ACTA ENTOMOLOGICA MUSEI NATIONALIS PRAGAE
Published 30.iv.2014 Volume 54(1), pp. 383–398 ISSN 0374-1036
http://zoobank.org/urn:lsid:zoobank.org:pub:FF708156-829A-4515-8FE4-47577E4DEBF6

The identity and family affiliation of *Scelomyza hirticornis* (Diptera: Opomyzidae, Anthomyzidae), with a new checklist of Afrotropical Anthomyzidae

Jindřich ROHÁČEK

Slezské zemské muzeum, Tyršova 1, CZ-746 46 Opava, Czech Republic; e-mail: rohacek@szm.cz

Abstract. The female holotype of *Scelomyza hirticornis* Séguy, 1938 from Kenya is revised and the species transferred from Opomyzidae to Anthomyzidae. It is redescribed in detail based on partly reconstructed characters of the damaged holotype. The genus *Scelomyza* Séguy, 1938 is redescribed and its relationships are discussed with the conclusion that it is probably related to *Apterosepsis* Richards, 1962, a strongly modified apterous genus from Tanzania. A new checklist of Afrotropical Anthomyzidae is provided.

Key words. Diptera, Anthomyzidae, Opomyzidae, *Scelomyza* Séguy, taxonomy, relationships, redescription, checklist, Afrotropical Region

Introduction

This study was prompted by the multiauthored international project "Manual of Afrotropical Diptera". Mr. Jan Willem van Zuijlen (Waalwijk, The Netherlands), who is preparing the chapter dealing with the family Opomyzidae for this manual, recently examined the female holotype (the only available specimen) of *Scelomyza hirticornis*, a peculiar acalyptrate fly from Kenya described by Séguy (1938) as a new genus and species in this family. As a member of the Opomyzidae it was also catalogued by Stuckenberg (1980). Despite the very poor condition of the type specimen, J. W. van Zuijlen did not confirm *S. hirticornis* to be an opomyzid fly and, therefore, sent me photographs and some morphological data from his study asking whether it could belong to the Anthomyzidae. More than 20 years ago, when I began to revise all described genera of Anthomyzidae owing to the discovery of some peculiar Afrotropical groups of the family (described later by Roháček 1993), I had also studied the original description of *Scelomyza* and tested the possibility of it being an anthomyzid. Judging from morphological characters provided by Séguy (1938), I had at that time excluded this taxon from this family. However, the new information (including also first images of wings) provided by J. W. van Zuijlen indicated that my former conclusion might not be correct

and that the type should be examined in detail to verify the suspicion that *Scelomyza* was affiliated with the Anthomyzidae. In the meantime, J. W. van Zuijlen relaxed the body of the specimen and detached the apex of its abdomen: examination of the postabdominal structures convinced him that it does not belong to the Opomyzidae. Unfortunately, this preparation resulted in further damage to the specimen, affecting chaetotaxy, legs and antennae, so that the macrophotographs taken by him prior to this action remain the only source of information about some morphological characters. Subsequently, the holotype was returned by him to the Muséum National d'Histoire Naturelle (Paris), and then recently borrowed by me for examination. The study of the specimen, including the detached terminalia (in glycerine) and the wings mounted by Séguy on a microscope slide, revealed that *S. hirticornis* does indeed belong to the Anthomyzidae. This fact necessitates the redescription of the genus *Scelomyza* as an additional Afrotropical genus of Anthomyzidae so that it can be included in the chapter on this family in the Manual of Afrotropical Diptera (Roháček, in preparation).

Material and methods

The only specimen (holotype female) of *Scelomyza hirticornis* used in this study was probably already in poor condition when it was examined by Séguy (1938) because he had to detach both wings and mount them on a microscope slide, and attempt to reconstruct the chaetotaxy of the head (see his illustration reproduced here as Fig. 8). The holotype is glued to an rectangular label by the method used by coleopterists so that most parts of the legs were immersed in the glue (Fig. 1). Subsequent relaxation of the specimen by J. W. van Zuijlen led to additional damage so that now the body is largely devoid of bristles, terminal parts of the legs broken into parts and the antennae smashed. Therefore, to redescribe the genus and species, it was necessary to carefully reconstruct shapes of many structures as well as their chaetotaxy. This was only possible using a combination of data from the original description and illustrations by Séguy (1938), the photographs taken by J. W. van Zuijlen before dissecting the specimen (for some of them see Figs 1–4) and examination of the basal scars of lost setae. The wings (one broken in two pieces) on the original slide prepared by Séguy have been examined and the broken right wing reconstructed so that the venation could be photographed and described. Some parts of the legs were removed from the glue and transferred to glycerine. The detached and cleared tip of the abdomen (fortunately containing almost the entire postabdomen) is also preserved in glycerine. The shapes of damaged sclerites and their chaetotaxy were reconstructed and only the lost structures (one spermatheca, terminal part of female genital chamber with ventral receptacle and accessory glands) could not be examined and described. Detailed examinations were performed with a compound microscope (Jenaval) and postabdominal structures and detached legs drawn by means of Abbe's drawing apparatus on this microscope at magnification 50–350×. The broken wing was photographed on the same microscope with an attached digital camera (Nikon COOLPIX 4500); external morphology was examined by means of a binocular microscope (Reichert) which was also used for measurements. For more detail see Roháček (2006).

The morphological terminology of the female postabdomen used here is adopted from Roháček (2006, 2013). For recognition of particular postabdominal structures (including several special terms used only in this family), see also Figs 12, 14, 15 in this paper.

