

New *Scymnus* (*Pullus*)-species (Coleoptera, Coccinellidae) from Uganda

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Three new species of Ugandan Kibale forest are described, figured and compared with closely related species: *Scymnus* (*Pullus*) *auritoides* sp. n., *S.* (*Pullus*) *fumosipennis* sp. n. and *S.* (*Pullus*) *siphonofissus* sp. n. *S.* (*Pullus*) *nigropectus* Mader is redescribed, based on new material. New synonyms: *S. mundus* Mader is a younger synonym of *S. nigrosellatus* Mader and *S. couturieri* Chazeau is a synonym of *S. majeri* Fürsch.

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1. Introduction

Hans Silfverberg, Zoological Museum of Helsinki, sent numerous Coccinellids based on the collections of Matti Nummelin in Kibale forest, Uganda, for determination. The species of the *Scymnus frontalis*-group are described in Fürsch (1990). One closely related species from the material collected by Christian Maus is added. Here is the discourse on the *Pullus* species.

2. Material and methods

The holotypes and paratypes of the newly described species are either deposited in the Museum Zoologicum Helsinki (Finland) (ZMH) or as a permanent loan of the Zoologische Staatssammlung München (ZSM) in the author's collection (ZSM-CF). The types for comparison and further material were a loan from the following institutions: MNHUB: Museum der Humboldt Universität Berlin (Germany); MGF: Museum Georg Frey (nowadays in Switzerland); MNHP: Musée National d'Histoire Naturelle, Paris (France); MRAC: Musée Royal de l'Afrique Centrale, Tervuren (Belgium).

Measurements were made under a stereo microscope using an ocular micrometer. The main differentiating characters are the shape and structure of the male genitalia (aedeagus, basal lobe, parameres, siphon), shape and coloration of the body, punctuation and structure of elytra and pronotum and the femoral lines. All figures are drawn from microscopic slides, embedded in Hoyer's or Karner's mixture by using a drawing apparatus.

3. The species

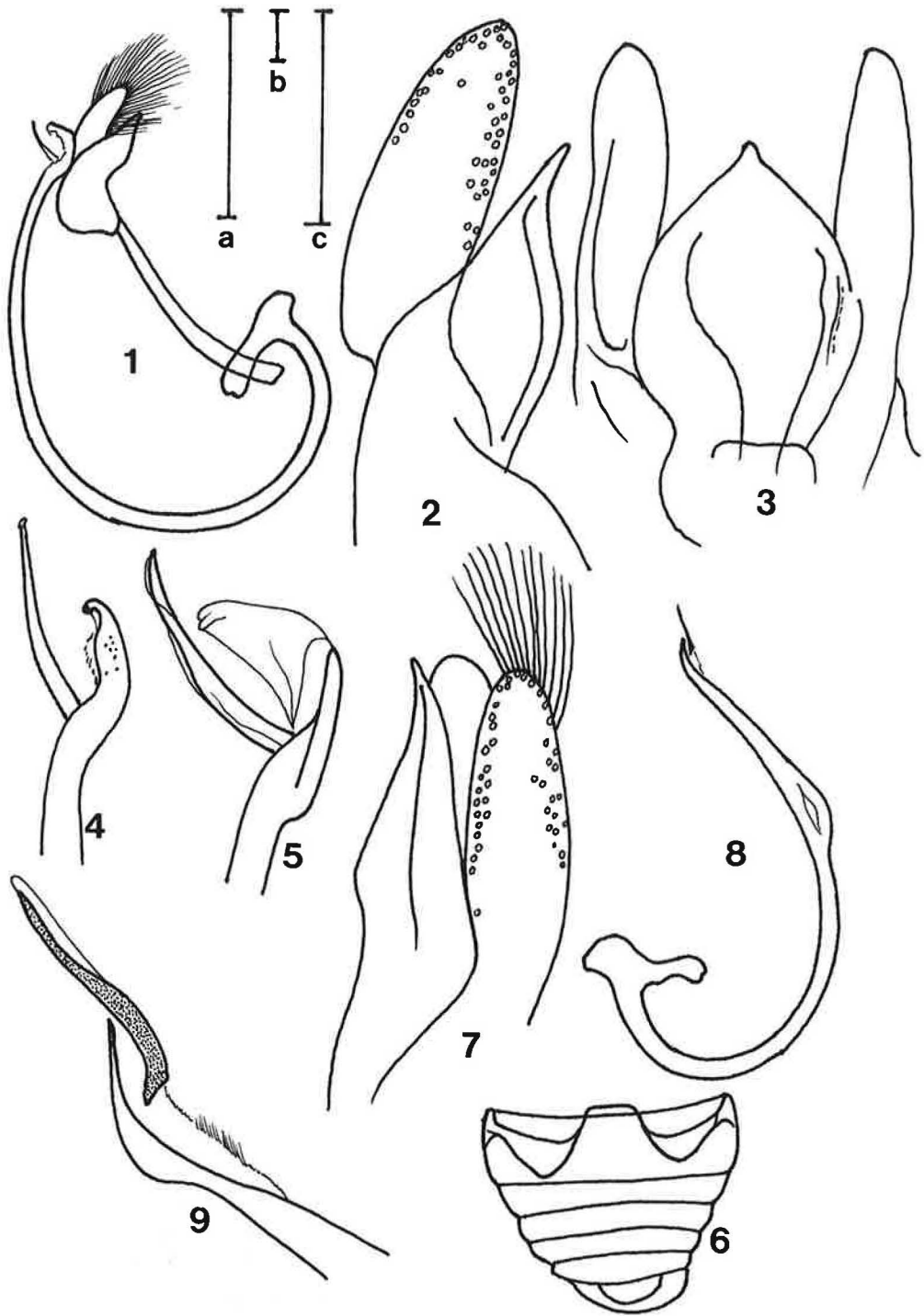
Scymnus (*Pullus*) *auritoides* sp. n. (Figs. 1–6)

