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RESEARCH PAPER

Three new genera and nine new species – just a fragment of the Afrotropical fauna of Anthomyzidae (Diptera)

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Abstract. The fauna of Afrotropical Anthomyzidae (Diptera) is enriched by three new genera and nine new species, viz., *Durantha* gen. nov., *D. dura* sp. nov. (type species; Tanzania, Kenya), *D. freidbergi* sp. nov. (Ethiopia); *Pectarista* gen. nov., *P. grandiloba* sp. nov. (type species; Cameroon), *P. curta* sp. nov. (Cameroon), *P. planta* sp. nov. (Kenya); *Virgatomyza* gen. nov., *V. helvior* sp. nov. (type species; Ethiopia, Kenya, Tanzania), *V. bivirgata* sp. nov. (Ethiopia), *V. discolor* sp. nov. (Kenya) and *V. dissimilis* sp. nov. (Ethiopia). All these taxa are described and illustrated in detail and their relationships are discussed. *Durantha* gen. nov. is affiliated with the *Amygdalops* group of genera, *Pectarista* gen. nov. with the *Barbarista* group of genera and *Virgatomyza* gen. nov. is the first Afrotropical representative of the *Anthomyza* group of genera. A new key to Afrotropical genera of Anthomyzidae and keys to the identification of *Pectarista* and *Virgatomyza* species are given. Sexual dichroism of the fore leg of *Pectarista* species is described for the first time in the family. The female internal genitalia of *Pectarista grandiloba* everted after oviposition are described and illustrated. Diversity of Afrotropical Anthomyzidae is discussed.

Key words. Diptera, Anthomyzidae, keys to genera and species, morphology of male and female terminalia, relationships, sexual dichroism, taxonomy, Afrotropical Region

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Introduction

In contrast to the situation in the Holarctic Region the systematic research of the family Anthomyzidae (Diptera: Acalyptratae) in the Afrotropics is still in its infancy although slightly better than in other tropical areas of the World (Roháček 2021a). The history of the knowledge of the Afrotropical fauna of the family begins with the description of a new genus and species, *Amygdalops thomasseti* Lamb, 1914, from Seychelles (Lamb 1914, originally in Geomyzidae). *Scelomyza hirticornis* Séguy, 1938 from Kenya was the second genus and species described from the region (Séguy 1938, originally classified in Opomyzidae) but it has been unrecognized as belonging to Anthomyzidae until recently (Roháček 2014). Frey (1958) was the first to place his new species from Cabo Verde archipelago, *Amygdalops trivittatus* Frey, 1958, correctly in the Anthomyzidae. On the other hand, the tiny, fully wingless, ant-mimicking *Apterosepsis basilewskyi* Richards, 1962, was again incorrectly affiliated to family, originally to Sepsidae (Richards 1962), then doubtfully to Anthomyzidae (D. K. McAlpine 1978) and later to Chloropidae (Sabrosky 1980) and, at last, definitely to Anthomyzidae (Roháček 1998). The first modern studies dealing with Afrotropical Anthomyzidae were published only at the turn of the 21st century (Roháček 1993, 1998, 2004, 2014; Roháček & Barraclough 2003). The most recent checklist of the Afrotropical Anthomyzidae, summarizing results from all above studies (Roháček 2014), includes a total of 6 genera and 26 named species. However, as estimated by Roháček (2021a), ca. 90 species (most of them unnamed) in at least 12 genera (6 undescribed) from the Afrotropical Region are currently available for study in various Diptera collections. Judging from large under-investigated areas in tropical Africa we can presume that the real number of anthomyzid species living in the region will be several times higher.

This study aims to reveal only a small part of the species richness of Afrotropical Anthomyzidae. Detailed descriptions

of nine new species, belonging to three (often morphologically very distinctive) new genera, are presented along with discussion of their relationships and distribution.

Material and methods

Material. This study is based on material obtained during several Diptera expeditions to tropical Africa realized by the late Amnon Freidberg (1945–2020) and his collaborators.

The type specimens listed in this study are largely deposited in National Collection of Insects, Tel Aviv University, Tel Aviv, Israel (TAUI); only some duplicates (paratypes) are retained in the special collection of Anthomyzidae in Silesian Museum, Opava, Czech Republic (SMOC).

Methods. All the material examined comprises air-dried, micro-pinned and double-mounted specimens. Specimens were examined, drawn and measured by means of two types of binocular stereoscopic microscopes (Reichert, Leica S9i). Abdomens of a number of specimens were removed, cleared by boiling for several minutes in a 10% solution of potassium hydroxide (KOH) in water, then neutralized in a 10% solution of acetic acid (CH_3COOH) in water, washed in water and subsequently transferred to glycerine. Structures of the male and female terminalia were dissected and subsequently examined in a drop of glycerine under binocular microscopes but detailed examinations of genitalic structures were performed with a compound microscope (Zeiss Jenaval). One wing of each selected specimen was detached and temporarily slide-mounted (in glycerine) for subsequent photography. After examination and/or photography, all removed (wings, legs) or dissected parts of terminalia were put into small plastic tubes containing glycerine, sealed with hot forceps and pinned below the respective specimens.

Drawing techniques and photography. Legs or their parts were drawn on squared paper using a Reichert binocular microscope with an ocular screen. Details of the male and female terminalia were drawn using Abbe's drawing apparatus on a binocular compound microscope (Zeiss Jenaval). Whole adult (dry-mounted) specimens or their parts were photographed by means of a digital camera Canon EOS 5D Mark III with a Nikon CFI Plan 10x/0.25NA 10.5mm WD objective attached to a Canon EF 70–200mm f/4L USM zoom lens. The specimen, photographed by means of the latter equipment, was repositioned upwards between each exposure using a Cognisys StackShot Macro Rail and the final photograph was compiled from multiple layers (35–40) using Helicon Focus Pro 7.0.2. The final images were edited in Adobe Photoshop CS6. Wings were photographed on a compound microscope Olympus BX51 with an attached digital camera (Canon EOS 1200D).

Descriptions and measurements. Only the type species of new genera are described in full detail below. Other congeners are compared with the type species and their descriptions are abbreviated accordingly. Five main characteristics of adults were measured: body length (measured from anterior margin of head to end of cercus, thus excluding the antenna), wing length (from wing base to wing tip), wing width (maximum width), index $Cs_3 : Cs_4$ (= ratio of length of 3rd costal sector : length of 4th costal sector) and index r-m\dm-cu : dm-cu (= ratio of length of section between r-m and dm-cu on discal medial cell : length of dm-cu). If possible, all type specimens were measured.

Presentation of faunistic data. Label data of designated holotype specimens are presented strictly verbatim, including information on colour of all associated labels; those of paratypes are standardized. New phenological and other biological information obtained from the material examined and literature are given in the Biology paragraph; data on occurrence are summarized in the Distribution paragraph.

Morphological terminology. The terminology follows that used in monographs of Anthomyzidae by Roháček (2006) and/or Roháček & Barber (2016) including terms of the male hypopygium and female terminalia except that 'orbit' is replaced here with 'fronto-orbital plate'. For male genitalia terminology, the 'hinge' hypothesis of the origin of the eremoneuran hypopygium (see Zatwarnicki 1996) has been adopted. The following synonymous terms of the male genitalia emanating from other hypotheses and used in recent manuals of Diptera (Cumming & Wood 2009, 2017) and/or the monograph of Griffiths (1972) need to be listed (terms used here first): aedeagus = phallus; ejacapodeme = ejaculatory apodeme; epandrium = periandrium; gonostylus = surstylus, telomere; medandrium = bacilliform sclerite, intraepandrial or intraperiandrial sclerite; phallapodeme = aedeagal apodeme; postgonite = gonite, paramere. Morphological terms of the male terminalia are depicted in Figs 6–15, 52–54, 57, those of the female on Figs 18–26, 59–61, 66, 67; terminology of wing veins and cells are in Figs 1 and 47.

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

A_1	anal vein
ac	acrostichal (seta)
afa	aedeagal part of folding apparatus
ag	accessory gland
bm	basal membrane (male genitalia)
bm	basal medial cell (wing)
br	basal radial cell
C	costa
c	costal cell
ce	cercus
cp	caudal process of transandrium
cs	connecting sclerite
$Cs_{1–4}$	1st, 2nd, 3rd, 4th costal sector
ct	ctenidial spine
cua_1	anterior cubital cell
CuA_1	cubitus
cup	posterior cubital cell
dc	dorsocentral (seta)
dm	discal medial cell
dm-cu	discal medial-cubital (= posterior, tp) cross-vein
ea	ejacapodeme
ep	epandrium
f	filum of distiphallus
f_1, f_2, f_3	fore, mid, hind femur
fc	fulcrum of phallapodeme
gs	gonostylus
hl	hypandrial lobe
hu	humeral (= postpronotal) (seta)
hy	hypandrium
is	internal sclerites of female genital chamber

m	medial marginal cell
M	media
ma	medandrium
mp	micropyle
npl	notopleural (seta)
oc	ocellar (seta)
ors	fronto-orbital (seta)
pa	postalar (seta)
pg	postgonite
pha	phallapodeme
pp	phallophore
ppl	propleural (= proepisternal) (seta)
prg	pregonite
prs	presutural intra-alar (seta)
pvt	postvertical (seta)
r_1	first radial cell
R_1	1st branch of radius
r_{2+3}	2nd + 3rd radial cell
R_{2+3}	2nd branch of radius
r_{4+5}	4th + 5th radial cell
R_{4+5}	3rd branch of radius
r-m	radial-medial (= anterior, ta) cross-vein
s	saccus of distiphallus
S1–S8, S10	abdominal sterna
sa	supraalar (seta)
sc	scutellar (seta)
Sc	subcosta
sp	spermatheca
stpl	sternopleural (= katepisternal) (seta)
T1–T8, T10	abdominal terga
t_1, t_2, t_3	fore, mid, hind tibia
ta	transandrium
uis	unpaired internal sclerite
vi	vibrissa
vr	ventral receptacle
vte	outer vertical (seta)
vti	inner vertical (seta)

Results

Durantha gen. nov.

Type species. *Durantha dura* sp. nov., here designated.

Diagnosis. (1) ***Head*** slightly higher than long or as long as high, angular in profile.
(2) Eye large, very convex, elongately almond-shaped, with longest diameter oblique (Fig. 2).
(3) Frons mostly dull, narrow, flattened and medially slightly depressed;
(4) frontal triangle short and sparsely microtomentose.
(5) Frontal lunule small but distinct.
(6) Occiput strongly concave;
(7) with a medial, pale-pigmented, whitish-grey microtomentose spot above foramen.
(8) Antenna geniculate between pedicel and 1st flagellomere; pedicel simple, 1st flagellomere strongly compressed laterally;
(9) arista sparsely long-pectinate (Fig. 4).
(10) Palpus slender, with 2 distinct ventral (including one subapical) setae and a few apical setulae.
Cephalic chaetotaxy:
(11) pvt well developed, apically crossed;
(12) vte longest of cephalic setae;
(13) vti distinctly shorter than vte and not longer than oc;
(14) 2 long ors, widely spaced – posterior in the middle of fronto-orbital plate, anterior close to fore margin of frons; 1 setula and 1 microsetula just in front of anterior ors;
(15) postocular setulae minute, in single row;
(16) 1 long vi and 1 shorter but distinct subvibrissa;
(17) peristomal setulae sparse but at least twice as long as postoculars.
(18) Posteroventral corner of head (postgena) almost rectangular (Fig. 4).
(19) Antenna and face of the same colouring in both sexes.
(20) ***Thorax*** as wide as or slightly narrower than head, subshining.
(21) Mesonotum convex, with grey to light bluish-grey microtomentum.
(22) Pleuron unicolourous brown.
Thoracic chaetotaxy:
(23) 1 hu, 2 npl (anterior longer);
(24) 0 prs;
(25) 1 sa, 1 short pa;
(26) 2 postsutural dc, both in prescutellar portion of scutum, only posterior long, anterior short;
(27) ac microsetae in 4–6 rows in front of suture;
(28) 2 sc, apical long, laterobasal short and weak;
(29) 0 ppl;
(30) 2 stpl, anterior almost as long as posterior, and several setulae in dorsal half of sternopleuron.
Legs:
(31) femora and tibiae with dark (lighter on fore leg) annulus near knee (Fig. 3);
(32) f_1 of both sexes without posteroventral ctenidial spine;
(33) t_2 with distinct ventroapical seta;
(34) f_3 with posteroventral row of setae; 8–11 of them in distal two-fifths in dense comb, shortened and thickened (male) or only shortened (female).
(35) Wing long and relatively broad;
(36) wing membrane unicolourous hyaline;
(37) C with spinulae among fine setulae on Cs_2 (largely in its distal half);
(38) R_{2+3} long, bent parallel to C, only apically slightly upcurved, ending about 1.5 times as far from apex of R_{4+5} than does M;
(39) R_{4+5} slightly recurved, ending near wing apex;
(40) R_{4+5} and M slightly convergent to parallel apically;
(41) M slightly bent to straight;
(42) dm cell narrow and relatively short; cross-vein r-m situated in its basal two-fifths to third;
(43) CuA_1 relatively long but not reaching wing margin;
(44) A_1 short and ending far from wing margin;
(45) anal lobe and alula well developed but the latter small (Fig. 1).
(46) ***Male abdomen*** medium long and relatively robust.
(47) T1 separate from T2;
(48) T2–T5 broad, reaching laterally onto ventral aspect of abdomen, uniformly dark pigmented.
(49) T3 longest tergum, almost twice as long as T2.
(50) S2–S5 narrower than terga, with bicolourous pattern, largely brown with unpigmented (postero)medial areas.
Male postabdomen:
(51) T6 largely membranous, only partly pale pigmented;
(52) S6–S8 fused dorsolaterally to form asymmetrical

synsclerite, with S6+S7 bulging left laterally (Fig. 6);
(53) S6 and S7 strongly asymmetrical, firmly fused and situated laterally, each with simple darker anterior marginal ledge; S6 with 0–3, S7 with 3 setae;
(54) S8 longer than S7, less asymmetrical and situated dorsally, with short setae only in posterior half.

Male genitalia.

(55) Epandrium relatively large, subspherical but uniquely expanded posteroventrally to form medially projecting corners (Fig. 10), sparsely and shortly setose, with only 1 dorsomedial pair of long setae.
(56) Anal fissure unusually small and shifted dorsally (Fig. 10).
(57) Medandrium high and narrow, with lateral arms prolonged according to ventrally extended epandrium.
(58) Cercus extremely small, situated below anal fissure, very shortly and finely setulose.
(59) Gonostylus relatively small, more or less bent medially and anteriorly, setose mainly on inner side, micropubescent only posterolaterally (except for apex).
(60) Hypandrium robust, with internal lobes reduced or absent;
(61) Transandrium (Figs 13, 32) medially simply arched; caudal process divided by deep medial incision into 2 strap-like lobes projecting anterolaterally.
(62) Pregonite low and very elongate, unusual in being free inside hypandrium (see Fig. 31) and only its posterior part with 2 or 3 setae.
(63) Postgonite relatively small, inconspicuous, knife-shaped, obviously with no basal sclerite.
(64) Basal membrane bulging below lobes of caudal process, covered by numerous short spines or tubercles (Fig. 13).
(65) Aedeagal part of folding apparatus relatively large, posterodorsally provided with dark grain-like tubercles, anteroventrally finely striated;
(66) connecting sclerite relatively long and robust, dark pigmented, distally very finely tuberculate (Fig. 15).
(67) Phallapodeme robust (Fig. 17), with basal part strongly dilated laterally, narrowly incised posteromedially and slightly asymmetrical; its apex terminally saucer-shaped and fulcrum robust, posteriorly laterally widened and concave.
(68) Aedeagus with simple, frame-like but somewhat elongate phallophore;
(69) a relatively robust sclerite situated (slightly ventrally, Fig. 15, arrowed) between phallophore and filum of distiphallus and
(70) distiphallus composed of small, largely membranous saccus and very robust sclerotized filum;
(71) saccus with a pair of proximal slender sclerites and its distal membranous part very finely spinose;
(72) filum unusually robust, compact and heavily sclerotized, distally flattened, with two subapical corners and rounded apex (Figs 15, 16).
(73) Ejacapodeme small, with slender finger-like projection and dark middle knob (Fig. 15).
(74) ***Female abdomen*** (Fig. 18) not very elongate, somewhat wider terga (T2–T5) than in male.
(75) Preabdominal terga dark brown except for T4 having pale-pigmented anterolateral spots.
(76) Preabdominal sterna (see Fig. 18) mostly with bicolourous pattern as in male.
(77) Postabdomen (Figs 20–22) relatively short, with terga and sterna well sclerotized and mostly dark pigmented.
(78) T6 and S6 relatively large and broad, distinctly transverse. T6 all dark, S6 dark in anterior half, unpigmented posteriorly.
(79) T7 (Figs 20, 38) long, tapered posteriorly, extended lateroventrally, blackish-brown laterally but with large anteromedial pale-pigmented area; T7 not fused with S7 but 7th spiracle attached to or embedded in its anteroventral corner (Figs 22, 40);
(80) S7 smaller than S6 but relatively large, with characteristically subcordate dark pattern;
(81) T8 simple, flat, distinctly wider than long, with only 1 or 2 setae posterolaterally;
(82) S8 short and transverse, somewhat narrower than S7, with very narrow posteromedial incision (best visible in caudal view, see Fig. 24).
(83) Internal sclerotization of female genital chamber (uterus) distinctly developed (Figs 23, 26), formed by 2 pairs of robust, flat, partly fused and twisted sclerites,
(84) 1 distinct, simply twisted annular sclerite in front of them and
(85) 1 unpaired, dark-pigmented, transversely suboval internal sclerite situated above S8 (Figs 23, 26, uis).
(86) Ventral receptacle (Figs 41–43) elongate conical, with more or less bent apex, smooth on surface and set on short broad duct.
(87) Accessory gland on relatively long duct being slightly dilated and ringed in the middle, and more dilated and several times constricted distally (Fig. 26).
(88) Spermathecae (1+1) spherical, with smooth surface but each densely spinulose in basal third to half (Fig. 19), with poorly defined cervix on long spermathecal duct.
(89) T10 small, semicircular to suboval, with micropubescence reduced or absent but with 2 or 3 pairs of longer setae;
(90) S10 small but larger than T10, suboval to semicircular (not pointed posteromedially), almost entirely micropubescent.
(91) Cercus with a number of subequally long fine setae (Fig. 21) and very reduced or absent micropubescence.

Discussion. A number of external and also some postabdominal characters of *Durantha* gen. nov. (listed above) are clearly shared with *Amygdalops* Lamb, 1914 and the allied genus *Margdalops* Roháček & Barraclough, 2003. These include the following synapomorphies of the latter two genera (according to Roháček & Barraclough 2003 and Roháček 2006): (2) eye large, very convex, elongately almond-shaped; (3) frons mostly dull, narrow, flattened and medially slightly depressed; (6) occiput strongly concave; (14) 2 long ors, widely spaced – posterior in the middle of fronto-orbital plate, anterior close to fore margin of frons and 1 setula and 1 microsetula just in front of anterior ors; (32) f_1 of both sexes without posteroventral ctenidial spine; (44) A_1 short and ending far from wing margin; (45) alula small, narrow. Apart from those listed above, *Durantha*

also possesses apomorphic characters shared with only *Amygdalops*, viz. (9) arista sparsely long-pectinate; (13) vti distinctly shorter than vte; (80) female S7 modified, with distinctive shape and pattern. Moreover, it also has a similarly constructed female S8, spermathecae and ventral receptacle although these differ in some detail. These shared characters support the hypothesis that *Durantha* is derived from the *Amygdalops* clade represented in the Afrotropics by numerous (many unnamed) species of *Amygdalops* and (the less speciose) *Margdalops*. While the majority of the above synapomorphies are external characters, the internal structures of the male and female terminalia in *Durantha* are markedly different from those of *Amygdalops* and/or *Margdalops*.