Abbreviations of morphological terms used in text and/or figures:

A_1	anal vein;
ac	acrostichal (setulae);
C	costa;
ct	ctenidial spine;
Cs_2	2nd costal sector;
Cs_3	3rd costal sector;
Cs_4	4th costal sector;
CuA_1	cubitus;
dc	dorsocentral setae;
dm	discal medial cell;
dm-cu	discal medial-cubital (= posterior, tp) cross-vein;
f_1, f_2, f_3	fore, mid, hind femur;
hu	humeral (= postpronotal) (seta);
M	media;
npl	notopleural (setae);
oc	ocellar (seta);
ors	fronto-orbital (setae);
pa	postalar (seta);
ppl	propleural (= proepisternal) (seta);
prs	presutural (seta);
pvt	postvertical (seta);
R_1	1st branch of radius;
R_{2+3}	2nd branch of radius;
R_{4+5}	3rd branch of radius;
r-m	radial-medial (= anterior, ta) cross-vein;
S1–S10	abdominal sterna;
sa	supraalar (seta);
sc	scutellar (seta);
Sc	subcosta;
stpl	sternopleural (= katepisternal) (seta);
T1–T10	abdominal terga;
t_2	mid tibia;
vi	vibrissa;
vte	outer vertical (seta);
vti	inner vertical (seta).

Results

Genus *Scelomyza* Séguy, 1938

Scelomyza Séguy, 1938: 338 [feminine]; Stuckenberg (1980): 635 (catalogue).

Type species. *Scelomyza hirticornis* Séguy, 1938: 339 (original designation).

Diagnosis. (1) ***Head*** distinctly higher than long, rounded in profile. (2) Eye large, irregularly subovoid, with longest diameter subvertical. (3) Frons very short, not projecting in front of eye; (4) frontal triangle long, reaching to anterior margin of frons, shining. (5) Frontal lunule small but distinct. (6) Occiput distinctly concave and large. (7) Ocellar triangle and ocelli very small, shifted posteriorly, behind top of vertex. (8) Antenna strongly geniculate, pedicel capiform, 1st flagellomere anteriorly emarginated and with extremely long pale setae on apex. (9) Arista basally densely haired, distally long-ciliate (subpectinate). (10) Palpus orange, with 1 longer subapical seta and a few setulae on apex. Cephalic chaetotaxy: (11) pvt inclinate but very small and widely spaced; (12) vti, vte and oc probably relatively short and weak; (13) only 1 strong and long ors, situated near vertex, and 2 microsetulae in anterior part of orbit; (14) postocular setulae short, in single row; (15) 1 distinct, strongly curved (inclinate) vi, subvibrissa small, hair-like, not distinguished from peristomals; (16) peristomal setulae small, relatively numerous. (17) Posterior corner of head (postgena) enlarged but rounded. (18) Sexual dichroism of antenna and face cannot be assessed because male is unknown.

(19) ***Thorax*** distinctly narrower than head, shining, with very sparse microtomentum. Thoracic chaetotaxy: (20) 1 reduced hu, 2 npl (anterior longer); (21) no prs; (22) 1 sa (probably small), 1 relatively shorter pa; (23) 2 postsutural dc, both long and strong; (24) ac microsetae entirely absent; (25) 2 sc (apical moderate, laterobasal reduced, hair-like); (26) ppl microseta not seen but probably present; (27) 2 distinct stpl (posterior longer). (28) Mid and hind legs unicolourous yellow, fore leg yellow but with tibia and basitarsus blackish brown. (29) f_1 apparently with ctenidial spine; (30) fore basitarsus with very dense ventral

setulae and those proximal prolonged; (31) t_2 with short ventroapical seta; (32) armature of male f_3 not described because male sex unknown. (33) Wing relatively short and narrow; (34) wing membrane unicolourous. (35) C with distinct spinulae among fine hairs on Cs_2; (36) R_{2+3} long, bent parallel to C; (37) R_{4+5} very slightly bent (recurved) and subparallel to M apically, ending in C about equidistant from apices of R_{2+3} and M; (38) dm cell long and narrow; cross-vein r-m situated in front of middle of dm cell; (39) distal part of CuA_1 slightly longer than dm-cu, reaching wing margin; (40) A_1 very short, ending far from margin. (41) Anal lobe reduced and alula small, very narrow.

Male abdomen and ***male genitalia*** unknown.

(42) ***Female abdomen*** shining blackish brown to black, with large, broad terga (T2–T6) and narrower sterna (S2–S5). (43) Postabdomen relatively short, basally (6th segment) broad, caudally strongly tapered, with well-developed sclerites. (44) T6 very broad, also S6 relatively large and broad. (45) T7 and S7 fused, forming ring-shaped tergosternum T7+S7; (46) S8 medially longitudinally divided, laterally lobately extended anteriorly. (47) Internal structures of female genital chamber (uterus) weakly sclerotized, formed by 1 pair of partly membranous and unpigmented posterior plates and (48) 1 anteroventral, very thin, compressed and looped annular sclerite. (49) Anterior (distal) part of uterus, including ventral receptacle and accessory glands undescribed (because lost in holotype). (50) Spermathecae (probably 1+1) subspherical, with simple surface and very long sclerotized collar; (51) spermathecal duct apparently long. (52) T10 small, short, transversely bent saddle-like, bare except for 1 pair of dorsal setae; (53) S10 markedly larger than T10, unusually long, somewhat trough-shaped, with setae and micropubescence both reduced. (54) Cercus relatively short and robust, with a number of longer fine setae.

Discussion. At first glance, *Scelomyza hirticornis* really does resemble a very small species of *Geomyza* Fallén, 1810. No wonder that Séguy (1938) placed it in the Opomyzidae, particularly when he observed only 1 ors, the vibrissa absent (both these characters being apomorphies of the family) and the strongly reduced anal lobe of the wing. However, the vibrissa is, in fact, present (although strongly inclinate so that it was overlooked by Séguy 1938, cf. Fig. 8) in the holotype and the anterior ors are also present though reduced to 2 microsetulae (as often occurs in Anthomyzidae). Two further apomorphies of Opomyzidae, viz. the setulose prosternum and the female 7th abdominal spiracle absent, also do not occur in *Scelomyza* (see above). On the contrary, practically all apomorphies of the Anthomyzidae and also of the recent subfamily Anthomyzinae (except those of the male which remain unknown in *Scelomyza*) are present in *Scelomyza*, viz. the convergent pvt (although very reduced and also overlooked by Séguy), no pteropleural setulae, the f_1 with a ctenidial spine (broken off in the holotype, thus not seen by Séguy), the postocular setulae in single row, the mesopleural setae absent, 2 long stpl and 1 pa seta. Consequently, the affiliation of *Scelomyza* with Anthomyzidae is beyond doubt; moreover, this is also confirmed by the female postabdominal structures of *S. hirticornis* (see below).