Material examined. — Holotype, ♂: Uganda West Province, Kibale forest 1.XII.1983 M. Nummelin leg. (ZMH); Paratypes total 13: Same data and: Sweep Pine, 15.IV.1984; 21.II.1984; 14.V.1984; 16.III.1984; 21.II.1984; Sweep K 30, 16.III.1985; Sweep. K 14 12.IV.1984 (ZMH, CF-ZSM).

Etymology. — Similar to *S. auritus* Thunberg.

Diagnosis. — Body rounded, convex, black with red elytral hind margin. Length: 1.7–2.2 mm; Width: 1.3–1.6 mm.

Description. — Head and mouthparts yellow (♂) or brownish-red (♀). Its punctuation a little



Figs. 1–9. — 1–6. *Scymnus auritoides*, paratype. — 1: ♂ genitalia (scale b). — 2: Tegmen in lateral view (scale c). — 3: Id. in ventral view. — 4, 5: Siphonal tips of 2 paratypes (c). — 6: Abdomen (a). — 7–9. *Scymnus centrubicus*, paratype. — 7: Tegmen in ventro-lateral view (c). — 8: Siphon (b). — 9: Siphonal tip (c). — (a), (b), (c), = scale lines for all figures. a = 1 mm. b, c = 0.1 mm. In some figures the parameral setae are omitted or not drawn in their full length in order not to cover the other contours.

finer than eye facets, pubescence white, short and directed to the centre with the exception of the hair next to the inner eye margins. Pronotum black, in males with broad, yellowish-red side- and narrow front margins. The side band reaches the inner eye margin. In females only dark reddish side and front margins, often obsolete. Pronotal surface shiny, distinctly dotted (dots as big as eye facets), spaces between the dots 1–1.5 dot-diameters. Pubescence white, long and fine, normally directed sideways. Scutellum black, triangular, equilateral. Elytron black with broad red hind margin. More distinctively punctuated than on pronotum. In the second fifth of elytral length near the suture there is an oval plate with small, barely perceptible dots, fenced by one or two rows of eye-catching punctures, of twice the diameter of other elytral dots, quite similar to the same feature in *S. agnavus* Mader. Underside black, legs and abdomen dark brown. Postcoxal line of first abdominal sternite complete and regular, approaching hind margin of the sternite up to the diameter of one dot and joining its outside near the base (Fig. 6). Aedeagus: Basal lobe shorter than paramera (Figs. 2 and 3).

Differential diagnosis. — In form and colour the new species does not differ from *S. auritus* Thunberg. Best feature: the aedeagus. In body outline *S. auritoides* resembles *S. centrorubicus* Mader (aedeagus Figs. 7–9) but this species stands out for its red elytral centre-spot. *S. agnavus* Mader and *S. gnavus* Weise have red pronota in the male sex. The two Madagascanian *Scymnus*-species *plutonius* Mulsant and *propiptoides* Sicard are very similar to the new species: The first is more elongated and the latter more rounded.

Scymnus (*Pullus*) *fomosipennis* sp. n. (Figs. 10–17)

Material examined. — Holotype, ♂: Uganda West Province, Kibale forest, sweep 25.VI.1984 leg. Matti Nummelin (ZMH); paratypes total 215: same data and Sweep Ngogo; sweep K 13; sweep K 14; sweep K 15; sweep K 30; sweep pine, leg. 1983–1985 (ZMH, CF-ZSM).

Etymology. — Lat.: fumosus = smoky; penna = elytron.

Diagnosis. — Pale with smoky or black pattern in elytral centre. Length: 1.8–2.0 mm; Width: 1.4–1.7 mm.

Description. — Form oval, flat. Head and pronotum whitish to pale yellow. Inner side of eyes strongly convex. Pubescence white, punctures on head not as big as eye facets. Pronotal punctures as fine as on head, but denser. Scutellum pale. Elytra reddish-yellow with a big brownish-black spot in their centre not reaching the distinct humeral callus, nor front-, side- or hind margin. Elytral surface shiny, densely and distinctively punctured. Dots separated by a diameter or less. Pubescence white, scarce and long. Side margin marked, horizontal, as broad as the diameter of one dot, visible in dorsal view. Underside pale yellow as pronotum. Postcoxal line complete, between its hind margin and the distal end of sternum are two rows of punctures. Area within postcoxal line scarcely punctured, smooth and largely shiny.