The genus *Durantha* can be best separated from similar genera by the following diagnostic features (those apomorphic marked 'A', those unique 'U'): (7) occiput with a medial, pale-pigmented, whitish-grey microtomentose spot above foramen (A); (18) posteroventral corner of head (postgena) almost rectangular (A) (similar to that of *Cercagnota* Roháček & Freidberg, 1993, see Roháček 2006: fig. 431); (22) pleuron unicolourous brown; (24) 0 prs; (35) wing long and relatively broad; (36) wing membrane unicolourous hyaline; (37) C with spinulae among fine setulae on Cs_2; (49) male T3 longest tergum, almost twice as long as T2 (A); (50) S2–S5 narrower than terga, with bicolourous pattern, largely brown with unpigmented (postero)medial areas (U); (52) male synsclerite S6–S8 with S6+S7 bulging left laterally (A); (55) epandrium subspherical but uniquely expanded posteroventrally (Fig. 27) to form medially projecting corners (U); (56) anal fissure unusually small and shifted dorsally (U); (57) medandrium high and narrow, with lateral arms prolonged (A); (58) cercus extremely small, situated below anal fissure (A); (62) pregonite low and very elongate, unusual in being free inside hypandrium (see Fig. 31) (U); (67) phallapodeme (including fulcrum) robust, with basal part strongly dilated laterally (A); (69) a relatively robust sclerite situated (slightly ventrally, Fig. 15) between phallophore and filum of distiphallus (A); (72) filum unusually robust, compact and heavily sclerotized (Fig. 16), distally flattened, with two subapical corners and rounded apex (U); (75) female T4 with pale-pigmented anterolateral spots; (76) preabdominal sterna S2–S5 (and also S6 and S7) with bicolourous pattern as in male (U); (79) T7 long, tapered posteriorly, extended lateroventrally, blackish-brown laterally but with large dorsomedial pale-pigmented area (U); (83) female genital chamber with 2 pairs of robust, flat, partly fused and twisted sclerites (A) and with (85) unpaired, dark-pigmented, transversely suboval sclerite (Figs 23, 26, uis) situated above S8 (U); (86) ventral receptacle elongate conical, with more or less bent apex, smooth on surface and set on short broad duct; (88) spermathecae spherical, with smooth surface but densely spinulose in basal third to half (A); (89) T10 with micropubescence reduced or absent but with 2 or 3 pairs of longer setae (A); (91) cercus short and relatively robust, oval in profile, with a number of subequally long fine setae and very reduced or absent micropubescence (A). Consequently, the new genus is well delimited and phenetically distant from *Amygdalops* and *Margdalops*. Both species of *Durantha* are also distinguished by unusually robust bodies and unpatterned wings, thus quite dissimilar to the small and slender flies with brown-patterned wings of both the above genera. There is only one species of *Amygdalops* with clear wings, *A. trivittatus* Frey, 1958 from Cabo Verde archipelago, a small (only ca. 1.7 mm) aberrant species distinguished by longitudinal vittae on the mesonotum (see Roháček 2004).

Etymology. The name of the new genus *Durantha* is an abbreviated conjunction of *dur*[*us*] + *Anth*[*omyz*]*a*, gender feminine. It refers to the very stout, compact and hard (= *durus* in Latin) filum of distiphallus diagnosing this new genus.

Species included. *Durantha dura* sp. nov. (Tanzania, Kenya), *D. freidbergi* sp. nov. (Ethiopia), both described below.

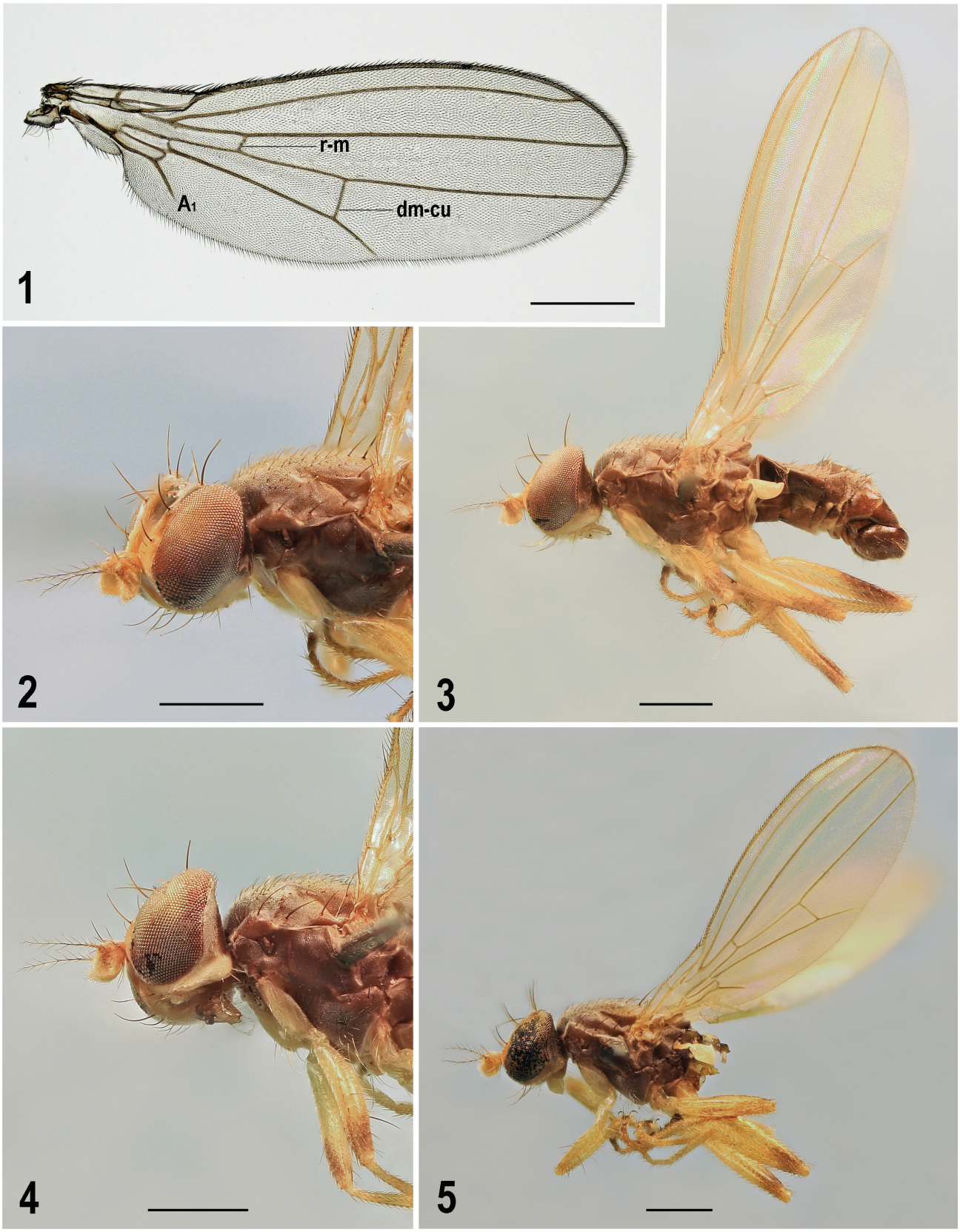
Durantha dura sp. nov.

(Figs 1–4, 6–26)

Type material. Holotype: ♂, labelled: 'TANZANIA: Ngozi Crater, nrRt.A345, 2000-2200 m, 1.ix.1996, A. FREIDBERG' and 'Holotypus ♂, *Durantha dura* sp. n., J. Roháček det. 2025' (red label). The specimen is intact, minuten double pinned (TAUI) (Fig. 3). Paratypes: 2 ♂♂ 3 ♀♀ (2 ♂♂ 1 ♀, genit. prep.), with same data as for holotype (TAUI 1 ♂ 2 ♀♀, SMOC 1 ♂ 1 ♀). **KENYA:** 1 ♀ (genit. prep.), Kericho, 0°20′S 35°20′E, 25.viii.2003, A. FREIDBERG leg. (TAUI). All paratypes with same type label as the holotype but it is yellow and has 'Paratypus ♂ or ♀' instead of 'Holotypus ♂'.

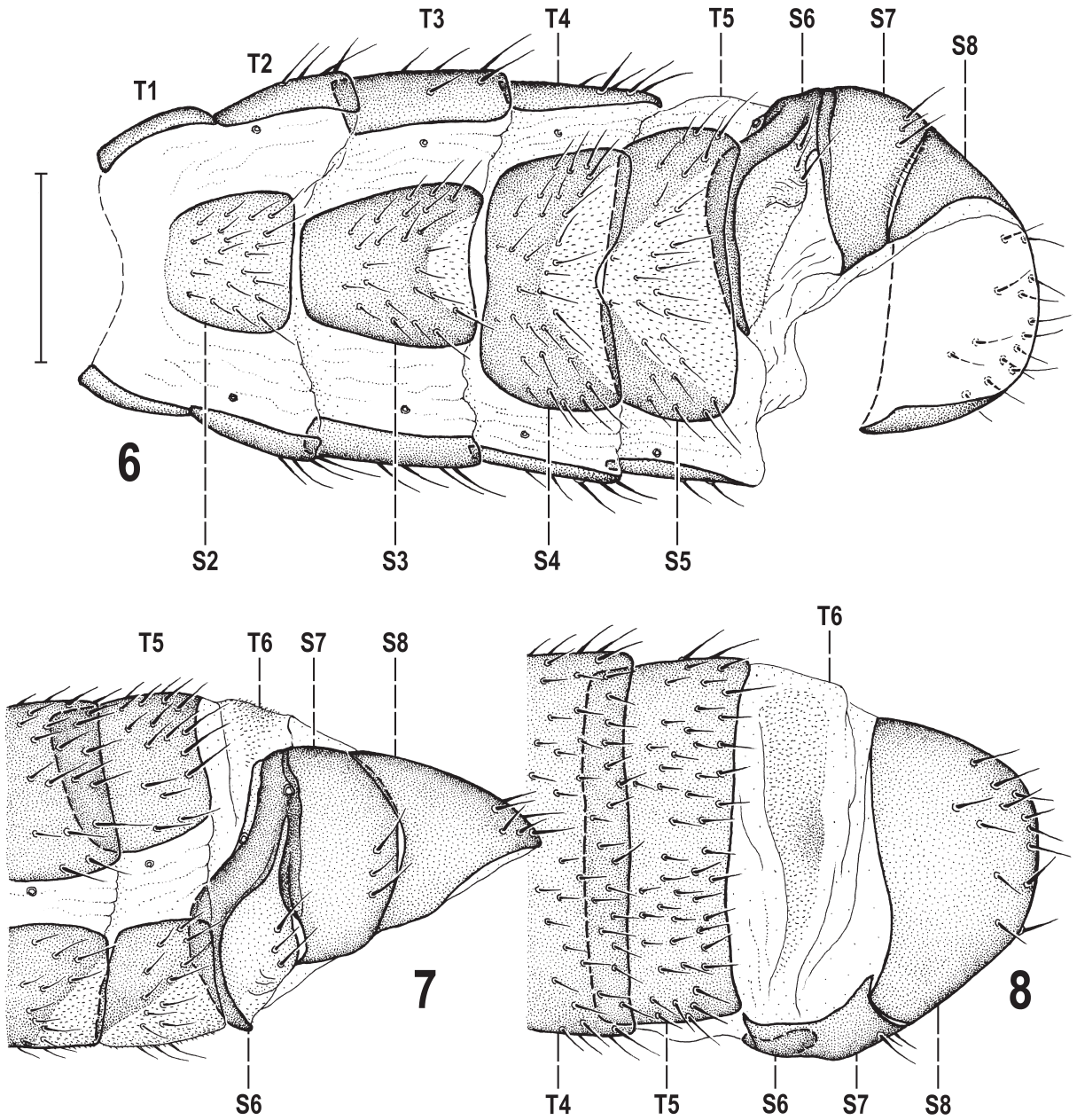
Description. ***Male.*** Total body length 2.46–2.66 mm. Body relatively robust (Fig. 3), unicolourous (except for head) brown to dark brown, distinctly grey microtomentose.

Head very slightly (1.1×) higher than long, distinctly angular (both anteriorly and posteriorly) in profile (Fig. 2). Occiput concave, largely dark brown and greyish-brown microtomentose but with a medial, pale-ochreous and whitish-grey microtomentose spot above foramen, not reaching dorsal margin of occiput. Frontal triangle short and narrow, only reaching to half of frons, with acute anterior corner, brown, sparsely microtomentose and somewhat glittering; ocellar triangle darker but light grey microtomentose and duller. Frons bicolourous, yellow and brown, mostly dull; its anterior half yellow to (anteriorly) light yellow, with yellow stripes between fronto-orbital plate and frontal triangle extended to vti; medial part of posterior half of frons (including frontal and ocellar triangles and adjacent areas) brown to (posteriorly) blackish brown and somewhat depressed. Fronto-orbital plate silvery-white microtomentose, pale yellow in anterior half, dark brown, with sparser microtomentum and somewhat shining behind posterior ors. Frontal lunule small but distinct, ochreous yellow. Face dark yellow, medially darker ochreous and concave; parafacialia and gena almost white, with silvery-white microtomentum but both ochreous margined (very narrowly on ventral margin of gena); postgena with only ventral corner whitish yellow or yellow, otherwise as dark brown as adjacent part of occiput. Mouthparts pale yellow with ochreous clypeus and yellow palpus. Cephalic chaetotaxy (Fig. 2): pvt well developed (about two-thirds of vti but pale pigmented), with apices crossed; vti rela-



Figs 1–5. *Durantha* species. 1–4 – *D. dura* sp. nov. 1 – male paratype, wing; 2 – male holotype, head and thorax, left laterally; 3 – male holotype, habitus, left laterally; 4 – female paratype, head and thorax, left laterally; 5 – *D. freidbergi* sp. nov., male holotype, habitus (abdomen removed), left laterally. Scale bars: 0.5 mm. For abbreviations see Material and methods.

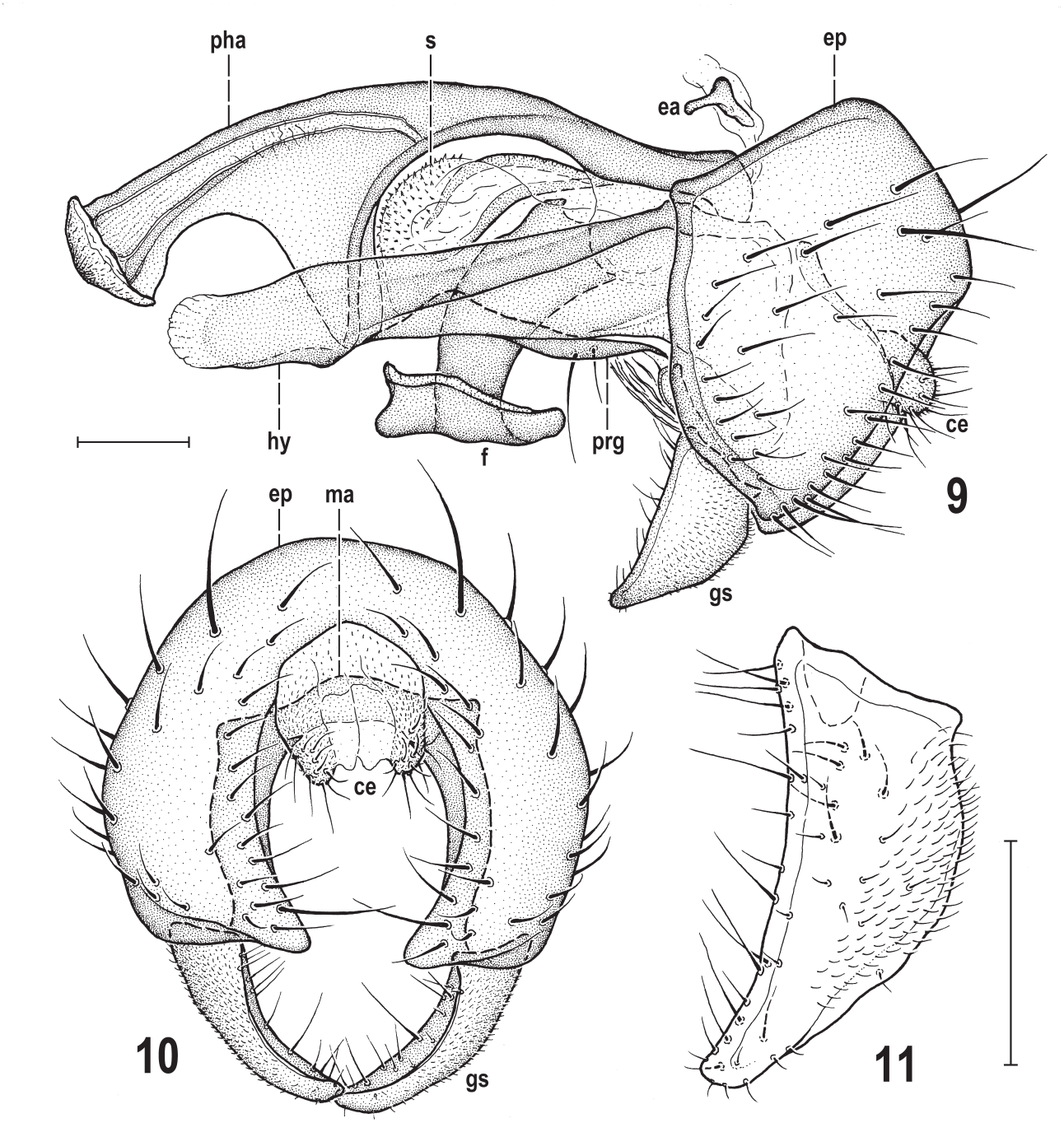
tively short, only 1.5 times as long as pvt and markedly shorter than vte; vte longest of cephalic setae; oc about as long as vti, strongly proclinate; 2 long, widely spaced ors; posterior ors only slightly shorter than vte, anterior as long as vti; 1 setula and 1 microsetula in front of anterior ors, anterior microsetula minute, half length of posterior; 2 or



Figs 6–8. *Durantha dura* sp. nov., male paratype. 6 – abdomen, ventrally; 7–8 – postabdomen with 5th segment (7 – left laterally, 8 – dorsally). Scale bar: 0.3 mm. For abbreviations see Material and methods.

3 pairs of minute microsetulae in front of frontal triangle; 1 relatively long (as long as vti) vi and 1 similarly thick subvibrissa being about three-fourths of vi; 6 or 7 fine peristomal setulae becoming longer anteriorly; postocular setulae short and weak, in one row at posterior margin of dorsal half of eye; palpus ventrally with 2 long but pale (including subapical) setae and a few microsetulae at apex. Eye large, almond-shaped (resembling that of *Amygdalops* spp.), strongly convex, with longest diameter about 1.5× long as shortest one. Gena anteriorly very narrow, gradually widened posteriorly; its shortest height 0.08 times as long as shortest eye diameter. Antenna geniculate between pedicel and 1st flagellomere, with pale yellow scape and darker yellow pedicel; 1st flagellomere yellow but dorsobasally darkened in dorsal half, darkest around base of arista, medium-long whitish ciliate on apex. Arista blackish, about 1.8 times as long as antenna, sparsely long-pectinate, usually with 8 dorsal and 7 ventral rays, those longest as long as maximum lateral width of pedicel.