The genus *Scelomyza* can be best diagnosed by several striking and obviously apomorphic features which appear to be unique in the family Anthomyzidae: the unusual formation of the head with a shortened frons (character 3 in the above diagnosis), the ocellar triangle reduced

Figs 1–4. *Scelomyza hirticornis* Séguy, 1938, female holotype (before dissection). 1 – body in lateral view; 2 – head, laterally; 3 – antenna, laterally; 4 – head and thorax, dorsally. Body length of the specimen = 1.9 mm. Photo by J. W. van Zuijlen.

and shifted posteriorly (7), the 1st antennal flagellomere with extremely long apical setae (8), the single and unusually strong ors (13), the very enlarged postgena (17), the entirely absent ac microsetae (24) but also the lobately enlarged lateral parts of S8 (46), the very long collar of the spermatheca (50) and the unusually long S10. When these autapomorphies are combined with other characters rarely occurring in Afrotropical Anthomyzidae (e.g. strongly reduced subvibrissa and hu, absent prs, ctenidial spine present), *Scelomyza* seems to be a distinct and well-characterized genus.

However, searching for its relationships is more difficult, particularly when structures of the male genitalia remain unknown. The formation and structures of the female postabdomen of *Scelomyza* indicate a relationship with the apterous, ant-mimicking *Apterosepsis* Richards, 1962 (redescribed and placed in Anthomyzidae by Roháček 1998). This genus, although with yet more highly modified morphology and chaetotaxy than in *Scelomyza*, shares with *Scelomyza* a similarly formed tergosternum T7+S7 and S8 (although the latter is not laterally extended), a short bent T10, a relatively long S10, a simply ovoid spermatheca with a long collar (see Roháček 1998: Figs 27–32) but also a ctenidial spine, a reduced pvt, a single ors and even the dark brown tibia and basitarsus contrasting with the remaining yellow parts of the fore leg (Roháček 1998: Figs 23, 25). Unfortunately, the male is unknown in *Apterosepsis* as well, but this genus differs markedly from *Scelomyza* in other head and thoracic chaetotaxies, in the formation of the abdominal sclerites including the circular annular sclerite in the female genital chamber (cf. Roháček 1998). It should be noted that the complete ring-shaped female tergosternum T7+S7 is also known in another Afrotropical genus, *Barbarista* Roháček, 1993, but this group of species differs markedly from *Scelomyza* in head (including antennae) and thorax (including fore leg and wing) morphology and chaetotaxy not to mention additional structural differences in the female postabdomen (see Roháček 1993).

In conclusion, *Scelomyza* appears to share many more characters with *Apterosepsis* than with other named Afrotropical genera of Anthomyzidae (for their descriptions see Roháček 1993, 2004; Roháček & Barraclough 2003) and could be the closest relative of the latter. Considering the characters of the female terminalia, particularly as regards the structures of the genital and postgenital segments (including S8, internal sclerotization of female genital chamber, T10, S10), tendencies toward reduction of the ors, bicoloured fore legs and retention of the ctenidial spine, it seems probable that both these genera are related to the *Chamaebosca* clade (Neotropical-Holarctic) as defined by Roháček & Barber (2009), even resembling in habitus the species of the *Mumetopia nigrimana* group. Note: the latter group is, in fact, most closely allied to the genus *Stiphrosoma* Czerny, 1928 as redefined by Roháček & Barber (2005), and not to *Mumetopia* Melander, 1913 to which it has hitherto been affiliated (for more detail see Roháček & Barber 2009). To test this proposed close relationship of *Scelomyza* and *Apterosepsis* to the *Chamaebosca* clade more precisely, it is necessary to discover males of *S. hirticornis* and *A. basilewskyi* Richards, 1962, the only known species of these two Afrotropical genera and to study their postabdominal and genital structures.

Species included. *Scelomyza hirticornis* Séguy, 1938 (redescribed below).