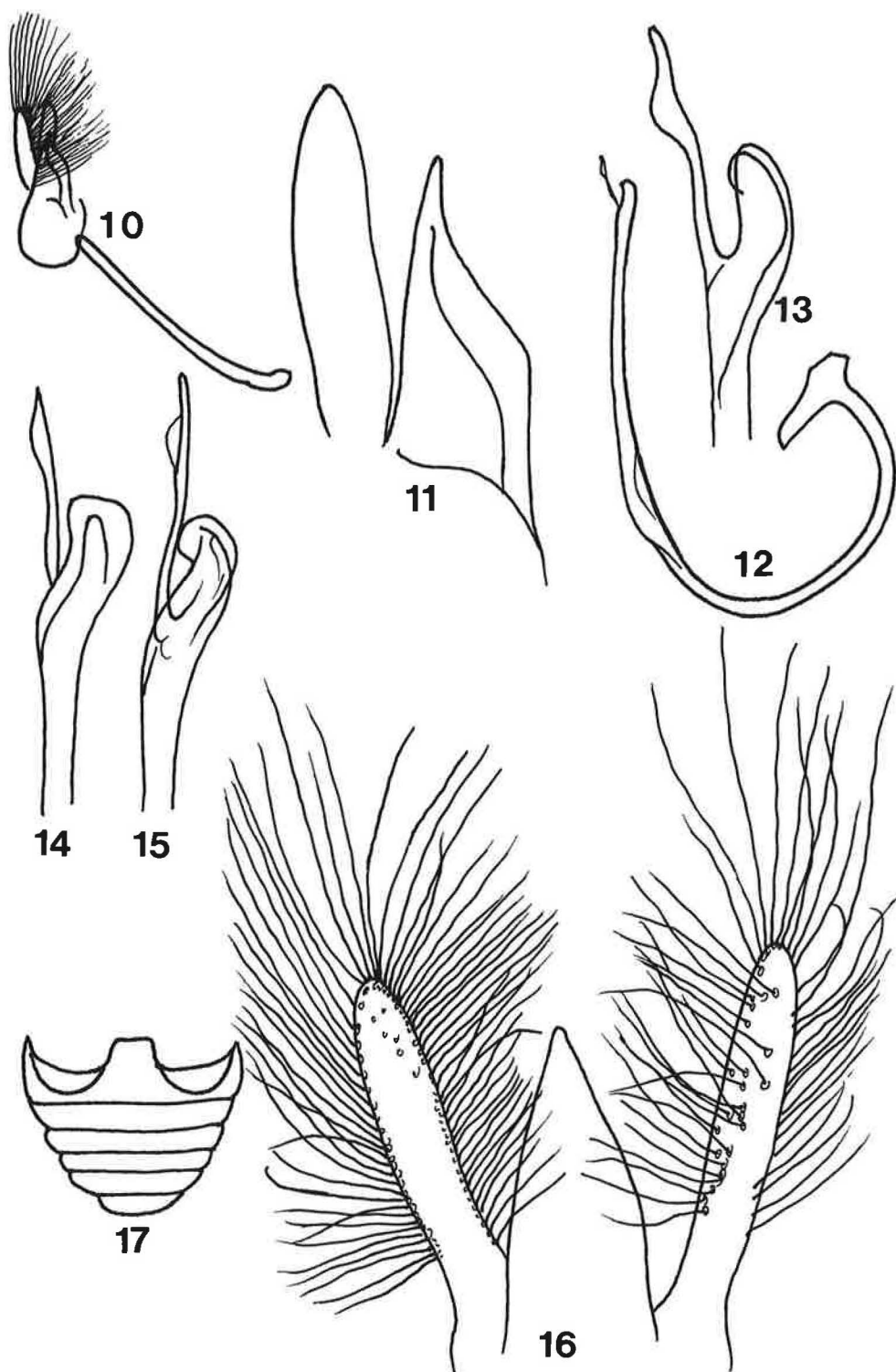
Differential diagnosis. — Similar to *S. nigrosellatus* Mader but the form of the latter species is more rounded and strongly convex (see the following species). Its pronotum and brown elytral parts are of the same colour (it means, elytra not darker as in *S. fumosipennis*). Postcoxal line is steeper in *S. nigrosellatus* and its apex reaches more closely to the hind margin of first sternite (between postcoxal line and hind margin there is only one row of punctures). The same feature is characteristic of the similar *S. nigropectus* Mader. The best differential character is the aedeagus (Figs. 10–16 and 18–24).

