangular with strongly concave sides, apex elongate-acuminate, dorsal valve short, apex rounded. Internal sac in anterior half with needles along sides, in the middle with a pair of elongate spines, each with hook-like apex, sac beyond the spines with extremely dense, small spines and needles (fig. 274). Lateral lobes strongly modified, each lobe divided into two extremely short plates, anterior margin of each plate with rows of setae, posterior plate also with several extremely strong, squamiform setae. Basal plate moderately broad, narrowed apically (fig. 276). Spiculum gastrale not modified (fig. 275).

Female. First abdominal sternum without brush of dense hairs. Sternum V not emarginate. Ovipositor of standard type, short and broad, with oblique pubescent suture, without circular pigmentation, pecten with strongly enlarged base, apical lobes angulate (fig. 396).

Host plant. *Asteraceae*; *Carthamus tinctorius*.

DISTRIBUTION

South Africa, Kenya, Tanzania.

TYPES

Holotype male, allotype female, 12 paratypes, S. Africa, Transvaal, Nylsvley, cow dung trap; 3.II.1978, leg.: Dr. S. ENDRÖDI (holotype, allotype, 8 paratypes in HNHM, 4 paratypes in LB); paratype male, 2000 m, T. PALM, Kenya, M. Elgon, 26 I 79 (LU); one paratype male and two paratypes female, Africa or., KATONA, Shirati 1909.IV [one female without date] (2 HNHM, 1 LB); 9 paratypes, South Africa, interc. 1960, in *Carthamus tinctorius*, 10 more specimens (USNM).

REMARKS

It belongs to *S. multipunctatus* group. See remarks under *S. multipunctatus*.

Spermophagus maurus FAHRAEUS, 1871 (figs. 56, 329-331, 397)

Spermophagus maurus FAHRAEUS, 1871: 445; Pic, 1913: 60; Decelle, 1951: 191.

DESCRIPTION

Length: 1.8-2.1 mm, width: 1.1-1.5 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, not covering body surface. pronotum mostly dark brown with pattern of greyish hair as in fig. 56. Elytra mostly brown, with three irregular transverse bands of pale hairs: at base, in 1/3 and 2/3 elytral length. Apical part dark often with one or two small pale spots (fig. 56). Pygidium with whitish basal band of very dense hairs and narrow median line, and two large brown apical spots. Ventrites uniformly greyish pubescent.

Head short, eyes emarginate to 2/3 length. Frons slightly narrower than width of eye, in male with sharp, in female with indistinct median keel. Antennae moderately long, extending to humeral callus, segment 3 about 1.6 times longer than 2, segments 8-10 slightly longer than wide. Pronotum about 1.6 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view strongly convex. Elytral rows moderately punctate, intervals with irregular row of large punctures. Puncturation of pygidium very dense, punctures almost touching each other. Hind legs with no dimorphic characters, hind tibia without dorsolateral carina, lateral carina not serrate. Hind tibial spines sharp, straight, of equal length.

Male. Abdomen telescoped. Sternum V emarginate up to base. Median lobe elongate, ventral and dorsal valvae pentagonal, slightly narrowed to base, apex of ventral valve truncate. Internal sac in anterior fourth with dense needles and bispinose sclerite, in the middle without sclerites, in apical third with numerous, dense, moderately large spines (fig. 329). Lateral lobes moderately long, tape-like, directed outwards, only outer margin with long setae. Basal plate narrowed apically with strongly pigmented margins (fig. 330). Spiculum gastrale modified (fig. 331).

Female. Abdomen not telescoped. Sternum V not emarginate. Ovipositor of standard type, long, with oblique suture and large pubescent area, without circular pigmentation, pecten without enlarged base, apical lobes very short (fig. 397).

Host plant. *Malvaceae*: *Hibiscus* sp.

DISTRIBUTION

Zair, Tanzania, South Africa.

TYPE

Lectotype female, "Typus", Caffraria, L. VAHL. (present designation, NRS); paralectotype male, Caffraria, L. VAHL. (NRS).

MATERIAL EXAMINED

SOUTH AFRICA: in *Hibiscus* seeds, 1 X 1935, 8 (USNM); TANZANIA: Mwomero, 19 VII 1916, 1, A. LOVERIDGE (LB);

REMARKS

It is a unique species with no close relatives. Internal sac with bispinose sclerite in anterior part and numerous spines apically is unique, also lateral lobes with base of each lobe bent externally are characteristic. *S. somalicus* at first glance is similar to *S. maurus* especially in size and vestiture, and median lobe with numerous spines apically, but it has no bispinose sclerite. Lateral lobes in *S. somalicus* are extremely short, subtriangular.

Spermophagus maynei Pic, 1924

(figs. 55, 234, 235, 242, 398)

Spermophagus maynei Pic, 1924: 456.

DESCRIPTION

Length: 2.6-2.7 mm, width: 2.1 mm.

Black, only hind tibial spines reddish.

Vestiture scarce to moderately dense, not covering body surface, brown and white. Pronotum mostly brown with several small, white spot. Elytra with 2-3 spots on each odd interval, small spot at base of interval 2, 4 and 6, and usually small spot in 3/4 length of interval 4 (fig. 55). Scutellum with white pubescence. Pygidium with basal band of whitish hairs, narrow median line of pale hair, and two large apical, brown spots. Ventrites uniformly greyish pubescent.

Head short, eyes emarginate to half length, frons about as wide as width of eye, with short, sharp median keel. Antennae short, extending to hind angles of pronotum. Segment 3 about 1.7 times longer than 2, segments 8-10 about equal in length and width. Pronotum about 1.6 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view strongly convex. Elytral rows moderately punctate, intervals with several large punctures. Puncturation of pygidium dense, in anterior half punctures almost touching each other but surface not appearing rugose, in apical half appearing rugose. Hind legs with no dimorphic characters, hind tibia with dorsolateral carina, lateral carina not serrate or slightly serrate in apical fifth, hind tibial spines straight, sharp, of equal length. Claws with large basal tooth.

Male. Sternum V emarginate to 3/4 length. Median lobe moderately long, ventral valve short, sides regularly rounded, apex with triangular process. Dorsal valve narrower than ventral but similarly shaped. Internal sac divided into two bands, in the middle densely granulose, behind the granulation with four pairs of large spines (fig. 234). Lateral lobes elongate oval, rounded apically, margin only at top with short setae (fig. 242). Spiculum gastrale modified (fig. 235).

Female. Sternum V not emarginate. Ovipositor of standard type, very long, with oblique pubescent suture, without circular pigmentation, pecten without enlarged base, apical lobes short, obtuse (fig. 398).

Host plant unknown.

DISTRIBUTION

Cameroon, Zair.

TYPE

Syntype male, Benza Mazola 13/15-VI-1911, R. MAYNÉ (MHNP).

MATERIAL EXAMINED

CAMEROON: Duala, 1, coll. DAVID (NMP); Tome near Victoria, 22-31 I 1980, 2, Polish Student Exp. (LB).

REMARKS

It is a member of *S. latithorax* group. See remarks under *S. latithorax*.

Spermophagus minutissimus n. sp.
(figs. 58, 178-180, 399)

DESCRIPTION

Length: 1.4-1.9 mm, width: 1.0-1.2 mm.

Black, fore and mid legs, three basal antennal segments, and hind tibial spines yellowish-red. Antennal segments 4-11 varying from yellowish-red to brownish. Hind legs varying from yellowish-brown to black.

Vestiture moderately dense, not covering body surface. Pronotum with pattern of mixed brownish and greyish hairs. Elytra brown with several whitish spots: at base of odd intervals, in 1/4 of length of intervals 2, 3 and 5, in 1/3 length of intervals 7-9, in 2/3 length of intervals 2-5, and 3/4 length of intervals 6-9 (fig. 58). Pygidium uniformly greyish pubescent or with small spot of dense hairs in the middle of basal margin. Ventrites uniformly greyish pubescent.

Head short, eyes emarginate to 2/3 length. Frons as wide as width of eye, without median keel. Antennae moderately long, extending to humerus, segment 3 as wide as or slightly shorter than 2, segments 8-10 about 1.2 times longer than wide. Pronotum 1.5 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view regularly convex. Elytral rows moderately punctate, intervals with irregular row of large punctures. Pygidium densely punctate, large punctures almost touching each other. Hind legs with no dimorphic characters, hind tibia without dorsolateral carina, lateral carina not serrate, hind tibial spines sharp, straight, inner spine about 1.8 times longer than the outer. Claws with large basal tooth.

Male. Sternum V emarginate to 3/4 length. Median lobe moderately elongate, ventral and dorsal valve subpentagonal with sides broadly rounded, apex angulate. Internal sac in anterior part with group of fine needles, apically with numerous elongate strong needles (fig. 178). Lateral lobes extremely small, apex rounded, with only three apical setae. Basal plate moderately broad, anterior margin tricuspidate (fig. 179). Spiculum gastrale slightly modified (fig. 180).

Female. Sternum V not emarginate. Ovipositor of standard type, with oblique pubescent suture, with short circular pigmentation, pecten with enlarged base, apical lobes short, obtuse (fig. 399).

Host plant unknown.

DISTRIBUTION

Madagascar.

TYPES

Holotype male, allotype female, 16 paratypes, Madagascar, Amborovy, 25.VI.58, F. KEISER (holotype, allotype and 8 paratypes in NMB, 4 paratypes in LB, 2 paratypes in MRAC).

REMARKS

It is a unique species with no close relatives. Internal sac with numerous spines in anterior half and numerous squamose spines in posterior half, very short lateral lobes with only three apical sensory setae are unique. Besides *S. abdominalis* it is the only Afrotropi-

cal species with fore and mid legs yellowish-red. *S. abdominalis* differs in usually larger body, above 2.0 mm (below 2.0 mm in *minutissimus*), and partly reddish abdomen and/or elytra.

Spermophagus minutus n. sp.
(figs. 57, 221-223, 400)

DESCRIPTION

Length: 1.5-2.2 mm, width: 1.1-1.7 mm.

Black, hind tibial spines reddish, basal two antennal segments brownish-red to brown, sometimes only ventral side of segments brownish coloured.

Vestiture moderately dense, almost covering body surface. Pronotum mostly brown, with pattern of whitish hairs. Elytra brown with whitish spots: in basal 1/3 length of first interval, elongate spots at base of intervals 3 and 5, transverse spot in 1/3 and 2/3 length of intervals 7-9, sometimes also elongate spot in the middle of intervals 2 and 4 (fig. 57). Pygidium brown with basal band of dense, white hairs, sometimes with narrow median line of whitish hairs. Ventrites uniformly whitish pubescent.

Head short, eyes emarginate to 3/4 length. Frons as wide as width of eye, without median keel. Antennae long, extending to half length of elytra, segment 3 about twice longer than 2, segments 8-10 about 1.3 times longer than wide. Pronotum 1.5 times wider than long, doubly punctate, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view straight to slightly convex. Elytral rows moderately punctate, intervals without large punctures. Pygidium densely punctate, large punctures almost touching each other. Hind legs with no dimorphic characters, hind tibia without dorsolateral carina, lateral carina not serrate, hind tibial spines sharp, straight, of equal length. Claws with large basal tooth.

Male. Sternum V emarginate up to base. Median lobe elongate, ventral valve elongate-pentagonal, apex acute. Dorsal valve triangular, apex acute. Internal sac in anterior part with group of needles, apically with numerous moderately large spines (fig. 221). Lateral lobes short, margins irregularly emarginate, with only a few sort setae. Basal plate elongate, narrow, margins broadly pigmented (fig. 222). Spiculum gastrale not modified (fig. 223).

Female. Sternum V not emarginate. Ovipositor of standard type, short, with oblique pubescent suture, without circular pigmentation, pecten with strongly enlarged base, apical lobes obtuse (fig. 400).

Host plant unknown.

DISTRIBUTION

Indonesia (Java).

TYPES

Holotype male, allotype female, five paratype males and two paratype females, Java; Djakarta, 6.V.1959, leg. B. PISARSKI et J. PRÓSZYŃSKI; Inst. Zool. P.A.N. Warszawa 58/59 (holotype, allotype and 4 paratypes in IZPAS, 2 paratypes in LB, 1 paratype in MRAC); three paratype males, Java, Baluran, Beokol ad Banjuwangi, 13.V.1959, leg. B. PISARSKI et J. PRÓSZYŃSKI; Inst. Zool. P.A.N., Warszawa 58/59 (2 IZPAS, 1 LB).

REMARKS

It is a member of *S. albosparsus* group. See remarks under *S. albosparsus*.

***Spermophagus moerens* BOHEMAN, 1839**
(figs. 59, 262-264, 401)

Spermophagus moerens BOHEMAN, 1839: 138; PIC, 1913: 60; DECHÈLLE, 1970: 258; WENDT, 1978: 359.
Spermophagus capensis MOTSCHULSKY, 1874: 251; PIC, 1913: 58, n. syn.

DESCRIPTION

Length: 1.8-2.0 mm, width: 1.4-1.6 mm.

Black, only hind tibial spines reddish.

Vestiture scarce, not covering body surface. Pronotum with mixed brown or greyish hair, not forming a pattern. Elytra mostly brown with spots of greyish hair, usually basal third of sutural interval with pale hairs, pale are also small spots in 2/3 length of odd intervals, small spots in 1/3 length of intervals 3, 5, 7, and transverse spot in the middle of intervals 7-11 (fig. 59). Occasionally whole elytral surface covered by mixed brown and greyish hairs. Pygidium always with transverse, basal band of dense whitish hairs, narrow median line, and two large apical spots brown. Ventrites uniformly greyish pubescent.

Head short, eyes emarginate to 3/4 length. Frons slightly narrower than width of eye, convex, usually without median keel, sometimes with short keel extending from frontoclypeal suture to 1/3 frons length, occasionally (males only) the keel extending to vertex. Antennae long, sexually dimorphic. Pronotum 1.6 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view slightly convex. Elytral rows finely punctate, intervals without large punctures. Punctuation of pygidium dense, punctures almost touching each other. Hind legs with no dimorphic characters, hind tibia without dorsolateral carina, lateral carina not serrate, apical spines straight, sharp, of equal length. Claws without basal tooth.

Male. Antennae longer, extending to 3/4 length of elytra, segment 3 about twice longer than 2, segments 8-10 about 1.5-1.7 times longer than wide. Sternum V emarginate to 2/3 length. Median lobe short, ventral valve subcircular with apex rounded, dorsal valve triangular, apex acute. Internal sac in anterior half divided into two granulose tapes, in the middle with a pair of extremely large spines, behind the spines with 10-13 slightly smaller spines (fig. 262). Lateral lobes very short, transverse, each in 1/3 length of lobe with transverse row of short, dense setae, anterior margin with 4-5 long setae. Basal plate narrow, almost parallel-sided with strongly pigmented margins (fig. 264). Spiculum gastrale modified (fig. 263).

Female. Antennae shorter, extending to 1/3 elytral length, segment 3 about 1.7 times longer than 2, segments 8-10 about 1.3 times longer than wide. Sternum V not emarginate. Ovipositor of standard type, long, with oblique pubescent area, without circular pigmentation, pecten without enlarged base, apical lobes very short (fig. 401).

Host plant unknown.

DISTRIBUTION

Gambia, South Africa.

TYPES

Spermophagus moerens: lectotype male, "Typus", Caffraria (NRS); paralectotype male, Caffraria, ECKL. (NRS).

Spermophagus capensis: holotype male, Cap. b. sp. (ZMLU).

MATERIAL EXAMINED

GAMBIA: Bathurst, Jan. 68, 1, T. PALM (LU); SOUTH AFRICA: Basutoland, Mokhotlong, 6 VI 51, 7200 ft., Swedish South Africa Expedition, 1950-51, 7, BRINCK-RUDEBECK (LU); Transvaal, Johannesburg, 24.8.1905, 1 (TM); Thabina, Zph. Dist., XI 1905, 1, G. SWESTRA (TM); Natal, Weenen, XI-XII 1923, 1, I 1924, 1, XI 1924, 1, H. P. THOMASSET (TM); Cape Prov., Grahamstown, netted, 8 XII 1977, 7, S. ENDRODI (HNHM, LB); Cape prov., Plettenberg Bay, Keurboom, netted, 9 XII 1977, 1, S. ENDRODI (HNHM).

REMARKS

It is a unique species with no close relatives. Ventral valve rounded apically and internal sac with several spines in posterior third near this species to *S. posticus* and *S. ruandanus*, but *S. moerens* distinctly differs in reduced basal tooth of tarsal claws. Members of *S. okahandjensis* group have similar armature of internal sac, and especially *S. okahandjensis* is similar by tarsal claws also without basal tooth but it differs in ventral valve acuminate apically. Very short, transverse lateral lobes near *S. moerens* to *S. ruandanus* but *S. moerens* has reduced basal tooth of tarsal claws and elytra with pattern of pale spots while in *S. ruandanus* tarsal claws are toothed and elytral vestiture is uniform with indistinct darker spot in apex of elytra.

***Spermophagus monardi* DECELLE, 1975**
(figs. 60, 277, 278)

Spermophagus monardi DECELLE, 1975 b: 26.