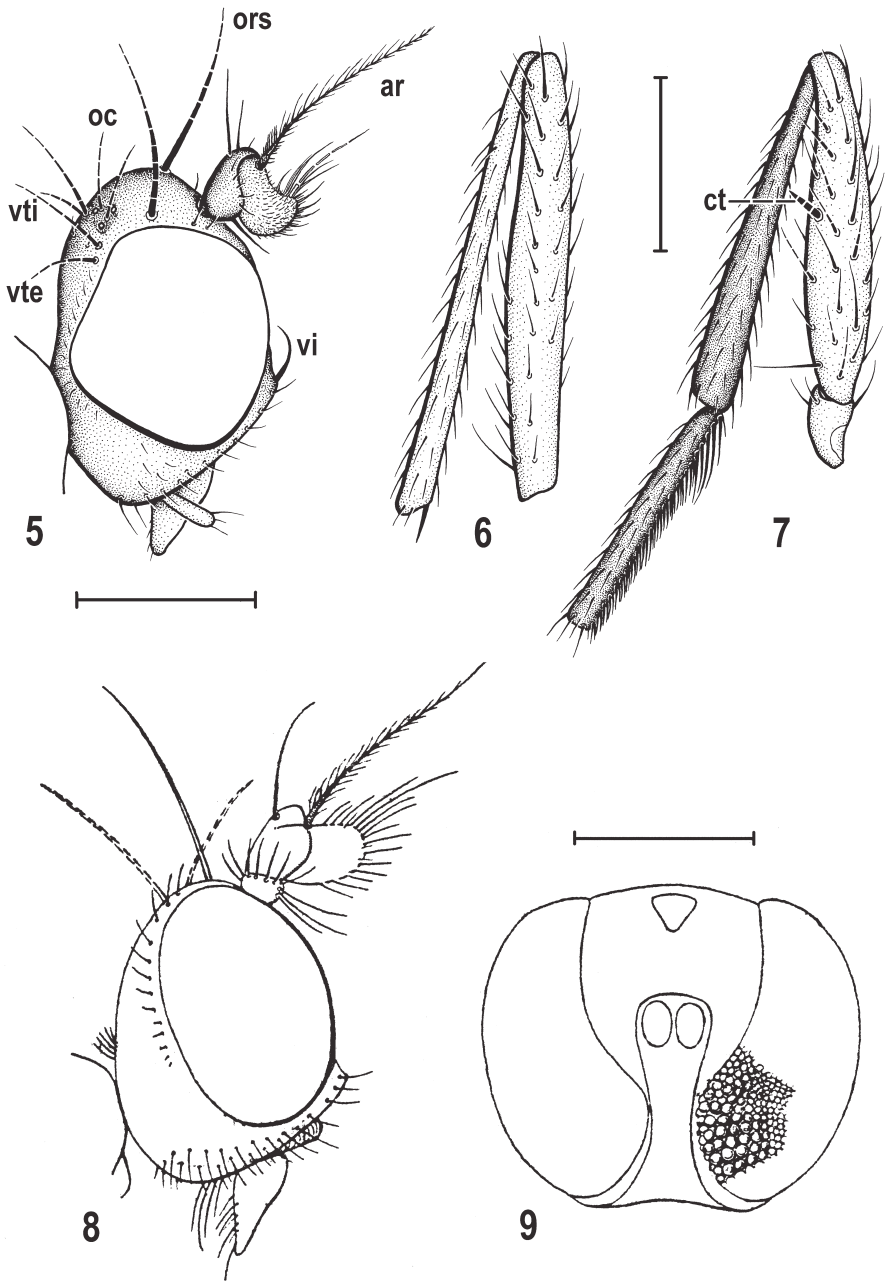
Scelomyza hirticornis Séguy, 1938

(Figs 1–19)

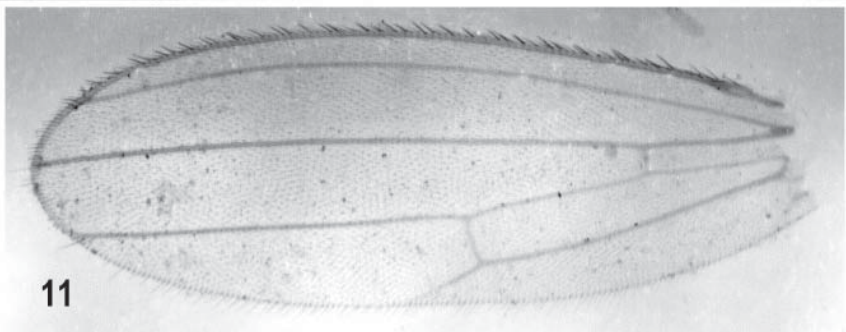
Scelomyza hirticornis Séguy, 1938: 339; Stuckenberg (1980): 635 (catalogue).

Type material. Holotype: ♀, labelled: "KENYA, Kitale, UASIN GISHU, 2.100 m", "MUSÉUM DE PARIS, Mission de l'Omo", "C. ARAMBOURG, P.-A. CHAPPUIS & B. JEANNEL 1932-33" (blue label), "TYPE" (red), "Scelomyza hirticornis Génotype [handwritten by Séguy], E. SÉGUY det. 1934", "Prépar. Microsc. n° 3109. aile.", "Holotypus ♀, Scelomyza hirticornis Séguy, J. Roháček det. 2013" (red). Microscope slide (with both wings) labelled: "Scelomyza hirticornis [handwritten], HOLOTYPE" (red). All deposited in the Muséum National d'Histoire Naturelle, Paris, France. The specimen is glued on a pinned rectangular card; it is severely damaged, with both wings removed and mounted on slide (one wing broken into two parts), head and thorax with most bristles having been detached, with all legs originally glued to card but some of their parts removed from the glue during the course of this study and preserved together with the detached tip of the abdomen in glycerine in a sealed plastic tube pinned below the specimen.

Redescription. ***Male.*** Unknown. ***Female.*** Total body length ca. 1.9 mm; bicolourous, dark brown to black (head, abdomen) and largely orange-brown (thorax), mostly shining (Fig. 1), with sparse or absent microtomentum. Head markedly higher than long (Figs 2, 5), rounded anteriorly in profile, with frons unusually short and occiput high, largely dark brown to black. Occiput broadly concave, almost black and lustrous, only dorsomedially, behind ocellar triangle, somewhat microtomentose. Frons very short, twice as wide as long, with darker, almost black, less microtomentose, more shining and long frontal triangle, and with brown, less shining and grey microtomentose area between orbits and frontal triangle. Orbit poorly delimited, paler brown anteriorly, darkened posteriorly, less microtomentose and more lustrous than adjacent area. Frontal triangle very long but relatively narrow, reaching to anterior margin of frons. Ocellar triangle small, unusually shifted posteriorly, somewhat behind top of vertex (Fig. 5), black and very little elevated; ocelli reduced, minute. Frontal lunule brown, small but rather wide, poorly visible above antennal scapes. Face relatively narrow, medially concavely folded, largely brown, with microtomentum not visible in the damaged holotype. Parafacialia and gena ochreous, distinctly lighter than face but their microtomentum damaged and hence undescribed. Postgena markedly dilated (Figs 2, 5), brown to blackish brown. Mouthparts reddish or orange brown; palpus paler orange. Cephalic chaetotaxy (reconstructed from basal scars, photos and original illustrations by Séguy 1938, see Figs 5, 8): pvt present, widely spaced, small and hair-like; oc present, probably rather weak and not very long; both vte and vti present but their length unknown, obviously longer than oc; only 1 long and strong ors, surely the longest of cephalic setae (Fig. 5), and 2 subequal microsetulae in foremost part of orbit (lateral to antennal base); no medial microsetulae observed; postocular setulae (number unknown, 13 visible in Séguy 1938: Fig. 16; see also Fig. 8) in single row; lateroventral corner of occiput and postgena with a few scattered setulae and 2 posteroventral fine setae; 1 distinct strongly inclinate vi (not observed by Séguy 1938 but see Figs 2, 5); subvibrissa probably strongly reduced, hair-like, similar to fine peristomal setulae which are rather numerous (about 10) but obviously fewer than Séguy (1938: Fig. 16; see also Fig. 8) described and illustrated. Palpus slender, with a few pale setulae on apex (1 longer). Eye large, irregularly subovoid in lateral view, with longest diameter subvertical, slightly oblique and about 1.25 times as long as shortest diameter. Eye with ommatidia distinctly enlarged in anteroventral part (cf. Fig. 9). Gena very short, shortest height only about 0.06 times as long as shortest eye