Scymnus (*Pullus*) *nigrosellatus* Mader, 1950: 18 (Figs. 18–34)

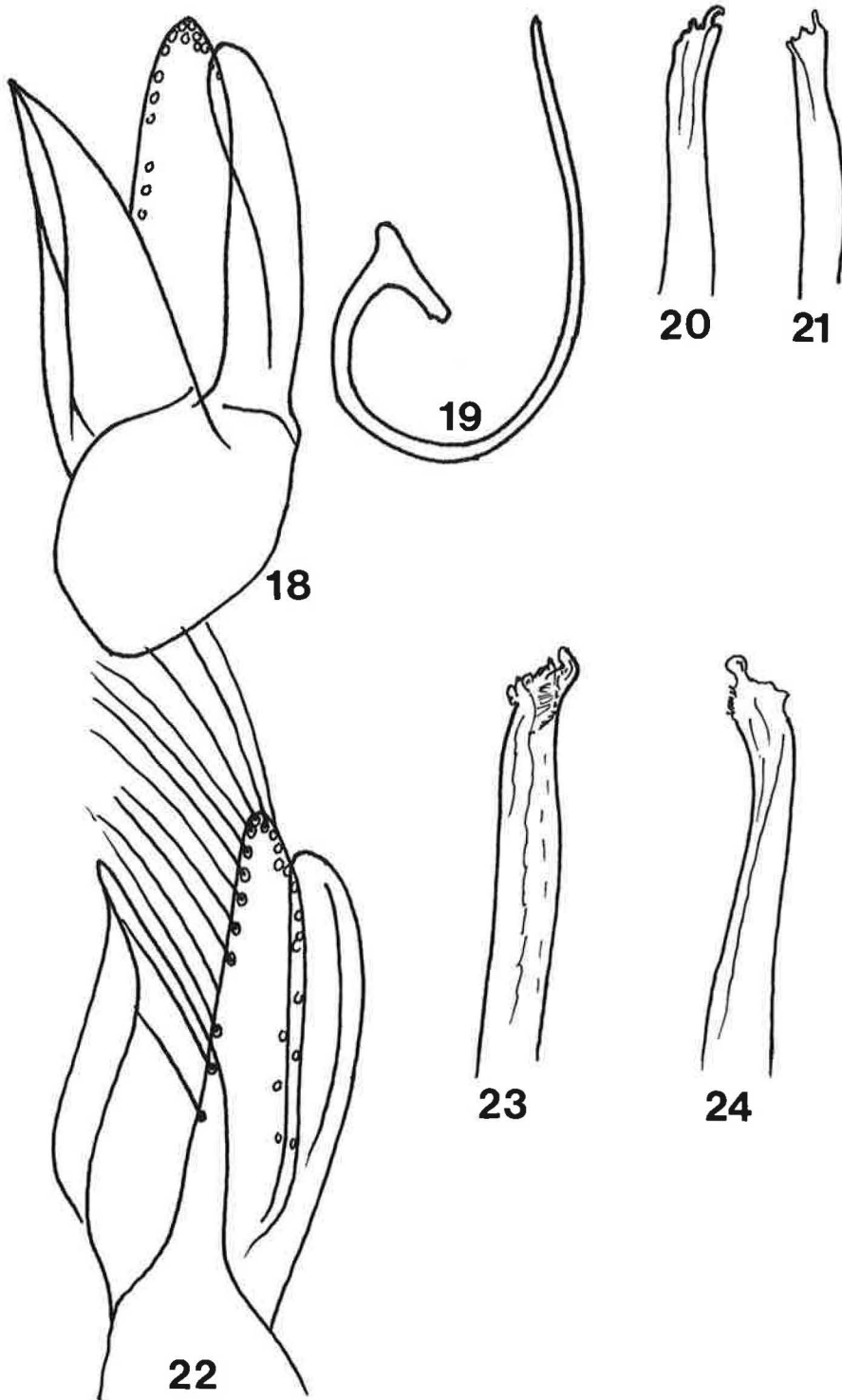
Scymnus (*Pullus*) *mundus* Mader, 1950: 19 **syn. n.**

Material examined. — Syntypes of *S. nigrosellatus*, holotype (♂) and paratype of *S. mundus*, all: Zaire, Rutshuru (MRAC, MGF, CF-ZSM). Further material: Zaire, Garamba N. P.; Brazzaville, Sierra Leone, Guma Mts.; Kenya, near Malindi; Tanzania, Ruwenzori; Namibia, Farm Nurisib; Zambia, Chipata (MNHUB, MRAC, CF-ZSM).