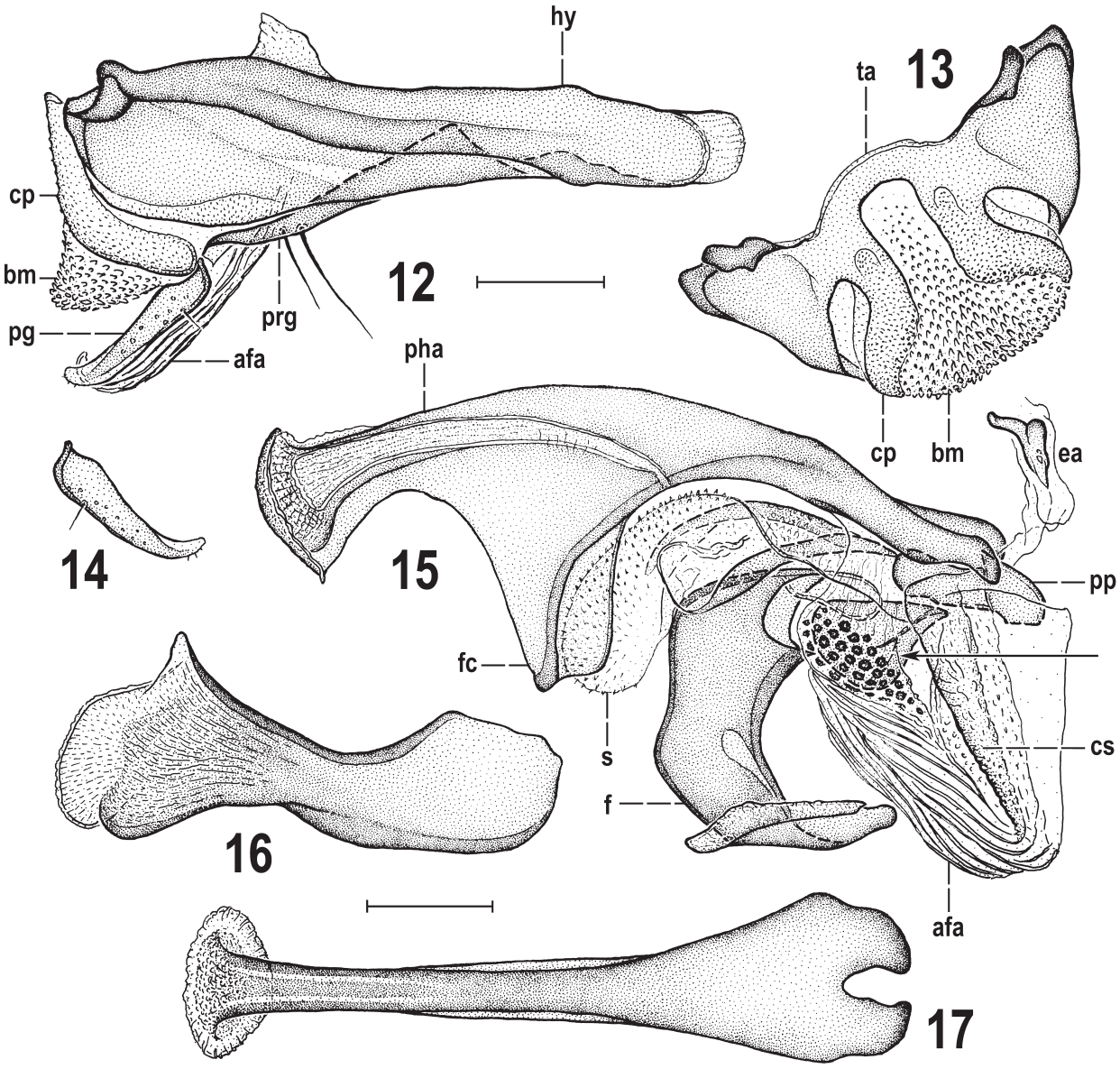
Thorax (in contrast to *Amygdalops*) hardly narrower than head, dark brown to brown, all distinctly grey (with some bluish tinge) microtomentose. Mesonotum dark brown, scutellum usually paler, brown, with posterior margin (between apical sc) narrowly ochreous. Humeral and notopleural areas and pleural part of thorax concolourous with mesonotum or slightly lighter, only a small posteroventral knob of humeral callus contrastingly yellow (Fig. 2). Thoracic chaetotaxy: 1 relatively long hu, 2 npl (anterior longer than hu, posterior shorter), 0 prs (reduced to microseta); 2 dc but only posterior long (almost as long



Figs 9–11. *Durantha dura* sp. nov., male paratype. 9 – whole genitalia, left laterally; 10 – external genitalia, caudally; 11 – gonostylus, ventrolaterally (largest extension). Scale bars: 0.1 mm. For abbreviations see Material and methods.

as apical sc), anterior short, only 2–3× longer than dc microsetae in front of it, both dc situated close to scutellum; ac microsetae sparse but relatively long, in 4 rows both on suture and between posterior dc; sa shorter than pa, both relatively short; 2 sc, apical very long (longest thoracic seta), laterobasal sc short and weak, only one-third length of apical sc; ppl absent; 2 relatively fine stpl, posterior somewhat longer but not thicker, several (5–7) pale microsetulae below them; ventral part of sternopleuron with 5 or 6 longer yellow setae. Scutellum rounded triangular, slightly convex dorsally; postscutellum well developed, convex, blackish brown but (contrasting with scutellum) densely whitish-grey microtomentose.

Legs bicolourous (Fig. 3), largely yellow to pale yellow; femora (except for yellow knees) diffusely brownish darkened in distal third (f_1, f_2) to half (f_3); tibiae similarly but less (pale brown) darkened in proximal fourth; these darkenings are less distinct on f_1 and t_1; all tarsi dark yellow except for brown last tarsal segment. Pedal chaetotaxy: f_1 lacking posteroventral ctenidial spine, only with usual posterodorsal and posteroventral row of longer setae; posteroventral setae very long (markedly longer than posterodorsal setae) but fine and those around middle of f_1 longest; f_2 without peculiarities; t_2 with usual, relatively strong ventroapical seta; f_3 with posteroventral row of setae along entire length but 8–10 of them in distal third to two-fifths shortened,



Figs 12–17. *Durantha dura* sp. nov., male paratype. 12 – hypandrial complex, right laterally; 13 – transandrium, caudally; 14 – left postgonite, laterally; 15 – aedeagal complex, left laterally; 16 – filum of distiphallus, subventrally (largest extension); 17 – phallapodeme, dorsally. Robust sclerite between phallophore and base of filum arrowed. Scale bars: 0.1 mm. For abbreviations see Material and methods.

thickened and arranged in dense comb. Fore basitarsus proximally with 2 or 3 enlarged ventral setulae.

Wing (Fig. 1) long but (unlike that of *Amygdalops* and its relatives) relatively broad; unicolourous, without dark pattern, veins pale brown, membrane hyaline with faint ochreous tinge; C dorsally with small but distinct spinulae among usual fine setosity, mainly in distal half of Cs_2; Cs_1 distally (at subcostal break) with 1 or 2 enlarged setulae. R_{2+3} very long, bent parallel to C, only apically slightly upcurved. R_{4+5} somewhat recurved, ending close to wing apex; M also slightly bent (upcurved) and hence R_{4+5} and M with slight but distinct preapical convergence; cell dm relatively short and narrow, ending in the middle of wing; r-m situated at proximal two-fifths of cell dm; apical portion of CuA_1 relatively long (1.5–1.8 times as long as dm-cu) but not reaching wing margin; A_1 short, ending far from wing margin; anal lobe and alula well developed (alula somewhat larger than in *Amygdalops*), both with long marginal cilia. Wing measurements: length 2.82–3.22 mm, width 0.91–0.99 mm, $Cs_3 : Cs_4$ = 1.13–1.18, r-m\dm-cu : dm-cu = 2.92–3.09. Haltere with basally pale brown stem, rest of stem and relatively large knob dirty white.

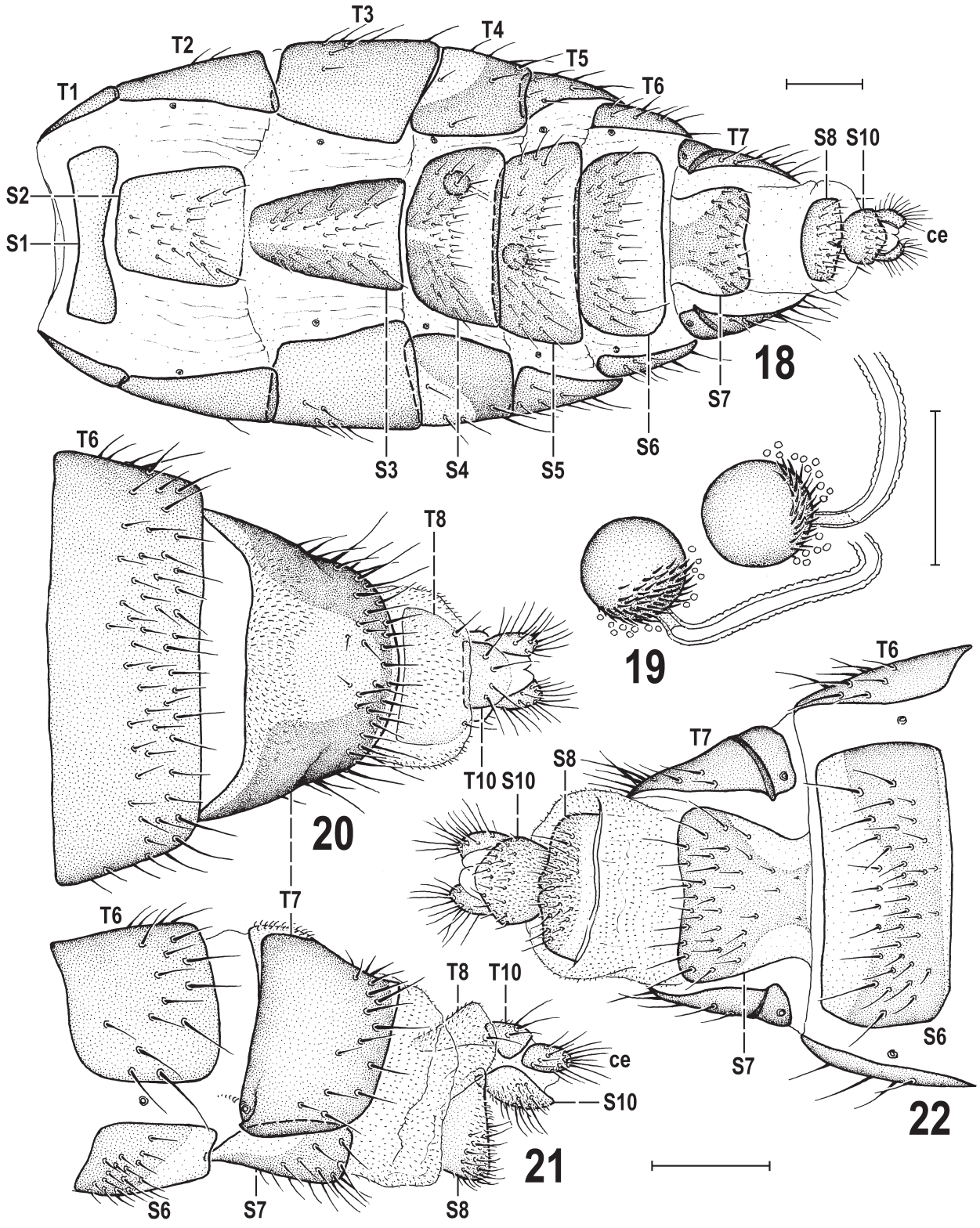
Abdomen with sclerites brown to blackish brown and largely brownish-grey microtomentose. Preabdominal terga large, all strongly transverse and with short and relatively thick setae, brown (T1, T2) to dark brown (T3–T5); T1 shortest and narrowest, clearly separated from T2; T2 only slightly longer than T1 but widest of all terga; T3–T5 becoming shorter and narrower posteriorly, hence T3 longest (twice as long as T2); T4 distinctly wider and slightly longer than T5; T5 relatively narrow, only slightly wider than T1. T6 largely membranous, short, bare, and

only partly pale pigmented (see Fig. 8). Preabdominal sterna (see Fig. 6, S1 not illustrated) largely as brown as terga but S3–S5 with distinctive pattern (unique among all known Anthomyzidae), having posteromedial unpigmented areas, all finely setose and becoming successively distinctly wider posteriorly, hence S5 the largest. S1 wider and shorter than S2, pale brown but with darkened posterior margin; S2 uniformly brown; S3 narrow and elongate, with small semicircular unpigmented posteromedial area; S4 broad, transverse and with posterior crescent-shaped unpigmented area reaching to half of sclerite; S5 yet wider than S4, with largest unpigmented area entirely separating dark brown lateral subtriangular parts (see Fig. 6). S6–S8 largely dark brown, more or less asymmetrical, dorsolaterally fused to form postabdominal synsclerite (Fig. 7) and with S6+S7 bulging left laterally (Figs 6, 8); S6 ventrally shortened, with anterior, transverse ledge-like heavily sclerotized part and paler, submembranous posterior part; S7 about as long as S6, situated left laterally, entirely dark pigmented but also with anterior darkened marginal ledge-like strip (thinner than in S6); S6 and S7 each with 3 distinct setae (Fig. 7); S8 longer than S7 or S6, situated dorsally and less asymmetrical, with a group of thicker but short setae in posterior third to half (Figs 6–8). 6th left spiracle situated at anterior margin of S6; 7th left spiracle in the boundary of fused S6 and S7 more dorsally (see Fig. 7).

Genitalia. Epandrium relatively large and long, subspherical (Figs 9, 10), uniquely expanded posteroventrally to form medially projecting corners, largely sparsely and shortly setose, with only 1 dorsomedial pair of longer setae; anal fissure unusually small and shifted dorsally (Fig. 10). Cercus also extremely small, situated below anal fissure, very shortly and finely setulose. Medandrium (Fig. 10) high and narrow, with long lateral arms modified according to ventrally extended epandrium. Gonostylus (Figs 9–11) relatively small (distinctly shorter than epandrial height), simply crescent-shaped with tapered, blunt and medially bent apex (Fig. 10), micropubescent only posterolaterally (except for apex) and with longer setosity at anterior margin of its inner side (Fig. 11). Hypandrial complex (Fig. 12) broad and robust both posteriorly and anteriorly, with strongly reduced or absent internal lobes; transandrium (Fig. 13) simple, robust laterally but medially arch-shaped; caudal process rather large, forming two medially separated strap-like lobes projecting anterolaterally; basal membrane bulging below lobes of caudal process and extended medially between them, all simply finely spinose. Pregonite (Fig. 12), low and very elongate, unusual in being free inside hypandrium (cf. Fig. 31 of *D. freidbergi*), posteriorly projecting and with only 2 long setae in posterior half. Postgonite (Figs 12, 14) relatively small, knife-shaped, subapically somewhat bent, narrowed but apex blunt, having a series of minute sensilla on outer side, 1 fine seta in proximal fourth of anterior margin and a few microsetulae near apex; basal sclerite of postgonite not developed. Aedeagal part of folding apparatus (Fig. 15) with a group of small dark grain-like tubercles in dorsal half and finely striated more ventrally; connecting sclerite long, pale brown pigmented, proximally widest and gradually attenuated towards apex, distally very finely tuberculate. Aedeagal complex (Fig. 15) very distinctive. Phallapodeme robust (Figs 15, 17), with basal part strongly dilated laterally, narrowly incised and slightly asymmetrical (Fig. 17) posteriorly; its apex terminally saucer-shaped and fulcrum robust, also ventrally where widened laterally and concave posteriorly (Fig. 15). Aedeagus: Phallophore simple, frame-like but somewhat elongate; a relatively robust sclerite situated (slightly ventrally, Fig. 15, arrowed) between phallophore and filum of distiphallus. Saccus small and largely membranous, only basally reinforced by 2 slender sclerites; its membranous distal part (see Fig. 15) very finely spinulose. Filum (Figs 15, 16) unusually robust, compact and heavily sclerotized, curved on the left, but distally flattened and very finely striated, with rounded apex and with one subapical corner acutely projecting, the other dark and rounded (Fig. 16). Ejacapodeme (Fig. 15) small but distinct, with slender finger-like projection and dark middle knob.

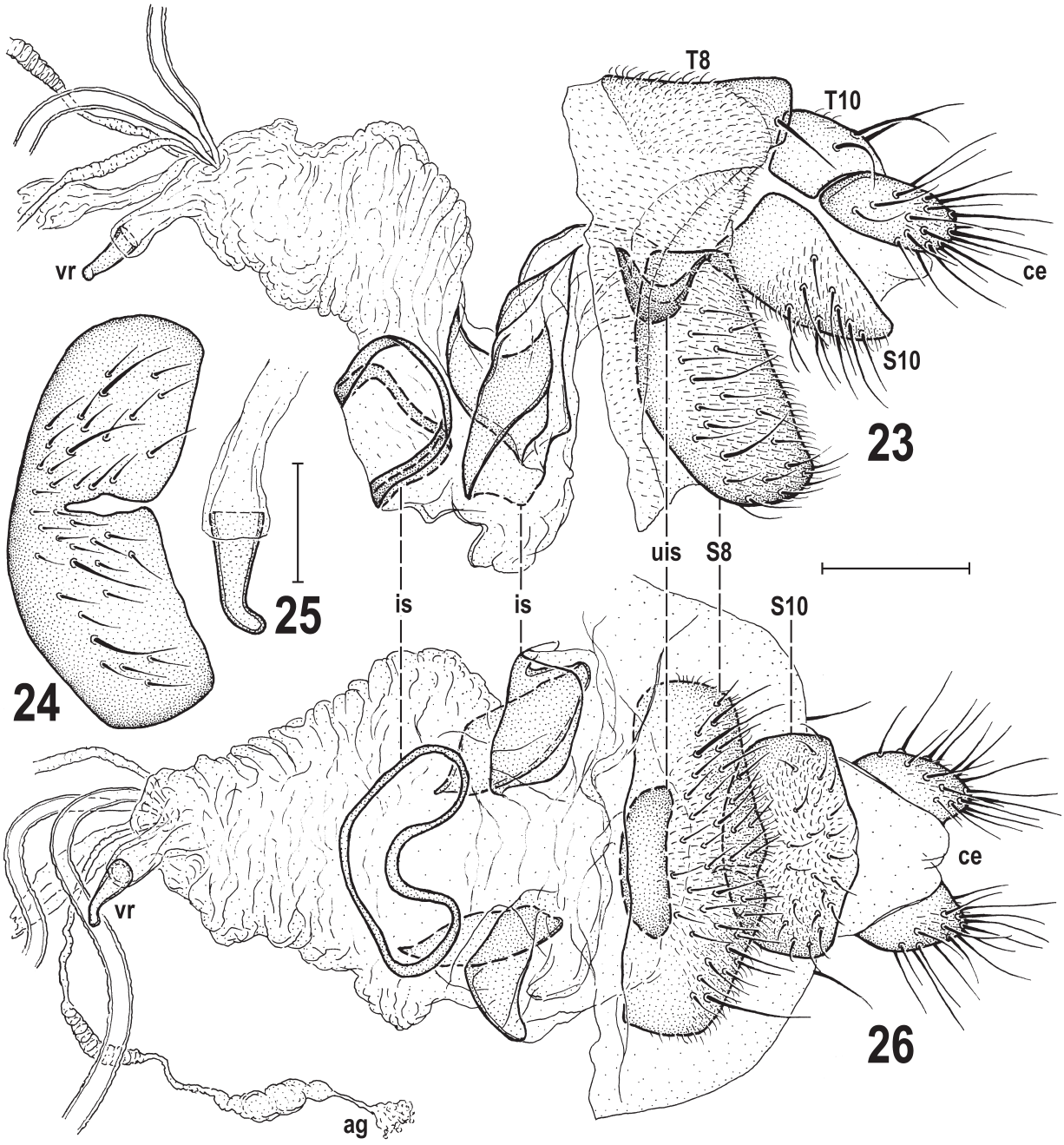
Female. Similar to male unless mentioned otherwise. Larger on average, total body length 2.74–3.02 mm. f_1 with one of long posteroventral setae (that in about distal third) distinctly thicker and darker than others in the row (Fig. 4); f_3 in distal two-fifths with dense posteroventral row of somewhat shortened but not thickened setae. Wing measurements: length 2.98–3.61 mm, width 0.95–1.13 mm, $Cs_3 : Cs_4 = 1.17–1.40$, r-m\dm-cu : dm-cu = 3.33–3.38. Abdomen with preabdominal terga wider and more transverse, reaching far on ventral side of abdomen, all uniformly dark brown except for T4 (see below). T1 smallest and shortest and very shortly setulose on both sides. T2 slightly longer but markedly wider than T1, widened posteriorly where almost as broad as T3. T3–T6 becoming slightly narrower posteriorly: T3 widest and largest, more than 1.5 times as long as T4 or T5; T4 as long as T5 or slightly longer and distinguished by pale-pigmented anterolateral spots (also visible in ventral view, see Fig. 18). T2–T5 shortly setose, most densely in posterior half or two-thirds. Preabdominal sterna (see Fig. 18) mostly with bicolourous pattern as in male but differing as follows: S1 more transverse (more than 3× wider than long), pale pigmented but gradually darkened posteriorly, bare; S2 pale brown, slightly longer than broad, with unpigmented semicircular area in posterior third; S3 narrowest, tapered anteriorly, distinctly longer than broad, dark brown only laterally, medially unpigmented; S4 transversely subtrapezoidal, only slightly narrower than S5, characterized by dark brown anterolateral areas, anteromedially narrowly separated by unpigmented area being posteriorly dilated to cover posterior half of sternum; S5 widest, also transversely trapezoidal, dark pigmented in anterior half to two-thirds, with only posterior crescent-shaped area unpigmented.