Figs 5–9. *Scelomyza hirticornis* Séguy, 1938, female holotype. 5 – head sublaterally, reconstruction; 6 – left mid femur and tibia, posteriorly; 7 – left fore trochanter, femur, tibia and basitarsus, posteriorly, chaetotaxy of femur reconstructed; 8 – original illustration of head by Séguy (1938), laterally; 9 – ditto, frontally. All scales = 0.25 mm. For abbreviations see text (p. 385).



Figs 10–11. *Scelomyza hirticornis* Séguy, 1938, female holotype. 10 – right wing, reconstructed from two parts on Séguy's original slide; 11 – left wing, from the same slide. Wing length cca 1.95 mm. Photo by J. Roháček (10) and J. W. van Zuijlen (11).

diameter. Antenna strongly geniculate (Figs 3, 5); scape small, almost black; pedicel brown, distinctly capiform and bearing 2 long setae (thicker dorsal, weaker ventral) and series of marginal setulae (Séguy 1938: Fig. 16 erroneously depicted them on "large" scape, the latter being in fact basal part of pedicel, see Fig. 8); 1st flagellomere orange-yellow (see Figs 3, 5), laterally flattened, of distinctive reniform shape with concave anterior margin and projecting apex, having strikingly long pale setae on tip (3 longer, 1 longest – the latter reconstructed from basal remnant visible in Fig. 3 and Séguy's illustration in Fig. 8). Arista about 2.2 times as long as antenna, dark brown, with distinctly thickened basal segment; basal part of arista with short and dense ciliae, distal flagellum with long brownish cilia (particularly dorsally – see Fig. 3), thus subpectinate.

Thorax distinctly narrower than head, bicolour, largely orange brown (including pleura and scutellum) but with distinctive dark brown area covering dorsal part of pronotum and anterior part of mesonotum up to suture (Figs 1, 4), distinctly shining (more laterally) despite sparse microtomentum on mesonotum. Mesonotal microsetae reduced in number; macrosetae relatively long. Thoracic chaetotaxy (reconstructed): 1 reduced, hairlike hu; 2 distinct npl (posterior only half length of anterior); no prs; probably 1 small sa; 1 pa (shorter than posterior npl); 2 long and strong postsutural dc (posterior very long, longest of thoracic setae, anterior not preserved but surely shorter and weaker) and at least 3 dc microsetae in front of them;

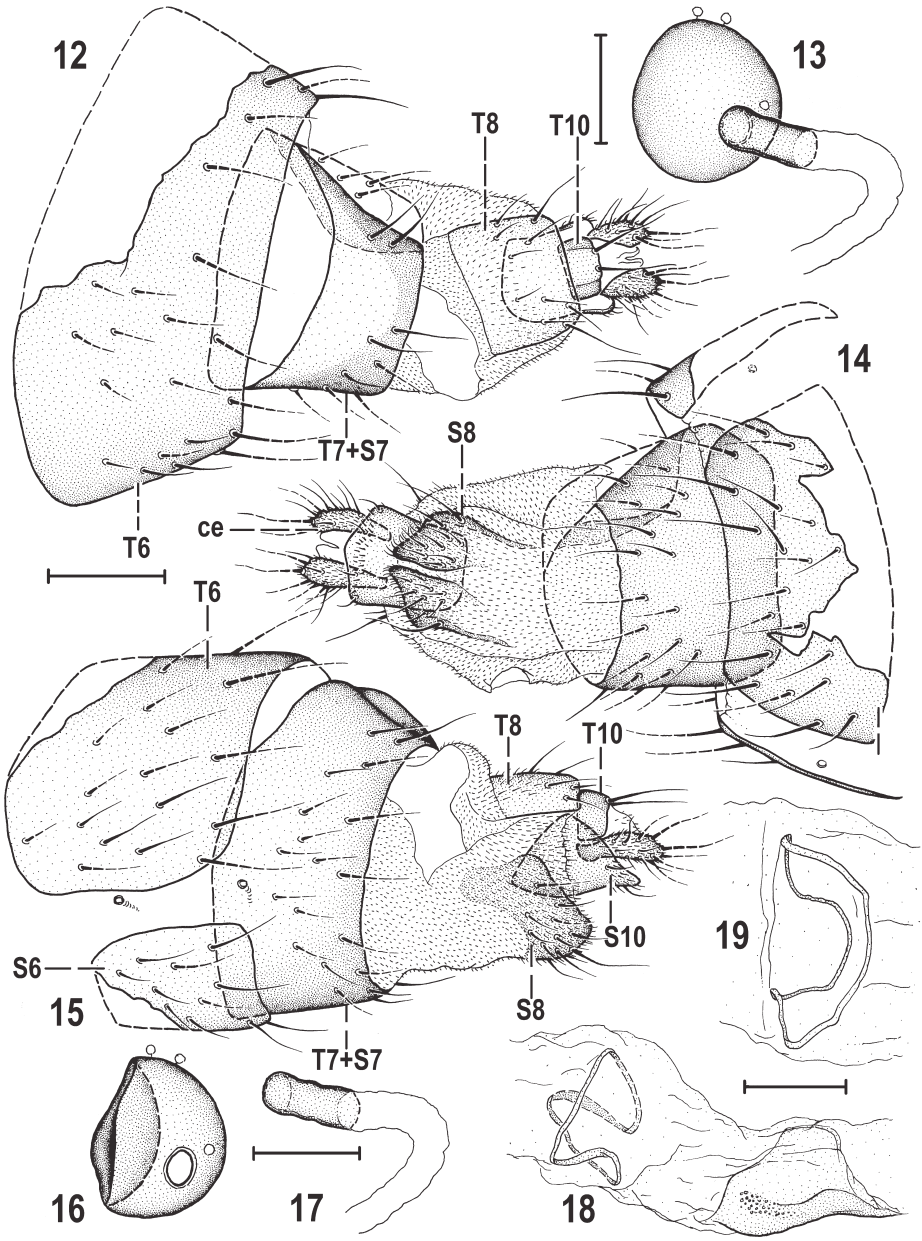
ac microsetae apparently entirely absent; 2 sc, laterobasal small, hair-like and pale, apical of moderate size (according to Séguy 1938, setae not preserved); ppl microseta not visible; 2 distinct and relatively long but thin stpl, anterior somewhat shorter and weaker; ventral part of sternopleuron probably with a few setae (not clearly visible). Scutellum rounded triangular, somewhat convex dorsally; subscutellum distinctly developed.