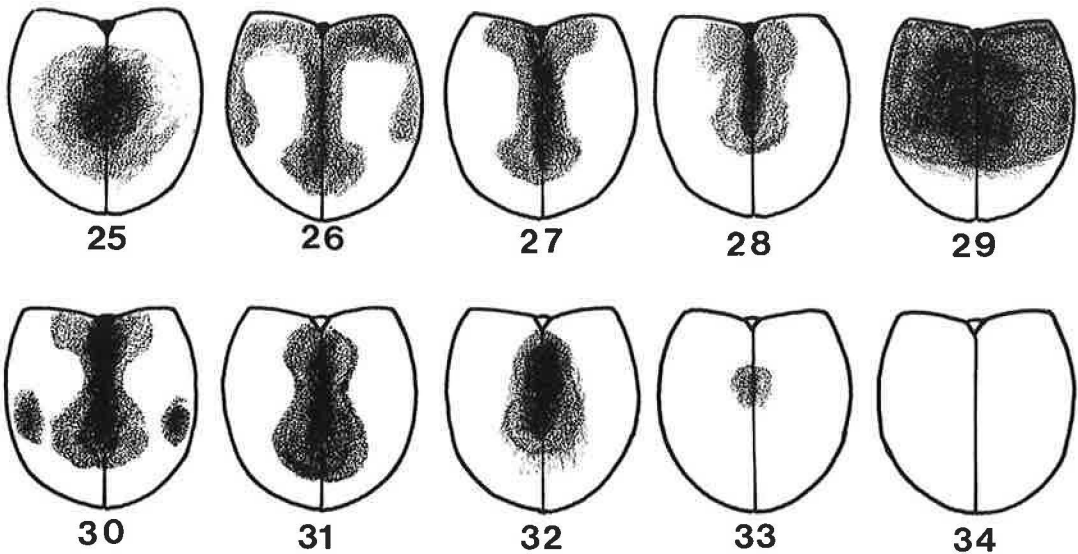
Arguments for synonymy. — Aedeagi of the type series of both species and from other African localities are absolutely identical (Figs. 18–24). The elytral pattern (Figs. 25–34) in the Rutshuru-population is variable and fits the one of *S. nigrosellatus* on the one and of *S. mundus* on the other hand. The population of Garamba Na-



Figs. 10–17. *Scymnus fomosisipennis*, holotype. — 10: Tegmen (b). — 11: Id. (c). — 12: Sipho (b). — 13–15: Siphonal tips of 3 paratypes (c). — 16: Tegmen in ventral view (c). — 17: Abdomen (a).



Figs. 18–24. — 18–21. *Scymnus nigrosellatus*, Sierra Leone, compared with syntypes. — 18: Tegmen in ventro-lateral view (c). — 19: Siphos (b). — 20, 21: Siphonal tips (c). — 22–24. *Pullus mundus*. 22, 23: Tegmen and siphonal tip, Kgoro Pan, Botswana (c). — 24: Siphonal tip, Garamba N. P. (c).



Figs. 25–34. *Scymnus nigrosellatus*, elytral pattern. — 25: Syntype, Rutshuru. — 26: Mt. Ruwenzori (same pattern: holotype of *S. mundus*, Rutshuru). — 27: Paratype of *S. mundus*, Rutshuru (same pattern: Farm Nurisib, Namibia). — 28: Sierra Leone, Guma Mts. — 29: Kenya, Watamu. — 30: Zambia, Chipata. — 31–34: Zaire, Garamba N. P.

tional Park is uniformly yellowish-brown, exceedingly light shadowed. The north-westernmost population in Sierra Leone is yellowish-brown with a brown dumb-bell formed pattern like typical *S. mundus*, but paler. Mader quotes that that pattern means species-character. He never examined genitalia. Postcoxal lines are identical in both taxa.

Scymnus (Pullus) nigropectus Mader, 1950: 14 (Figs. 35–40)

Though Fürsch (1966: 172 and 1968: 243) dealt with this species, the new findings of Matti Nummelin and Christian Maus in Kibale Forest enables us to redescribe it, based on more knowledge:

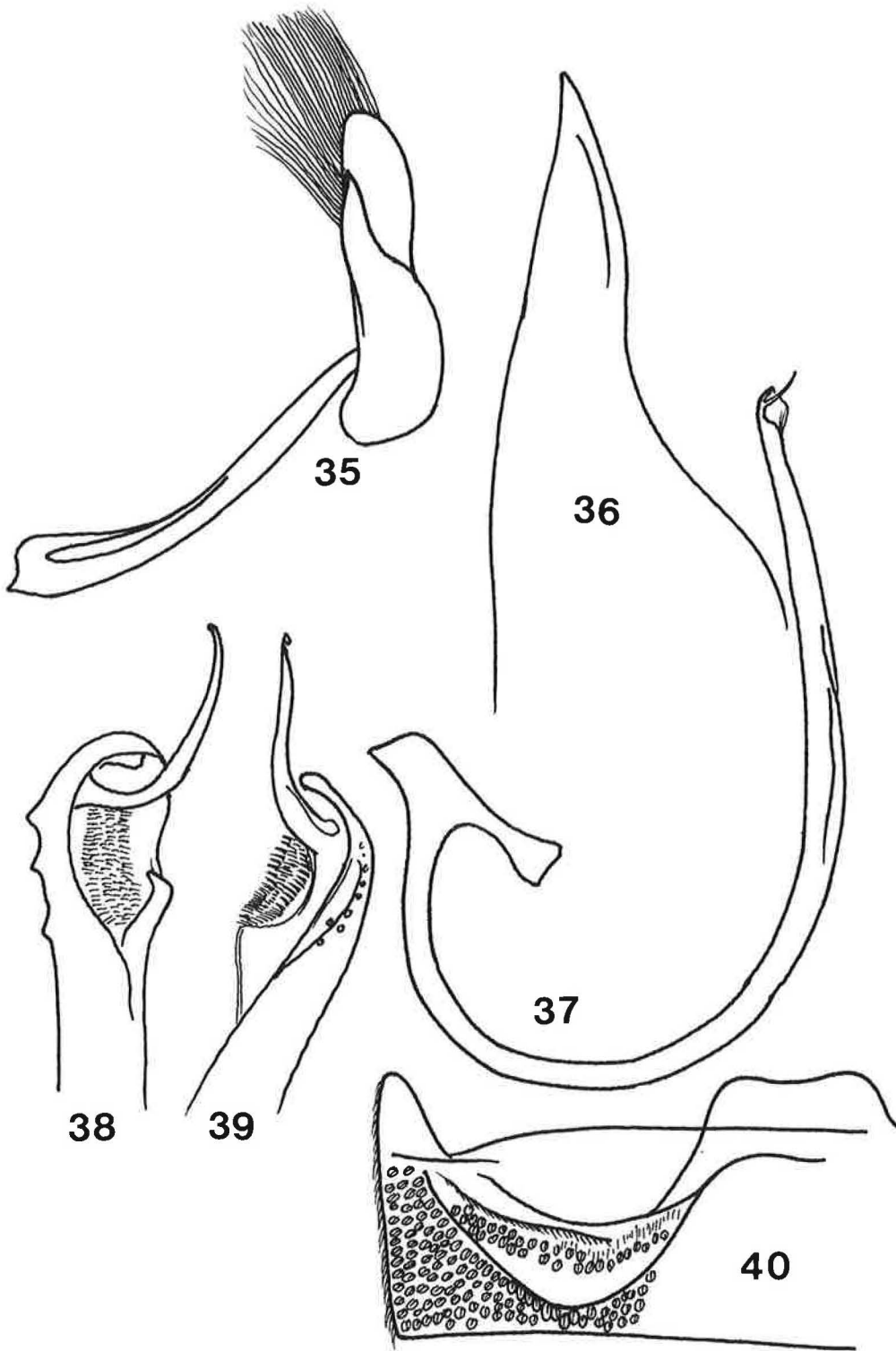
Material examined. — Holotype, ♀: Kivu, Rutshuru, 1 285 m (MRAC); Uganda, Toro Distr. Fort Portal, Kibale forest V–VI.1992 leg. C. Maus (CF-ZSM); Ivory Coast (Côte d'Ivoire): Bingerville (MRAC).

Diagnosis. — Uniformly reddish-brown, rounded, strongly convex. Length: 1.9–2.4 mm; Width: 1.3–1.8 mm.

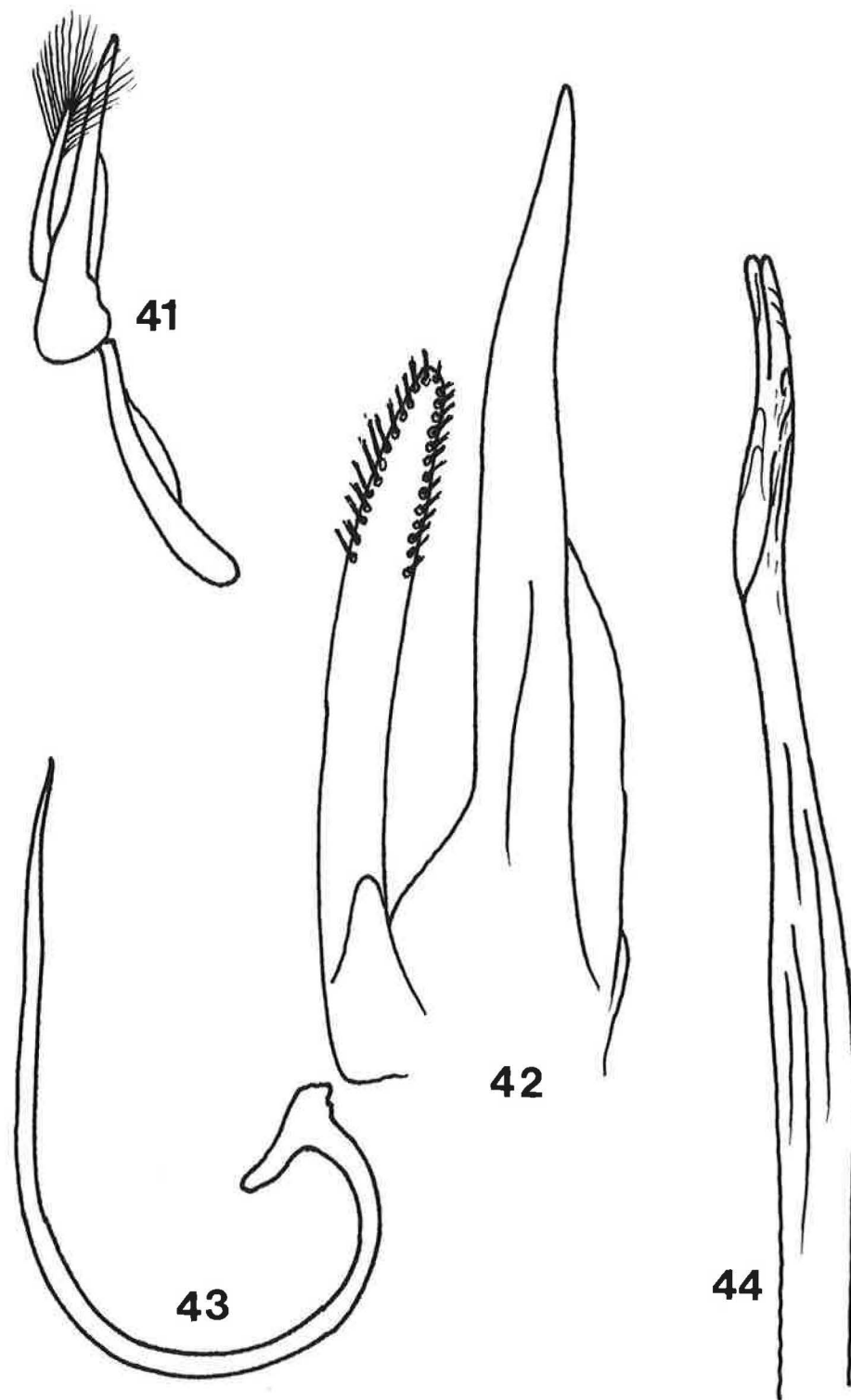
Description. — Head and mouthparts yellowish-red. Pubescence white, long, directed to the