DESCRIPTION

Length: 2.0-2.1 mm, width: 1.6 mm.

Black, hind tibial spines reddish, basal two antennal segments partly or completely brownish-red.

Vestiture moderately dense, not covering body surface, ochraceous and whitish hairs form a marble pattern on pronotum and elytra (fig. 60). Pygidium with basal transverse, ochraceous band, and sometimes with small ochraceous spots in the middle, other part with whitish hairs. Ventrites uniformly greyish pubescent.

Head short, eyes emarginate to 3/4 length. Frons as wide as width of eye, without median keel. Antennae long extending to half length of elytra, segment 3 about 1.7 times longer than 2, segments 8-10 about 1.7 times longer than wide. Pronotum about 1.6 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view regularly convex. Elytral rows finely punctate, intervals without large punctures. Puncturation of pygidium moderately dense, intervals about as wide as puncture diameter. Hind legs with no dimorphic characters, hind tibia without dorsolateral carina, lateral carina not serrate, hind tibial spines straight, sharp, of equal length. Claws with large basal tooth.

Male. Sternum V emarginate to half length. Median lobe moderately long, ventral and dorsal valve pentagonal with regularly rounded sides, apex acute. Internal sac in anterior third with dense needles along margin, in the middle granulose, behind the granulation with a pair of small spines and two groups of short needles and elongate spines (fig. 277). Lateral lobes strongly modified, each lobe divided into two lobes - first larger, elongate oval, transverse, with long setae on margins and shorter setae on dorsal surface, second lobe small, transverse, with a row of squamiform setae along anterior margin. Basal plate narrowed basally and apically with maximum width in 1/3 length, margins strongly pigmented (fig. 278).

Female. Unavailable.

Host plant unknown.

DISTRIBUTION

Angola, Ethiopia, Sudan, Tanzania.

TYPE

Holotype male, Angola, riviere Mbale, region du fleuve Kubango, X.1928 (MHNP).

MATERIAL EXAMINED

ETHIOPIA: Urso, III 1911, 1, KOVACS (HNHM); SUDAN: Vei District, "*S. multipunctatus* Pic det.", 22.7.18, 1, H. W. BEDFORD (BMNH); Prov. N Darfur Haluf, 750 m, 10 km N El Fasher, feuchtes Wadi, gekatschert, 31 VII 1977, 1, H. J. BREMER (HNHM); TANZANIA: Lake Victoria, Mwanza, 30 IX 1929, "*S. multipunctatus* var. probable Pic det.", 1, Dr. G. A. K. MARSHALL (BMNH).

REMARKS

It is a member of *S. multipunctatus* group. See remarks under *S. multipunctatus*.

Spermophagus multifloccosus n. sp. (figs. 61, 279-281)

DESCRIPTION

Length: 2.1 mm, width: 1.4 mm.

Black, hind tibial spines reddish, dorsal surface of basal antennal segment dark brown, ventral surface yellowish-brown.

Vestiture moderately dense, not covering body surface. Pronotum uniformly grey. Elytra with marble pattern of greyish and brownish spots (fig. 61). Base of pygidium with transverse band of dense, rusty hairs, other part with mixed greyish and brownish scarce hairs. Ventrites uniformly greyish.

Head short, eyes emarginate to 2/3 length. Frons as wide as width of eye, without median keel. Last segment of maxillary palpi very short, truncate apically. Antennae moderately long, extending to 1/3 length of elytra, segment 3 about 1.4 times longer than 2, segments 8-10 about 1.5 times longer than wide. Pronotum 1.4 times wider than long, doubly punctured, large punctures scarce but disposed almost uniformly on whole disc. Lateral margin in lateral view regularly convex. Elytral rows finely punctate, intervals with several indistinct large punctures. Pygidium densely punctured, large punctures almost touching

each other. Hind legs with no dimorphic characters, hind tibia with dorsolateral carina, lateral carina not serrate, hind tibial spines sharp, straight, the outer slightly longer than the inner. Claws with large basal tooth.

Male. First abdominal sternum in the middle with brush of extremely dense hairs. Sternum V emarginate to 3/4 length. Median lobe moderately elongate, ventral valve pentagonal with acuminate apical process, dorsal valve about 1.6 times narrower than the ventral, apex regularly rounded, internal sac in basal part with groups of needles along margins, in the middle with elongate sclerite, anterior margin of the sclerite with two teeth. Sac behind the sclerite with dense, numerous small spines and needles (fig. 279). Lateral lobes strongly modified, each lobe divided into two short plates. Anterior plate smaller, anterior margin of the plate with two rows of short setae. Posterior plate larger, with oblique row of extremely strong spines. Basal plate broad, narrowed basally and apically, anterior margin with several granules, margins moderately broadly pigmented (fig. 281). Spiculum gastrale slightly modified (fig. 280).

Female. Unavailable.

Host plant unknown.

Distribution

South Africa (Transvaal).

TYPE

Holotype male, S. Africa, Transvaal, Nylsvley, cow dung trap; 3.II.1978, leg.: Dr. S. EN-DRODI (HNHM).

REMARKS

It belongs to *S. multipunctatus* group. See remarks under *S. multipunctatus*.

Spermophagus multiguttatus PIC, 1917

(figs. 62, 271-273, 402)

Spermophagus multiguttatus PIC, 1917: 10; DECELLE, 1951: 1917, 1975 b: 27.

DESCRIPTION

Length: 1.7-2.3 mm, width: 1.3-1.6 mm.

Black, hind tibial spines reddish, basal two antennal segments brownish-red.

Vestiture moderately dense, not covering body surface. Pronotum and elytra with marble pattern of brown and greyish hairs (fig. 62). Base of pygidium with transverse band of dense, rusty hairs, other part with mixed brown and greyish hairs. Ventral surface uniformly greyish, upper corner of hind coxa usually with spot of densely hairs.

Head short, eyes emarginate to 2/3 of length. Frons as wide as width of eye, without median keel. Last segment of maxillary palpi moderately elongate, apex obliquely truncate. Antennae moderately elongate, extending to 1/3 of elytral length, segment 3 about 1.4 times longer than 2, segments 8-10 about 1.4 times longer than wide. Pronotum 1.5 times wider than long, doubly punctured, large punctures scarce but disposed almost uniformly on whole disc. Elytral rows finely punctate, intervals without or with several indistinct, shallow punctures. Pygidium densely punctate, large punctures almost touching each

other. Hind legs with no dimorphic characters, hind tibia with obtuse dorsolateral carina, lateral carina not serrate, hind tibial spines sharp, outer about 1.4 times longer than inner. Claws with large basal tooth.

Male. Sternum V emarginate to half length. Median lobe moderately long, ventral and dorsal valvae subtriangular with deeply concave sides and strongly acuminate apex. Internal sac in anterior part and in the middle with groups of needles along sides, apically with dense small needles (fig. 271). Lateral lobes narrow, elongate, acute apically, each lobe at base with small secondary lobe. Basal plate broad, narrowed apically (fig. 273). Spiculum gastrale not modified (fig. 272).

Female. Sternum V not emarginate. Ovipositor distinct, oblique pubescent suture distinct in internal half of each lobe only, pecten fused with strong sclerotization of external part of each lobe, no circular sclerite, apical lobes hook-like (fig. 402).

Host plant unknown.

DISTRIBUTION

Zair, Angola and Zimbabwe.

TYPE

Syntypes male and female, Salisbury, Sept, 98, On mosasa (BMNH).

MATERIAL EXAMINED

ZAIR: Albertville, I 1933, 1, L. Burgeon (MRAC); ANGOLA: Huambo, 1934, 1, J. Pimentel (MRAC).

REMARKS

It is a member of *S. multipunctatus* group. See remarks under *S. multipunctatus*.

Spermophagus multipunctatus Pic, 1917

(figs. 64, 268-270)

Spermophagus multipunctatus PIC, 1917: 11; DECELLE, 1951: 191, 1969: 296, 1975 b: 26; ZAMPETTI, 1988: 108.

DESCRIPTION

Length: 1.8-2.0 mm, width: 1.3-1.4 mm.

Black, hind tibial spines reddish, basal two antennal segments brownish-red.

Vestiture moderately dense, not covering body surface. On pronotum and elytra brown and greyish hairs form a marble pattern (fig. 64). Pygidium with basal transverse band of extremely dense, yellowish or ochraceous hairs, without median line but sometimes with two small spots of yellowish hair in the middle. Other part of pygidium brown or with mixed brown, yellowish and greyish hairs. Ventrites uniformly greyish pubescent.

Head short, eyes emarginate to 2/3 length, frons narrower than width of eye, without median keel. Antennae moderately long, extending to 1/3 length of elytra, segment 3 about 1.6 times longer than 2, segments 8-10 about 1.6 times longer than wide. Pronotum 1.4-1.5 times wider than long, doubly punctured, large punctures dense, disposed almost uniformly on whole disc. Lateral margin in lateral view slightly convex. Elytral rows moderately punctate, intervals with irregular row of large punctures. Punctuation of pygidium

dense, punctures almost touching each other. Hind legs with no dimorphic characters, hind tibia without dorsolateral carina, lateral carina not serrate. Hind tibial spines sharp, the outer slightly longer than the inner. Claws with large basal tooth.

Male. First abdominal sternum in the middle with brush of extremely dense hair. Sternum V emarginate to 2/3 length. Median lobe moderately long, ventral valve subpentagonal, narrowed basally, sides slightly concave, apex acuminate, dorsal valve subtriangular, apex acute, internal sac in anterior third with two bands of dense needles, in the middle with two elongate spines, behind the spines without sclerites (fig. 268). Lateral lobes strongly modified, each lobe divided into two lobes, dorsal lobe short-oval, on whole surface with dense squamiform setae, ventral lobe very short, transverse, anterior margin with row of short setae. Basal plate narrowed basally and apically, margins narrowly pigmented (fig. 270). Spiculum gastrale as in fig. 269.

Female. First abdominal sternum without brush of dense hair. Sternum V not emarginate. Ovipositor of standard type, with oblique pubescent suture, without circular pigmentation, pecten with strongly enlarged base, apical lobes narrow, subangulate (fig. 403).

Host plant unknown.

DISTRIBUTION

Gambia, Senegal, Nigeria, Zair, Rwanda, Angola.

TYPE

Holotype female, Senegal (MHNP).

MATERIAL EXAMINED

Gambia, Bathurst, Jan. 68, 1, PALM (LU).

REMARKS

It belongs to *S. multipunctatus* group. This group includes also *S. marmoreus*, *S. monardi*, *S. multifloccosus*, and *S. multiguttatus*. All species are moderately large, dorsal pubescence form a marble pattern, basal two antennal segments are usually brown to brownish-red, the last segment of labial palpi is short and stout. All species are extremely similar externally and only male genitalia are diagnostic. Lateral lobes in this group are strongly modified, each lobe is divided into two plates of different shape, only in *S. multiguttatus* this division is indistinct and each lobe is elongate, narrow, with only a small lobe at base. In *S. multiguttatus* internal sac has two groups of needles, shorter in anterior part and longer in the middle but has no spines in the middle. *S. multiguttatus* is probably a much plesiotypic form in the group. The other four species have internal sac with only anterior groups of needles or if posterior group is present, then it is not longer than the anterior group, in the middle of sac there are two elongate spines (in *S. multifloccosus* fused). *S. monardi* differs in semispherical ventral valve (in *S. multipunctatus* and *S. marmoreus* ventral valve is subtriangular with concave sides, in *S. multifloccosus* triangular with straight sides but acuminate apical process). Posterior plate of lateral lobes in *S. monardi* is large, similar as in *S. multipunctatus* but surface of the plate has no spiniform setae, and basal plate of lateral lobes is narrow, only slightly narrowed apically, while in *S. multipunctatus* basal plate is broad strongly narrowed apically. *S. multifloccosus* differs distinctly in posterior plate of lateral lobes with oblique row of strong spines, in *S. marmoreus* dorsal plate has no oblique row of spines but strong spines occur on external margin of the plate.

Spermophagus murtulai PIC, 1924 n. stat.
(figs. 67, 206-208)

Spermophagus maynei var. *murtulai* PIC, 1924: 456.

DESCRIPTION

Length: 1.8-2.0 mm, width: 1.3-1.5 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, not covering body surface. Pronotum mostly dark brown pubescent, with several small spots of greyish hairs. Elytra mostly dark brown, with several small spots of greyish hairs: elongate at base of intervals 3 and 5, in the middle of interval 2, in 1/3 and 2/3 length of intervals 3 and 7-9, the spots form two irregular transverse bands (fig. 67). Pygidium and ventrites uniformly greyish pubescent.

Head short, eyes emarginate to 3/4 length. Frons as wide as eye width, without median keel. Antennae moderately long, extending to 1/4 length of elytra, segment 3 about 1.4 times longer than 2, segments 8-10 about 1.2-1.3 times longer than wide. Pronotum 1.5 times wider than long, doubly punctured, large punctures dense, disposed almost uniformly on whole disc. Lateral margin in lateral view slightly convex. Elytral rows moderately punctate, intervals with irregular row of large punctures. Puncturation of pygidium dense, punctures almost touching each other. Hind legs with no dimorphic characters, hind tibia without dorsolateral carina, lateral carina not serrate, hind tibial spines straight, sharp, of equal length. Claws with large basal tooth.

Male. Sternum V emarginate to half length. Median lobe short, ventral valve pentagonal, narrowed basally, apex acute, dorsal valve with anterior margin almost truncate with small median process. Internal sac in anterior part with two bands of dense needles, the remaining part without sclerites (fig. 206). Lateral lobes elongate, tape-like, apex acute, basal part exteriorly widened, margins with long setae, widened basal part with dense short setae. Basal plate broad, narrowed apically, margins narrowly pigmented (fig. 207). Spiculum gastrale as in fig. 208.

Female. Unavailable.

Host plant unknown.

DISTRIBUTION

Ethiopia, Kenya, Uganda.

TYPE

Me unknown. I have examined specimens determined by J. DECELLE.

MATERIAL EXAMINED

ETHIOPIA: Bourié, Bord de la Riv. Omo, 600 m, 1, Mission de l'Omo, G. A. RAMBOURG, P. A. CHAPUIS, R. JEANNEL, 1932-33 (MHNP); KENYA: Elgon Saw niill, M Elgon, Ver Est (Camp II), 2470 m, 2, Mission de l'Omo, G. A. RAMBURG, P. A. CHAPUIS, R. JEANNEL, 1932-33 (MHNP); UGANDA: Mujenje, IX 1913, KATONA (HNHM).

REMARKS

It is a member of *S. malvacearum* group. See remarks under *S. malvacearum*.

***Spermophagus negligens* Pic, 1917**
(figs. 65, 66, 215-217, 404)

Spermophagus negligens Pic, 1917: 10.

Spermophagus javanus Pic, 1918 b: 8. **n. syn.**

Decsription

Length: 2.0-2.3 mm, width: 1.5-1.7 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, not covering body surface, brown and white. White hair on pronotal disc forms a distinct pattern as in figs. 65, 66, on elytra two elongate white spots at base of intervals 3 and 5, sutural interval at least to 2/3 length, complete but irregular transverse band in 2/3 elytral length, and incomplete transverse band slightly in front of the middle of elytra, interrupted on intervals 4-6, or 4 and 6 but with spot on interval 5. Pygidium with transverse basal band of white dense hair, and usually with narrow white median line. Ventral surface uniformly whitish pubescent. The pattern of dorsal surface is rather constant, but sometimes hair of darker parts of elytra is paler brown and pale pattern is yellowish and contrast between pattern and basic vestiture is not as distinct as in specimens with brown and white pubescence.

Head short, eyes emarginate to 3/4 length. Frons as wide as width of eye, convex but without median keel. Antennae long, extending to half length of elytron. Segment 3 about 1.8 times longer than 2, segments 8-10 about 1.4 times longer than wide. Pronotum about 1.3 times wider than long, doubly punctured, large punctures dense, disposed almost uniformly on whole disc. Lateral margin in lateral view slightly convex. Elytral rows moderately punctate, intervals with irregular row of large punctures. Hind legs with no dimorphic characters, hind tibia with indistinct dorsolateral carina, lateral carina not serrate, apical spines straight, sharp, of equal length. Claws with large basal tooth.

Male. Abdomen telescoped. Sternum V emarginate up to base. Median lobe elongate, almost parallel-sided, ventral valve elongate, pentagonal, apex acute. Dorsal valve about twice narrower than the ventral, triangular. Internal sac in basal part with group of small spines, in the middle without sclerites, apically with numerous, dense sclerites - needles anteriorly, sharp spines posteriorly (fig. 215). Lateral lobes elongate, tape like, strongly folded, apex rounded. Inner margin in 1/4 basal length with three long setae, in 1/3 length with simple long seta, outer margin with moderately long setae in basal 3/4-4/5 length. In specimens from Indochina lateral lobes are longer, narrower than in specimens from Sunda Is., with outer margin of each lobe setose to 4/5 length. Surface of basal part of each lobe with several short setae. Basal plate of lateral lobes narrow, with strong microsculpture, especially specimens from Sunda Is. have very strong microsculpture (fig. 216). Spiculum gastrale not modified (fig. 217).