Legs slender, largely yellow, only fore tibia and fore basitarsus (see Fig. 7) blackish brown and contrasting with remaining parts of fore leg. f_1 apparently with ctenidial spine (Fig. 7, ct) but its length is unknown (broken off on both front legs), and with a number of other, not very long and fine setae (longest posterodorsally and posteroventrally); fore basitarsus with very dense dark setosity ventrally being distinctly prolonged in proximal fifth (Fig. 7); f_2 with some thicker and longer setae on both anterior and posterior side, particularly in distal third; t_2 with ventroapical seta short, hardly longer than maximum width of tibia (Fig. 6), otherwise uniformly setulose; also hind leg and remaining parts of fore and mid leg simply setulose.

Wing (Figs 10, 11) narrow and relatively short (about as long as body length), widest in distal third, with ochreous veins and unpatterned, hyaline, light ochreous membrane. C with distinct spinulae between apices of R_1 and R_{2+3}. Sc apically fused with R_1 and preapical kink on the latter distinctly developed. R_{2+3} long, bent parallel to C, with apex hardly upcurved to C; R_{4+5} very slightly bent (recurved) and apically subparallel to almost straight M. Discal (dm) cell narrow and relatively long, with r-m situated distinctly in front of the middle of dm cell. Apical portion of CuA_1 slightly longer than dm-cu, and reaching (with its colourless end) wing margin; A_1 very short, ending far from it. Alula small and very narrow; also anal lobe strongly reduced. Wing measurements: length ca. 1.95 mm, width 0.62 mm, Cs3 : Cs4 = 1.05, rm\dm-cu : dm-cu = 4.12. Haltere orange, with darker stem.

Abdomen (except for postabdomen) not cleared and therefore described only superficially. Preabdominal terga (T1–T5) blackish brown to black, very sparsely greyish microtomentose and strongly shining (Fig. 1), all with relatively sparse and short setae. T1 and T2 at least partly (dorsally) separate. T3–T5 large and broad, subequal in length but T5 narrower, all bent onto ventral side of abdomen. Preabdominal sterna S2–S5 poorly visible in the holotype but also relatively broad, well sclerotized, blackish brown, shining (Fig. 1) and sparsely setose like associated terga; their shape cannot be described.

Postabdomen (partly reconstructed including chaetotaxy, see Figs 12, 14, 15) relatively short and wide. T6 very large (Fig. 12), only somewhat smaller than T5, blackish brown, broad anteriorly and narrowed posteriorly, sparsely setose, with longest setae in front of posterior margin and on posterolateral corners. S6 relatively broad, distinctly transversely trapezoid, brown, with slightly denser setae than on T6. T7 completely fused with S7 to form annular synsclerite (tergosternum) T7+S7 without trace of borders of sclerites, with 7th spiracle laterally near anterior margin (see Fig. 15). Dorsal part of T7+S7 somewhat shorter than ventral part, with large semicircular paler brown area (Fig. 12) but laterally and posteriorly blackish brown as is entire ventral part of T7+S7 (Fig. 14). Tergosternum T7+S7 much narrower than T6, somewhat tapered posteriorly, with setae sparser dorsally than laterally and ventrally. T8 not very small, forming simple square pale brown plate with rounded posterior corners (Fig. 12), with a few setae (longest in latter corners) and sparse microtomentum restricted to anterior half. S8 of distinctive form, medially divided and short (Fig. 14), laterally lobately prolonged anteriorly (cf. Fig. 15) but with poorly



Figs 12–19. *Scelomyza hirticornis* Séguy, 1938, female holotype. 12 – postabdomen, dorsally; 13 – spermatheca, shape reconstructed; 14 – postabdomen, ventrally; 15 – ditto, laterally (chaetotaxy and shape of sclerites reconstructed); 16 – spermatheca, original condition; 17 – terminal part of spermathecal duct; 18 – internal sclerites of genital chamber, laterally; 19 – annular sclerite in genital chamber, ventrally. Scales = 0.1 mm (Figs 12, 14, 15), 0.03 mm (Figs 13, 16, 17) and 0.05 mm (Figs 18, 19). For abbreviations see text (p. 385).