Postabdomen (Figs 20–22) relatively short. T6 broad, transversely trapezoidal, tapering posteriorly, resembling T5 in shape and short setosity (Fig. 20), dark brown. S6 (Figs 21, 22) similar to S5, but narrower, with only anterior half brown, posteriorly unpigmented, finely setose. T7 (Figs 20, 21), long, tapered posteriorly, extended lateroventrally (cf. Fig. 22), blackish-brown laterally but with large characteristic dorsomedial pale-pigmented area being



Figs 18–22. *Durantha dura* sp. nov., female paratype. 18 – abdomen, ventrally; 19 – spermathecae; 20–22 – postabdomen (20 – dorsally, 21 – left laterally, 22 – ventrally). Scale bars: 0.2 mm (Figs 18, 20−22), 0.1 mm (Fig. 19). For abbreviations see Material and methods.

widened anteriorly but not reaching posterior margin and bearing distinctive micropubescence in anterior half; T7 otherwise with relatively short setae in posterior half (dense posteromedially, sparse laterally), with 7th spiracle situated in its anteroventral corner (Figs 21, 22). S7 relatively large, about as long as broad, tapered anteriorly, setose in posterior half, and with distinctive dark pattern (Fig. 22) being wide posteriorly but narrowed anteromedially leaving anterolateral crescent-shaped parts unpigmented. T8 flat, subtrapezoidal, with rounded posterior corners but its shape poorly delimited because submembranous, very lightly pigmented (Fig. 20), with only 1 seta in each



Figs 23–26. *Durantha dura* sp. nov., female paratype. 23 – end of abdomen and genital chamber, left laterally; 24 – S8, caudally; 25 – ventral receptacle (largest extension); 26 – end of abdomen and genital chamber, ventrally. Scale bars: 0.1 mm (Figs 23, 24, 26), 0.05 mm (Fig. 25). For abbreviations see Material and methods.

posterior corner and sparsely micropubescent (mainly medially) on disc. S8 (Figs 21–23, 26) of the *Amygdalops* type but short and transverse, somewhat narrower than S7, with very narrow posteromedial incision (best visible in caudal view, see Fig. 24). Internal sclerotization of genital chamber very characteristic (Figs 23, 26), composed of 2 pairs of partly fused flat, somewhat twisted and pale brown sclerites, 1 distinct, simply twisted annular sclerite in front of them and, most significantly, an unpaired, posterior, dark pigmented, transversely suboval sclerite situated above S8 (Figs 23, 26, uis). Ventral receptacle (Figs 23, 25, 26) slightly sclerotized and pale pigmented, elongately conical, with somewhat bent (Fig. 25) and terminally rounded apex, smooth on surface, set on short broad duct. Accessory gland (remnant of it) small, vesiculate, with some minute globules, set on a relatively long duct being dilated both proximally (where ringed) and distally (Fig. 26). Spermathecae 1+1, spherical (Fig. 19), each densely spinulose in basal third to half; these spinulae slender and apically pointed (in contrast to those in *Amygdalops* spp.) and with usual globules; duct cervix distinct, medium long but pale pigmented; spermathecal duct long. T10 (Figs 20, 21) small, semicircular, slightly wider than long, pale pigmented and almost without micropubescence but with 2 pairs of longer setae on disc. S10 (Figs 22, 23, 26) small but larger than T10, suboval (not pointed posteromedially), almost enti-

rely micropubescent and with fine setae in posterior half. Cercus (Figs 20–23, 26) short and relatively robust, oval in profile, pale brown, with a number of subequally long fine setae and very reduced micropubescence.

Discussion. *Durantha dura* sp. nov. is one of two species known in the genus *Durantha*. Both species are externally very similar and can be safely separated mainly by the shape and brown pattern of the male and female preabdominal sterna and some structures in the male and female terminalia. *Durantha dura* differs from *D. freidbergi* as follows: male S2−S4 darker, S2 all brown, S3 and S4 only posteriorly unpigmented (Fig. 6); epandrium with posteroventral corners shorter, less ventromedially projecting; gonostylus proximally wider, distally tapered (Fig. 11); caudal process forming two (deeply medially) separate strap-like lobes projecting anterolaterally; the robust filum of distiphallus with shorter but wider rounded apex and with one subapical corner acutely projecting, the other dark and rounded (Fig. 16). Female with only S3 and S4 medially interrupted by unpigmented areas, while other sterna (S2, S5, S6) with unpigmented areas restricted to posterior fourth to half (Fig. 18); T7 with large dorsomedial pale-pigmented area being widened anteriorly but not reaching posterior margin (Fig. 20); S7 with dark pattern (Fig. 22) being wide posteriorly but narrowed anteromedially leaving anterolateral crescent-shaped parts unpigmented; T8 submembranous, poorly delimited and with only 1 short seta in each posterior corner (Fig. 20); paired posterior sclerites in female genital chamber shorter (Fig. 23); ventral receptacle with slightly bent apex (Fig. 25); spermathecae with dense pointed spinulae (Fig. 19); T10 pale pigmented, with 2 pairs of longer setae on disc (Fig. 20).

Etymology. The species is named '*dura*' (Latin adjective *durus* meaning hard) to stress its robust, compact and heavily sclerotized filum of the distiphallus and also the stout body.

Biology. The majority of type specimens were collected in Ngozi Crater area (SW Tanzania), at 2000–2200 m, in November. This (type) locality lies in a forested montane landscape.

Distribution. The species is hitherto known only from SW Tanzania and W Kenya.

Durantha freidbergi sp. nov.

(Figs 5, 27–43)

Type material. Holotype: ♂, labelled: 'ETHIOPIA: Kefa, Jimma 35kmS, 2700 m, 12.ii.2000, A. FREIDBERG & I. YAROM' and 'Holotypus ♂, *Durantha freidbergi* sp. n., J. Roháček det. 2025' (red label). The specimen has abdomen removed (genit. prep.) (Fig. 5) and is minuten double pinned (TAUI). Paratype: 1 ♀ (genit. prep.), labelled as holotype (TAUI) and with same type label as the holotype but it is yellow and has 'Paratypus ♀' instead of 'Holotypus ♂'.

Description. ***Male.*** Closely allied and very similar to *D. dura* sp. nov. including external habitus and internal structures of postabdomen but differing as follows. Total body length 2.50 mm. Body (except for head) brown and lighter (pale grey with bluish tinge) microtomentose.

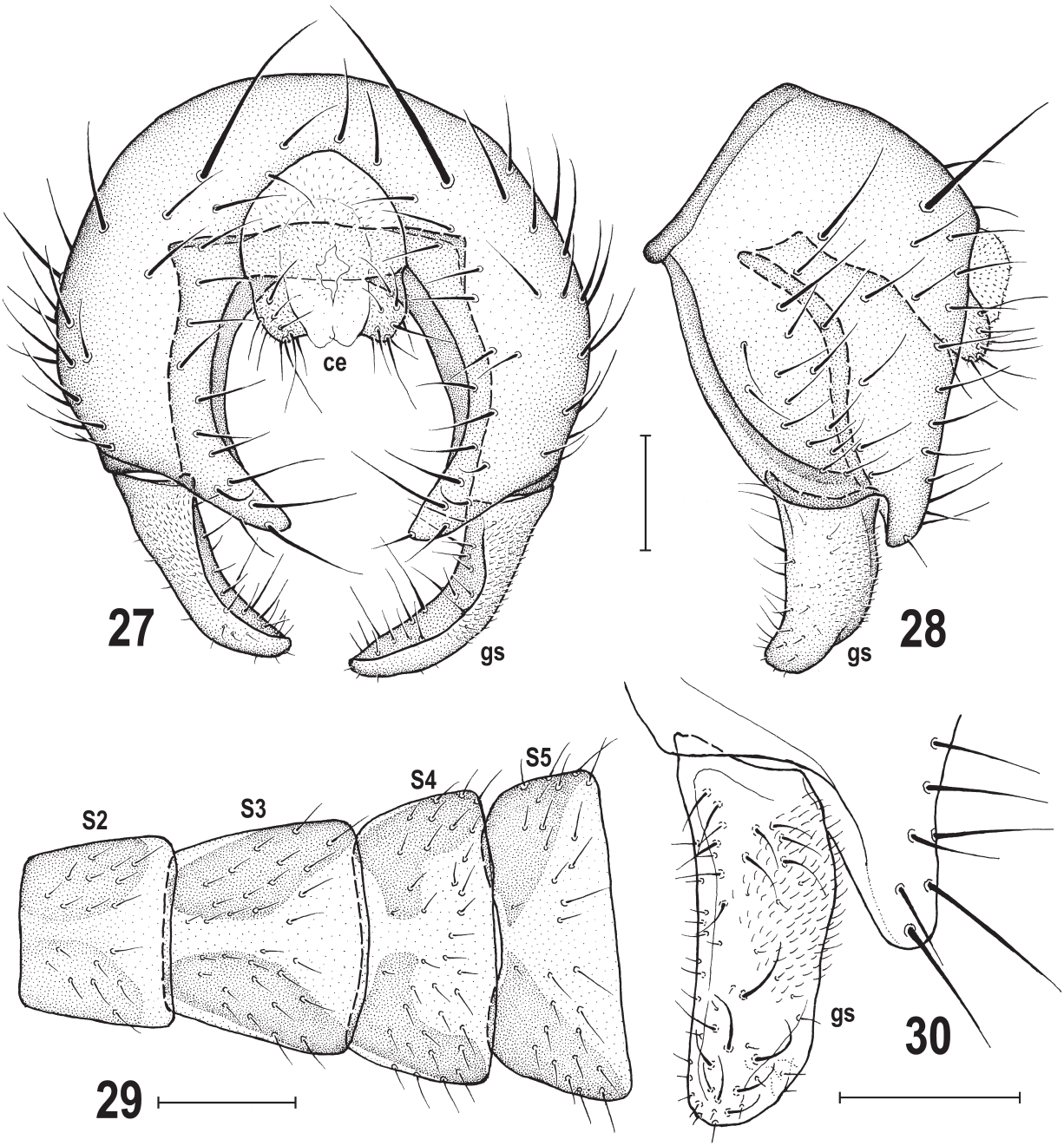
Head as long as high and anteriorly (particularly anteroventrally) more rounded in profile (Fig. 5). Occiput distinctly lighter microtomentose and its pale-ochreous spot above foramen somewhat shorter. Frontal structures and colour pattern resembling those of *D. dura* but the dark frontal triangle surrounded by brown, narrowly triangular and somewhat depressed area being anteromedially attenuated and reaching to anterior margin of frons; anterior half of frons (including frontal lunule) orange and stripes between fronto-orbital plate and frontal triangle dirty yellow. Face orange ochreous; parafacialia, gena and ventral part of postgena also darker, dirty yellow but similarly microtomentose as those of *D. dura.* Cephalic chaetotaxy closely resembling that of *D. dura* but: vti distinctly longer, about 1.8 times as long as pvt and only somewhat shorter than vte (the latter only 1.3 times as long as vti); oc longer (1.2×) than vti, very slightly divergent and strongly proclinate; both long ors and ors microsetulae as in *D. dura*; 2 pairs of very minute and pale microsetulae in front of frontal triangle. Eye yet more elongate than that of *D. dura* and posteroventrally distinctly excavated, very convex, with longest diameter ca. 1.8 times as long as shortest one. Gena with shortest height 0.09 times as long as shortest eye diameter. Antenna orange to orange yellow including 1st flagellomere, the latter brownish darkened around base of arista. Arista slightly longer, about twice as long as antenna, sparsely long-pectinate as in *D. dura*.

Thorax (in contrast to *D. dura*) distinctly narrower than head, entirely (including posteroventral knob of humeral callus) brown and with lighter, pale bluish-grey microtomentum. Thoracic chaetotaxy generally as in *D. dura* but anterior dc smaller, only 2× longer than dc microsetae in front of it; ac microsetae anteriorly denser, in 6 rows on suture and in 4 rows between posterior dc; sa weaker, only as long as anterior dc; scutellum between apical sc with 3 erect microsetae on posterior margin (best visible in caudal view); anterior stpl almost as long as posterior stpl but pale pigmented; ventral part of sternopleuron with more than 10 yellow setae. Scutellum distinctly convex dorsally; postscutellum densely pale bluish-grey microtomentose.

Legs similarly bicolourous as those of *D. dura* but brownish darkening on f_1 and t_1 faded and poorly visible. Pedal chaetotaxy only differing from that of *D. dura* in having f_3 with a posteroventral comb of 11 shortened and distinctly thickened setae in distal two-fifths.

Wing (Fig. 5) hardly different from that of *D. dura* including colouration, venation and setosity but R_{4+5} very slightly recurved; M almost straight and hence R_{4+5} and M distally not convergent; r-m situated at proximal third of cell dm; apical portion of CuA_1 1.8 times as long as dm-cu. Wing measurements: length 3.02 mm, width 0.97 mm, Cs_3 : Cs_4 = 1.19, r-m\dm-cu : dm-cu = 3.25. Haltere with same colouring as in *D. dura*.

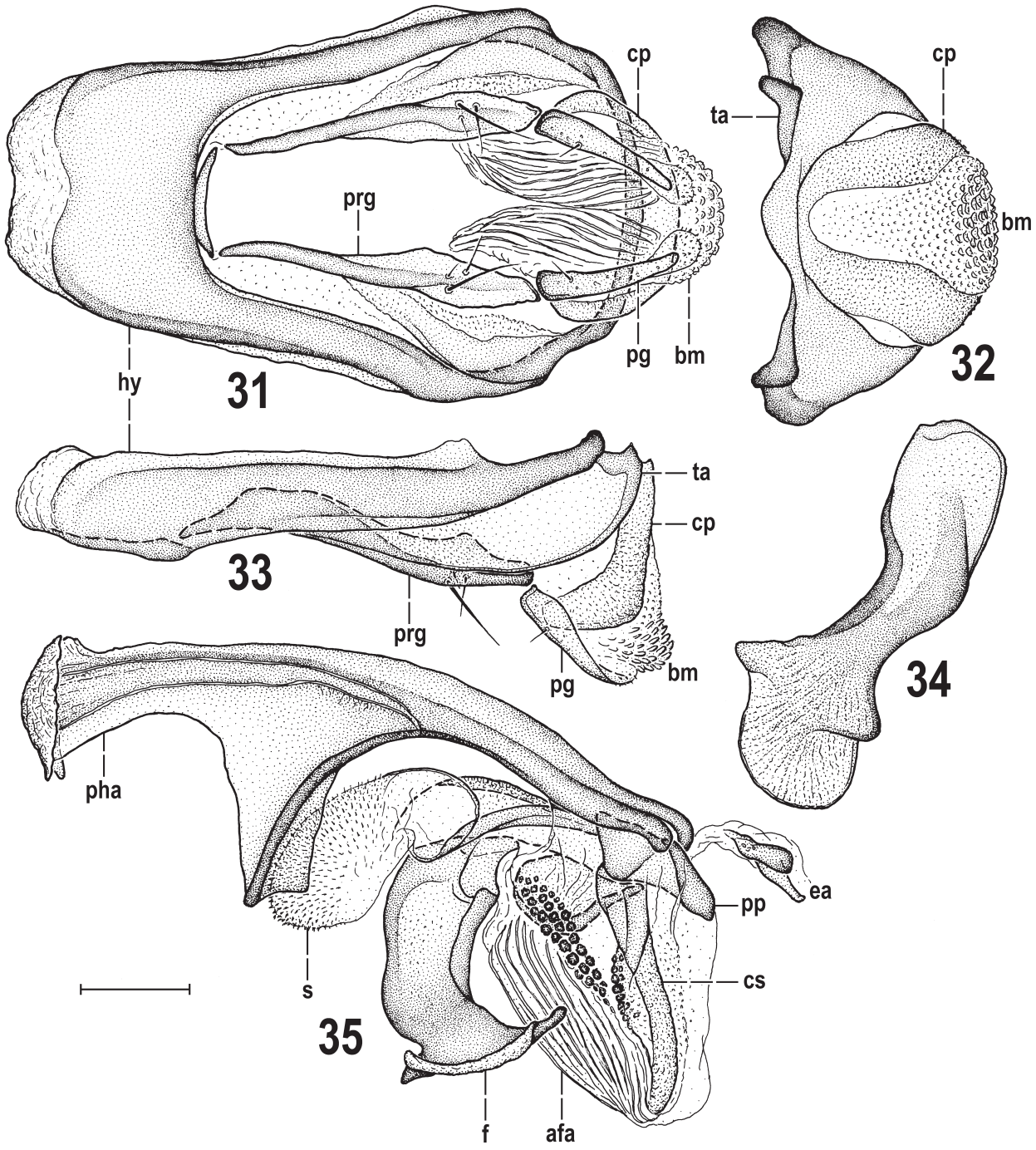
Abdomen similar to that of *D. dura* but differing as follows. Preabdominal terga: T3 longest tergum but less than twice as long as T2; T4 slightly wider but not longer than T5. Preabdominal sterna (see Fig. 29, S1 not illustrated) with distinctly different brown pattern: S2–S5 with lateral or anterolateral brown parts, separated by medial and/or posteromedial unpigmented area; S2 (paler than others) with suboval brown spots laterally, medially and posteriorly narrowly unpigmented; S3 distinctly wider than S2 and less



Figs 27–30. *Durantha freidbergi* sp. nov., male holotype. 27–28 – external genitalia (27 – caudally, 28 – left laterally); 29 – sterna S2−S5, ventrally; 30 – gonostylus and posteroventral corner of epandrium, ventrolaterally (largest extension). Scale bars: 0.1 mm (Figs 27, 28, 30), 0.2 mm (Fig. 29). For abbreviations see Material and methods.

elongate than that of *D. dura*, also with lateral brown (narrowly elliptical) areas separated by unpigmented medial area (narrow anteriorly, widened posteriorly); S4 transversely trapezoidal (posteriorly wider, without posteromedial emargination) and with anterolateral L-shaped brown spots (Fig. 29), otherwise unpigmented; S5 wider but shorter and more transverse than S4, with anterolateral subtriangular brown spots and large unpigmented posteromedial area (thus most similar sternum to that of *D. dura* (cf. Fig. 6, and Fig. 29). S6–S8 similarly formed, pigmented and setose as those of *D. dura* but only S7 with 3 setae at posterior margin; S6 bare except for some micropubescence.