middle line of the frons. Head densely punctured with dots as big as eye facets. Pronotum reddish-brown except front angles and front margin which are pale. Punctured like on head, punctures separated by only half a diameter. Hairs as long as on head. Pronotum in the rear broader than in front. Visible only narrow side margin. Scutellum equilateral, coarsely punctured. Elytra shiny on surface and distinctly dotted. Fourth rows of punctures on both sides of the suture and parallel to it are remarkably bigger punctured. These rows of punctures begin behind the scutellum and end on elytral summit. The remaining surface is punctured with big (smaller than that of the "rows") and smaller dots, separated by twice their diameter. Elytra are widest in their middle. Humeral callus eye-catching. Pubescence like on pronotum. Elytral side margin narrow, visible in dorsal view. Underside reddish-brown. Femoral line: Fig. 40. Aedeagus: Figs. 35–39.

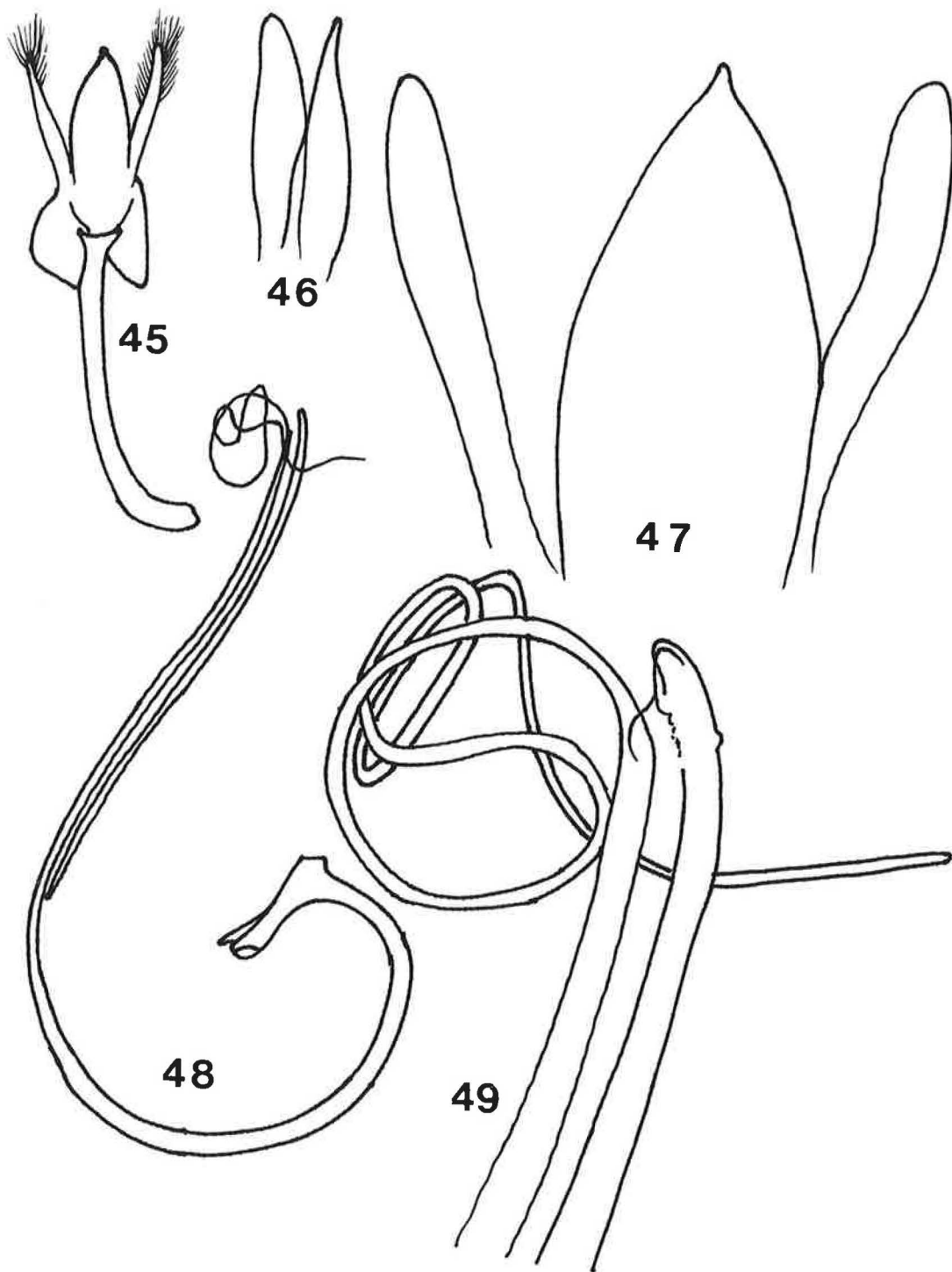
Differential diagnosis. — *S. nigropectus* is one of the uniformly reddish species and therefore difficult to distinguish from other species of the same colour, for instance: *S. inaequalis* Mader (aedeagus: Fürsch 1966: 173) is more densely pubescent and in the big *S. majusculus* Mader (aedeagus: Figs. 41–44) the hair is wavier.