Female. Abdomen not telescoped. Sternum V emarginate to half length. Ovipositor of standard type, with oblique pubescent suture, without circular pigmentation, pecten with enlarged base, apical lobes obtuse apically (fig. 404).

Host plants unknown.

DISTRIBUTION

Vietnam, Thailand, Laos, Java and Lombok.

TYPES

Spermophagus negligens: holotype male, Lombok, Pringabaja, April 1896, H. FRUITSCHER (MHNP).

Spermophagus javanus: holotype female, Java (MHNP).

MATERIAL EXAMINED

INDONESIA: Java, Djakarta, 6 V 1959, 3, B. PISARSKI and J. PROSZYNSKI (IZPAS, LB); Java, Batavia, 1 IV 1909, 1, BRYANT and PALMER (USNM); Java, Baluran, Beokol ad Banjuwangi, 13 V 1959, 1, B. PISARSKI and J. PROSZYNSKI (IZPAS); Java, Bogor, 26 VIII 1964, 1, M. DELFINADO (BM); LAOS: Nongteveda, 8 IX 1965, 1, 18 XI 1965, 1, 2 XII 1965, 2, native collector (BM, LB); Vientiane Prov., Tha Ngone, 4 XII 1965, 1, native collector (BM); Dong Dok, 7 IX 1965, 1, 22 XI 1965, 1, 1 XII 1965, 1, 6 XII 1965, 3 (BM, LB); Annam, Laos, 1, "*Spermophagus bifasciatus* MOISCH. A. HOFFMANN det. (HNHM); THAILAND: Chiangmai, Ban-tin-doi, 350 m, 13 XI 1957, 1, J. L. GRESSIT (BM); Trang prov., Khaophapha, Khaochang, 200-400 m, 11 I 1964, 1, G. A. SAMUELSON (BM); Saraburi Prov., Ban Muak Lek Nat. Park, 6 VI 1965, 1, P. D. ASHLOCK (BM); Khao Yai Nat. Park, 8 XI 1977, 1 G. F. HEVEL (BM); VIETNAM: M'Drak E of BanMcThuot, 4-600 m, 8-19 XII 1960, 4, C. M. YOSHIMOTO (BM, LB); 22 km S of Nha Trang, 20-26 XI 1960, 1, C. M. YOSHIMOTO (BM); Ninh Hoa N. of Nha Trang, 28 XI 1960, 1, C. M. YOSHIMOTO (BM); Dai Lanh N. of Nha Trang, 30 XI-5 XII 1960, 1, C. M. YOSHIMOTO (BM); Di Linh (Djiring), 1000 m, 27 IX-14 X 1960, 1, C. M. YOSHIMOTO (BM); Karyu, Danar, 200 m, 13-28 II 1961, 1, N. R. SPENCER (BM); Mt. Lang Bian, 1500-2000 m, 19 V-8 VI 1961, 1, N. R. SPENCER (BM).

REMARKS

It is a member of *S. albosparsus* group. See remarks under *S. albosparsus*.

***Spermophagus newtoni* BOROWIEC, 1986**

(figs. 68, 114, 255, 256, 260)

Spermophagus newtoni BOROWIEC, 1986 c: 237.

DESCRIPTION

Length: 3.4 mm, width: 2.6 mm.

Black, only hind tibial spines reddish.

Dorsal vestiture extremely short and scarce, brownish (fig. 68), probably uniform (in the only known specimen almost whole dorsal surface is wiped away). Base of pygidium with transverse band of extremely dense, chalk-white hair. Ventral surface bare.

Body elongate-oval. Head short, frons without median keel. Antennae very short, not extending to hind angles of pronotum. Pronotum about 1.7 times wider than long. Lateral margin in lateral view distinctly convex. Punctuation of disc doubly, space between punctures with distinct microreticulation. Elytra slightly longer than wide, on sides almost parallel. Elytral rows distinctly punctate, elytral intervals with small, dense punctures and with irregular rows of large punctures. Pygidium moderately convex, with large, very deep punctures. In basal part of pygidium distances between punctures larger than puncture diameter, in apical punctures touching each other, but not forming irregular rugosities.

Ventral surface with no diagnostic characters. Hind legs sexually dimorphic. Claws with large basal tooth.

Male. Sternum V emarginate up to anterior edge. Hind tibia distinctly curved ventrad, without dorsolateral carina. Ventral margin with very dense, long yellow hair (fig. 114). First tarsomere without hair. Median lobe long, ventral valve very short, transverse, apex slightly convex. Dorsal valve also very short, transverse. Internal sac without large sclerites, only part under ventral valve with two groups of extremely small needles (fig. 255). Lateral lobes very short, triangular, ventral margin and hind corners with very short sensory hair. Base almost parallel-sided with broadly chitinated margins (fig. 260). Spiculum gastrale not modified (fig. 256).

Female unavailable.

Host plant unknown.

DISTRIBUTION

Tanzania.

TYPE

Holotype male, Tanganyika Territory, Ngami-Mtori, 4 IV 1916, leg. A. LOVERIDGE (MCZ).

MATERIAL EXAMINED

No additional material.

REMARKS

It is a member of *S. hottentotus* group. It differs from all species of the group in pygidium with basal transverse band of extremely dense, chalk-white hair. See also remarks under *S. madecassus*.

Spermophagus niger MOTSCHULSKY, 1866 (figs. 69, 154-156, 405)

Spermophagus niger MOTSCHULSKY, 1866: 405; PIC, 1913: 60; DECELLE, 1975 c: 192.

Spermophagus bifasciolatus MOTSCHULSKY, 1874: 250; PIC, 1913: 58, **n. syn.**

Spermophagus tonkineus PIC, 1917: 8.

Spermophagus formosanus PIC, 1917: 9, part; BOROWIEC, 1986 a: 786 (as syn.).

Spermophagus formosanus v. *subundulatus* PIC, 1917: 9, part.

Spermophagus simoni var. *immaculatus* PIC, 1922: 16, **n. syn.**

Description

Length: 1.8-2.2 mm, width: 1.3-1.7 mm.

Black, only hind tibial spines reddish. Vestiture moderately dense, not covering body surface. In dark coloured specimens pronotum and elytra dark brown pubescent with spots of greyish hairs on each side of pronotum and in the middle of elytral intervals 7-9 (fig. 69). In pale form dorsal pubescence is variegate, pronotum with several spots of greyish hairs, spots partly coalescent, elytra mostly greyish with brown spots in 1/4 length of intervals 2-4, 7-8, in the middle of intervals 7-9, and with large brown apical spot. All intermediates exist between pale and dark coloured forms. Pygidium and ventrites uniformly

greyish pubescent, or pygidium with indistinct basal band of dense hairs and narrow median line. This species is often similarly pubescent to the common sympatric species of the same locality i.e. to *S. ~~laosensis~~^{negligens}*, *S. variolosopunctatus*, *S. pfaffenbergeri*, so forms from the same locality are more similar to the other species from the same locality than to specimens of *S. niger* from other geographic regions (social mimicry).

Head short, eyes emarginate to 3/4 length. Frons as wide as width of eye, without median keel. Antennae moderately long, extending to humeral callus, segment 3 about 1.3 times longer than 2, segments 8-10 about 1.1-1.2 times longer than wide. Pronotum 1.4-1.5 times wider than long, disc doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view moderately convex. Elytral rows moderately punctate, intervals with irregular row of large punctures. Puncturation of pygidium moderately dense to dense, intervals 1.1-1.5 times wider than puncture diameter. Hind legs with no dimorphic characters. Hind tibia with dorsolateral carina, lateral carina not serrate, hind tibial spines sharp, straight, of equal length or inner spine slightly longer than the outer. Claws with large basal tooth.

Male. Sternum V emarginate to 1/2-2/3 length. Median lobe moderately long, slightly widened in the middle, ventral and dorsal valve pentagonal, apex angulate. Internal sac without sclerites, in the middle with two bands of granules along sides (fig. 154). Lateral lobes elongate, tape-like, apex acute, margins with long setae, inner margin densely pubescent than the outer. Basal plate narrow, narrowed apically, base with two triangular, strongly pigmented plates (fig. 155). Spiculum gastrale not modified (fig. 156).

Female. Sternum V not emarginate. Ovipositor of standard type, strongly sclerotized, with oblique pubescent suture, without circular pigmentation, pecten with enlarged base, apical lobes scarcely pubescent (fig. 405).

Host plant. *Malvaceae*: *Urena lobata*, *Hibiscus* sp., *Lantana* sp.

DISTRIBUTION

India, Ceylon, China, Taiwan, Vietnam, Thailand, Malaysia, Indonesia, Philippines (Palawan).

TYPES

Spermophagus niger: holotype male, Ceylan, Nura-Ellia (after DECELLE, 1975: 192, ZMLU).

Spermophagus bifasciolatus: holotype male, Agra, Ind. or. (ZMLU).

Spermophagus tonkineus: holotype male, Ho Lang (Tonkin), LANCAY (MHNP).

Spermophagus formosanus: lectotype male and three paralectotypes, Kankau, Koshun, Formosa, H. SAUTER, VIII 1912 (IZPAS).

Spermophagus simoni v. *immaculatus*: holotype female, P. Princesa, Palawan, BAKER (MHNP).

MATERIAL EXAMINED

CEYLON: Sabaragamuwa, Prov. Hatherleigh, 1 mile S Rakwana at 1700 ft., 28 II 62, loc. 101, at rapid stream, 2, Lund University Ceylon Expedition, BRINCK-ANDERSSON-CEDERHOLM (LU); C.P.Kandy, L. Blake's Drive, 16 XII 53, 1, F. KEISER (NMB); C.P. Hara-gama, 2 I 54, 1, F. Keiser (NMB); Ceylon, 3, NIETNER (IZPAS); CHINA: Kuangtung, Cunn-hua, 96 km NO ad Canton, 30 XI 1965, 1, R. BIELAWSKI (IZPAS); Hainan, Groove near

Beggar Village, SW of Nodos, 9 Jul. 1929, 1, Lingnan Univ. Exp. (USNM); INDONESIA: Java, M^t Ardoeno, 1, M^{me} E. WALSH (MHNP); Java, Sarangan, Lawoe-Geb., 1500-2000 m, 2, H. Overbeck (MTD); Dili, May 1892, 1, W. DOHERTY (MHNP); INDIA: Anamalai Hills, Cinchana, 1050 m, IV 1956, 1, IV 1957, 1, P. S. NATHAN (BM); Punjab, Hoshiaspur, 21 XI 18, on *Lantana*, 1, FLETCHER (USNM); Coorg, Virajpet, 22 III 54, with *Hibiscus* sp. seeds, 10, W. B. WOOD (USNM); Assam, Chabua, 28 Oct. 1943, 2, 20 II 1944, 1, D. E. HARDY (USNM); Assam, 6 mi NW Digboi, 30 III 1944, 1, D. E. HARDY (USNM); Darjeeling, 2 VI 36, in seed of *Urena lobata*, 1, GOULDMAN (USNM); India, 28 V 1936, 2, 8 June 1936, 4, in seed of *Urena lobata* (USNM); MALAYSIA: Cameron Highl., Berinchang, 1500 m, 23 I 1981, 1, T. PALM (LU); Pahang, Frasers Hill, October 1948, 1, N. L. KRAUSS (USNM); Borneo, Sarawak, Sarikei Dist., Rejang Delta, 15-26 VII 1958, 1, T. C. MAA (USNM); TAIWAN: Formosa, Kankau (Koshun), V 1912, 1, H. SAUTER, paralectotype of *S. formosanus* var. *subundulatus* PIC, 1917 (DEI); Kosempo, 22 V 1912, 1, H. SAUTER, paralectotype of *S. formosanus* var. *subundulatus* PIC, 1917 (DEI); Taipei Hsien, Tienmu, 150 m, 8 XI 1957, 1, T. C. MAA (BM); Hori (Puli), July 1953, 4, July 1954, 3, naive collector (BM); Mizuho, 200 m, 22 IV 32, 1, J. L. GRESSITT (USNM); THAILAND: S. Banna, Nakhon, 108 m, 5-10 V 58, 1, T. C. MAA (BM); VIETNAM: M'Drak, E of Ban Me Thuot, 4-600 m, 8-19 XII 60, 16, C. M. YOSHIMOTO (BM); Mt. Lang Bian, 1500-2000 m, 19 V-8 VI 1961, 1, N. R. SPENCER (BM); Fyan, 1200 m, 11 VII-9 VIII 61, 1, N. R. SPENCER (BM); 6 km S Dalat, 1400-1500 m, 9 VI-7 VII 1961, 1, N. R. SPENCER (BM); Yen-Bay, 1910, 6, DUSSAULT (NMB).

REMARKS

It belongs to *S. niger* group. See remarks under *S. kingsolveri* and *S. aeneipennis*.

Spermophagus okahandjensis DECELLE, 1973 (figs. 71, 190, 191)

Spermophagus okahandjensis DECELLE, 1973 a: 139; WENDT, 1978: 360; BOROWIEC, 1986 d: figs. 5, 8.

DESCRIPTION

Length: 1.8 mm, width: 1.3 mm.

Black, hind tibial spines reddish. Basal two antennal segments and front femora brownish.

Vestiture uniform, greyish, moderately dense, almost covering body surface (fig. 71). Ventral surface uniformly greyish pubescent, metathoracic episternum with spot of dense whitish hair.

Head elongate, eyes emarginate to 3/4 length. Frons with sharp median keel extending to line uniting hind margin of eyes. Antennae long, extending to half length of elytra, segment 3 about twice longer than 2, distal segments broken in the only known specimen. Pronotum 1.6 times wider than long, praescutellar lobe on sides with short elongate impression. Sides of pronotum not as convex as in other species. Disc doubly punctured, large punctures disposed almost uniformly on whole surface. Lateral margin in lateral view slightly convex. Elytra about 1.1 times wider than long. Rows distinctly punctured, intervals with several shallow, large punctures. Apex of pygidium rugose punctate. Hind legs with no dimorphic characters, hind tibia without dorsolateral carina, lateral carina

not serrate, apical spines sharp, inner spine slightly longer than the outer. Claws with reduced basal tooth.

Male. Sternum V emarginate to 3/4 length. Median lobe moderately long, slightly widened in front of basal spoon, ventral valve pentagonal, apex acuminate, dorsal valve almost as wide as the ventral. Internal sac in anterior half with bands of small granules along sides, in posterior half with 18 large sclerites, first pair spine-like, second pair of spinose plates, remainder spine-like of various size. Between large sclerites several small spines (fig. 190). Lateral lobes short, oval, apex rounded, margins without hair, surface with several sensory pores. Basal plate of lateral lobes narrow, slightly widened posteriorly, with several pores at base (fig. 191).

Female. Unavailable.

Host plant unknown.

DISTRIBUTION

Namibia.

TYPES

Holotype male, D. S-W Africa, Okahandya, CASPER S.G. (ZMHU).

MATERIAL EXAMINED

No additional material.

REMARKS

It is a member of *S. okahandjensis* group. The most similar species of the group is *S. transvaalensis* which has lateral lobes oval, but differs in broader ventral valve, stouter lateral lobes with distinct sensory pores and short marginal setae (in *S. okahandjensis* lateral lobes are narrower, sensory pores indistinct, no marginal setae). Basal plate of lateral lobes is slightly widened apically in *S. okahandjensis*, slightly narrowed apically in *S. transvaalensis*. See also remarks under *S. endrodii*.

Spermophagus palmi n. sp. (figs. 70, 303-305)

DESCRIPTION

Length: 3.1 mm, width: 2.4 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, covering body surface. Pronotum and elytra with pattern of mixed brownish and greyish spots (fig. 70). Pygidium mostly brownish, in upper corners with spots of dense, greyish hairs, with short median line extending to 1/3 length of pygidium. Ventrites uniformly greyish pubescent, upper corner of hind coxa with spot of dense hairs.

Head short, eyes emarginate to half length, frons as wide as eye width, with sharp, extremely long median keel, extending from frontoclypeal suture to anterior margin of pronotum. Antennae moderately long, extending to 1/4 elytral length, segment 3 about 1.3 times longer than 2, segments 8-10 about 1.6 times longer than wide. Pronotum 1.6 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole

disc. Lateral margin in lateral view strongly convex. Elytral rows moderately punctate, intervals with several large punctures. Pygidium densely punctate, large punctures almost touching each other. Hind legs with no dimorphic characters, hind tibia with dorsolateral carina, lateral carina not serrate, hind tibial spines sharp, straight, inner spine about 1.3 times longer than the outer. Claws with large basal tooth.

Male. Sternum V emarginate to $2/3$ length. Median lobe moderately elongate, constricted behind valvae. Ventral valve very small, subtriangular, apex obtuse. Internal sac in anterior $2/3$ length divided into two tapes, each tape densely granulose, especially in anterior half. Apex of sac with three extremely large, hook-like sclerites, behind the sclerites elongate, gutter-like sclerite (fig. 303). Lateral lobes moderately elongate, apex rounded, margins and base with dense, long setae. Surface of each lobe with several short setae. Basal plate widened at base, narrowed apically, basal $1/4$ length unpigmented, apical $3/4$ length wholly pigmented, whole surface microsetose (fig. 304). Spiculum gastrale not modified (fig. 305).