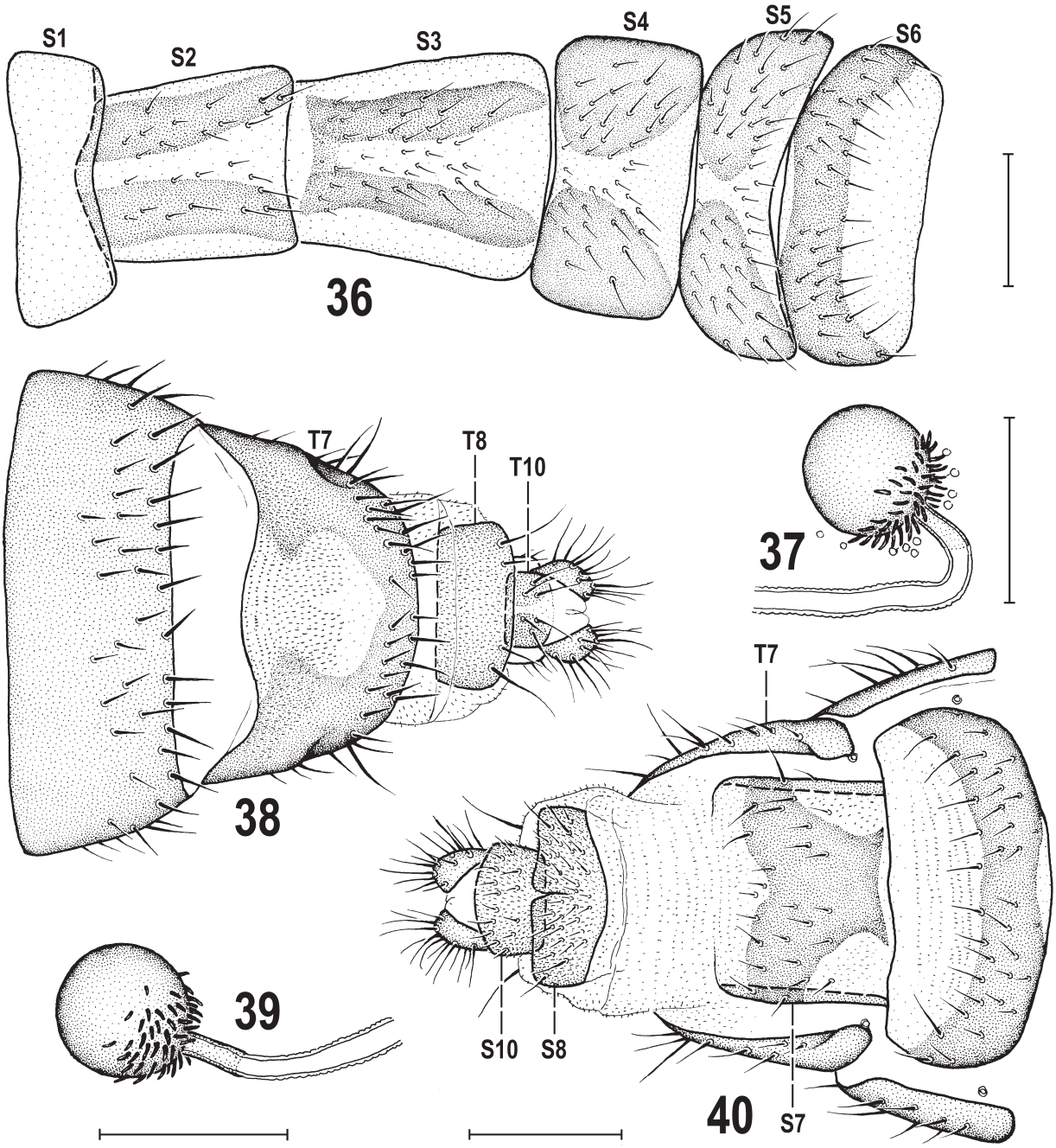
Genitalia closely resembling those of *D. dura* but differing as follows: Epandrium with posteroventral corners more strongly posteromedially projecting (see Figs 27, 28, 30); gonostylus (Figs 27, 28, 30) distinctly different both in lateral and ventrolateral (largest extension) views (Fig. 30), with sides subparallel, distally not tapered, with broadly rounded apex (Fig. 30) and with micropubescence restricted to a posterolateral area in proximal two-thirds. Hypandrial complex (Figs 31, 33) with hypandrium more robust anteriorly and less dilated posteriorly; transandrium (Fig. 32) medially arch-shaped but dorsally somewhat flattened; strap-like lobes of caudal process ventrally more robust; basal membrane between them tuberculate rather than spinose but tubercles only ventrally larger (Figs 32,



Figs 31–35. *Durantha freidbergi* sp. nov., male holotype. 31 – hypandrial complex, ventrally; 32 – transandrium, caudally; 33 – hypandrial complex, left laterally; 34 – filum of distiphallus, lateroventrally (largest extension); 35 – aedeagal complex, left laterally. Scale bar: 0.1 mm. For abbreviations see Material and methods.

33). Pregonite free, not fused with hypandrium (Fig. 31), low and very elongate as in *D. dura*, with 3 setae (but only one long) in posterior half (Figs 31, 33). Aedeagal part of folding apparatus (Fig. 35) with a group of grain-like tubercles arranged in longitudinal area and some also developed at anterior margin of connecting sclerite, the latter somewhat longer and slightly bent distally. Aedeagal complex (Fig. 35) highly similar to that of *D. dura*, differing only by posteriorly attenuated phallophore, more densely spinulose saccus and the shape of filum of distiphallus having apex longer and narrower and both lateral subapical corners projecting (Fig. 34) but neither of them as acutely as those of *D. dura* (cf. Fig. 16).

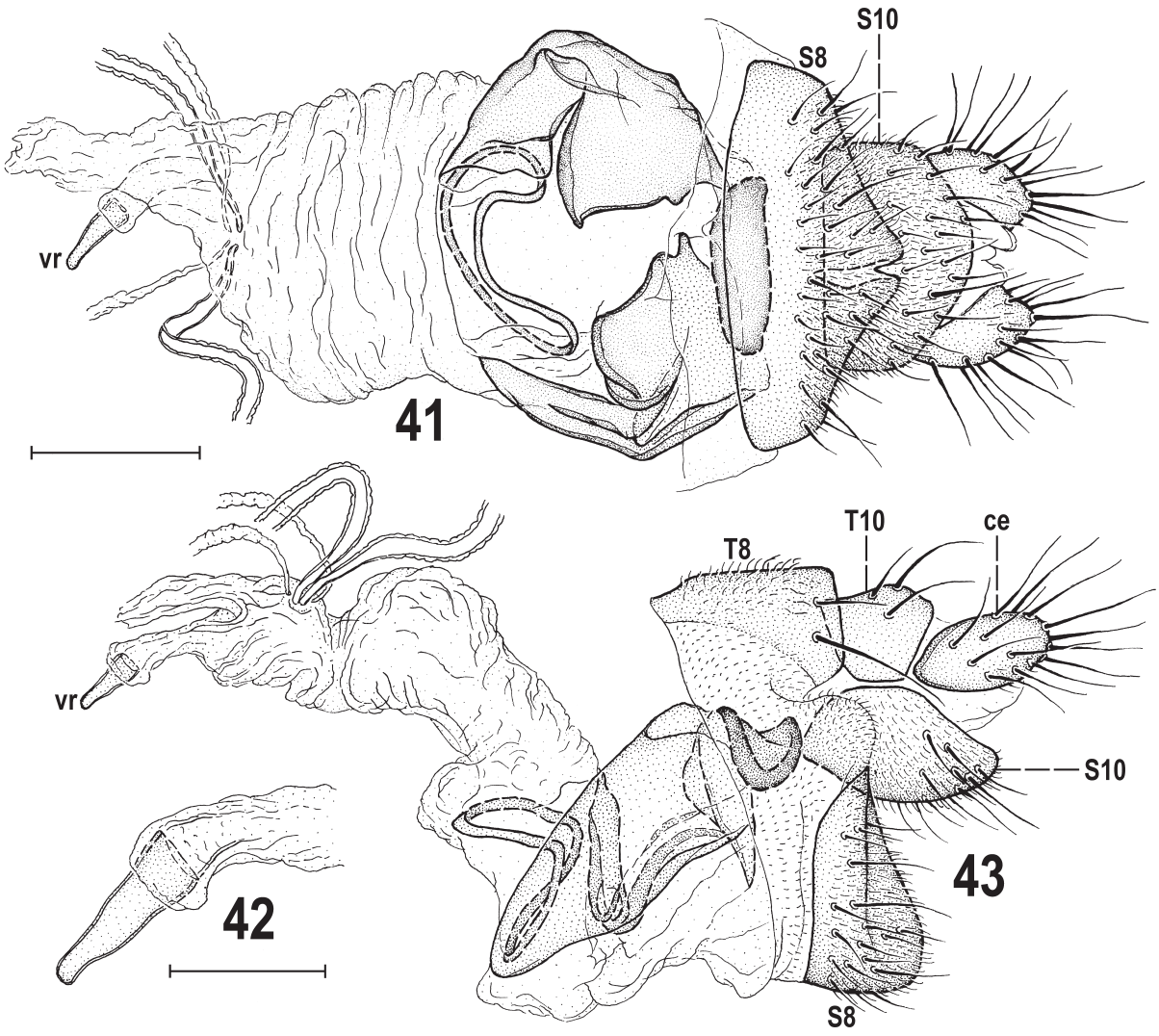
Female. Similar to male and *D. dura* female unless mentioned otherwise. Total body length 2.62 mm. Scutellum without erect microsetae between apical sc (or they are broken off in female paratype examined). f_1 with one of long posteroventral setae (that in about distal two-fifths) markedly more robust and darker than other setae in this row (similar to condition in female *D. dura*); f_3 in distal two-fifths with posteroventral comb formed by 11 shortened but not thickened, densely arranged setae. Wing measurements:



Figs 36–40. *Durantha freidbergi* sp. nov., female paratype. 36 – sterna S1–S6, ventrally; 37 – spermatheca; 38 – postabdomen, dorsally; 39 – spermatheca; 40 – postabdomen, ventrally. Scale bars: 0.2 mm (Figs 36, 38, 40), 0.1 mm (Figs 37, 39). For abbreviations see Material and methods.

length 3.25 mm, width 0.99 mm, $Cs_3 : Cs_4 = 1.32$, r-m\dm--cu : dm-cu = 3.27. Abdomen with preabdominal terga as in *D. dura* but T2 and T3 widest terga (T2 posteriorly and T3 anteriorly of the same width); T3–T6 becoming distinctly narrower posteriorly: T3 longest and largest, about 1.7 times as long as T4; T4 as long as T5 and with pale-pigmented anterolateral spots (as in *D. dura*). Preabdominal sterna (see Fig. 36), except for bare S1, finely shortly setulose and with bicolourous pattern distinctly different from that of *D. dura*. S1 less transverse (distinctly less than 3× wider than long, Fig. 36); S2 narrowest, with apically diverging elongate brown sublateral spots and unpigmented (posteriorly widening) medial and (narrow) marginal stripes; S3 slightly wider than S2, less tapered anteriorly than that of *D. dura*, with similar pair of elongate dark spots (as in S2) but the latter joined anteriorly and with unpigmented marginal stripes wider; S4 transversely oblong, narrower and longer than S5, with dark brown anterolateral areas, anteromedially separated by narrow unpigmented area, being posteriorly dilated; S5 short, widest, and most transverse of all sterna, with brown lateral semicircular areas covering most of sternum and separated by anteriorly narrow, posteriorly widened unpigmented medial area.

Postabdomen (Figs 38, 40) also very similar to that of *D. dura* but its T6 less densely setose (Fig. 38); S6 (Figs 36, 40) more rounded anteriorly, with only anterior third brown



Figs 41–43. *Durantha freidbergi* sp. nov., female paratype. 41 – end of abdomen and genital chamber, ventrally; 42 – ventral receptacle (largest extension); 43 – end of abdomen and genital chamber, left laterally. Scale bars: 0.1 mm (Figs 41, 43), 0.05 mm (Fig. 42). For abbreviations see Material and methods.

pigmented; T7 (Fig. 38), blackish-brown laterally but with dorsomedial pale-pigmented area smaller and dome-shaped and bearing distinctive micropubescence and with 7th spiracle located close to (not in) its anteroventral corner (see Fig. 40); S7, although with similar (but more cordate) dark pattern, differs in being distinctly parallel-sided and sparsely setose in posterior half; T8 flat, subtrapezoidal but wider posteriorly and much darker, brown (Fig. 38) and with 2 setae in each posterior corner; S8 (Figs 40, 41, 43) less extended laterally (less transverse) but otherwise similar to that of *D. dura.* Internal sclerotization of genital chamber (Figs 41, 43) differing as follows: 2 pairs of twisted fused sclerites distinctly longer; annular sclerite in front of them twisted and more compressed; unpaired dark posterior sclerite slightly more transverse (Fig. 41). Ventral receptacle (Figs 41–43) very similar to that of *D. dura*, elongately conical, with apex narrowed but not bent. Spermathecae 1+1, spherical as in *D. dura*, densely spinulose but these spinulae not apically pointed (Figs 37, 39). T10 (Fig. 38) small, suboblong, distinctly wider than long, with bipartite brown pattern (medially narrowly unpigmented) and lacking micropubescence but with 3 pairs of longer setae on disc. S10 (Figs 40, 41, 43) with anterior margin almost straight. Cercus (Figs 38, 40, 41, 43) yet shorter than that of *D. dura* with similar subequal setae but with micropubescence entirely absent.

Discussion. *Durantha freidbergi* sp. nov. closely resembles *D. dura* sp. nov. and externally differs only by lighter (pale grey with bluish tinge) microtomentose body, somewhat longer vti, more elongate eye, but mainly by lighter and different brown pattern of male (see Fig. 29) and female (Fig. 36) sterna S2−S5 being all medially unpigmented. Epandrium with more posteromedially projecting posteroventral corners (see Figs 27, 30); gonostylus with sides subparallel, distally not tapered, with broadly rounded apex (Fig. 30); strap-like lobes of caudal process ventrally more robust (Fig. 32); filum of distiphallus with apex longer and narrower and both lateral subapical corners projecting (Fig. 34) but neither of them acutely. Female with T7 blackish-brown laterally but with dorsomedial pale-pigmented area smaller and dome-shaped (Fig. 38); S7 with cordate dark pattern and distinctly parallel-sided; T8 darker, brown with 2 setae in each posterior corner; genital chamber with 2 pairs of twisted fused sclerites distinctly

longer (Fig. 43); ventral receptacle with apex narrowed but not bent; spermathecae with surface spinulae not apically pointed; T10 with bipartite brown pattern and 3 pairs of longer setae on disc (Fig. 38).

Etymology. The species is named in honour of the late Dr. Amnon Freidberg, a well-known Israeli dipterist, who enabled me to study material of Anthomyzidae from his collecting trips to various parts of the world including that (richest in species) from Africa.

Biology. The male holotype and female paratype of *D. freidbergi* were collected at altitude 2700 m, in February. The type locality is situated in a montane agricultural landscape.

Distribution. The species is known only from the type locality in SW Ethiopia.

Pectarista gen. nov.

Type species. *Pectarista grandiloba* sp. nov., here designated.

Diagnosis. (1) ***Head*** slightly to distinctly higher than long, rounded in profile (Figs 72–75).
(2) Eye large, suboval to reniform, with distinct posteroventral emargination; longest eye diameter more or less oblique.
(3) Frons subshining, frontal triangle long and narrow, reaching to anterior fourth to sixth.
(4) Frontal lunule small and depressed, dark pigmented.
(5) Occiput slightly concave, without microtomentose spots.
(6) Vertex (= top of head) without silvery microtomentose spots between frontal triangle and posterior part of fronto-orbital plates.
(7) Antenna geniculate; pedicel somewhat overlapping base of 1st flagellomere (Fig. 72);
(8) 1st flagellomere and often also pedicel bicolourous;
(9) arista densely (very densely in basal third) and long-pectinate (Fig. 72).
(10) Palpus slender, always brown to blackish brown, with 1 dark subapical seta.
Cephalic chaetotaxy:
(11) pvt absent;
(12) vte and posterior ors longest, vti and oc slightly shorter;
(13) 2 ors (not widely spaced) but the anterior short, 0–1 microsetulae in front of the latter;
(14) a single row of only 5 or 6 very small postocular setulae;
(15) 1 short to medium-long vi; subvibrissa small but longer than peristomals;
(16) peristomal setulae sparse but twice as long as postoculars.
(17) Posterior corner of head rounded.
(18) Antenna and face not sexually dichroic, only slightly darker in female.
(19) ***Thorax*** distinctly narrower than head.
(20) Mesonotum and scutellum with finely shagreened or granular surface;
(21) postscutellum well developed, bulging posteriorly.
Thoracic chaetotaxy:
(22) 1 hu; 2 npl (anterior longer);
(23) 0 or 1 small and pale prs;
(24) sa and pa reduced to microsetae;
(25) 1 long dc in prescutellar position;
(26) ac microsetae very sparse, in 2 incomplete rows on suture;
(27) 2 sc, apical longest thoracic seta, laterobasal short and weak;
(28) 1 minute (hair-like) ppl;
(29) 2 stpl, posterior longer.
(30) Legs bicolourous but largely yellow, always with dark apical tarsal segments and distally darkened fore femora;
(31) fore leg sexually dichroic: male t_1 and fore tarsus pale yellow (Fig. 44), with only 1 or 2 distal segments blackish brown; female t_1 and fore tarsus blackish (Fig. 72) and tarsal segments more or less thickened;
(32) f_1 without posteroventral ctenidial spine but with a short row of 2–5 shortened and thickened anteroventral setae in distal third (Fig. 76);
(33) t_2 with short but distinct ventroapical seta;
(34) male f_3 in distal third with a dense comb of 7–11 very short but thickened spine-like setae.
(35) Wing long and very narrow, strongly tapered (reduced) proximally, gradually widened towards distal fourth (Figs 45, 47);
(36) wing membrane brown-and-white patterned, with white areas iridescent (Fig.73);
(37) C dorsally with spinulae between apices of R_1 and R_{4+5};
(38) R_{2+3} long, distinctly sinuate in distal third, otherwise subparallel with C;
(39) R_{4+5} straight, very slightly recurved or sinuous, subparallel with M apically;
(40) discal (dm) cell relatively long, widened distally;
(41) r-m situated at about proximal two-fifths of the cell;
(42) apical portion of CuA_1 very short (0.25–0.65 times as long as dm-cu) not to almost reaching wing margin;
(43) cell cup very narrowed, only half width of cell bm;
(44) A_1 reduced to small stump but reaching wing margin (owing to reduced anal lobe);
(45) alula and anal lobe practically absent (Fig. 45).
Male abdomen.
(46) T1 and T2 fused but boundary of them more or less visible;
(47) T2–T5 blackish brown, relatively long but transverse, all strongly bent onto ventral side of abdomen, hence abdomen very slender;
(48) S1–S5 brown to dark brown (slightly paler than terga), narrow but becoming wider posteriorly; S1 shortest and bare, with dark posterior marginal stripe.
Male postabdomen:
(49) T6 largely membranous, short, bare, and only in the middle pale pigmented and micropubescent;
(50) S6–S8 blackish brown and fused to form a distinctive asymmetrical synsclerite (Fig. 48);
(51) S6 very short, largely formed by heavily sclerotized anterior ledge having 2 or 3 flat anterior processes (Figs 48, 78, 95);
(52) S7 longer, with incurved posteroventral corner and separated from S8 by narrow incision;
(53) S6 and S7 bare, without setulae but with often distinctive posteroventral micropubescence (Fig. 48);
(54) S8 less asymmetrical, longer, sparsely setose;
(55) 6th left spiracle situated in the ledge within S6, 7th left spiracle in dorsal part of S7 (Fig. 48).
Male genitalia.