Figs. 35–40. *Scymnus nigropectus*, Uganda, Kibale Forest. — 35: Tegmen (b). — 36: Basal lobe in lateral view (c). — 37: Siphon (b). — 38, 39: Siphonal tips (39 Rwanda) (c). — 40: First abdominal sternum (right half) (b).



Figs. 41–44. *Scymnus majusculus*, Uganda, Kibale Forest. — 41: Tegmen (b). — 42: Id. (pronotal setae are not shown in their full length) (c). — 43: siphon (b). — 44: Siphonal tip (c).



Figs. 45–49. *Scymnus siphonofissus*, holotype. — 45, 46: Tegmen in ventral and 46 in lateral view (b). — 47: Id. (c). 48: Siphon (b). — 49: Siphonal tip (c).

***Scymnus (Pullus) siphonofissus* sp. n.** (Figs. 45–49)

Material examined. — Holotype, ♂: Uganda West Province Kibale forest 1.XII.1983 leg. Matti Nummelin (ZMH).

Etymology. — Latin: fissus = split, for the distal part of the siphon is split.

Diagnosis. — Oval, reddish-brown. Length: 2.0 mm; Width: 1.4 mm. Elytral length: 1.5 mm.

Description. — Head and mouthparts pale reddish-yellow, pubescence dainty, punctuation as fine as eye facets. Pronotum yellowish-red except paler side stripes beside the narrow dark brown side rim. Punctuation and pubescence a little finer than on head. Scutellum reddish-brown. Elytra of the same colour as pronotal centre. Elytral punctuation only a little more marked than on pronotum but denser: Punctures often contact the neighbouring ones. On both sides of the suture and a little convergent against scutellum are a row of big dots each, eye-catching because of the brownish colour of the rows. They begin shortly behind the scutellum and end in the elytral summit. This is a common feature in this group. Pubescence white, fine, semi-erect, a little longer than on pronotum. Underside uniformly brown, legs yellowish. Postcoxal line complete, reaching nearly the hind margin of the first sternite, divided only by one row of punctures. On front margin the postcoxal line is united with the hind arch of postcoxal hole. Basal lobe as long as paramera (Figs. 45 and 46). Siphonal base and shaft split (Fig. 48), ending in a flagellum (Figs. 48 and 49).

Differential diagnosis. — Red *Pullus*-species are, as a rule, difficult to distinguish. There is really only one reliable differential feature, the aedeagus. Very similar are *S. nigropectus* Mader (see above), *S. inaequalis* Mader (aedeagus: Fürsch 1966: 172), *S. majusculus* Mader (Figs. 41–44), and *S. fuscus* Fürsch (aedeagus: Fürsch

1966: 167). *S. flavipubens* Mader is paler and more oblong-oval. The unique siphon is an outstanding feature, but closely related to *S. nasti* Fürsch (1966: 171) and to the Western African species *S. majeri* Fürsch (1974: 33) but of a different colour. *S. couturieri* Chazeau (1985: 314) **syn. nov.** Holotype of *S. couturieri* is according to Chazeau's paper: 309 in MNHP, Paris, but the curator's paper: Dr. Nicole Berti told me in her letter of 5 March 1987: "les spécimens types du *S. couturieri* de Chazeau n'ont pas encore été déposés dans nos collections". But Chazeau's excellent figures and description leave no doubt that these species are synonymous.

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