Female. Unavailable.

Host plant. Unknown.

DISTRIBUTION

Thailand.

TYPE

Holotype male, Pattaya, 1979, T. PALM, 30/11 (LU).

REMARKS

It is a member of *S. ligatus* group. See remarks under *S. excavatus*.

Spermophagus pfaffenbergeri BOROWIEC, 1986 (figs. 72, 343-345, 406)

Spermophagus pfaffenbergeri BOROWIEC, 1986 a: 786.

DESCRIPTION

Length: 2.0-2.2 mm, width: 1.5-1.9 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, not covering body surface, brownish and greyish (figs. 72). In pale form greyish hairs predominate, pronotum with three spots of brown hairs in the middle, spot in front of scutellum, and spots in the middle of each side of basal margin. Elytra mostly grey pubescent with small spots of brown hairs on odd intervals and elytral apex. In dark form brown hairs predominate, pronotum with four spots of pale hairs in the middle and two spots on sides. Elytra mostly brown with small spots of pale hairs at base of intervals 3 and 5, in $1/3$ and $2/3$ length of intervals 3 and 5, in the middle of intervals 7-9, and $3/4$ length of interval 8. Between pale and dark forms all intermediate occurs. The contrast between pale and dark hairs varies individually. Pygidium with three spots of dense, pale hairs at base, sometimes with basal band, often with narrow median line and two large apical brown spots. Ventriles uniformly greyish pubescent.

Head short, eyes emarginate to 1/2 length, frons distinctly narrower than width of eye, with sharp, short median keel. Antennae moderately long, extending to humeral callus, segment 3 about twice longer than 2, segments 8-10 about 1.2-1.3 times longer than wide. Pronotum 1.6 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view moderately convex. Elytral rows moderately punctate, intervals with irregular row of large punctures. Puncturation of pygidium dense, punctures almost touching each other. Hind legs with no dimorphic characters, hind tibia without dorsolateral carina, lateral carina not serrate, hind tibial spines sharp, straight, inner spine slightly longer than the outer. Claws with large basal tooth.

Male. Sternum V emarginate up to base. Median lobe moderately long, ventral valve short, transverse, with triangular apical process, dorsal valve triangular, apex angulate. Internal sac in anterior 2/3 length divided into two tapes, in the middle with a pair of extremely large spines, sac behind the spines strongly sclerotized but without sclerites, beyond the sclerotization with two pairs of large hook-like spines (fig. 343). Lateral lobes of characteristic shape, anterior margin with only a few short setae. Basal plate narrow, parallel-sided, margins narrowly pigmented (fig. 344). Original description of this species based on teratological specimen with modified lateral lobes (fig. 345).

Female. Sternum V not emarginate. Ovipositor of standard type, long, with extremely large apical pubescent area, with circular sclerite, pecten without enlarged base, apical lobes extremely short (fig. 406).

Host plant. *Convolvulaceae*: *Ipomea pestigridis*.

DISTRIBUTION

India, Ceylon, Vietnam, Thailand, Indonesia, Philippines.

TYPES

Holotype male, Ceylon, leg. NIETNER (IZPAS).

MATERIAL EXAMINED

INDIA: Bombay, Dec. 1924, in *Ipomea pestigridis*, 2 (USNM); INDONESIA: Djakarta, 6 V 1959, 1, B. PISARSKI and J. PRÓSZYŃSKI (IZPAS); Baluran, Beokol ad Banjuwangi, 13 V 1959, 1, B. PISARSKI and J. PRÓSZYŃSKI (IZPAS); Balabac, 3, STAUDINGER (MHNP); PHILIPPINES: Palawan, 3 km NE Tinabog, 11 V 1962, Malaise Trap, 1, H. HOLTSMANN (BM); Biliran Is., 1927, 1, C. F. BAKER (USNM); Los Banos, March-June 1925, 2, Pemberton (BM); Laguna, Mt. Makiling, 400 ft., 19 VI 31, 1, F. C. HADDEN, 1 VI 32, 1, F. C. HADDEN, 100 m, 16 V 1932, 1, F. C. HADDEN (BM); THAILAND: NW Chiangmai Prov., Chiangdao, 450 m, 5-11 IV 1958, 1, T. C. MAA (BM); Nakorn Phanom, 29 XII 51, 1, R. E. ELBEL (USNM); VIETNAM: 17 V 1949, 1, sur fleur du *Convolvulaceae*, J. BARBIER (MHNP); 15-35 km NW of Phan Rang, 8-16 XI 1960, 2, C. M. YOSHIMOTO (BM); Nha Ho, 14 km N Phan Rang, 15 XI 1960, 6, C. M. YOSHIMOTO (BM); Karyu, Donar, 200 m, 13-28 II 1961, 2, N. R. SPENCER (BM).

REMARKS

It is a member of *S. cederholmi* group. See remarks under *S. cederholmi*.

Spermophagus pilipes n. sp.
(figs. 73, 110, 340-342, 407)

DESCRIPTION

Length: 2.9-3.1 mm, width: 2.2-2.3 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, almost covering body surface. Pronotal and elytral disc, and pygidium with marble pattern of white and brown hairs (fig. 73). White or brown spots predominate. Ventrites uniformly greyish pubescent.

Head short, eyes emarginate only to half length. Frons sexually dimorphic. Antennae moderately long, extending slightly beyond humeral callus, segment 3 about 1.4-1.5 times longer than 2, segments 8-10 about 1.2 times longer than wide. Pronotum 1.7 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view slightly convex. Elytral rows moderately punctate, intervals without or with shallow, indistinct large punctures. Pygidium densely punctate, large punctures almost touching each other. Hind legs sexually dimorphic, hind tibia in basal half with dorsolateral carina, lateral carina not serrate, hind tibial spines sharp, straight, the inner 1.5-1.8 times longer than outer. Claws with large basal tooth.

Male. Frons slightly narrower than width of eye with long median keel extending from frontoclypeal suture to the middle of vertex, in holotype median keel prolonged to the end of vertex. Inner margin of antennal segments 5-11 with row of long, perpendicular setae. Outer margin of ventral side of hind femora, anterior margin of hind tibia, and ventral margin of hind first tarsomere with long, dense hair (fig. 110). Sternum V emarginate to 1/3-1/2 length. Median lobe elongate, dorsal and ventral valvae pentagonal, apex acute. Internal sac in anterior half with needles along margins, the needles gradually smaller from base to the middle of sac, in the middle with pair of sickle-like sclerites, behind the sclerites with moderately dense needles (fig. 340). Lateral lobes strongly modified. Each lobe divided into two long tapes. External tape broad, in apical half margins with dense, long, extremely strong setae. Internal tape narrow, margins with short and dense setae. Basal plate in basal part U-shaped, behind the base almost parallel-sided with margins narrowly pigmented (fig. 341). Spiculum gastrale slightly modified (fig. 342).

Female. Frons distinctly narrower than width of eye but without median keel. Antennae without perpendicular setae. Hind legs without dense hairs. Sternum V not emarginate. Ovipositor modified, short, with oblique pubescent area, without circular sclerites, pecten with enlarged base, apical lobes divided into two secondary lobes, anterior very narrow, posterior broad (fig. 407).

Host plant. *Convolvulaceae: Ipomea cairica*.

DISTRIBUTION

Ethiopia.

TYPES

Holotype male, allotype female, paratypes male and female, from seeds of *Ipomea cairica*, from Dessie, Abyssinia, Sp I 60552, FHB 51237 Washington DC June 5, 24 (holotype, allotype, and paratype female in USNM, paratype male in LB).

REMARKS

It is a member of *S. albomaculatus* group. See remarks under *S. albomaculatus*.

***Spermophagus posticus* CHEVROLAT, 1877**
(figs. 74, 318-320, 410)

Spermophagus posticus CHEVROLAT, 1877: CXXXV; PIC, 1913: 61; DECELLE, 1975 b: 27.

Spermophagus senegalensis var. PIC, 1931: 423 (nomen nudum); DECELLE, 1975 b: 27.

Spermophagus senegalensis v. *nigrodenudatus* PIC, 1939: 24; DECELLE, 1975: 27 (as syn.).

Spermophagus senegalensis PIC, 1942: 7; DECELLE, 1975 b: 27 (as syn.).

DESCRIPTION

Length: 1.9-2.6 mm, width: 1.4-2.0 mm.

Black, only hind tibial spines reddish.

Vestiture scarce to moderately dense, not covering body surface, on pronotum, pygidium and ventrites uniformly greyish. Elytra greyish with apical spot of brown hairs, occasionally uniformly pubescent (fig. 74).

Head short, eyes emarginate to 2/3 length, frons slightly narrower than width of eye, convex, usually with sharp median keel. Antennae moderately long, extending to 1/3 length of elytra, segment 3 about twice longer than 2, segments 8-10 about 1.2 times longer than wide. Pronotum 1.6-1.7 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view regularly convex. Elytral rows moderately punctate, intervals with indistinct large punctures. Pygidium densely punctured, punctures almost touching each other. Hind legs with no dimorphic characters, hind tibia with sharp dorsolateral carina, lateral carina not serrate, hind tibial spines straight, sharp, the inner slightly longer than the outer. Claws with large basal tooth.

Male. Sternum V emarginate to 1/3 length. Median lobe moderately long, of characteristic shape, apex rounded, dorsal valve very short. Internal sac in anterior 2/3 length with median line of needles, beyond the middle with small spines, apically with group of 12-16 large spines or comb-like sclerites (fig. 318). Lateral lobes very short, in shape of oval plate with setae on whole margin. Basal plate constricted before the lobes, widened behind constriction, narrowed apically (fig. 319). Spiculum gastrale not modified (fig. 320).

Female. Sternum V not emarginate. Ovipositor of standard type, with oblique pubescent suture, without circular pigmentation, pecten without enlarged base, apical lobes short, obtuse (fig. 410).

Host plant unknown.

DISTRIBUTION

Senegal, Ghana, Nigeria, Republic of Congo, Ethiopia, Kenya, Tanzania.

TYPES

Spermophagus posticus: holotype female, Old Calabar (NRS).

Spermophagus senegalensis v. *nigrodenudatus*: holotype female, Haut-Senegal-Niger (after DECELLE, 1975: 27, MNHP).

Spermophagus senegalensis: lectotype male, Senegal (MHNP).

MATERIAL EXAMINED

ETHIOPIA: 8 km S Dessie, 19 IX 1980, 13, DEMETER (HNHM, LB); Koka, at light, 21 X 1980, 3, DEMETER (HNHM); Maraquo, 1912, 2, KOVACS (HNHM); Vallis Erer, 4, KOVACS (HNHM); Eritrea, Asmara, KOVACS, 2 (HNHM); GHANA: Legon ad Accra, 11 VI 1963, 1, 9 VII 1963, 1, M. PRÓSZYŃSKA and J. PRÓSZYŃSKI (IZPAS); KENYA: Kilkon, sweeping near to seashore, 24 IX 1985, 2, S. and L. MAHUNKA (HNHM); TANZANIA: inter Marti et Arusha, 1, KATONA (HNHM); USA River, 3900 ft., at light, 1965, 2, J. SZUNYOGHY (HNHM).

REMARKS

With *S. ruandanus* it forms a natural group of species with ventral valve rounded apically, internal sac with several spines apically, lateral lobes short, transverse to subcircular, elytral vestiture uniform with indistinct dark spot on apex of elytra. *S. ruandanus* differs in lateral lobes transverse with transverse row of short setae (in *S. posticus* lateral lobes are subcircular with no transverse row of short setae), basal plate of lateral lobes not constricted behind lobes (strongly constricted in *S. posticus*), ventral valve about as long as wide (distinctly wider than long in *S. posticus*).

***Spermophagus pubiventris* BAUDI, 1866**
(figs. 75, 152, 153, 409)

Spermophagus variolosopunctatus var. *pubiventris* BAUDI, 1887: 471; ABELIE DE PERRIN, 1888: 89.

Spermophagus Kusteri var. *pubiventris*: SCHILSKY, 1905: no. 4; PIC, 1913: 60.

Spermophagus pubiventris: HOFFMANN, 1954: 202 (based on misidentified specimen); BOROWIEC, 1985 at 11; DECELLE and LODOS, 1989: 202.

DESCRIPTION

Length: 2.0-2.4 mm, width: 1.6-2.0 mm.

Black, only hind tibial spines reddish or brownish. In weakly sclerotized specimens maxillary palpi and third tarsal segment of fore and mid legs reddish or brownish.

Vestiture uniform, olive-greyish, dense, covering body surface but not felt-like (fig. 75).

Head short, eyes emarginate to 2/3 length. Frons about as wide as width of eye, without median keel. Antennae slender and long, reaching to half of body. Segment 3 about 1.5 times longer than 2, segments 7-10 very long, 1.6-2.0 times longer than wide. Pronotum semicircular, doubly punctured. Large punctures on sides of pronotal disc larger and more dense than in the middle of pronotum. Lateral margin in lateral view regularly convex. Elytral rows moderately coarsely punctate, intervals with large punctures on entire length, disposed irregularly or only on short distance arranged in rows. Ventral side without diagnostic characters. Hind legs with no dimorphic characters, hind tibia without dorsolateral carina, lateral carina serrate. Hind tibial spines sharp, equal in length. In some specimens outer spine darker than the inner, especially dorsally. Claws with large basal tooth.

Male. Sternum V emarginate to 3/4 length. Median lobe long, parallel-sided. Ventral valve subtriangular, apex angulate. Internal sac with minute spines in front part, other parts without sclerites (fig. 152). Lateral lobes long, tape-like, with acute apex. Margins with long and dense hair, only apical third of inner margin bare. Basal plate narrowed apically (fig. 153).

Female. Sternum V not emarginate. Ovipositor of standard type, with oblique pubescent suture, with circular pigmentation, pecten short, apical lobes very short (fig. 409).

Host plant unknown.

DISTRIBUTION

Greece, Turkey and Lebanon.

TYPE

Unknown to me.

MATERIAL EXAMINED

See BOROWIEC, 1985: 14.

REMARKS

It is a member of *S. sericeus* group. See remarks under *S. kuesteri* and *S. sericeus*.

Spermophagus punjabensis n. sp. (figs. 76, 170, 171)

DESCRIPTION

Length: 2.1 mm, width: 1.6 mm.

Black, hind tibial spines reddish, second antennal segment reddish-brown.

Vestiture scarce, not covering body surface, uniform, on pronotum and elytra brownish (fig. 76), pygidium and ventrites greyish.

Head short, eyes emarginate to 3/4 length. Frons about 1.8 times wider than eye, without keel. Antennae moderately long, extending to humerus, segment 3 about 1.6 times longer than 2, segments 8-10 as long as wide. Pronotum 1.6 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view regularly convex. Elytral rows moderately punctate, intervals with irregular rows of large punctures. Pygidium densely punctate, large punctures almost touching each other. Hind legs with no dimorphic characters, hind tibia with dorsolateral carina, lateral carina not serrate, hind tibial spines sharp, straight, of equal length. All claws broken in the only known specimen.

Male. Abdomen telescoped. Sternum V emarginate up to base. Median lobe moderately elongate, ventral valve subpentagonal, apex obtuse. Internal sac without sclerites (fig. 170). Lateral lobes elongate, apical half filiform, only small piece at base of each lobe with setae. Basal plate moderately broad, narrowed apically, margins pigmented (fig. 171).

Female. Unavailable.

Host plant unknown.

DISTRIBUTION

NW India.

TYPE

Holotype male, Panjab and U Provinces, VI-X India, RL WOGELUM coll. (USNM).

REMARKS

It is a member of *S. niger* group. It differs from all species of the group in ventral valve ogive-like and lateral lobes in apical half very narrow, filiform. See also remarks under *S. dongdokiensis*.

***Spermophagus pygopubens* Pic, 1930**
(figs. 77, 200-202, 411)

Spermophagus pygopubens PIC, 1930: 9; DECELLE, 1951: 192, 1975 b: 28.

DESCRIPTION

Length: 1.9-2.6 mm, width: 1.3-2.0 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, uniformly greyish, not covering body surface (fig. 77).

Head short, eyes emarginate to 3/4 length, frons as wide as width of eye, without median keel. Antennae short, extending to hind angles of pronotum, segment 3 about 1.2-1.3 times longer than 2, segments 8-10 as long as wide. Pronotum 1.5 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view slightly convex. Elytral rows moderately punctate, intervals with irregular row of large punctures. Pygidium densely punctured, punctures almost touching each other. Hind legs with no dimorphic characters, hind tibia without dorsolateral carina, lateral carina not serrate, hind tibial spines sharp, short, of equal length. Claws with large basal tooth.

Male. Sternum V emarginate to half length. Median lobe moderately long, ventral and dorsal valve subtriangular, apex acute. Internal sac in anterior fourth with needles along margins, other part without sclerites (fig. 200). Lateral lobes elongate, tape-like, apex acute, only outer margin with scarce, long setae. Basal plate moderately broad, narrowed apically (fig. 201). Spiculum gastrale strongly modified (fig. 202).