(56) Epandrium medium sized, globose, with 1 pair of dorsomedial setae more or less enlarged, otherwise with sparse short setosity;
(57) anal fissure small and narrow (Fig. 49).
(58) Medandrium very small, low and narrow (about as broad as anal fissure).
(59) Cercus very small, rounded, uniformly shortly finely setulose.
(60) Gonostylus of medium size to small, dark pigmented and glossy, distally more or less dilated, with micropubescence reduced or absent, relatively shortly setose on inner side.
(61) Hypandrium relatively broad, symmetrical and well sclerotized, with distinct dorsal projections in proximal third (Fig. 52);
(62) Hypandrial internal lobes bipartite, heavily sclerotized, dorsally strongly expanded and its larger distal part ladle-shaped, bulging laterally (Figs 52, 54);
(63) transandrium distinguished by its flat dorsal submembranous part, and by distinct inverted Y- or V-shaped caudal process (Fig. 53).
(64) Pregonite fused with hypandrial frame, very low, never projecting ventrally, and with a row of several setae along its length;
(65) postgonite very slender, flattened frontocaudally, knife-shaped, with pointed apex and 1 longer seta situated very proximally; basal sclerite of postgonite not developed.
(66) Phallapodeme relatively robust, with basal half more or less flattened and dilated laterally (Fig. 58), with deep posterior rounded incision and somewhat asymmetrical base; apex laterally expanded to form lateroventrally projecting and pointed corners.

Aedeagus with

(67) short and rather simple, at most anterodorsally somewhat projecting, phallophore.
(68) Distiphallus composed of largely membranous voluminous saccus and longer, slender and sclerotized filum.
(69) Saccus proximally with 2 slender sclerites and distinctive, sclerotized dorsal notch in the middle; its large membranous part distally bilobed and its membrane provided with relatively small, always pale-pigmented spines (Fig. 57);
(70) filum well sclerotized, formed by single compact sclerite, elongate and curved but its apex dilated and armed with various processes, teeth, fine spines or tubercles and terminal fine twisted filaments (Fig. 56).
(71) Aedeagal part of folding apparatus with only fine, partly curved or twisted, surface striation; connecting sclerite well sclerotized and dark pigmented, but usually very slender, strip-like (Fig. 57).
(72) Basal membrane transversely striated, bilobed (ventromedially notched, Fig. 53).
(73) Ejacapodeme short but robust, with unusually modified terminal projections (Fig. 55).
(74) ***Female abdomen*** with wider, more transverse preabdominal terga and narrower sterna than in male; both terga and sterna dark pigmented but terga usually somewhat darker.
(75) Postabdomen relatively short, with heavily sclerotitzed and dark 6th and 7th segments (Figs 59–61).
(76) T6 large, similar to T5 but narrower and more trapezoidal; S6 widest sternum (wider than S5).
(77) T7 and S7 fused, forming a compact tergosternal ring-shaped cone, uniformly blackish brown except for unpigmented (or pale-pigmented) anterior and/or posterior marginal stripes.
(78) T8 flat, rounded suboblong, slightly to distinctly wider than long, sparsely setose (Fig. 59).
(79) S8 medially divided into 2 convex, relatively short sclerites, each having posterior part bent dorsally and recurved internally where fused with a pair of internal sclerites of genital chamber (Figs 92, 93).
(80) Female genital chamber with only 1 pair of posteriorly shifted internal sclerites, each carrying a group of grain-like excrescences and
(81) 1 frontocaudally compressed and laterally curved annular sclerite (Figs 92, 93).
(82) Ventral receptacle elongately conical with smooth surface, indistinctly separated from moderately long but broad, strongly curved and variously sculptured duct;
(83) accessory gland (or its remnant) of finely granular structure and with minute stalked globules on surface, set on slender, subterminally widened and partly ringed duct (Fig. 112, ag).
(84) Spermathecae (1+1) simple, subovoid to ellipsoid, with plain surface, only distally sparsely and very finely striated (Figs 64, 65); spermathecal ducts long, with distinct terminal cervix.
(85) T10 small, transversely oval to oblong, with 1 medial pair of relatively short setae (sometimes with 1 shorter additional seta in the middle) and reduced micropubescence.
(86) S10 longer and usually wider than T10, subtriangular to pentagonal.
(87) Cercus relatively robust, dorsoventrally more or less flattened, dark pigmented, with numerous fine setae, but none of them (apical and dorsopreapical longest) longer than cercus.

Discussion. *Pectarista* gen. nov., although clearly delimited from all other described genera of Anthomyzidae (see below), has two related genera among Afrotropical Anthomyzidae, viz., *Barbarista* Roháček, 1993 and *Amnonthomyza* Roháček, 1993. The species of these genera (see Roháček 1993) resemble those of *Pectarista* not only in external appearance (slender, heavily sclerotized body, bicolourous antennae, narrowed and patterned wing, variegated legs, abdomen with dark sterna) but the close relationship of all three genera is supported by a number of distinct synapomorphies, e.g. (11), (20), (35), (42), (58), (77), the most significant being (43) cell cup very narrowed; (44) A_1 reduced to small stump; (45) alula and anal lobe absent; (59) male cercus very small, rounded, shortly setulose; (63) transandrium with flat dorsal submembranous part. Moreover, *Pectarista* shares some additional apomorphies with *Barbarista*, most importantly (32) f_1 with a short anteroventral row of shortened and thickened setae (Fig. 76; for that in *Barbarista* see Roháček 2021a: fig. 16; note: a similar anteroventral row of shortened thickened setae on f_1 is also known in the Chinese genus *Marshallya* Roháček, 2018 but the setae are inserted more

ventrally and probably are not homologous, cf. Roháček 2018: fig. 27); (36) wing membrane with white iridescent spots; (38) R_{2+3} distinctly sinuate in distal third; (82) ventral receptacle elongately conical with smooth surface, indistinctly separated from variously long but broad duct (cf. Roháček 1993: fig. 47).

In spite of all external resemblances and above synapomorphies, *Pectarista* distinctly differs from both *Barbarista* and *Amnonthomyza* by the following characters (those apomorphic marked 'A', those unique 'U'): (1) head higher than long; (7) antenna geniculate (secondarily porrect in related genera); (9) arista densely and long-pectinate (A) (densely hirsute in both *Barbarista* and *Amnonthomyza*); (31) fore leg sexually dichroic (U); (51) male S6 largely formed by heavily sclerotized anterior ledge having 2 or 3 flat anterior processes (U); (62) hypandrial internal lobes bipartite, heavily sclerotized, dorsally strongly expanded and its larger distal part ladle-shaped, bulging laterally (U); (66) phallapodeme with basal half more or less flattened and dilated laterally (A); (69) saccus with sclerotized dorsal notch in the middle and its large membranous part distally bilobed (A) (the latter somewhat resembling that of *Amnonthomyza* species); (70) filum formed by single elongate compact sclerite having apex dilated and with complex armature (A) but lacking a slender lateral branch (known in *Barbarista*) or short robust process (known in *Amnonthomyza*); (72) basal membrane transversely striated and bilobed (ventromedially notched) (A); (73) ejacapodeme short but robust, with unusually modified terminal projections (?U); (80) female genital chamber with one pair of posteriorly shifted internal sclerites, each carrying a group of grain-like excrescences (the latter granular structure is obviously U); the related *Barbarista* and *Amnonthomyza* species differ in having two pairs of posterior sclerites, and *Barbarista* also having a unique unpaired sickle-shaped sclerite situated near the insertion of the spermathecal ducts (see Roháček 1993: fig. 15).

Relationships of species within the genus: Despite the shape of the gonostylus (most similar to that of *P. grandiloba*), *Pectarista curta* seems to be the most basally branched species inasmuch as it accumulates more plesiomorphic characters than its relatives, including e.g. gonostylus externally with micropubescence; smaller internal hypandrial lobes; inversely V-shaped caudal process of transandrium; narrower (less laterally dilated) basal half of phallapodeme; apex of filum without subterminal projection having a sharp tooth; less compressed annular sclerite in female genital chamber; f_1 with anteroventral row of more shortened and thickened setae. On the contrary, *P. grandiloba* and *P. planta*, although so distinctly differing in the shape and armature of the gonostylus, share apomorphic states of these features, thus gonostylus devoid of micropubescence; internal hypandrial lobes strongly dilated and bulging; caudal process of transandrium petiolate, inversely Y-shaped; basal half of phallapodeme more dilated; apex of filum with similar subterminal projection provided with a sharp subapical tooth; strongly compressed annular sclerite in female genital chamber; and f_1 with anteroventral row reduced to only 2 or 3 shortened and thickened setae.

Etymology. The name *Pectarista* is an abbreviated conjunction of *pect*[*inatus*] + *arista*, gender feminine. It refers to the densely and long-pectinate antennal arista of this new genus.

Species included. *Pectarista curta* sp. nov. (Cameroon), *P. grandiloba* sp. nov. (Cameroon), *P. planta* sp. nov. (Kenya).

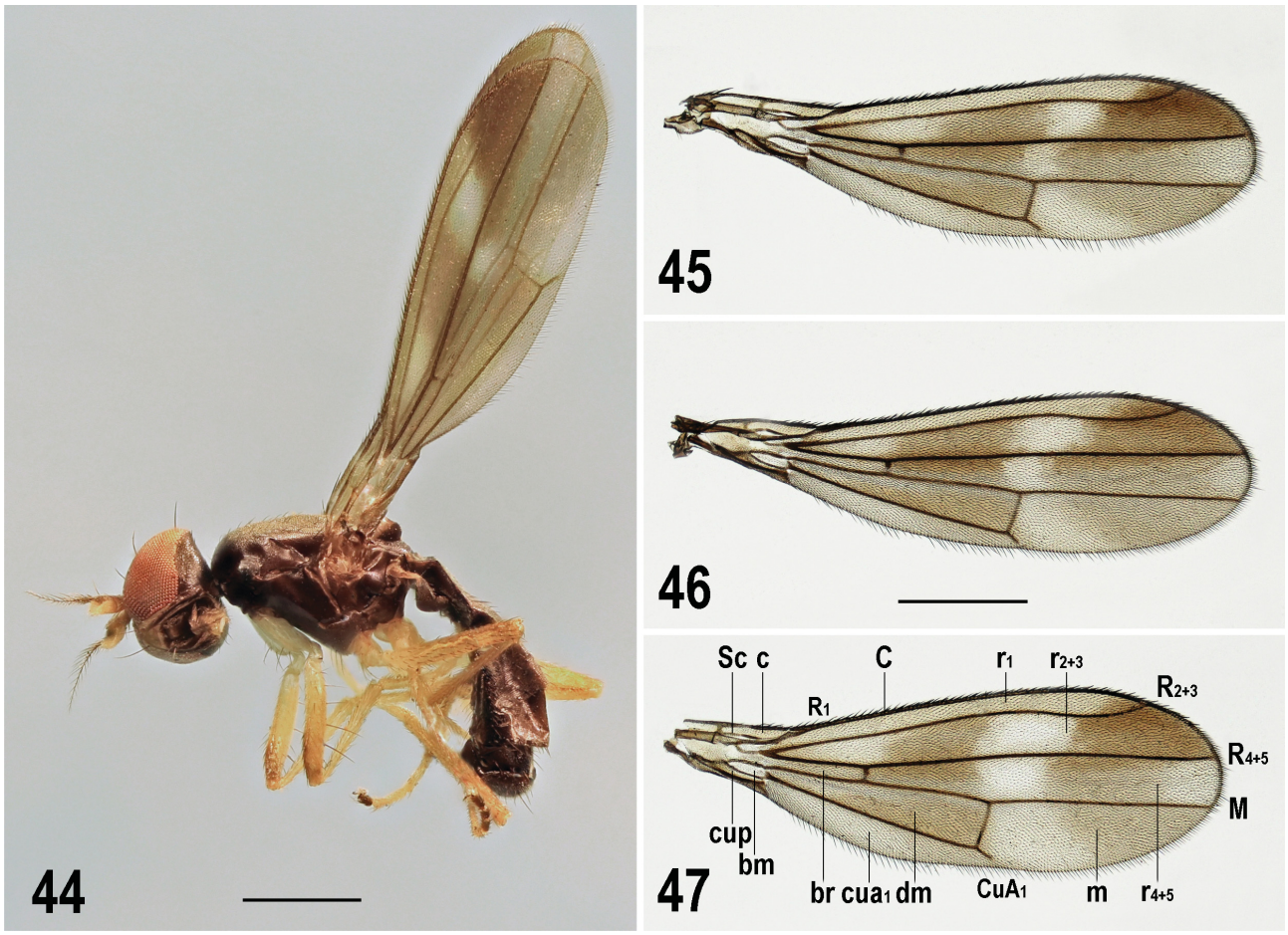
Pectarista grandiloba sp. nov.

(Figs 44, 45, 48–71)

Type material. Holotype: ♂, labelled: 'CAMEROON: 50Km E.Bamenda, off Rt.N11, Bambalang Area, 21.XI.1987, FINI KAPLAN' and 'Holotypus ♂, *Pectarista grandiloba* sp. n., J. Roháček det. 2025' (red label). The specimen is intact, minuten double pinned (TAUI). Paratypes: 1 ♀ (head damaged) with same data as for holotype (TAUI); 3 ♂♂ 2 ♀♀ (2 ♂♂ 2 ♀♀ genit prep.), with same data but A. FREIDBERG leg. (TAUI 2 ♂♂ 1 ♀, SMOC 1 ♂ 1 ♀). **CAMEROON:** 1 ♂, Bambalang, 1200 m, Off Rt. N11, 35 km E. Bamenda, 18, 21.xi.1987; 1 ♂ (genit. prep.), Rt N11, Bafut, 20 km N. Bamenda, 17, 24.xi.1987; 1 ♀, Befang, Rt. N11, 60 km N. Bamenda, 24.xi.1987, all A. FREIDBERG leg. (TAUI). All paratypes with same type label as the holotype but it is yellow and has 'Paratypus ♂ or ♀' instead of 'Holotypus ♂'.

Description. ***Male.*** Total body length 1.98–2.38 mm. Body slender, elongate, unicolourous (except for extremities) blackish brown, sparsely dark grey microtomentose and hence subshining.

Head slightly (ca 1.2×) higher than long, rounded both anteriorly and posteriorly in profile (Fig. 44) and largely blackish. Occiput dorsomedially slightly concave, entirely black and sparsely greyish-brown microtomentose. Frons relatively narrow, tapered anteriorly, largely dark brown but ochreous to dirty yellow medially (behind antennae) in anterior fourth or fifth. Frontal triangle relatively narrow, with acute anterior corner reaching to anterior fourth of frons, dark brown, very sparsely microtomentose and shining, delimited by black lateral stripes reaching from vti to anterior fourth of frons; ocellar triangle concolourous with frontal triangle but slightly elevated, more microtomentose and duller. Fronto-orbital plate brown to dark brown thus lighter than adjacent blackish stripe, sparsely greyish microtomentose. Frontal lunule very small and depressed between antennal scapes, blackish brown. Face whitish yellow, very narrow (most tapered, almost linear in ventral third), whitish microtomentose, most densely in dorsal half; parafacialia and gena also narrow, dirty white, with silvery-white microtomentum and both with distinct pale brown (parafacialia) to blackish brown and more broad (gena) marginal ledge; postgena dark brown to (posteriorly) black as adjacent part of occiput. Mouthparts small, with pale brown proboscis; clypeus and also palpus dark brown. Cephalic chaetotaxy: all macrosetae relatively short; pvt absent (!), vti usually slightly shorter than vte; vte and posterior ors usually longest of cephalic setae; oc as long as vti, distinctly divergent and proclinate; 2 ors, not widely spaced because posterior situated at about half of frons; anterior ors short, only about half length of posterior ors; 0 or 1 microsetula in front of anterior ors, close to antennal base; no microsetulae in front of frontal triangle; 1 relatively short (only slightly longer than anterior ors) vi and 1 small and weak (less than half of vi) subvibrissa, sometimes only slightly longer than anterior peristomal; only 4 or 5

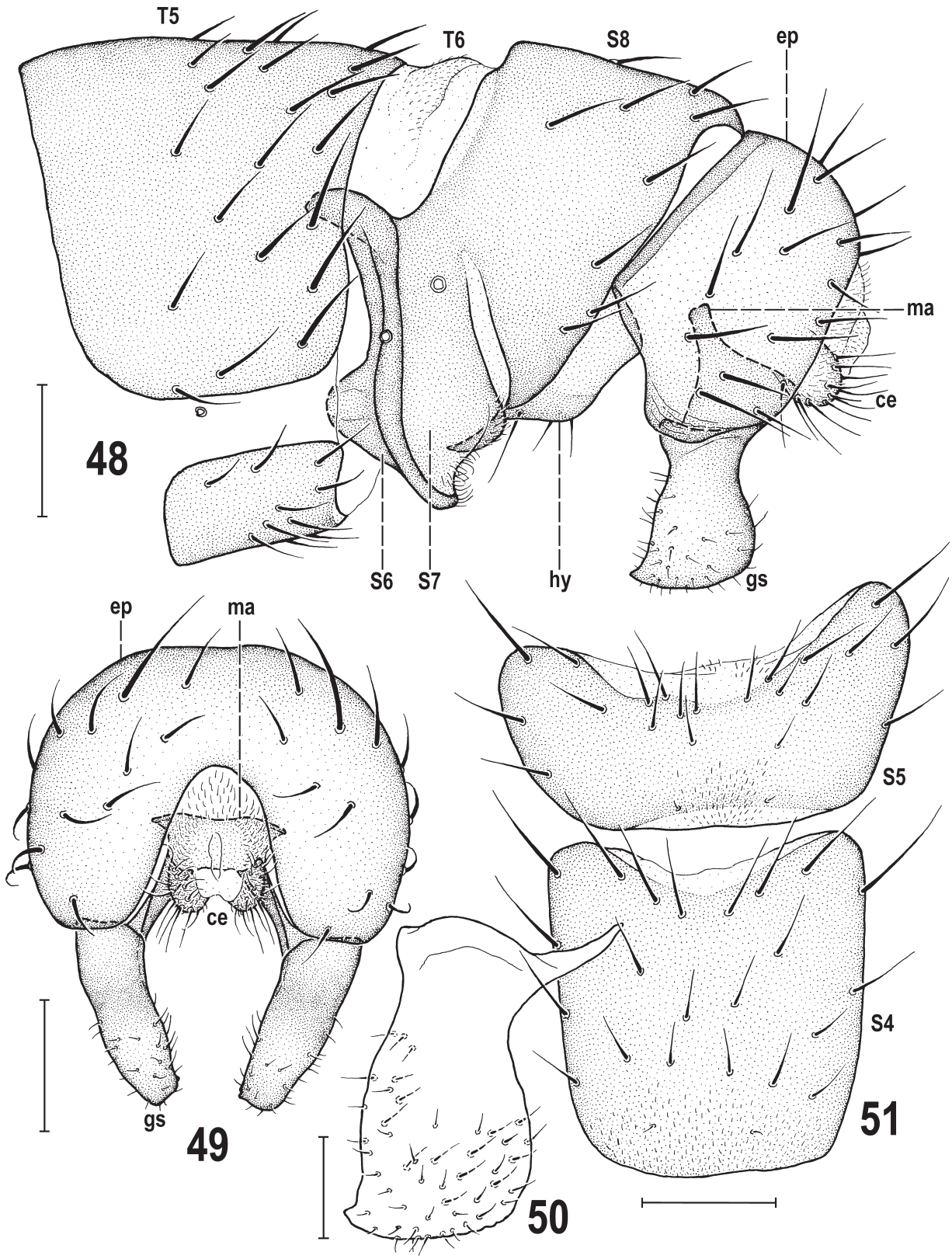


Figs 44–47. *Pectarista* species. 44 – *P. grandiloba* sp. nov., male holotype, habitus, left laterally; 45 – *P. grandiloba*, male paratype, wing; 46 – *P. curta* sp. nov., male paratype, wing; 47 – *P. planta* sp. nov., male paratype, wing. Scale bars: 0.5 mm. For abbreviations see Material and methods.

fine peristomal setulae; postocular setulae (5 or 6) reduced, only about half length of peristomals, in one short row at posterior margin of dorsal half of eye; palpus slender, ventrally with a few (4 or 5) lighter setulae and with 1 distinct, black subapical seta. Eye relatively large and strongly convex, elongate (but not almond-shaped), rather suboval but posteroventrally with distinct emargination, consequently postgena enlarged; longest (distinctly oblique) eye diameter about 1.6 times as long as shortest one. Gena narrow (low), not widened posteriorly; its shortest height 0.12 times as long as shortest eye diameter. Antenna distinctly geniculate, with pedicel somewhat overlapping base of 1st flagellomere on medial side; scape blackish brown; pedicel bicolourous, largely brown but distal half of its inner side yellow; 1st flagellomere also bicolourous, largely whitish yellow but its dorsobasal fourth darkened brown; apex of 1st flagellomere with medium-long white ciliation. Arista blackish brown including distinctly thickened basal fourth, about 2.1 times as long as antenna, densely (very densely in basal third) long-pectinate, with longest dorsal rays as long as lateral maximum width of pedicel.