delimited margins. S8 densely micropubescent (as are all membranous parts of 8th segment) and shortly setose, with single long (sublateral) seta. Genital chamber (uterus) with weakly sclerotized internal structures: annular sclerite (Figs 18, 19) very thin, transversely compressed and loop-shaped; posterior paired sclerites (situated close to genital opening) weakly sclerotized and only ventrally pigmented, of poorly defined shape (Fig. 18). Distal part of genital chamber damaged (torn off) and, consequently, the ventral receptacle and accessory glands could not be examined. Spermatheca (probably 1+1 but only one preserved in postabdomen) small, obviously subspherical, with plain surface and long, well-sclerotized and dark cylindrical collar (reconstructed from damaged/indented spermathecal body and detached duct, cf. Figs 16, 17 and 13). T10 small, transverse, saddle-shaped, thus with both sides bent ventrally, pale brown and bare (without micropubescence), only 1 pair of very medial setae (see Figs 12, 15). S10 markedly larger than T10, unusually long, longer than broad and slightly tapered anteriorly, shortly trough-shaped (Fig. 14), with a few fine setulae at posterior margin and micropubescence restricted to two lines in front of the latter. Cercus relatively short (particularly dorsally, Fig. 12), with a number of fine setae (mostly broken off in the holotype), the apical and dorsopreapical being probably longest (judging from largest basal scars observed).

Discussion. *Scelomyza hirticornis* Séguy, 1938 can be readily distinguished from all other described Afrotropical species (for first checklist of them see below) by the unusually long setose antenna (Figs 3, 5), shiny body, orange-brown thorax with anterior blackish brown area (Fig. 4) and lustrous black abdomen combined with unicolour hyaline wings and fore femur armed with ctenidial spine (Fig. 7).

Biology. Unknown. The holotype female was collected at altitude 2,100 m; date of collection not given.

Distribution. Kenya: Uasin Gishu province, SE of Kitale town.

Conclusions

1. Based on revision of the only known specimen (female holotype), *Scelomyza hirticornis* Séguy, 1938 (from Kenya) is transferred from Opomyzidae to Anthomyzidae.
2. The genus *Scelomyza* Séguy, 1938 is redescribed and its generic validity confirmed.
3. Based on analysis of external characters and structures of the female postabdomen, it is suggested that *Scelomyza* is related to the wingless Afrotropical genus *Apterosepsis* Richards, 1962.
4. *Scelomyza* is the sixth genus of Anthomyzidae in the Afrotropical Region. Because the only former catalogue of Afrotropical Anthomyzidae is very outdated (Sabrosky 1980 listed only 1 genus and 2 species because *Echidnocephalodes barbatus* (Lamb, 1914) no longer belongs to the family, see Roháček 1998), a new checklist of Anthomyzidae of this region is provided, comprising 6 genera and 26 species, with their general distributions and references to descriptions of all taxa included.

Checklist of Afrotropical Anthomyzidae

Subfamily **Anthomyzinae Czerny, 1903**

Amnonthomyza Roháček, 1993: 180 (feminine).
Type species: *Amnonthomyza regina* Roháček, 1993, original designation.

deplanata Roháček, 1993: 187 (*Amnonthomyza*). Madagascar.
regina Roháček, 1993: 182 (*Amnonthomyza*). Madagascar.

Amygdalops Lamb, 1914: 357 (masculine).
Type species: *Amygdalops thomasseti* Lamb, 1914, original designation.

acer Roháček, 2004: 186 (*Amygdalops*). Madagascar, Uganda.
major Roháček, 2004: 181 (*Amygdalops*). Kenya, Madagascar, Senegal, Uganda.
nigrinotum Sueyoshi & Roháček, 2003: 18 (*Amygdalops*). Seychelles. Other regions: Palaearctic: Japan (Izu, Ogasawara). Oceanian: Hawaii (Oahu I., Kauai I., Molokai I., Hawaii I.). Oriental: India (Assam), Indonesia (Flores, Java, Sulawesi), Japan (Okinawa, Ryukyu Is.), Philippines (Mindanao), Taiwan, Thailand. Australasian: Australia (Queensland).
obscurior Roháček, 2004: 195 (*Amygdalops*). Uganda.
obtusus Roháček, 2004: 171 (*Amygdalops*). Cameroon, Gambia, Ghana, Kenya, Liberia, Nigeria, South Africa, Tanzania, Uganda, Yemen, Zaire.
poecilus Roháček, 2004: 207 (*Amygdalops*). South Africa, Zaire.
simplicior Roháček, 2004: 176 (*Amygdalops*). Cape Verde Is., Mali, Nigeria, Senegal, Sierra Leone, Uganda.
sparsus Roháček, 2004: 198 (*Amygdalops*). Cameroon, Ivory Coast, Uganda.
thomasseti Lamb, 1914: 358 (*Amygdalops*). Madagascar, Mauritius, Mozambique, Nigeria, Oman, Senegal, Seychelles, South Africa, Uganda, Yemen. Others regions: Palaearctic: Canary Is. (Gran Canaria, La Palma, Tenerife), Cyprus, Egypt, Greece (Crete), Israel, Italy (Calabria), Jordan, Malta, Saudi Arabia, Spain, Syria, Turkey, United Arab Emirates.
trivittatus Frey, 1958: 32 (*Amygdalops*). Cape Verde Is.
undulatus Roháček, 2004: 203 (*Amygdalops*). Madagascar.

Apterosepsis Richards, 1962: 466 (feminine).
Type species: *Apterosepsis basilewskyi* Richards, 1962, original designation.

basilewskyi Richards, 1962: 467 (*Apterosepsis*). Tanzania.

Barbarista Roháček, 1993: 159 (feminine).
Type species: *Barbarista guttata* Roháček, 1993, original designation.

brachycera Roháček, 1993: 173 (*Barbarista*). Nigeria.
brevifrons Roháček, 1993: 170 (*Barbarista*). Uganda.
davidi Roháček, 1993: 177 (*Barbarista*). Zimbabwe.
guttata Roháček, 1993: 162 (*Barbarista*). Kenya.
pauperis Roháček, 1993: 168 (*Barbarista*). Cameroon.