Female. Sternum V not emarginate. Ovipositor of standard type, elongate, with oblique pubescent suture, without circular pigmentation, pecten short with slightly expanded base, apical lobes very short, obtuse (fig. 411).

Host plant. *Malvaceae*: *Hibiscus cannabina*, *H. sabaariffa*.

DISTRIBUTION

Algeria, Guinea, Mali, Ghana, Nigeria, Republic of Congo, Algeria, Nigeria, Ghana, Zair, Zambia, South Africa.

TYPE

Holotype male, Guinee (MHNP).

MATERIAL EXAMINED

ALGERIA: 5 V 42, seed of *Hibiscus sabaariffa*, 8 (USNM); GHANA: 21 I 1963, *Hibiscus cannabina*, 4 (USNM); NIGERIA: Yankari Game Reserve, Wikki, 11 VIII 78, bird carcasse, 1, DEMETER (HNHM); SOUTH AFRICA. Transvaal, Bockenhoutskloof, 30 km NE Pretoria, netted, 14 I 1978, 1, S. ENDRODI (HNHM); Transvaal, Nylsvley, netted, 16 I

1978, 1, S. ENDRODI (HNHM); Damaraland, Abachaus, XII 1951, 2, G. HOBÖHM (TM); Samendeigei, Kaukau-Kumgv., VI 1951, 1, C. KOCH (TM); Kabulabula, Chobe River, 11-24/7/1930, 1, V.-L. Kal. Exp. (TM); Pretoria, 10 VI 59, with *Hibiscus* sp. seed, 9, J. E. MABRY Jr. (USNM); ZAIR: 7 IX 60, with *Hibiscus* sp., 4, F.T. KENWORTHY (USNM); ZAMBIA: Livingstone. 7 X 1941, 1, W. EICHLER (IZPAS); Zambia interc., germoplasm, 16 March 1981, *Hibiscus* sp., 3 (USNM).

REMARKS

It is a unique species with no close relatives. It is the only Afrotropical species with dorsal vestiture uniformly greyish, body slightly elongate, and internal sac without spines. Uniformly pubescent forms of *S. humilis* differs distinctly in stout, almost spherical body, and internal sac with bispinose sclerite. Small specimens of *S. sophorae*, also with uniformly pubescent elytra differ in scutellum with white pubescence. *S. cicatricosus* is the most similar, but it is usually brown pubescent, with ventral valve transverse (subcircular in *pygopubens*), and with lateral lobes very short, transverse, rounded apically (long, tape-like, acute apically in *pygopubens*).

Spermophagus ruandanus n. sp. (figs. 78, 265-267)

DESCRIPTION

Length: 2.1 mm, width: 1.6 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, uniformly greyish, only apex of elytron with spot of brownish hair (fig. 78).

Head short, eyes emarginate to 2/3 length, frons as wide as width of eye, without median keel. Antennae moderately long, extending slightly behind humeral callus, segment 3 about 1.4 longer than 2, segments 8-10 about 1.4 times longer than wide. Pronotum 1.7 times wider than long, doubly punctured, large punctures grouping on sides of disc. Lateral margin in lateral view regularly convex. Elytral rows moderately punctate, intervals with irregular rows of large, shallow punctures. Puncturation of pygidium dense, punctures almost touching each other. Hind legs with no dimorphic characters, hind tibia without dorsolateral carina, lateral carina not serrate, hind tibial spines straight, sharp, of equal length. Claws with large basal tooth.

Male. Sternum V emarginate to 2/3 length. Median lobe moderately long, ventral and dorsal valvae of characteristic shape (fig. 265), internal sac divided into two tapes, in anterior half with dense needles along inner margin of each tape, in apical part with 16 elongate spines. Lateral lobes very short, angulate on sides, each lobe in the middle with transverse rows of short setae, margins without setae. Basal plate short, almost parallel-sided (fig. 266). Spiculum gastrale modified (fig. 267).

Female. Unavailable.

Host plant unknown.

DISTRIBUTION

Ruanda.

TYPE

Holotype male, Sudl. Makondi Plateau, IV.12 (ZMHU). The holotype was selected by Dr. J. DECELLE but not described hitherto.

REMARKS

It is a member of *S. posticus* group. See remarks under *S. posticus*.

***Spermophagus rufipes* (TER-MINASSIAN, 1975)**
(figs. 79, 188, 189, 412)

Euspermophagus rufipes TER-MINASSIAN, 1975: 247

Spermophagus rufipes: WENDT, 1985: 284.

DESCRIPTION

Length: 2.0 mm, width: 1.5 mm.

Black, fore and mid femora and tibiae, hind tibial spines reddish. Hind legs partly reddish. Tarsi brownish-red to black. First two antennal segments reddish-brown.

Vestiture moderately dense, on pronotum yellowish, uniform, on elytra mostly yellowish with white spots: elongate in $2/3$ length of intervals 3 and 5, elongate at basal half of interval 9, small in $3/4$ length of interval 9 (fig. 79). Pygidium at base and apically whitish, on sides with spots of yellowish hairs. Ventrites uniformly whitish pubescent.

Head short, eyes emarginate to $2/3$ length. Frons about as wide as width of eye, convex but without median keel. Antennae moderately long extending to $1/4$ elytral length, segment 3 about 1.4 times longer than 2, segments 8-10 about 1.3 times longer than wide. Pronotum 1.5 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Elytral rows finely punctate, intervals without large punctures. Punctuation of pygidium dense, punctures almost touching each other. Hind legs with no dimorphic characters, hind tibia without dorsolateral carina, lateral carina not serrate, hind tibial spines sharp, straight, of equal length. Claws without basal tooth.

Male. Sternum V emarginate to half length. Median lobe moderately long, ventral and dorsal valvae elongate, subtriangular, apex acute. Internal sac in the middle with bispinose sclerite, in anterior and posterior parts without sclerites (fig. 188). Lateral lobes elongate, tape-like, apex obtuse, margins with long, moderately dense setae. Basal plate narrow, slightly narrowed apically (fig. 189).

Female. Sternum V not emarginate. Ovipositor of standard type, narrow, with oblique pubescent suture, without circular pigmentation, pecten without enlarged base, apical lobes obtuse (fig. 412).

Host plant unknown.

DISTRIBUTION

Mongolia.

TYPE

Unknown to me. I have examined specimens determined by M. E. TER-MINASSIAN.

MATERIAL EXAMINED

MONGOLIA: Bajanchongor Aimag, Ich-bogd, 25 km S of Bogd, 1350 m, 1, 20 km S of Bogd, 1300 m, 2, 1-24.7.79, leg. DORN (ZMHU); Chovdaiaimakh, Schuravzel, Bulgan gol, 25 V 1974, 1, R. PIECHOCKI (HNHM).

REMARKS

It is a unique species with no close relatives. Internal sac with bispinose sclerite and fore and mid legs partly reddish distinguish it from all Palearctic species of the genus. See also remarks under *S. bengalicus*.

Spermophagus rufonotatus Pic, 1903

(figs. 80, 324-326)

Spermophagus rufonotatus PIC, 1903: 171, 1913: 61; DECELLE, 1975 b: 25; ERNST et al., 1989: 296.

DESCRIPTION

Length: 2.9 mm, width: 2.3 mm.

Black, each elytron with large red spot occupying area between humerus and half width of elytron. Hind tibial spines reddish.

Vestiture scarce, not covering body surface, brown and grey. Pronotal disc mostly grey, with brown spot in the middle. Elytra with brown vestiture, only red spot with grey hair (fig. 80). Pygidium and ventral surface with grey pubescence.

Head short, eyes deeply emarginate, with only three facets beyond emargination. Frons slightly narrower than width of eye without median carina. Antennae long, extending to half length of elytron. Segment 3 about two times longer than 2, segments 8-10 about 1.5-1.6 times longer than wide. Pronotum about 1.8 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view slightly convex. Elytral rows moderately punctate, intervals with rows of large punctures. Hind legs with no dimorphic characters, hind tibial spines sharp, short, of equal length. Claws with large basal tooth.

Male. Abdomen telescoped, sternum V emarginate to base. Median lobe moderately long, ventral valve oval, apex truncate. Internal sac strongly modified, anterior half with dense spines and large horn-like sclerite, posterior half with six rows of spines, on side large, dentiform, in apical part elongate, needle-like (fig. 324). Lateral lobes short, subtriangular, apex rounded, margins with short hair, also whole surface with scarce, short hair (fig. 326). Spiculum gastrale modified (fig. 325).

Female me unavailable.

Host plant: *Mimosaceae*: *Acacia tortilis* ssp. *heterocantha*.

DISTRIBUTION

South Africa (Natal, Transvaal), Angola and Botswana.

TYPE

Lectotype male, Natal, Marshall, des. by J. DECELLE (1975) (BMNH).

MATERIAL EXAMINED

NE Transvaal, Grootdraai, X 1927, 1, H. LANG (TM).

REMARKS

It is a unique species with no close relatives. Besides *S. himaculatus* it is the only species with large red, posthumeral spot. *S. himaculatus* differs distinctly in extremely scarce elytral vestiture (moderately dense in *rufonotatus*), hind tibia of male arcuate with anterior margin pubescent (straight and unpubescent in *rufonotatus*), median lobe without large sclerite in anterior part (with large sclerite in anterior part in *rufonotatus*).

Spermophagus samuelsoni n. sp.
(figs. 82, 291, 292)

DESCRIPTION

Length: 2.4-2.5 mm, width: 2.0-2.1 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, almost covering body surface. Pronotum and elytra with marble pattern of mixed brown and whitish spots (fig. 82). Pygidium with basal transverse band of dense, whitish hairs. Ventrites uniformly whitish pubescent.

Head short, eyes emarginate to $2/3$ length. Frons slightly narrower than width of eye, with short median keel. Antennae moderately long, extending to humerus, segment 3 about 1.4 times longer than 2, segments 8-10 about 1.4 times longer than wide. Pronotum very broad, 1.8 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view strongly convex. Elytral rows moderately punctate, intervals with several indistinct large punctures. Pygidium densely punctate, large punctures almost touching each other. Hind legs with no dimorphic characters, hind tibia with dorsolateral carina, lateral carina not serrate. Hind tibial spines sharp, straight, inner spine 1.3 times longer than the outer. Claws with large basal tooth.

Male. Sternum V emarginate up to base. Median lobe moderately elongate. Ventral valve broad, anterior margin regularly rounded, dorsal valve subtriangular, apex obtuse. Internal sac in anterior fourth with bands of dense, fine needles along margins, in the middle with squamose plate and a pair of large spines, behind the middle with a pair of spines about twice smaller than first pair, apically with two pairs of small spines. Surface of sac behind the large spines finely squamose (fig. 291). Lateral lobes moderately elongate, tape-like, apex rounded, margins with dense long setae, surface with short setae. Basal plate elongate, slightly narrowed apically, basal part of plate microsetose (fig. 292).

Female. Unavailable.

Host plant unknown.

DISTRIBUTION

Thailand, Malaysia.

TYPES

Holotype male, Thailand, Trang Prov., Khaophappa Khaochang, 200-400 m, 30-31.XII.1963, G.A. SAMUELSON Collector, Bishop (BM); paratype male, [Malaysia]: Island of Penang, BAKER (USNM).

REMARKS

It is a member of *S. johnsoni* group. See remarks under *S. johnsoni*.

Spermophagus schroederi DÉCELLE, 1973

(figs. 81, 212-214, 408)

Spermophagus schroederi DÉCELLE, 1973: 137. WENDL, 1978: 361.

DESCRIPTION

Length: 1.7-1.8 mm, width: 1.3 mm.

Black, hind tibial spines reddish, fore and mid leg dark brown.

Vestiture scarce, not covering body surface, brown and silver. Pale hair forms irregular margin of pronotal disc, small elongate spots at base of intervals 3 and 5, broad transverse band in the middle of elytra and spot along suture from median band to base of pronotum, including scutellum (fig. 81). Pygidium with basal transverse band of silver hair. Ventral part of body with uniform whitish pubescence.

Head short, eyes emarginate to $\frac{3}{4}$ length. Frons slightly wider than width of eye, without median keel. Antennae long, extending almost to half length of elytra. Segment 3 about 1.3 times longer than 2, segments 8-10 about 1.3 times longer than wide. Pronotum about 1.6 times wider than long. Disc doubly punctured, large punctures disposed almost uniformly on whole surface. Lateral margin in lateral view almost straight. Elytra about 1.1 times wider than long, rows distinctly punctured, intervals with row of large, shallow punctures. Hind legs with no dimorphic characters, hind tibia without dorsolateral carina, lateral carina not serrate, hind tibial spines sharp, of equal length. Claws with large basal tooth.

Male. Sternum V emarginate to $\frac{2}{3}$ length. Median lobe short gradually widened from valvae to spoon, ventral valve regularly triangular, dorsal valve slightly wider than ventral. Internal sac with very small needles at base of ventral valve, other part without sclerites (fig. 212). Lateral lobes moderately long, tape like, with enlarged base of each tape, margins with long, dense hair. Basal plate of lateral lobes parallel-sided, slightly widened behind lobes (fig. 213). Spiculum gastrale as in fig. 214.

Female. Sternum V not emarginate. Ovipositor distinct, with oblique pubescent suture, circular pigmentation only in external part, pecten short, apical lobes hook-like (fig. 408).

Host plant unknown.

DISTRIBUTION

Ethiopia, Tanzania.

TYPES

Holotype male, A. d. Sammlung Dr. Chr. SCHRODER'S, Massaisteppe, Kihuiro 9/7 (ZMHU); allotype female, A. d. Sammlung dr. Chr. SCHRODER'S, Massaisteppe, Gonia 12/5 (ZMHU).

MATERIAL EXAMINED

Ethiopia: Lake Langano, sweep-netted, 12 X 1980, no. 191, 3, A. DEMETER (2 HNHM, 1 LB).

REMARKS

It is a member of *S. malvacearum* group. See remarks under *S. malvacearum*.

Spermophagus scotti DECELLE, 1971
(figs. 83, 332-334, 413)

Spermophagus scotti DECELLE, 1971: 257.

DESCRIPTION

Length: 1.9-2.1 mm, width: 1.5-1.7 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, not covering body surface, on pronotum uniform, yellowish-grey. Elytra mostly yellowish-grey pubescent with spots of brownish hairs: in 1/3 length of odd intervals, in the middle of intervals 5-9, at end of intervals 3-5 but brown spot not extending to apex of elytra, at apex of intervals 6-9 (fig. 83). Pygidium uniformly yellowish-grey pubescent or with two small apical spots of brownish hairs. Ventrites uniformly yellowish-grey.

Head short, eyes emarginate to 3/4 length. Frons about as wide as width of eye, without median keel or with narrow impunctate, median line. Antennae moderately long, extending to 1/3 elytral length, segment 3 about 1.6 times longer than 2, segments 8-10 about 1.4 times longer than wide. Pronotum 1.6 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view regularly convex. Elytral rows finely punctate, intervals without large punctures. Pygidium moderately irregularly punctate, space between punctures 1.1-2.0 times wider than puncture diameter. Hind legs with no sexual characters, hind tibia without dorsolateral carina, lateral carina not serrate, apical spines straight, sharp, the inner slightly longer than the outer. Claws with large basal tooth.

Male. Sternum V emarginate up to base. Median lobe moderately long, ventral valve strongly modified, tricuspidate, median plate acuminate, dorsal valve triangular, acute. Internal sac in anterior half with dense needles arranged in two bands, in apical half with two bands of dense granules and 14-19 large spines, first pair of the spines about twice larger than remainder spines (fig. 332). Lateral lobes elongate, tape like, apex with strongly pigmented fusiform plate. Outer margin of each lobe and apical plate with moderately long, dense setae, inner margin without setae, surface of each lobe and basal part of inner margin with 3-5 moderately long setae. Basal plate moderately broad, strongly pigmented, only with a narrow median, unpigmented line (fig. 333). Spiculum gastrale strongly modified (fig. 334).

Female. Sternum V not emarginate. Ovipositor of standard type, with oblique pubescent suture, with circular pigmentation, pecten elongate, without enlarged base, apical lobes short, obtuse (fig. 413).

Host plant unknown.

DISTRIBUTION

Ethiopia, Gambia.

TYPE

Holotype male, Abyssinia, Djem-Djem Forest, 8000-9000 ft., 21-25 IX 1926, Dr. H. SCOTT "In wild rose flower".

MATERIAL EXAMINED

GAMBIA: Bathurst, jan. 68, 2, PALM (LU).

REMARKS

It is a unique species with no close relatives. Tricuspidate ventral valve distinguishes it from all species of the genus except *S. coronatus* but both species differ distinctly in structure of male genitalia, they are also separated geographically, *S. coronatus* is known only from Philippines, *S. scotti* from Ethiopia and Gambia.

Spermophagus semiannulatus Pic, 1918
(figs. 84, 172, 173, 414)

Spermophagus semiannulatus Pic, 1918 b: 7.

Spermophagus simoni Pic, 1918 a: 303, n. syn.