Thorax distinctly narrower than head, completely dark brown to black. Mesonotum and scutellum almost black, with finely shagreened and dark brownish-grey microtomentose surface, subshining. Pleural part of thorax dark brown, very sparsely microtomentose and more shining. Thoracic chaetotaxy: all macrosetae relatively short; 1 short and weak hu, 2 npl (both longer than hu, posterior somewhat shorter), 0 prs (reduced to microseta); only 1 dc in prescutellar position, almost as long as apical sc; dc microsetae in front of it in long row but pale and sparse; ac microsetae very sparse, in only 2, often incomplete medial rows not reaching to posterior dc; sa and pa reduced, hardly longer than microsetae but dark pigmented; 2 sc, apical long (longest thoracic seta), laterobasal sc short and very weak, only one-fourth of apical sc; ppl present but hair-like and pale; 2 relatively short, fine and blackish stpl, posterior somewhat longer but not thicker, and a few (3–5) pale microsetulae below them; ventral part of sternopleuron with only 3 (2 longer) pale setae. Scutellum rounded trapezoidal, slightly convex dorsally; postscutellum well developed, bulging posteriorly, almost black and similarly microtomentose as is scutellum.

Legs bicolourous but largely yellow to pale yellow (coxae, trochanters, t_1 and tarsi lightest); f_1 (except for yellow knee) diffusely brownish darkened in distal fifth to third, other femora (f_2, f_3) dark yellow; tibiae yellow (t_2, t_3) or pale yellow (t_1); all tarsi whitish yellow but fore and hind tarsus with last segment contrastingly blackish brown and mid tarsus with 2 distal segments blackish brown and 3rd (middle) segment more or less brownish darkened. Pedal chaetotaxy: f_1 with usual posterodorsal



Figs 48–51. *Pectarista grandiloba* sp. nov., male paratype. 48 – postabdomen with 5th segment in situ, left laterally; 49 – external genitalia, caudally; 50 – gonostylus, ventrolaterocaudally (largest extension); 51 – sterna S4 and S5, ventrally. Scale bars: 0.1 mm (Figs 48, 49, 51), 0.05 mm (Fig. 50). For abbreviations see Material and methods.

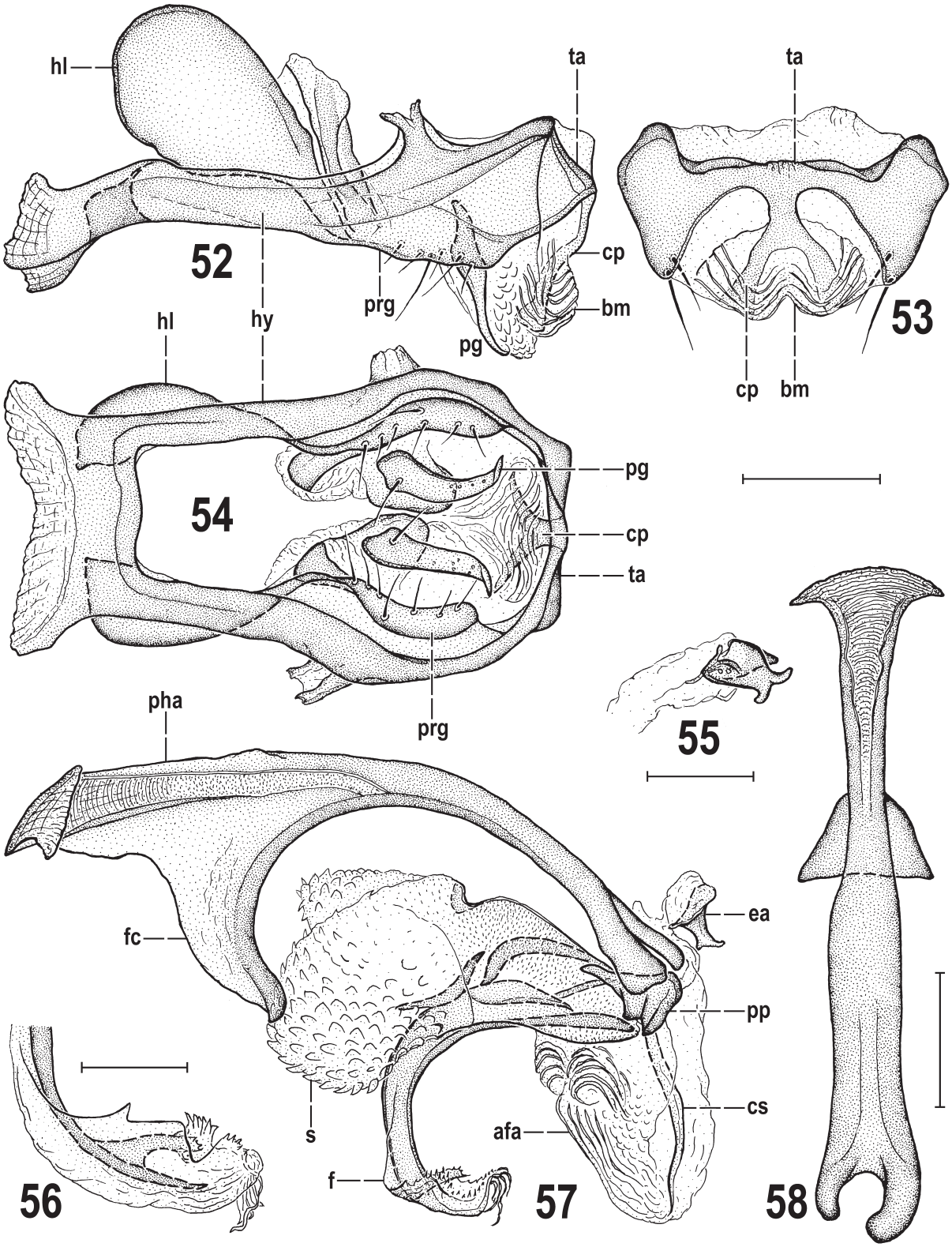
and posteroventral row of longer but sparse setae; posteroventral setae distinctly longer than posterodorsal setae but fine and those around middle of f_1 longest; in addition, there is a short anteroventral row of 2 or 3 shortened and thickened setae in distal third of f_1; f_2 ventrally with a long row of very sparse (only 4 or 5) longer erect setae; t_2 with relatively short (as long as to slightly longer than width of tibia) ventroapical seta; f_3 with posteroventral row

of sparse erect setae in proximal two-thirds but in distal third or fourth with dense comb of 7–10 very short but thickened spine-like setae. Fore basitarsus ventrobasally with 2 slightly enlarged setulae.

Wing (Fig. 45) long and very narrow, strongly tapered proximally, gradually widened towards distal fourth, and practically lacking both alula and anal lobe. Wing membrane brown-and-white patterned, largely brown but with three white and iridescent rounded spots (in cells r_{2+3}, r_{4+5} and marginal cell m) arranged in a transverse middle band and with one similar white spot on wing apex; other markedly pale to whitish areas include entire cell r_1, proximal spot in cell r_{2+3}, anterior cubital cell cua_1 and narrowed base of wing (except for darkened distal end of cell c and cell cup, and yet more darkened posterobasal margin of wing (= reduced alula); cell br as dark as proximal part of cell r_{4+5}; veins pale brown; C dorsally with small but distinct spinulae among usual fine setulae, inserted in distal two-thirds of Cs_2 and some also in basal half of Cs_3. Sc forming a distinct preapical kink on its fusion with R_1. R_{2+3} very long, running close (cell r_1 only half width of cell r_{2+3}) and parallel to C but distinctly (not strongly) sinuous in distal third and apically distinctly upcurved to C. R_{4+5} straight to very slightly sinuate in distal third, ending as far from wing apex as does M; M also almost straight, distally parallel to slightly divergent from R_{4+5}; cell dm relatively long and narrow, ending distinctly beyond the mid-length of wing; r-m situated at about proximal two-fifths of cell dm; apical portion of CuA_1 very shortened (only 0.39–0.58 times as long as dm-cu), not to almost reaching wing margin; cell bm normally developed but cell cup very narrowed (only half width of bm); A_1 strongly reduced, represented by short thick stump, reaching wing margin (due to absence of anal lobe); alula absent (reduced to dark margin); posterior margin of wing with long ciliation, with cilia twice as long as setulae on costa. Wing measurements: length 2.10–2.42 mm, width 0.55–0.66 mm, $Cs_3 : Cs_4$ = 1.52–2.17, r-m\ dm-cu : dm-cu = 3.37–3.74. Haltere with pale-ochreous stem and relatively large blackish-brown knob.

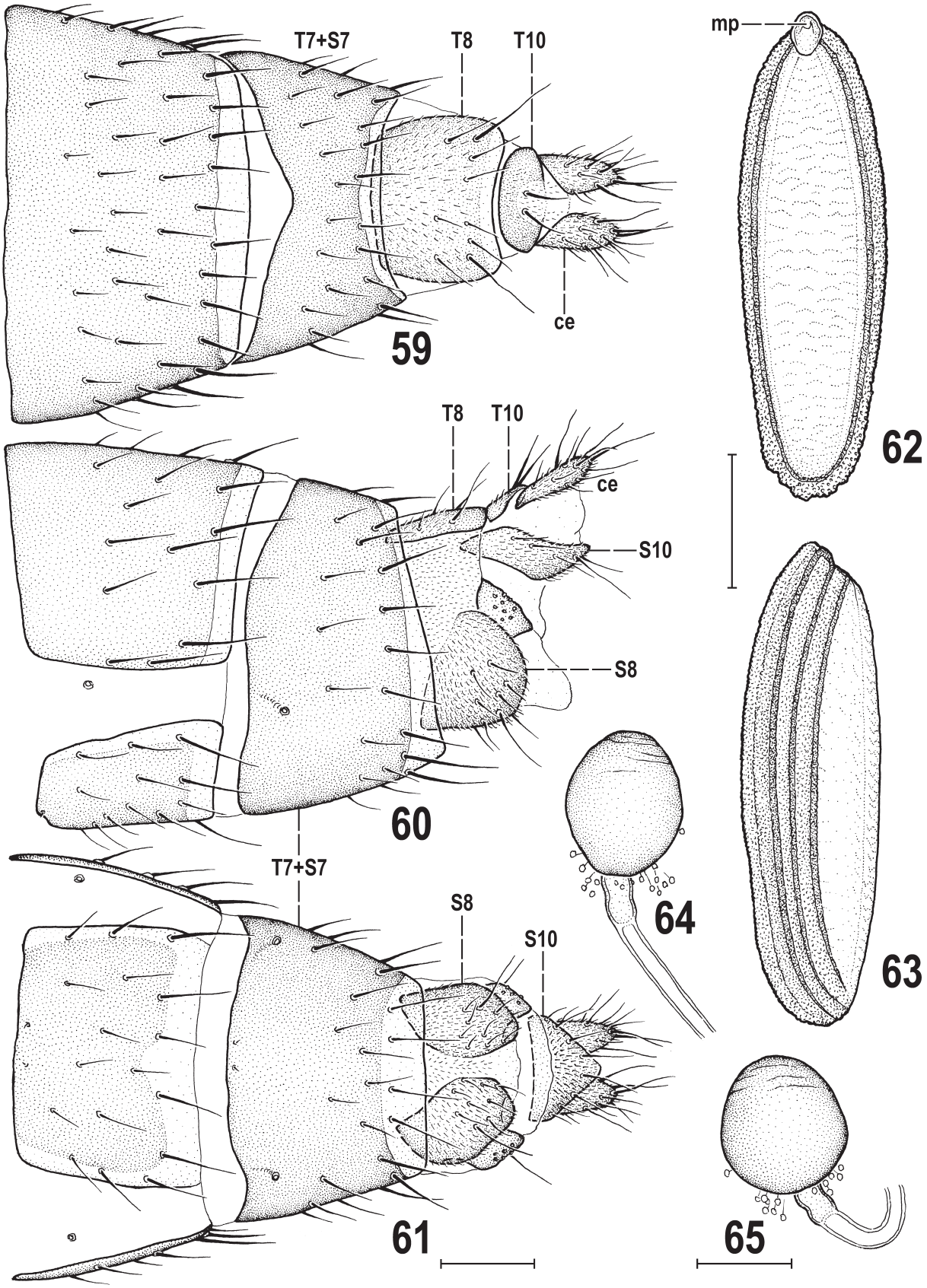
Abdomen very slender, elongate, dark brown to black, sparsely dark brownish-grey microtomentose, subshining. Preabdominal terga relatively long but transverse, all strongly bent onto ventral side of abdomen, sparsely and shortly setose, blackish brown to black; T1 shortest (only half length of T2) and narrowest, fused with T2 but boundary between them somewhat visible dorsolaterally; T2 almost as long as T3 but anteriorly narrowed, posteriorly as broad as T3; T3 and T4 of the same width but T3 (largest tergum) slightly longer than T4; T5 somewhat narrower and shorter than T4. T6 largely membranous, short, bare, and only in the middle pale pigmented and micropubescent (see Fig. 48). Preabdominal sterna dark brown but paler than terga, S3–S5 finely, shortly and sparsely setose. S1 short and strongly transverse, both anteriorly and posteriorly shallowly emarginate and with dark posterior marginal stripe; S2 and S3 as long as broad, subequal in length and width but S2 narrower posteriorly while S3 narrower anteriorly; S4 also roughly square-shaped but distinctly larger than S3, posteromedially with short unpigmented marginal area and often also shallowly emarginated; S5 wider but much shorter than S4, distinctly transverse, widened and emarginate posteriorly and with unpigmented marginal medial areas both anteriorly and posteriorly; setose posterolaterally and with micropubescence restricted to a small anteromedial spot. S6–S8 blackish brown (darker than preabdominal sterna) fused into distinctive asymmetrical synsclerite (Fig. 48) having S6 short, transverse, heavily sclerotized and formed by anterior ledge having two flat anterior processes (more slender dorsal, wider in its middle); S7 slightly longer and paler, with incurved posteroventral corner and less-sclerotized finely-haired ventral end, partly separated from S8 by narrow incision; both S6 and S7 without setae, only posteromedially with long micropubescence; S8 largest, saddle-shaped and sparsely setose (in contrast to bare S6 and S7); 6th left spiracle situated in the ledge within S6, 7th left spiracle in dorsal part of S7 (Fig. 48).

Genitalia. Epandrium medium sized (compared to pregenital synsclerite S6–S7), globose (Figs 48, 49), sparsely and relatively shortly setose, with only dorsomedial seta more or less enlarged; anal fissure small and narrow (Fig. 49). Cercus very small, short and rounded, situated within anal fissure, shortly finely and uniformly setulose. Medandrium (Fig. 49, ma) very small, low and narrow (about as broad as anal fissure), with projecting dorsolateral corners and lateral arms connected with gonostyli. Gonostylus (Figs 48–50) robust but distinctly shorter than epandrial height, subbasally somewhat constricted and distally dilated, anteroventrally with projecting corner, posteroventrally rounded; with short uniform setulae in distal half to (anteriorly) two-thirds and glossy, completely devoid of micropubescence (see Fig. 48). Hypandrial complex (Figs 52, 54) relatively broad, with distinct dorsal projections in proximal third (forming connection to synsclerite S6–S7) and, particularly, with peculiarly dorsally expanded and bipartite internal lobes, each having distal part large, ladle-shaped, bulging laterally beyond hypandrial frame and proximal part slender and more complex; transandrium (Fig. 53) with relatively robust and straight ventral medial part but dorsally with flat pale-pigmented submembranous part (Fig. 53); caudal process slender, inverted Y-shaped, with arms distally poorly delimited; basal membrane extended over ends of caudal process, transversely striated but unusually bilobed (medially notched, see Fig. 53). Pregonite (Figs 52, 54), very low (not projecting ventrally) and elongate, fused to hypandrial frame but well delimited (in ventral view, see Fig. 54) and with a series of 6 or 7 (one usually longer) setae along its whole length. Postgonite (Figs 52, 54) very slender in lateral view because flattened frontocaudally, knife-shaped, with pointed apex, 1 longer seta situated in proximal fourth or fifth of anterior margin and a few grain-like sensilla in distal half; basal sclerite of postgonite not developed. Aedeagal part of folding apparatus (Fig. 57) with only fine, partly curved, surface striation; connecting sclerite long and very slender, plain, without any armature (Fig. 57). Aedeagal complex: phallapodeme with basal



Figs 52–58. *Pectarista grandiloba* sp. nov., male paratype. 52 – hypandrial complex, left laterally; 53 – transandrium, caudally; 54 – hypandrial complex, ventrally; 55 – ejacapodeme (largest extension); 56 – apex of filum of distiphallus, anterosubventrally (largest extension); 57 – aedeagal complex, left laterally; 58 – phallapodeme, dorsally. Scale bars: 0.1 mm (Figs 52−54, 57, 58), 0.05 mm (Figs 55, 56). For abbreviations see Material and methods.

half flattened and dilated laterally (Fig. 58), posteriorly with deep rounded incision and somewhat asymmetrical; its apex terminally dilated, with lateroventral projecting and pointed corners and its fulcrum robust (Fig. 57). Aedeagus: Phallophore relatively short and compact but with anterodorsal corner projecting (Fig. 57). Saccus of distiphallus relatively large, basally reinforced by slender bow-like curved sclerite and another similar, but bent in reverse sclerite situated distal to the former; dorsal side of saccus with a characteristic sclerotized notch in the



Figs 59–65. *Pectarista grandiloba* sp. nov., female paratype. 59–61 – postabdomen (59 – dorsally, 60 – left laterally, 61 – ventrally); 62–63 – egg (62 – ventrally, 63 – laterally); 64, 65 – spermathecae. Scale bars: 0.1 mm (Figs 59–61), 0.2 mm (Figs 62, 63), 0.05 mm (Figs 64, 65). For abbreviations see Material and methods.

middle and its large membranous part (see Fig. 57) distally bifurcated and provided with pale broad spines. Filum (Fig. 57) slender and compact, heavily sclerotized, and terminating in complex apex (see also Fig. 56), armed with various processes, teeth, fine spines and terminal twisted filaments. Ejacapodeme (Fig. 55) short but robust, peculiar in having terminally bifurcated projection.