Margdalops Roháček & Barraclough, 2003: 159 (masculine).
Type species: *Margdalops venustus* Roháček & Barraclough, 2003, original designation.

angustus Roháček & Barraclough, 2003: 166 (*Margdalops*). South Africa.
bifilum Roháček & Barraclough, 2003: 180 (*Margdalops*). Kenya.
caligatus Roháček & Barraclough, 2003: 182 (*Margdalops*). Kenya.
microcercus Roháček & Barraclough, 2003: 162 (*Margdalops*). Kenya, Uganda.
signatus Roháček & Barraclough, 2003: 170 (*Margdalops*). Kenya.
venustus Roháček & Barraclough, 2003: 174 (*Margdalops*). South Africa.

Scelomyza Séguy, 1938: 338 (feminine).
Type species: *Scelomyza hirticornis* Séguy, 1938, original designation.

hirticornis Séguy, 1938: 339 (*Scelomyza*). Kenya.

Acknowledgements

I would like to express my sincere gratitude to Ch. Daugeron (Muséum National d'Histoire Naturelle, Paris, France) who kindly loaned the holotype of *Scelomyza hirticornis* for examination. My particular thanks are due to J. W. van Zuijlen (Waalwijk, The Netherlands) who was the first to recognize this species as a probable member of Anthomyzidae and kindly provided his photographs and other data of the holotype to be used in this paper. K. N. Barber (Sault Ste. Marie, Canada) is thanked not only for many helpful corrections and suggestions but also for advice on producing more accurate reconstructed illustrations and description of *Scelomyza hirticornis* and P. J. Chandler (Melksham, U.K.) for additional comments on the manuscript. The study was financially supported by the Ministry of Culture of the Czech Republic by institutional financing of long-term conceptual development of the research institution (the Silesian Museum, MK000100595), and internal grant of the Silesian Museum No. IGS201303/2013.

References

CZERNY L. 1903: Revision der Heteroneuriden. *Wiener Entomologische Zeitung* **22**: 61–107.

FREY R. 1958. Zur Kenntnis der Diptera brachycera p.p. der Kapverdischen Inseln. *Commentationes Biologicae* **18(4)**: 1–61.

LAMB C. G. 1914: The Percy Sladen Trust expedition to the Indian Ocean in 1905, under the leadership of Mr J. Stanley Gardiner, M.A. Vol. 5, No. XV. - Diptera: Heteroneuridae, Ortalidae, Trypetidae, Sepsidae, Micropezidae, Drosophilidae, Geomyzidae, Milichidae). *Transactions of the Linnean Society of London (2, Zoology)*, **16**: 307–372.

ROHÁČEK J. 1993: Two new Afrotropical genera of Anthomyzidae (Diptera), with descriptions of seven new species. *Annals of the Natal Museum* **34**: 157–190.

ROHÁČEK J. 1998: Taxonomic limits, phylogeny and higher classification of Anthomyzidae (Diptera), with special regard to fossil record. *European Journal of Entomology* **95**: 141–177.

ROHÁČEK J. 2004: Revision of the genus Amygdalops Lamb, 1914 (Diptera, Anthomyzidae) of the Afrotropical Region. *African Invertebrates* **45**: 157–221.

ROHÁČEK J. 2006: A monograph of Palaearctic Anthomyzidae (Diptera) Part 1. *Časopis Slezského Zemského Muzea, Opava (A)* **55 (Supplement 1)**: 1–328.

ROHÁČEK J. 2013: Reliquantha variipes gen. & sp. nov., a peculiar new taxon of Anthomyzidae (Diptera) from Great Britain with uncertain relationships. *Acta Entomologica Musei Nationalis Pragae* **53**: 793–814.

ROHÁČEK J. & BARBER K. N. 2005: Revision of the New World species of Stiphrosoma Czerny (Diptera: Anthomyzidae). *Beiträge zur Entomologie* **55**: 1–107.

ROHÁČEK J. & BARBER K. N. 2009: New reduced-winged species of Mumetopia Melander, with analysis of the relationships of this genus, Chamaebosca Speiser and allied genera (Diptera: Anthomyzidae). *Acta Societatis Zoologicae Bohemicae* **72(3–4)**(2008): 191–215.

ROHÁČEK J. & BARRACLOUGH D: 2003: Margdalops, a new African genus of Anthomyzidae (Diptera), comprising six new species. *African Invertebrates* **44**: 157–190.

RICHARDS O. W. 1962. Mission zoologique de l'I.R.S.A.C. en Afrique orientale. LXXI. Diptera. Two new East African species of Alombus Beck. and an apterous sepsid (Chloropidae and Sepsidae). *Annales du Musée Royal de l'Afrique Centrale, Tervuren*, *Série in 8º (Sciences Zoologiques)* **107**: 464–468.

SABROSKY C. W. 1980: 67. Family Anthomyzidae. P. 650. In: CROSSKEY R. W. (ed.): *Catalogue of the Diptera of the Afrotropical Region.* British Museum (Natural History), London, 1437 pp.

SÉGUY E. 1938: Diptera I. Nematocera et Brachycera. Mission scientifique de l'Omo, 4 (Zool.). *Mémoires Muséum National d'Histoire Naturelle (Nouvelle serie)* **8**: 319–380.

STUCKENBERG B. R. 1980: 62. Family Opomyzidae. P. 635. In: CROSSKEY R. W. (ed.): *Catalogue of the Diptera of the Afrotropical Region.* British Museum (Natural History), London, 1437 pp.

SUEYOSHI M. & ROHÁČEK J. 2003: Anthomyzidae (Diptera: Acalyptrata) from Japan and adjacent areas. *Entomological Science* **6**: 17–36.