DESCRIPTION

Length: 2.2-2.5 mm, width: 1.5-1.8 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, not covering body surface. Pronotum dark brown with distinct pattern of whitish spots (fig. 84). Elytra dark brown with whitish sutural interval, base of intervals 3 and 5 and incomplete transverse whitish bands in 1/3 and 2/3 elytral length. Anterior band usually interrupted in interval 4. Pygidium with whitish basal transverse band, whitish narrow median line and large brown lateral spots. Ventrites uniformly whitish pubescent, upper corners of coxa usually with spot of extremely dense hairs.

Head short, eyes emarginate to 3/4 length. Frons as wide as or slightly wider than width of eye, without median keel. Antennae moderately long, extending to humeral callus, segment 3 about as long as 2 or only slightly longer, segments 8-10 about 1.3 times longer than wide. Pronotum 1.5 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view regularly convex. Elytral rows strongly punctate, intervals with irregular row of large punctures. Puncturation of pygidium dense, punctures almost touching each other. Hind legs with no sexual characters, hind tibia with sharp dorsolateral carina, lateral carina not serrate, apical spines sharp, straight, inner about 1.3 times longer than the outer. Claws with large basal tooth.

Male. Sternum V emarginate to 1/5 length. Median lobe moderately long, in the middle slightly widened, ventral valve short, rounded on sides, apex subangulate, dorsal valve subtriangular with apex obtuse. Internal sac without sclerites (fig. 172). Lateral lobes long, tape-like, apex acute, inner margin with long dense setae, outer margin with two setae near the middle, one long seta at base, and 4-5 setae at basal margin. Basal plate narrow, narrowed apically, sides strongly pigmented (fig. 173).

Female. Sternum V not emarginate. Ovipositor of standard type, long, with oblique pubescent suture, without circular pigmentation, pecten with enlarged base, apical lobes densely pubescent (fig. 414).

Host plant unknown.

DISTRIBUTION

Philippines.

TYPES

Spermophagus semiannulatus: holotype female, Manille, E. SIMON (MHNP).

Spermophagus simoni: syntype female, Luzon Thorey, coll. HAAG (DEI).

MATERIAL EXAMINED

PHILIPPINES: Laguna, Mt. Makiling, 24 V 31, 1, 400 ft., 19 VI 31, 5, 100 m, 16 V 32, 2, 200 ft., 1 VI 32, 4, F. C. HADDEN (BM, LB); Laguna, Agr. College, 14 V 31, *Tephrosia candida*, 1, F. C. HADDEN (BM); Negros or., 1 km N Dumaguete, 5 I 1961, 1, H. TORREVILLAS (BM); Culion Is., 6 km W Culion, 8 VI 1962, forest, 1, H. HOLTMANN (BM); Busuanga Is., 6 km SE San Nicolas, Malaise Trap, 21 V 1962, 1, H. HOLTMANN (BM).

REMARKS

It is a member of *S. niger* group. See remarks under *S. dongdokiensis*.

Spermophagus sericeus (GEOFFROY, 1785)

(figs. 1, 100, 101, 106, 108, 127-129, 415)

Mylabris sericea GEOFFROY, 1785: 112.

Spermophagus sericeus: BEDEL, 1901: 354; PIC, 1913: 61; HOFFMANN, 1945: 101; CALDERON, 1962: 215; ZAMPETTI, 1977: 127; 1979: 206, 1981: 84, BRANDL, 1981: 11; BOROWIEC, 1981: 37, 1982: 243, 1983: 125 a, 1983 b: 298, 1983 c: 289, 1984: 300; 1985 a: 6; DECELLE, 1983: 239; WENDT, 1984: 166, 1985: 284, 1986: 111, 1988: 317; KARAPETJAN, 1985: 147; DECELLE and LODOS, 1989: 203.

Spermophagus sericeus ssp. *afghanicus* BOROWIEC, 1985 a: 7.

Euspermophagus sericeus: POPOV, 1966: 8; BAGDASARIAN, 1967: 806; BATTASHVILI and ELERDASHVILI, 1969: 530; KARAPETJAN, 1973: 78; TER-MINASSIAN, 1973: 82, 1975: 247; EGOROV, 1981: 50; EGOROV and TER-MINASSIAN, 1983: 56; WENDT, 1983: 97.

Spermophagus cardui BOHEMAN, 1829: 117.

Spermophagus sulcifrons KÜSTER, 1848: no. 52.

Spermophagus euphorbiae KÜSTER, 1848: no. 54.

Spermophagus cisti: SCHILSKY, 1905: no. 3.

Spermophagus mesopotameca ALI HUSSAIN et KADHIM, 1986: 53, n. syn.

DESCRIPTION

Length: 1.9-2.4 mm, width: 1.4-1.9 mm.

Black, including hind tibial spines.

Vestiture scarce to moderately dense, not covering body surface, uniform, greyish (fig. 1). Specimens from Middle Asia, especially from Afghanistan, are usually densely pubescent.

Head short, eyes emarginate to 3/4 length. Frons slightly wider than width of eye, without median keel. Antennae moderately long, extending to 1/4 elytral length, segment 3 about 1.5 times longer than 2, segments 8-10 in populations outside Afghanistan 1.1-1.2 times longer than wide, in populations from Afghanistan 1.3-1.4 times longer than wide. Pronotum 1.5-1.6 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc or grouping on sides. Elytral rows moderately punctate, intervals with several shallow, large punctures. Puncturation of pygidium dense, punctures almost touching each other. Hind legs with no sexual characters, hind tibia without dorsolateral carina, lateral carina serrate, hind tibial spines sharp, straight, outer spine 1.2-1.3 times longer than inner. Claws with large basal tooth.

Male. Sternum V emarginate to 1/3 length. Median lobe moderately long, not constricted behind ventral valve, ventral and dorsal valvae subtriangular with regularly convex sides, internal sac without sclerites (fig. 127). Lateral lobes long, tape-like, apex acute, bases of lobes in contact. Basal plate long, narrow, margins narrowly pigmented (fig. 129). Spiculum gastrale strongly modified (fig. 128).

Female. Sternum V not emarginate. Ovipositor strongly sclerotized, without pubescent oblique suture, circular pigmentation complete, pecten long, without enlarged base, apical lobes acute, without apical setae (fig. 415).

Host plants. *Convolvulaceae*: *Convolvulus arvensis*, *C. pseudocantabrica*, *C. soldanella*, *C. althaeoides*.

DISTRIBUTION

West Palaearctic east to Central Mongolia, south to northern China, Afghanistan, Northern Iran. Populations from Afghanistan were described as separate subspecies *S. sericeus afghanicus* BOROWIEC characterized by body generally slimmer, densely pubescent, antennae slimmer with distal segments more elongate.

TYPE

Spermophagus sericeus: Neotype female, Paris (MHNP).

Spermophagus cardui: unknown to me.

Spermophagus sulcifrons: unknown to me.

Spermophagus euphorbiae: unknown to me.

Spermophagus mesopotameca: unknown to me. The drawings of male genitalia beyond a doubt to show the identity of *S. mesopotameca* with *S. sericeus*.

MATERIAL EXAMINED

ALBANIA: Berat, 12 VI 1952, 1 (DZPAS), Pek, 1917, 3 (HNHM), Kula Lums, 1918, 1 (HNHM); ALGERIA: Sidi bel Abbes, 1 (DZPAS); AUSTRIA: Wien, 27 (DZPAS); BULGARIA: Pirin, Bansko, 20 VI 1956, 1 (IZPAS), Sandanski, 23 VI 1976, 1, L. BOROWIEC (LB); Dobruja, Shabla, 6 VI 1979, 4, L. BOROWIEC (LB); Black Sea Coast: Burgas, Mandra Lake, 18 VIII 1959, 2 (IZPAS), Batova near Varna, 17 VIII 1950, 1 (IZPAS), Longoza, 10 VII 1960, 24 (IZPAS), Arkutino, 9 VI 1979, 18-25 VI 1980, 40, L. BOROWIEC (LB); Vitosha, Bojana, 21 V 1959, 21 (IZPAS), Boiansko Blato, 25 V 1959, 1 (IZPAS); Makedonia, Petric, 11 VI 1959, 1, 7 VIII 1959, 1 (IZPAS); Stara Planina, Levskigrad, 23 VIII 1959, 1 (IZPAS), Vraca, 26 VIII 1950, 4 (IZPAS); Sredna Gora, Stara Zagora, 2 VI 1959, 4 (IZPAS); Rila, Kotsherino, 8 VIII 1959, 1 (IZPAS); Central Rodopi, Asenovgrad, 26 V 1959, 1 (IZPAS); East Rodopi, Kyrdzhali, 1 VI 1959, 1, 15 X 1963, 1 (IZPAS); Stranja, Gramatikovo, 21 VIII 1959, 3 (IZPAS); CHINA: Gobi, Valee de San Ko Tsivan Tse, 1909, 10, Dr. VAILLANT (MHNP); Nan-Chan, Tien Chouei Tsing, 1200 m, Juni 08, 1, Dr. L. VAILLANT (MHNP); FRANCE: Marseille, V 1958, 12 (HNHM); GREECE: Morea, Hagios Vlassis, 1 (HNHM); HUNGARY: Ohata near Debrecen, 27 V 1957, 3 (IZPAS), Tihany, 10 VI 1957, 6 (IZPAS), Batorliget near Nairegyhaza, 28 V 1957, 9 (IZPAS), Tapolca near Miskolc, 3 VI 1957, 7 (IZPAS), Budapest, Gellert hegy, 12 VI 1957, 3 (IZPAS), Sashegy, 18 V 1957, 22 (IZPAS), Fülöpszallas, 35 km W Kecskemet, 7 V 1959, 21 (IZPAS), Villany, 36 km S Pecs, 27 V 1959, 30 (IZPAS), Bükkhegy, Szilvasvarad, 20 V 1959, 5 (IZPAS), Nagy Mezo, 20 V 1959, 3 (IZPAS), Mecsekhegy, Tetye near Pecs, 26 V 1959, 5 (IZPAS), Csakvar near Budapest, 9 VI 1957, 4 (IZPAS).

Budapest, Janoshegy, 1 VI 1951, 1 (IZPAS), Velence, 40 km SW Budapest, 14 V 1959, 3 (IZPAS), Pecsvarad, 26 V 1959, 3 (IZPAS), Tenkes-hegys, Mariagyüd, 30 km S Pecs, 27 V 1959, 3 (IZPAS), Gyon, 40 km S Budapest, 7 V 1959, 1 (IZPAS), Paks, 26 V 1959, 1 (IZPAS), Pilis-hegys, Szentendre, 24 V 1959, 1 (IZPAS), Eger, 20 V 1959, 1 (IZPAS), Badacsony, 18 IX 1956, 2 (IZPAS), Simontornya, 26 V 1959, 1 (IZPAS), Inarcs near Budapest, 19 V 1957, 1 (IZPAS), Montes Budenses, 21 V 1957, 2 (IZPAS), Hortobágy N. P., Ujszentmargita, 28 V 1974, 1, 13 VI 1974, 1, 25 VI 1974, 2, 16 VII 1974, 1, 9 IX 1974, 1, 12 IX 1974, 2 (HNHM), Püspökladány, 7-9 VII 1975, 2, 26 VIII 1976, 2 (HNHM), Hortobágy-Máta, 22-23 V 1975, 1, 27 V 1976, 3 (HNHM), Nagyvíván, 22-23 V 1975, 1 (HNHM), Tiszacsege, 28 VI 1976, 1 (HNHM), Egyek, 24 IV 1975, 15-18 V 1975, 1, 26-27 V 1976, 1, 29 V 1974, 2, 16-27 VI 1975, 12, 10-11 VII 1975, 1, 14 VII 1976, 2, 17 VII 1974, 3, 25 VIII 1976, 3, 11 IX 1974, 4 (HNHM), Kiskunsági N. P., Tabdi, 13 IX 1979, 2, 21 IX 1978, 1 (HNHM), Dömsöd, 27 VIII 1979, 2 (HNHM), Lakcitele, 26 VII 1977, 4 (HNHM), Bócsa, 13 VI 1979, 1 (HNHM), Dabas, 12 VI 1979, 2 (HNHM), Kéleshalom, 26 V 1962, 4 (HNHM); IRAN: Golhak near Teheran, 1400 m, VI-VIII 1961, 3 (HNHM); IRAQ: Baghdad, Rashdiya, 29 IV 1978, 2 (DZPAS), Baghdad, 4 IV 1961, 7, 9 IV 1961, 3 (IZPAS), 10 km NW Baghdad, 9 IV 1961, 2 (IZPAS), Shahraban, 3 IV 1961, 2 (IZPAS); ITALY: Sardinia, Sassari, Mores, 1906, 2 (HNHM), Cagliari, V 1903, 1 (HNHM), Sicily, M. Cofano NW Trapani, 14 V 1970, 20 (IZPAS), Taormina, VI 1938, 9 (IZPAS); JORDAN: Homer near Amman, 600 m, 26 IV 1959, 4 (HNHM), Amman, 800 m, 23 IV 1958, 1, 22 VII 1959, 1 (HNHM), Fuhez near Amman, 1000 m, 14 IX 1958, 1 (HNHM), Jericho, 200 m u. M., 31 III 1959, 1 (HNHM); MOROCCO: Marrakes, 16 VI 1979, 2 (IZPAS), Ouarzazat, 26 VI 1979, 1 (IZPAS); ROUMANIA: Dobrogea, Valul Traian, 1 X 1958, 5, 19-20 VI 1959, 5 (IZPAS), Baserabi, 3 X 1958, 1 (IZPAS), Bhneasa near Bucuresti, 6 X 1964, 3 (IZPAS), Danube delta, Sulina, 8-10 VII 1959, 1 (IZPAS), Tulcea, 21 IX 1957, 3 (HNHM), Bucuresti, 2 (HNHM); SPAIN: Pinos Genil, 14 km of Granada, 21 VI 1967, 5 (IZPAS), prov. Huelva, La Rabida, 2-5 VI 1967, 2 (IZPAS); TURKEY: Ivriz, 21 VII 1906, 1 (HNHM), Malikoi, 1 VI 1925, 2 (HNHM), Angora, 26 V 1925, 4 (HNHM); USSR: Ukraine, Tarnopol, 52 (DZPAS), Lvov, 23 V, 3 (DZPAS), Bukovina, Prelipce near Zastavna, 18 V 1887, 7 (DZPAS), Borščev, 27 VII 1906, 12 VI 1907, 7 X 1906, 20 VI 1906, 11 (DZPAS), Ivankov near Borščev, 22 VIII 1906, 14 VIII 1906, 6 (DZPAS), Bedrykovce near Zalesčiki, 6 VI 1889, 2 (DZPAS), Grodek near Zalesčiki, 2 VII 1906, 3 (DZPAS), Babin near Zastavna, 14 VII 1887, 1 (DZPAS), Horodenka, 25 VI 1921, 1 (DZPAS), Okno, 20 IX 1909, 3 (DZPAS), Crimea, Jaila, 17 VI 1956 (IZPAS), Odessa, Limany, 15 VI 1956, 4 (HNHM); Bessarabia, Kobylka, 1893, 2 (HNHM), Kisineff, 2 (HNHM), Telosoro, 1 (HNHM), Georgia, Suchumi, 16 IX 1955, 1 (IZPAS); Kazakh SSR, Aulie-Ata, 2 (HNHM), Uzbekh SSR, Samarkand, V 1916, 1 (DZPAS); Turkmenian SSR, Repetek, 1 (DZPAS); Caucasus, Krasna Poliana, 2 (DZPAS), Macesta, 24 VI 1956, 24 (HNHM), Tiflis, 1893, 3 (HNHM), Araxestal, 2 (HNHM), Eriwan, 1893, 1 (HNHM); YUGOSLAVIA: Dalmatia, Ins. Lokrum, 7 VIII 1958, 2 (HNHM), Trsteno, Bot. Garden, 5 VIII 1958, 5 (HNHM), Jjalo, VIII 1906, 1 (HNHM), Cattaro, VIII 1906, 2 (HNHM), Kraljevo, V 1957, 2 (HNHM), Serbia, Nis, X 1902, 1 (HNHM), Montenegro, Berane, 1917, 4 (HNHM), Kosovo Polje, Mitrovica, 9 (HNHM), Rudnik, Mitrovica, 1917, 4 (HNHM), Zavidovic, 8 IX 1903, 5, 9 VIII 1903, 1 (HNHM).

REMARKS

It is a member of *S. sericeus* group. This group includes most Palearctic species with

uniformly pubescent elytra, serrate lateral carina of hind tibia and median lobe lacking scerites. Three species of the group have hind tibial spines black: *S. altaicus*, *S. sericeus* and *S. calystegiae*. *S. altaicus* differs distinctly in reduced basal tooth of tarsal claws. *S. calystegiae* is externally very similar to *S. sericeus* and differs only in structure of genitalia. In *S. calystegiae* median lobe is longer, constricted behind ventral valve (not constricted in *S. sericeus*), bases of lateral lobes distant (in *S. sericeus* in contact). Ovipositor of *S. calystegiae* is of standard type, with oblique pubescent suture (in *S. sericeus* without suture). *S. cardui* was synonymized with *S. sericeus* by BEDEL (1901), *S. sulcifrons* and *S. euphorbiae* were synonymized with *S. cardui* by BAUDI (1887) and SCHILSKY (1905). Types of these species have never been revised, and it is possible that some of these names are senior synonyms of *S. calystegiae*. I had no possibility to study types of these three names.

Spermophagus siamensis n. sp.

(figs. 85, 308, 309)

DESCRIPTION

Length: 2.6 mm, width: 2.0 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, almost covering body surface. Pronotum with pattern of mixed brown and yellowish-grey spots. Elytra brown with yellowish-grey spots: at base of intervals 1-6, in 1/3 length of intervals 3, 5, 7, 9, in 2/3 length of intervals 3-5, 7. Sutural interval in basal half also yellowish-grey (fig. 85). Pygidium with mixed brown and yellowish-grey hairs. Ventrites uniformly yellowish-grey pubescent.

Head short, eyes emarginate to 2/3 length. Frons twice narrower than eye width, with sharp median keel. Antennae moderately long, extending to 1/3 elytral length, segment 3 very long, 3.2 times longer than segment 2, segments 8-10 about 1.3 times longer than wide. Pronotum 1.6 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view strongly convex. Elytral rows moderately punctate, intervals with several indistinct, large punctures. Pygidium densely punctate, large punctures almost touching each other. Hind legs with no dimorphic characters, hind tibia in basal half with indistinct dorsolateral carina, lateral carina in apical half slightly crenulate. Inner spine of hind tibia straight, sharp, both outer spines in the only known specimen broken. Claws with large basal tooth.

Male. Sternum V emarginate to 2/3 length. Median lobe moderately elongate, strongly constricted behind valvae, ventral valve pentagonal, narrowed basally, apex obtuse, dorsal valve about twice narrower than the ventral, subtriangular, apex obtuse. Internal sac in basal 1/3 length divided into two tapes, each in anterior margin with group of needles, surface of tapes squamose to granulate, in the middle of sac a pair of small spines with strongly enlarged base, apically a pair of elongate spines (fig. 308). Lateral lobes short, oval, margins and basal half of surface with moderately long setae. Basal plate narrow, slightly constricted behind the lobes, margins broadly pigmented (fig. 309).

Female. Unavailable.

Host plant. Unknown.

DISTRIBUTION

Thailand.

TYPE

Holotype male, Siam, Doi Sotep, 8.II.1928, once mackie [?], inside fruit, per T.D.A. COCKERELL; inside fruit, Doi Suteb, Siam [three illegible words], Jardin; *Spermophagus ?tesselatus* MOTS. [Pic's handwriting](USNM).

REMARKS

With *S. vietnamensis* it forms a natural group of species with variegate elytral vestiture, hind tibia without dorsolateral carina, dorsal valve about twice narrower than ventral valve, internal sac with two or three pairs of large sclerites. *S. vietnamensis* differs in internal sac with three pairs of large sclerites (two pairs in *S. siamensis*), lateral lobes longer, about four times longer than wide (about twice longer than wide in *siamensis*).

***Spermophagus sinensis* PIC, 1918**
(figs. 86, 361-363, 416)

Spermophagus sinensis PIC, 1918 b: 9.

Spermophagus kurseongensis DECELLE, 1977: 405, n. syn.

DESCRIPTION

Length: 2.3-2.8 mm, width: 1.6-1.9 mm.

Black, only hind tibial spines reddish.

Pronotal and elytral vestiture uniformly dark brown, dense, covering body surface (fig. 86). Scutellum contrasting white or yellowish pubescent. Pygidium and ventrites uniformly yellowish or greyish pubescent.

Head short, eyes emarginate to 3/4 length. Frons slightly wider than eye, without median keel. Antennae moderately long, extending to 1/3 elytral length, segment 3 about 1.4 times longer than 2, segments 8-10 about 1.2 times longer than wide. Pronotum 1.6 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view regularly convex. Elytral rows moderately punctate, intervals with irregular rows of large punctures. Pygidium densely punctured, punctures almost touching each other. Hind legs with no sexual characters, hind tibia without dorsolateral carina, lateral carina not serrate, hind tibial spines sharp, outer spine 1.6-2.0 times longer than the inner. Claws with large basal tooth.

Male. Sternum V emarginate to half length. Median lobe moderately long, ventral valve strongly modified, rectangular with bulbiform median process, dorsal valve triangular, apex acute. Internal sac divided into two tapes, without large sclerites, inner margin of each tape at base with group of small spines, apical half of sac with squamiform small sculpture (fig. 361). Lateral lobes very short, subcircular, margins without setae, surface with several short setae. Basal plate very broad, gutter-like, strongly narrowed apically (fig. 363). Spiculum gastrale modified (fig. 362).

Female. Sternum V not emarginate. Ovipositor strongly modified, without oblique pubescent suture, circular pigmentation and pecten, anterior margin of apical lobes serrate, sensory setae only in small area near apex of each lobe (fig. 416).

Host plant. *Convolvulaceae*: *Porana racemosa*.

DISTRIBUTION

India (Darjeeling), Bhutan, Sikkim, China (Yunnan).

TYPES

Spermophagus sinensis: holotype male, Yunnan (MHNP).

Spermophagus kurseongensis: holotype male, Kamjee, 850 m, 13.5, Nat.-Hist. Museum Base-Bhutan Expedition 1972 (NMB).

MATERIAL EXAMINED

INDIA: Darjeeling, juni, 5, leg. FRUHSTORFER (MHNP, LB); Darjeeling, from seeds of *Porana racemosa*, 19 (USNM, LB); SIKKIM: 1927, I. C. F. BAKER (USNM).

REMARKS

It is a member of *S. titivilitus* group. This group includes also *S. titivilitus* and *S. abdominalis*. *S. abdominalis* differs in body mostly reddish, black forms of *S. abdominalis* differs in elytra with pale spots (uniformly brown in *sinensis*), basal plate of lateral lobes narrow, parallel-sided (broad, narrowed apically in *sinensis*). *S. titivilitus* differs in abdomen partly reddish (black in *sinensis*), and ventral valve with angulate apical process (obtusate in *sinensis*).

Spermophagus somalicus DECELLE, 1979

(figs. 87, 335, 336)

Spermophagus somalicus DECELLE, 1979: 82.

DESCRIPTION

Length: 1.7 mm, width: 1.3 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, covering body surface. Pronotum with yellowish hair and two indistinct spots of brownish hair in the middle of disc. Elytra with mostly yellowish pubescence, brownish hair form several spots or bands: interval 3 and 5 with small spot at base, interval 3 with two spots apically, and interval 5 with one spot in front of apex; also intervals 7 and 9 with two preapical spots; in 1/4 length of elytron oblique band between intervals 5 and 9, also irregular band behind the middle of elytron between intervals 6 and 10 (fig. 87). Pygidium with mixed yellowish and brownish hair, ventral surface uniformly whitish pubescent.

Head short, frons without median keel. Antennae moderately long, extending slightly behind humeral callus. Segment 3 about 1.5 times longer than 2, segments 8-10 about 1.6 times longer than wide. Pronotum 1.7 times wider than long with sides in 2/3 posterior length only slightly rounded. Lateral margin in lateral view slightly convex. Disc doubly punctured, large punctures almost uniformly disposed on whole surface. Elytral rows moderately large punctured, intervals with only few large punctures. Hind legs with no sexual characters, hind tibia without dorsolateral carina. Hind tibial spines sharp, internal spine only slightly longer than the external. Claws with large basal tooth.

Male. Sternum V emarginate to half length. Median lobe long, Ventral valve pentagonal, apex acute, dorsal valve pentagonal but shorter than the ventral. Internal sac in anterior half with two bands of needles, behind the middle with numerous, dense, strongly pigmented small spines, in apical part with several large spine-like or nail-like large sclerites (fig. 335). Lateral lobes extremely short, subtriangular, apex subangulate, surface with

several small sensory hair, base almost parallel-sided (fig. 336).

Female unavailable.

Host plant unknown.

DISTRIBUTION

Somalia

TYPE

Holotype male, Somalia, Sar Uanle, 30-V-73 trapp B, ora 7, zona 6, no. 6710 Mus. Firenze (MZP).

MATERIAL EXAMINED

No additional material.

REMARKS

It is unique species with no close relatives. See remarks under *S. maurus*.

Spermophagus sophorae FAHRAEUS, 1839

(figs. 88, 349-351, 417)

Spermophagus sophorae FAHRAEUS, 1839: 136. PIC, 1913: 62; KINGSOLVER and BOROWIEC, 1988: 82; ZAMPETTI, 1988: 109.

Spermophagus sophorae (sic!): VAZIRANI, 1975: 756.

Amblycerus sophorae: BLACKWELDER, 1946: 763.

Spermophagus fulvopubens PIC, 1918 b: 9; DECELLE, 1977: 406 (as syn.).

Spermophagus uniformis PIC, 1932: 332; VAZIRANI, 1975: 756; DECELLE, 1977: 406 (as syn.).

DESCRIPTION

Length: 2.0-3.4 mm, width: 1.6-2.6 mm.

Black, only hind tibial spines reddish.

Vestiture dense, covering body surface, on pronotum and elytra ochraceous to olive-greyish, scutellum contrasting white pubescent (fig. 88). Pygidium and ventrites whitish, pygidium sometimes with band of dense hairs at base and narrow, median, indistinct line.

Head short, eyes emarginate to 2/3 length. Frons as wide as width of eye, without median keel. Antennae moderately long, extending to 1/4 elytral length, segment 3 about 1.8 times longer than 2, segments 8-10 about 1.3-1.4 times longer than wide. Pronotum about 1.5 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view regularly convex. Elytral rows moderately punctate, intervals without large punctures. Pygidium moderately to densely punctate, space between punctures 1.1-1.5 times wider than puncture diameter. Hind legs with no sexual characters, hind tibia with dorsolateral carina, lateral carina not serrate, hind tibial spines straight, sharp, outer spine slightly longer than the inner. Claws with large basal tooth.

Male. Sternum V emarginate up to base. Median lobe moderately elongate, ventral and dorsal valvae subpentagonal with slightly concave sides, apex angulate. Internal sac in anterior half with needles along margins, in the middle with irregular folds (fig. 349). Lateral lobes short, subtriangular, apex angulate. Margins with dense, short setae. Basal plate elongate, widened in the middle, margins strongly pigmented (fig. 350). Spiculum gastrale

slightly modified (fig. 351).

Female. Sternum V not emarginate. Ovipositor strongly modified, narrow, elongate, without oblique pubescent suture, circular pigmentation and pecten, inner margin of apical lobes strongly sclerotized, apices with scarce setae (fig. 417).

Host plants. *Convolvulaceae*: *Ipomea obscura*, *Porana racemosa*.

DISTRIBUTION

Africa: Gambia, Dahomey, Sudan, Ethiopia; Asia: Ceylon, India

TYPES

Spermophagus sophorae: lectotype male, in sem. Sophora, Chili, FALDERM. (NRS).

Spermophagus fulvopubens: holotype, sex undet., Haut Dahomey (MHNP).

Spermophagus uniformis: holotype female, Fraserpet, Coorg, F. R. I. Sandal Insect Survey, 12 IX 30 (BMNH).

MATERIAL EXAMINED

CEYLON: C. P., Haragama, 2 I 54, 1, F. KAISER (NMB); Peradeniya, 14-18 XII 1910, 1, A. LUTHER, 1 (LB); ETHIOPIA: Sodere, sweep-netted, 17 XI 1980, 2, A. DEMETER (HNHM); GAMBIA: Bathurst, Jan. 68, 1, T. PALM (LU); Brikama, 22 XI 1984, 2, T. PALM (LU); INDIA: Coimbatore, VIII 1951, 2, P. S. NATHAN (BM); Bombay, X 1924, from seeds of *Ipomea obscura*, 6 (USNM); Darjeeling, 9 VI 34, from seeds of *Porana racemosa*, 25, PRINCE (USNM); SUDAN: Medani, "*elisabethae* sec BLAIR", 6.8.21, 1, J. E. M. MEDLER (BMNH).

REMARKS

It is unique species. Besides *S. abdominalis* it is the only species distributed in both Oriental and Afrotropical Regions. Pale, uniform elytral vestiture and white pubescent scutellum distinguish it from most species, only *S. sinensis* has white scutellum contrasting with uniformly pubescent elytra, but in *S. sinensis* elytral vestiture is dark brown while in *S. sophore* it is yellowish to olive-greyish. Male genitalia of *S. sophore* are also unique.

Spermophagus stemmleri DECELLE, 1977

(figs. 89, 286-288)

Spermophagus stemmleri DECELLE, 1977: 407.

DESCRIPTION

Length: 2.0 mm, width: 1.4 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, not covering body surface. Grey, brown, and yellowish hairs form on pronotum and elytra a marble pattern (fig. 89). Pygidium yellowish-grey pubescent, with basal transverse band and median line of dense hairs. Ventrites uniformly greyish pubescent.

Head short, eyes emarginate to $\frac{2}{3}$ length. Frons as wide as width of eye, without medial keel but with narrow impunctate line. Antennae moderately long, extending to $\frac{1}{4}$ elytral length, segment 3 about 1.4 times longer than 2, segments 8-10 about 1.5-1.6 times longer than wide. Pronotum 1.5 times wider than long, doubly punctured. Large punctures

disposed almost uniformly on whole disc. Elytral rows strongly punctate, intervals with irregular row of large punctures. Pygidium densely punctate, large punctures almost touching each other. Hind legs with no sexual characters, hind tibia without dorsolateral carina, lateral carina not serrate, hind tibial spines sharp, straight, the outer slightly longer than the inner. Claws with large basal tooth.

Male. Median lobe short, ventral valve subpentagonal, apex acute, dorsal valve subtriangular, apex acuminate. Internal sac in anterior half with dense needles along margins, in the middle with a pair of large, elongate spines, behind the spines with small dense squamules (fig. 286). Lateral lobes short, tape like, apex subangulate, inner margin with long and dense setae, outer margin with short and dense setae. Basal plate broad, distinctly narrowed apically (fig. 287). Spiculum gastrale short (fig. 288).

Female. Unavailable.

Host plant unknown.

DISTRIBUTION

Bhutan.

TYPES

Holotype male, Phuntsholing-Thimphu, 1680 m (ZMB).

REMARKS

It is a unique species with no close relatives. Hind tibia without dorsolateral carina and internal sac with only a pair of spines distinguish it from all Oriental species.

Spermophagus tandalensis BOROWIEC, 1986 (figs. 90, 245-247)

Spermophagus tandalensis BOROWIEC, 1986 c: 235.

DESCRIPTION

Length: 2.5 mm, width: 1.9 mm.

Black, only hind tibial spines reddish.

Dorsal vestiture dark brown, scarce, not covering body surface (fig. 90). Pygidium and ventral surface with extremely short brownish-grey hair.

Head short, eyes emarginate to $\frac{3}{4}$ length. Frons slightly wider than width of eye, without median keel. Antennae short, extending to hind angle of pronotum, segment 3 about 1.3 times longer than 2, segments 8-10 about as long as wide. Pronotum about 1.6 times wider than long. Lateral margin in lateral view distinctly convex. Punctuation of pronotal disc doubly, large punctures disposed almost uniformly on whole disc. Elytra equal in length and width, on sides slightly rounded. Elytral rows distinctly punctate, elytral intervals with irregular rows of large punctures. Pygidium moderately convex, largely and densely punctate, but punctures not arranged irregular rugosities. Hind legs with dimorphic characters, lateral carina of hind tibia not serrate. Hind tibial spines sharp, outer spine shorter than the inner. Tarsal claws with large basal tooth.

Male. Sternum V emarginate to $\frac{2}{3}$ length. Hind tibia straight, with dorsolateral carina. Ventral margin of hind tibia and first tarsomere with long, dense, yellow hair. Median

lobe moderately long, ventral and dorsal valvae pentagonal, internal sac in anterior third with two bands of small needles, and in posterior third with area of dense, small needles (fig. 245). Lateral lobes short, oval, margins with short sensory setae. Basal plate narrow (fig. 246). Spiculum gastrale not modified (fig. 247).

Female unavailable.

Host plant unknown.

DISTRIBUTION

Tanzania.

TYPES

Holotype male, D. O. Afrika, Tandala (HNHM).

MATERIAL EXAMINED

No additional material.

REMARKS

It is a member of *S. hottentotus* group. See remarks under *S. eichleri*.

Spermophagus titivilius BOHEMAN, 1833 (figs. 91, 358-360)

Spermophagus titivilius BOHEMAN, 1833: 106; PIC, 1913: 62; KINGSOLVER and BOROWIEC, 1988: 106.

DESCRIPTION

Length: 3.3 mm, width: 2.1 mm.

Black, abdomen and hind tibial spines reddish, apex of basal two antennal segments reddish.

Vestiture in the only examined specimen mostly thread-bare, elytra moderately dense yellowish brown with indistinct paler spots: in 3/4 length of interval 3, in 1/3 and 2/3 of interval 5, in the middle of interval 7 and in 3/4 length of interval 8 (fig. 91).

Head short, eyes emarginate to 2/3 of length, frons about as wide as width of eye, without median keel. Antennae moderately long, extending to 1/3 of elytral length, segment 3 about 1.4 times longer than 2, segments 8-10 about 1.3 times longer than wide. Pronotum 1.7 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Elytral rows moderately punctate, elytral intervals with irregular row of large punctures. Hind legs with no sexual characters, hind tibia with indistinct dorsolateral carina, lateral carina not serrate, hind tibial spines straight, sharp, of equal length. Tarsal claws with large basal tooth.

Male. Sternum V emarginate to 2/3 of length. Median lobe moderately elongate with large basal spoon, ventral valve almost square with apical obtuse process, dorsal valve subpentagonal with apex acute. Internal sac in anterior part with two groups of small spines, behind the spines with transverse bridge, in the middle sac strongly foldened and in apical third with numerous small spines (fig. 358). Lateral lobes very short, almost circular, margins with dense, short sensory setae. Basal plate broad, narrowed basally and apically (fig. 360). Spiculum gastrale slightly modified (fig. 359).

Female. Unavailable.

Host plant unknown.

DISTRIBUTION

Wrongly described from Mexico. DECELLE (1983) recorded one specimen from Pondicherry (India).

TYPE

Holotype male, *Spermophag. Fischeri* FALD., Mexico FALD. (NRS).

MATERIAL EXAMINED

No additional material.

REMARKS

It is a member of *S. titivilitius* group. See remarks under *S. sinensis*.

Spermophagus transvaalensis BOROWIEC, 1986 (figs. 92, 192, 193)

Spermophagus transvaalensis BOROWIEC, 1986 d: 201.

DESCRIPTION

Length: 1.9-2.0 mm, width: 1.3-1.5 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, white and yellow, or white and dark brown, covering body surface. Dark hair forms several spots on pronotum: two at anterior margin, four in transverse row in the middle, two at base near to interval 4. Elytral vestiture mostly dark, pale hair forms band along suture covering interval 1 and part of interval 2, elongate spots at base of intervals 3, 5, 7, and two irregular, transverse bands in the middle of elytra (fig. 92). Pygidium pale with several darker spots disposed regularly on whole surface. Ventral part of body uniformly pubescent. The form with white and brown hair is coloured more contrastingly than the form with white and yellow hair.

Head moderately elongate, eyes emarginate to 2/3 length. Frons narrow, slightly narrower than width of eye, with distinct median keel. Antennae long and slim, reaching to 2/3 body length, antennal segment 3 about 2.1 times longer than 2, segments 7-10 about 1.8 times longer than wide. Pronotum about 1.5 times wider than long, pronotal disc doubly punctured. Large punctures disposed almost uniformly on whole pronotal disc. Pronotal margin in lateral view slightly convex. Elytra stout, intervals doubly punctured, large punctures shallow, not forming longitudinal rows. Elytral rows distinctly punctate. Ventral surface with no diagnostic characters. Hind legs without sexual characters, hind tibia without dorsolateral carina, lateral carina not serrate. Hind tibial spines sharp, of equal length. Tarsal claws with large basal tooth.

Male. Sternum V emarginate to half length. Ventral lobe elongate, ventral valve subpentagonal, acuminate apically. Dorsal valve distinctly wider than the ventral. Internal sac in anterior third without sclerites, in the middle divided into two tapes with extremely small dense sclerites, in posterior third with 10-11 large, spine-like sclerites (fig. 192). Lateral lobes shortened, oval, rounded apically, each sensory point distinctly impressed, sensory setae very short (fig. 193).

Female unavailable.

Host plant unknown.

Distribution

South Africa (Transvaal).

TYPES

Holotype and paratype, males, S. Africa, Transvaal, Nylsvley, 3 II 1978, cow-dung trap, leg. Dr. S. ENDRÖDI; 2 male paratypes, the same locality, 16 I 1978, netted, leg. Dr. S. ENDRÖDI (holotype and 2 paratypes in HHNM, one paratype in LB).

MATERIAL EXAMINED

No additional material.

REMARKS

With *S. okahandjensis* and *S. endrodii*, it forms a natural group of species distributed in Namibia and South Africa, characterized by small body, variegate elytral vestiture, elongate antennae, frons with median keel, lateral lobes elongate, ventral valve subpentagonal, acuminate apically, internal sac in posterior third with several large spine-like sclerites. *S. endrodii* differs in strongly modified lateral lobes, acute apically. *S. okahandjensis* differs distinctly in reduced basal denticle on the tarsal claw and greater number (20) of sclerites in the internal sac.

Spermophagus tristis FAHRAEUS, 1871 (figs. 93, 228, 229, 240, 418)

Spermophagus tristis FAHRAEUS, 1871: 444; PIC, 1913: 62.

DESCRIPTION

Length: 3.1 mm, width: 2.2 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, covering body surface, whitish and brownish hair forms a marble pattern (fig. 93), pygidium with basal band and median line of pale hair. Ventral surface uniformly whitish pubescent, only posterior margin of each abdominal sternite with mixed brown and whitish hair.

Head short, eyes emarginate to 3/4 length, frons as wide as width of eye, without median keel. Antennae moderately long, extending to 1/3 elytral length, segment 3 about twice longer than 2, segments 8-10 about 1.3 times longer than wide. Pronotum about 1.6 times wider than long, doubly punctured, large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view regularly convex. Elytral rows indistinctly punctured, intervals without large punctures. Puncturation of pygidium large and dense, punctures almost touching each other. Hind legs with no sexual characters, hind tibia without dorsolateral carina, lateral carina not serrate. hind tibial spines long, sharp, of equal length. Claws with large basal tooth.

Male. Sternum V emarginate to 1/3 length. Median lobe long, ventral and dorsal valvae pentagonal, ventral valve with apical, truncate process, internal sac in anterior half with

dense strong needles, in apical half with strongly sclerotized tape (fig. 228). Lateral lobes moderately long, tape-like, apex rounded, margins with long sensory setae, basal plate narrow, parallel-sided (fig. 240). spiculum gastrale not modified (fig. 229).

Female. Sternum V not emarginate. Ovipositor of standard type, elongate, with oblique pubescent suture, without circular pigmentation, pecten without enlarged base, apical lobes densely pubescent (fig. 418).

Host plant unknown.

DISTRIBUTION

South Africa, Kenya.

TYPES

Lectotype female, "Typus", Caffraria, J. VAHL (NRS); paralectotype male, the same data (NRS).

MATERIAL EXAMINED

KENYA: near Malindi, 25 VIII 1983, 1, H. J. BREMER (HNHM).

REMARKS

It is a unique species with no close relatives. Internal sac in posterior third with strongly sclerotized tape distinguishes it from all other species of the genus.

Spermophagus variolosopunctatus GYLLENHAL, 1833 (figs. 94, 95, 165-167, 419)

Spermophagus variolosopunctatus GYLLENHAL, 1833: 110; BOROWIEC, 1986 b: 161.

Spermophagus variolosopunctatus var. *maculatus* SCHILSKY, 1905: n. 5; BOROWIEC, 1986 b: 161 (as syn.).

Spermophagus formosanus var. *subundulatus* PIC, 1917: 9, n. syn.

DESCRIPTION

Length: 2.0-2.4 mm, width: 1.5-1.8 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense to dense, usually covering body surface. In the palest form ground colour of dorsal vestiture brown with several whitish or yellowish spots on pronotal disc, and on elytra: elongate spots at base of intervals 3, 5, 7, elongate spot in the middle of interval 2, elongate spots in 1/3 and 2/3 length of intervals 3, 5, 7-9, and sometimes in 2/3 length of intervals 4 and 6. In the darkest form brown hairs predominate, pronotum with only two spots of pale hairs on sides, elytra with small spots at base of intervals 3 and 5, in 1/3 length of intervals 7-9, and 2/3 length of interval 8. Between these forms there are all intermediates. Pygidium in all forms with transverse basal band of whitish or yellowish hairs, and usually with narrow median line. Ventrites uniformly yellowish or whitish.

Head short, eyes emarginate to 3/4 length, frons as wide as width of eye, convex but without keel. Antennae moderately long extending to 1/3 elytral length, segment 3 about 1.4 times longer than 2, segments 8-10 usually 1.4-1.5 times longer than wide, occasionally longer. Pronotum 1.4 times wider than long, doubly punctured, large punctures disposed

almost uniformly on whole disc. Lateral margin in lateral view regularly to strongly convex. Elytral rows moderately to strongly punctate, intervals with irregular row of large punctures. Pygidium densely punctured, large punctures almost touching each other. Hind legs with no sexual characters, hind tibia with dorsolateral carina, lateral carina not serrate, hind tibial spines sharp, straight, the inner slightly longer than the outer. Claws with large basal tooth.

Male. Sternum V emarginate to $1/3$ of length. Median lobe moderately elongate, slightly constricted behind valvae and widened in the middle. Ventral and dorsal valvae subtriangular, apex angulate, internal sac without sclerites (fig. 165). Lateral lobes elongate, tape like, apex acute, margins with long, dense setae. Base of each lobe forms a gutter. Basal plate broad, strongly narrowed apically, margins in anterior half strongly pigmented (fig. 166). Spiculum gastrale not modified (fig. 167).

Female. Sternum V not emarginate. Ovipositor of standard type, elongate, with oblique pubescent suture and circular pigmentation, pecten without enlarged base, apical lobes obtuse (fig. 419).

Host plant unknown.

DISTRIBUTION

China (Hainan), Taiwan, India, Sikkim, Laos, Thailand, Vietnam, Malaysia, Indonesia (Java). The lectotype of *S. variolosopunctatus* was described from Tauria (= Crimea), but it has been probably mislabelled.

TYPES

Spermophagus variolosopunctatus: lectotype male, Tauria, Steven (NRS, designated by BOROWIEC, 1986: 163). Paralectotype of *S. variolosopunctatus* belongs to *S. confusus* BOROWIEC, 1986.

Spermophagus formosanus var. *subundulatus*: lectotype male, Kosempo, Formosa, H. SAUTER X 1911 (present designation, DEI). Paralectotypes belong to *S. niger* MOISCHULSKY, 1866.

MATERIAL EXAMINED

CHINA: Hainan Is., Grove nr. Beggar Village, SW of Nodua, 9 July 1929, 1, Lingnan Univ. Exp. (USNM); INDIA: Anamalai Hills, Cinchana, 1050 m, IV 1956, 4, P. S. NATHAN (BM); INDONESIA: Java occ., Sukabumi, 2000', 1893, 6, H. FRUHSTORFER (MHNP, LB); Java, Sarangan, Lawoe-Geb., 1500-2000 m, 2, H. OVERBECK (MTD); Dili, May 1892, 1, W. DOHERTY (MHNP); LAOS: Nongteveda, 23 XI 1965, 1, native collector (BM); MALAYSIA: Island of Penang, 1, BAKER (USNM); SIKKIM: 1927, 1, C. F. BAKER (USNM); TAIWAN: Kosempo, Formosa, 22 V 1912, 3, H. SAUTER, paralectotypes of *S. formosanus* PIC, 1917 (DEI); Kwantzing, Tainan Hsien, 250 m, 6-7 IV 1965, 1, C. M. YOSHIMOTO (BM); Hori (Puli), June 1954, 3, July 1954, 13, native collector (BM); Mizuho, 200 m, 22 IV 32, 1, J. L. GRESSITT (BM); Tzepeng, Taitung hsien, I-II 1964, 1, T. C. MAA (BM); Liukuci, Kaosiung hsien, III-IV 1964, 1, T. C. MAA (BM); THAILAND: S Banna, Nakhon, 108 m, 5-10 V 58, 1, T. C. MAA (BM); VIETNAM: M'Drak, E of Ban Me Thuot, 4-600 m, 8-19 XII 60, 15, C. M. YOSHIMOTO (BM); Dalat, 1500 m, 29 IV-4 V 1960, 1, L. W. QUATE, 26-27 IX 1960, 1, C. M. YOSHIMOTO (BM); Ban Me Thuot, 500 m, 20-24 XII 1960, 1, C. M. YOSHIMOTO (BM); Dai Lanh, N of Nha Trang, 30 XI-5 XII 60, 1, C. M. YOSHIMOTO (BM); Fyan, 1200 m, 11 VII-9 VIII 61, 1, N. R. SPENCER (BM).

REMARKS

It is a member of *S. niger* group. See remarks under *S. aeneipennis*.

Spermophagus vietnamensis n. sp.
(figs. 96, 306, 307)

DESCRIPTION

Length: 2.3-2.5 mm, width: 1.8-1.9 mm.

Black, only hind tibial spines reddish.

Vestiture moderately dense, almost covering body surface. Pronotum almost uniformly yellowish with indistinct yellowish-brown spots in front of scutellum and on sides of disc. Elytra mostly yellowish pubescent with indistinct spots of brownish hairs: in 1/4 length of intervals 3, 7-9, in the middle of intervals 3-5, 7-9, also apex of elytron brown. Spots in the middle of elytra partly coalescent, form irregular transverse band, or apical spot connected with median band and apical half of elytra brown, except sutural interval and indistinct spot of yellowish hairs in 5/6 length of interval 5 (fig. 96). Pygidium yellowish with indistinct, narrow median line of densely hairs. Ventrites uniformly yellowish-grey pubescent.

Head short, eyes emarginate only to half length. Frons twice narrower than width of eye, convex, with short but sharp median keel. Antennae moderately long, extending to humeral callus, segment 3 about twice longer than 2, segments 8-10 about as long as wide. Pronotum 1.6 times wider than long, doubly punctured. Large punctures disposed almost uniformly on whole disc. Lateral margin in lateral view regularly convex. Elytral rows moderately punctate, intervals with several large punctures. Pygidium densely punctured, large punctures almost touching each other. Hind legs with no sexual characters, hind tibia without dorsolateral carina, lateral carina in apical 1/3 length serrate, hind tibial spines sharp, straight, inner spine slightly longer than the outer. Claws with large basal tooth.

Male. Sternum V emarginate up to base. Median lobe short, valvae strongly modified. Ventral valve subpentagonal with concave sides and angulate apex, dorsal valve about twice narrower than the ventral, apex rounded. Internal sac in anterior half divided into two bands, anterior margin of each band with group of needles, bands densely granulate, apical half of sac with three pairs of large sclerites, first pair bispinose with enlarged base, second and third pair in form of 3-4 elongate spines with common base (fig. 306). Lateral lobes short, elongate-oval, margins with only a few short setae, surface of each lobe with dense squamiform microsculpture. Basal plate narrow, slightly widened basally, margins broadly pigmented (fig. 307).

Female. Unavailable.

Host plant unknown.

DISTRIBUTION

Vietnam.

TYPES

Holotype and two paratypes males, Viet Nam, Phan Thiet, 4-7.XI.1960, C.M. YOSHIMOTO collector (BM).

REMARKS

It belongs to *S. siamensis* group. See remarks under *S. siamensis*.

***Spermophagus wittmeri* BOROWIEC, 1985**
(figs. 97, 420)

Spermophagus wittmeri BOROWIEC, 1985 b: 463.

DESCRIPTION

Length: 1.5-2.0 mm, width: 1.2-1.4 mm.

Black. Two basal antennal segments, apices of front and mid femora and hind tibial spines reddish.

Vestiture moderately dense, covering body surface, greyish or yellowish, each elytron with several small, brown patches: one on 1/4 length of interval 3, one on 1/2 length of interval 9, four of 3/4 length of intervals 3, 5, 7 and 9, and one larger on elytral apex (fig. 97). Pygidium uniformly pubescent or with indistinct median line of light hair.

Body oval. Head short, eyes emarginate to 3/4 length. Frons slightly wider than width of eye, without median keel. Antennae short, reaching to humerus. Segment 3 about 1.5 times longer than 2, segments 8-10 equal in length and width. Pronotum about 1.4 times wider than long. Pronotal sides in posterior 2/3 of length almost rectilinearly narrowed anterad, so that pronotal outline is almost trapezoidal, not semicircular as in most species of the genus. Punctuation of pronotal disc moderately dense, doubly; large punctures distributed almost uniformly on whole pronotal disc. Pronotal margin in lateral view regularly convex. Elytral rows finely punctate, elytral intervals uniformly finely punctate. Ventral surface without diagnostic characters. Hind tibia without dorsolateral carina, lateral carina serrate only in apical third. Hind tibial spines sharp, of equal length. Claws with large basal tooth.

Male unavailable.

Female. Ovipositor of standard type, elongate, with oblique pubescent suture and circular pigmentation, pecten without enlarged base, apical lobes obtuse (fig. 420).

Host plant unknown.

DISTRIBUTION

Israel.

TYPES

Holotype female, Israel, Ein Gedi, 23 III 1963, leg. W. WITTMER; four paratypes females, same data (holotype and three paratypes in MHNG, one paratype in LB).

MATERIAL EXAMINED

No additional material.

REMARKS

This species has been described only from females and its taxonomic position is uncertain. It differs distinctly from all other Palearctic species in apices of fore and mid femora reddish and elytra with several dark spots.