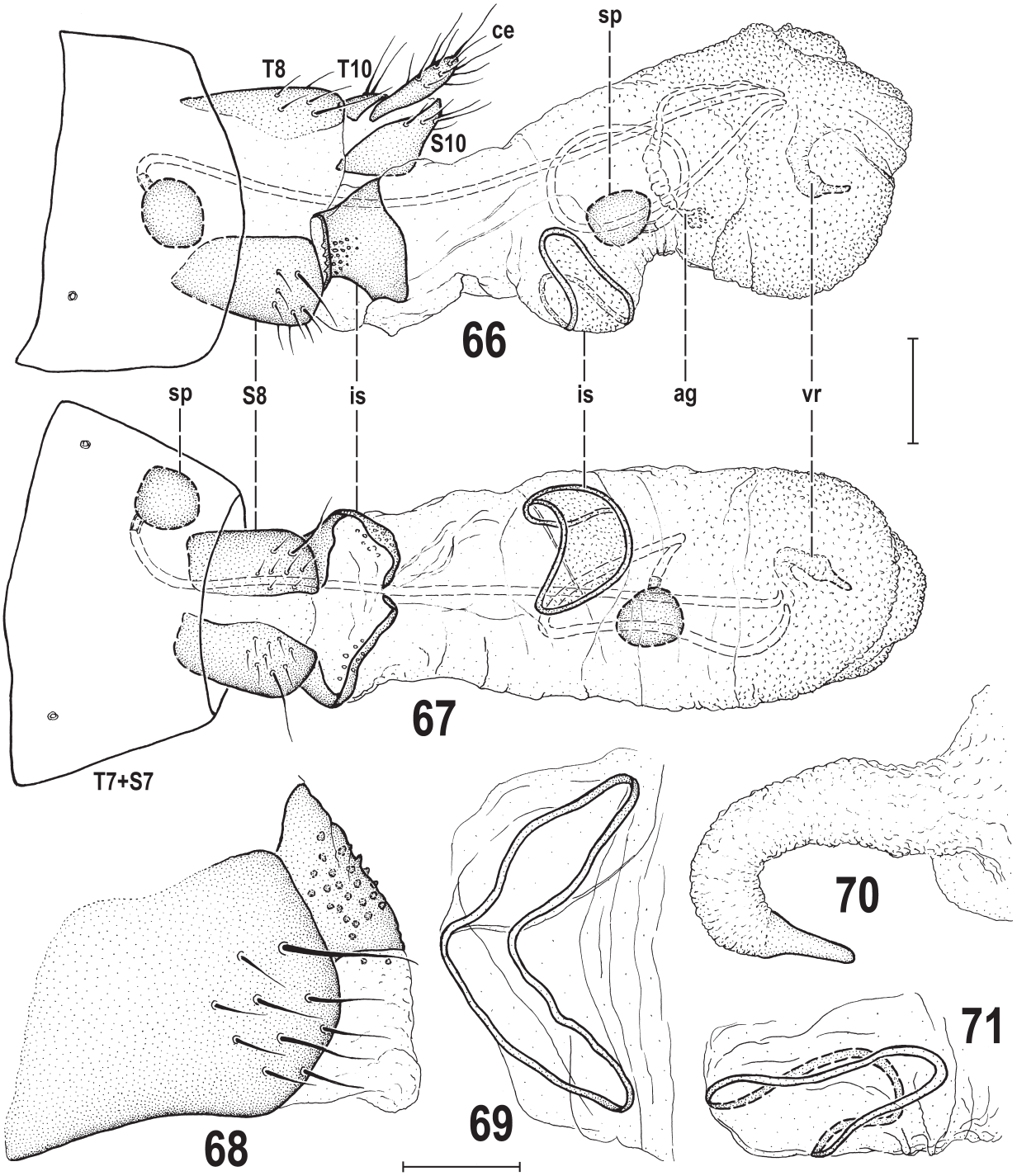
Female. Similar to male unless mentioned otherwise. Larger on the average, total body length 2.50–2.62 mm. Head anteriorly darker, with face brown, parafacialia and gena dark orange and both with blackish-brown marginal stripe, all sparsely grey microtomentose. Mouthparts with proboscis dark brown and palpus black. 1st antennal flagellomere anteriorly darker, yellow to orange yellow. Fore leg differently coloured: f_1 dark brown in distal third, t_1 and entire fore tarsus black, the latter with all segments distinctly thickened. f_2 ventrally without sparse erect setae; t_2 with ventroapical seta distinctly longer than maximum width of tibia; f_3 distally without posteroventral comb of small spine-like setae. Wing with apical portion of CuA_1 often yet shorter than in male (only 0.25–0.45 times as long as dm-cu). Wing measurements: length 2.50–2.70 mm, width 0.67–0.73 mm, Cs_3 : Cs_4 = 1.74–1.87, r-m\ dm-cu : dm-cu = 3.87–4.24. Abdomen with preabdominal terga wider and more transverse but not extended on ventral side of abdomen, all uniformly blackish dark brown. T2 slightly shorter and posteriorly almost as broad as T3; T3–T6 becoming narrower posteriorly, thus T3 widest; T3 and T4 the same length; T5 slightly shorter but distinctly narrower than T4; all T1–T5 with sparse and short setae. Preabdominal sterna markedly narrower but similarly coloured and setose as that in male. Only S1 transverse and with dark posterior marginal stripe; all S2–S5 more or less longer than broad; S2 wider anteriorly (widest of preabdominal sterna), narrowed posteriorly where as broad as S3; S3 elongate oblong, narrowest of preabdominal sterna; S4 and S5 also oblong or slightly narrower anteriorly but wider and less elongate than S3.

Postabdomen (Figs 59–61) relatively short. T6 broad (but distinctly narrower than T5), slightly transversely trapezoidal, narrower posteriorly, with short but denser setosity than T5, dark brown except for pale posterior marginal band (Fig. 59). S6 (Figs 60, 61) dissimilar to S5 because distinctly wider than long, brown except for narrow lateral and wider posterior marginal areas (Fig. 61). T7+S7 fused to form annular and somewhat conical tergosternum (see Figs 59–61), being distinctly shortened dorsomedially (emarginated anteriorly) and prolonged ventrally, posteriorly with pale-pigmented marginal stripe (narrow dorsally, wider ventrally), otherwise blackish brown but sometimes with small pale spot around embedded 7th spiracle. T7+S7 with sparse setae, those ventrally at posterior margin longest. T8 flat, rounded suboblong, slightly wider than long, posteriorly shallowly emarginated and narrowly pale pigmented, sparsely microtomentose and with several setae in posterior half, that in posterior corner longest. S8 (Figs 60, 61, 67, 68) medially divided into two separate convex sclerites, each having an internal posterodorsal lobe being fused with paired posterior internal sclerites. This complex is at rest invaginated (partly exposed in Figs 60, 61, 68) but evaginated during oviposition (see Figs 66, 67). Internal sclerotization of genital chamber (Figs 66, 67, as exposed during oviposition) comprising 1 pair of unusually posteriorly shifted internal sclerites having dorsolateral surface provided with a group of grain-like excrescences (Figs 60, 68) and a frontocaudally compressed and laterally curved annular sclerite (Figs 66, 67, 69, 71). Ventral receptacle (Figs 66, 67, 70) weakly sclerotized and pale pigmented, elongately conical with smooth surface, indistinctly separable from broad, strongly curved and externally finely wrinkled duct. Accessory gland similar to that in *P. curta* (cf. Fig. 93). Spermathecae 1+1, subovoid to ellipsoid (Figs 64, 65), often somewhat asymmetrical, each with mostly plain surface, only terminally sparsely and very finely striated; spermathecal duct long (cf. Fig. 66) with terminal cervix medium long, pale pigmented and somewhat constricted in the middle (Fig. 64). T10 (Figs 59, 66) small, short, transversely oval, pale brown pigmented except for posteromedial semicircular area, with very sparse micropubescence and 1 pair of medial (not very long) setae. S10 (Figs 60, 61, 66) larger than T10, subtriangular, slightly wider than long, almost entirely micropubescent and with longer fine setae along posterolateral margin. Cercus (Figs 59–61, 66) relatively robust, distinctly flattened, brown, micropubescent, with a number of fine setae but those longest (apical and dorsopreapical) are shorter than length of cercus.

Egg. Extracted from abdomen of a female paratype. Length 0.68–0.71 mm (n=4), maximum width 0.18–0.21 mm (n=4); dirty white, elongate, subcylindrical with both ends tapered. Chorion dorsally and ventrally differently sculptured. Ventral side with extremely fine (partly indistinct) zig-zag pattern (Fig. 62); dorsal (and lateral, see Fig. 63) surface with 8 longitudinal ribs (2 dorsal, 2 dorsolateral, 4 lateral) with fine reticular structure; spaces between them very finely granular. Micropyle (Fig. 62, mp) on apex of ventral side surrounded by fine oval collar.

The egg of *Pectarista grandiloba* resembles that described for *Barbarista guttata* Roháček, 1993 by Roháček (1993: figs 7, 8), particularly as regards the fine zig-zag sculpture of its ventral side but differs by more ribs (8 versus 5) and less distinct reticulation of the surface. Note: dorsal and ventral sides of egg are recognized here following the redefinition by Roháček & Barber (2011), thus not as presented by Roháček (1993) for *Barbarista* or by Roháček (2006, 2021a) for other genera of Anthomyzidae.

Discussion. *Pectarista grandiloba* sp. nov. externally closely resembles both congeners. In the male sex it can be most safely recognized by the shape and armature of S4, S5 and the gonostylus and colouration of the tarsi. The identification of the female is possible by less distinctive characters (see the key below) but there are numerous additional, often small differences in cephalic, thoracic and abdominal chaetotaxies, colouration and detailed structures in the male and female terminalia (see description above). As given above, *P. grandiloba* is hypothesized as a sister species of *P. planta*, although its gonostylus is



Figs 66–71. *Pectarista grandiloba* sp. nov., female paratype. 66–67 – end of abdomen with everted genital chamber after oviposition (66 – left laterally, 67 – ventrally); 68 – S8 with partly expanded internal sclerite, laterally (all with micropubescence omitted); 69 – annular sclerite, ventrally; 70 – ventral receptacle, laterally; 71 – annular sclerite, laterally. Scale bars: 0.1 mm (Figs 66, 67), 0.05 mm (Figs 68–71). For abbreviations see Material and methods.

more similar to that of *P. curta*. However, the subbasally constricted form of the gonostylus is considered here a plesiomorphic feature within the genus *Pectarista*.

Etymology. The name '*grandiloba'* (= large-lobed; a noun in apposition), is derived from the Latin *grandis* (large) and *lobus* (lobe). It reflects the extremely enlarged and heavily sclerotized dorsal internal lobes of the hypandrium of the new species.

Biology. All type specimens were collected in November and most of them in the Bambalang Area near Bamendjing reservoir at altitude ca. 1200 m.

Distribution. The new species is hitherto known only from W Cameroon.

Pectarista curta sp. nov.

(Figs 46, 72, 73, 76–93)

Type material. Holotype: ♂, labelled: 'CAMEROON: Rt. N4, 120km NW Yaounde, 5.XI.1987, A. FREIDBERG' and 'Holotypus ♂, *Pectarista curta* sp. n., J. Roháček det. 2025' (red label). The specimen is intact (Fig.

73), minuten double pinned (TAUI). Paratypes: 5 ♂♂ 2 ♀♀ (2 ♂♂ 1 ♀ genit. prep.) with same data as for holotype (TAUI 4 ♂♂ 2 ♀♀, SMOC 1 ♂); 3 ♀♀ (1 ♀ genit prep.), with same data but FINI KAPLAN leg. (TAUI 2 ♀♀, SMOC 1 ♀). All paratypes with same type label as the holotype but it is yellow and has 'Paratypus ♂ or ♀' instead of 'Holotypus ♂'.

Description. ***Male.*** Very similar to its closest relative*, P. grandiloba* sp. nov., but differing as follows. Total body length 1.95–2.14 mm.

Head about 1.3× higher than long (Fig. 73). Frons anteriorly usually darker, pale ochreous to pale brown in anterior fourth. Frontal triangle very narrow (only about one-third of width of frons), with very acute anterior corner reaching to anterior fourth or fifth of frons, blackish brown and shining, delimited by distinctly greyish microtomentose lateral stripes reaching from vti to anterior tip of frontal triangle; ocellar triangle small, coloured and microtomentose as that of *P. grandiloba*. Fronto-orbital plate between vti and posterior ors blackish brown, concolourous with adjacent area but distinctly shining due to reduced microtomentum; more anteriorly it is distinctly paler brown and in front of anterior ors usually pale ochreous as is anterior fourth of frons. Frontal lunule very small and brownish, thus darker than anterior margin of frons and antennal scapes. Face, parafacialia and gena darker than in *P. grandiloba*, pale ochreous to pale brown on ground but all silvery-white microtomentose; parafacialia and gena blackish-brown margined. Mouthparts as in *P. grandiloba*. Cephalic chaetotaxy: very similar to that of *P. grandiloba* but vte, vti and posterior ors of the same size, or either vte or posterior ors slightly longer; oc shorter than vti; anterior ors usually shorter, only one third to less than half length of posterior ors; 1 microsetula in front of anterior ors; vi longer (distinctly longer than anterior ors) but subvibrissa reduced, not longer than anterior peristomal setula. Eye similarly formed as that of *P. grandiloba* but posteroventrally less emarginated and postgena less enlarged; longest eye diameter less oblique and about 1.5 times as long as shortest one. Shortest height of gena only 0.1 times as long as shortest eye diameter. Antenna with scape pale brown, pedicel pale brown to brown, unicolourous, at most distal end of its inner side somewhat paler; 1st flagellomere bicolourous as in *P. grandiloba*, anteroventrally whitish yellow but its dorsobasal third to half darkened brown; apex of 1st flagellomere with a tuft of relatively long white cilia. Arista similarly formed, coloured and densely long-pectinate as that of *P. grandiloba* but only about 1.9 times as long as antenna.

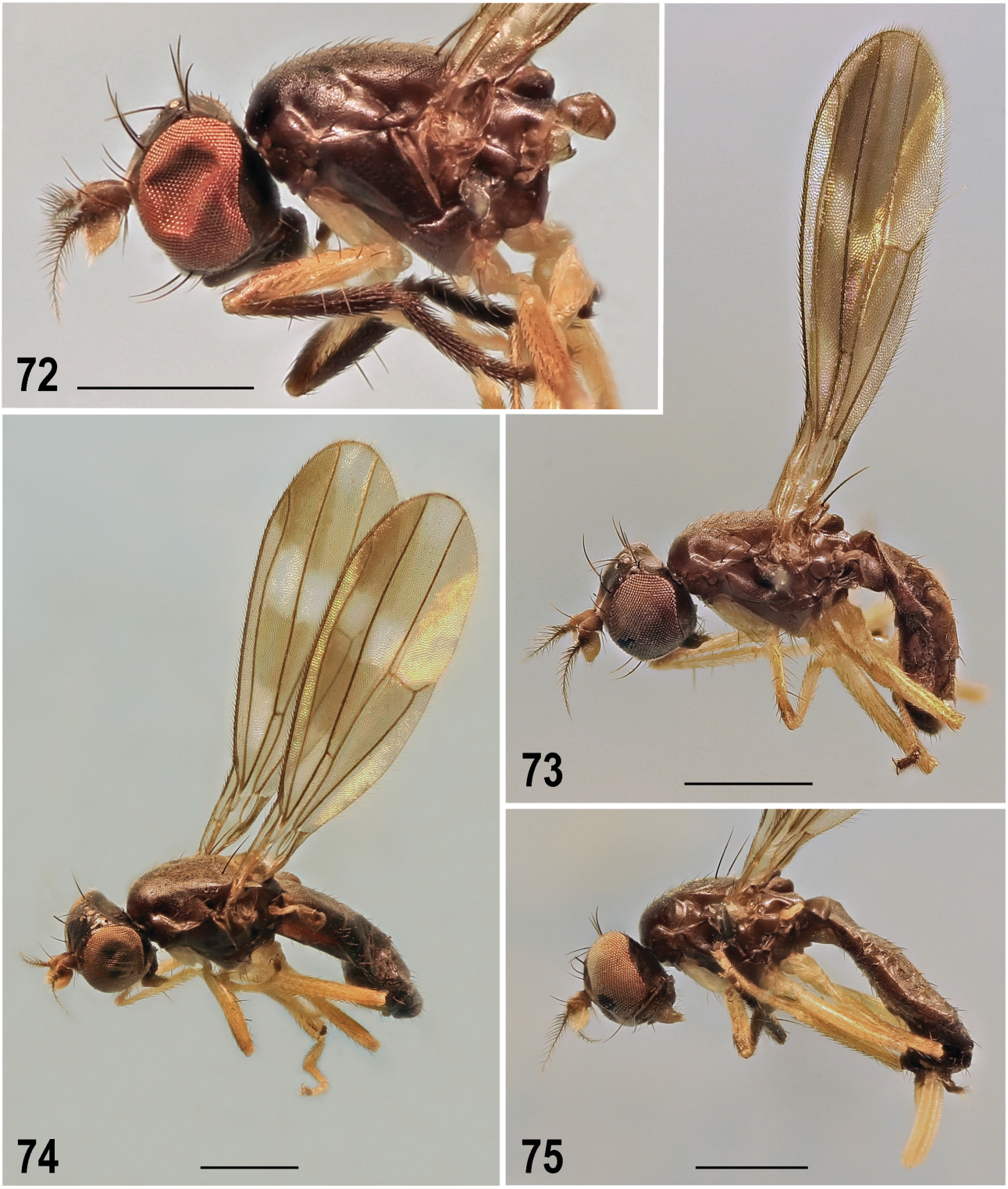
Thorax as in *P. grandiloba* but pleural part of thorax lighter than mesonotum and sometimes with paler brown pteropleuron, laterotergite or even (partly) sternopleuron. Thoracic chaetotaxy differing as follows: 1 small and pale prs (about 2–3× longer than mesonotal microsetae); 1 (prescutellar) dc somewhat shorter and thinner than apical sc; about 6 dc microsetae in front of dc macroseta; ac microsetae only a few (2 or 3, usually incomplete, medial pairs) all around suture, none in posterior two-thirds of mesonotum; laterobasal sc shorter than one-fourth of apical sc; ppl very minute, often hardly discernible; 2 relatively weak stpl, posterior about as long as vi but distinctly thinner, anterior less than half of posterior stpl or reduced to setula and only 1–3 pale microsetulae below them; ventral part of sternopleuron with 3 longer and fine but dark-pigmented setae. Scutellum rounded subtriangular, distinctly convex dorsally; postscutellum bulging as in *P. grandiloba*.

Legs (Fig. 73) largely yellow to yellowish white (coxae, trochanters, distal half of t_1 and fore tarsus lightest) but some small parts brown to blackish; f_1 (except for knee) in distal fifth diffusely pale brown darkened; all tarsi bicolourous: fore tarsus yellowish white to white but with 2 distal segments contrastingly blackish brown to black; mid tarsus pale yellow with 2 distal segments blackish brown and also 3rd segment brownish; hind tarsus pale yellow, with only last segment blackish brown but also penultimate segment somewhat darkened, pale brown. Pedal chaetotaxy as in *P. grandiloba* but f_1 with anteroventral row of 4 or 5 shortened and thickened setae in distal third (Fig. 76) and f_3 in distal third or fourth with posteroventral dense comb of 9–11 very shortened spine-like setae.

Wing (Fig. 46) resembling in shape and dark pattern that of *P. grandiloba* but differing as follows: white iridescent spots in the middle of wing (in cells r_{2+3}, r_{4+5} and marginal cell m) coalesced in a transverse band being widened both anteriorly and posteriorly; and pale spot on wing apex darker and sometimes extended posteriorly to cell m, beyond vein M; cell br lighter than adjacent part of cell r_{4+5} (Fig. 46); distal end of cell c and also very narrowed cell cup not darkened. Apical portion of CuA_1 0.45–0.65 times as long as dm-cu. Wing measurements: length 1.98–2.22 mm, width 0.53–0.60 mm, $Cs_3 : Cs_4 = 1.62–1.81$, r-m\dm-cu : dm-cu = 3.33–3.76. Haltere with dirty ochreous stem and blackish-brown, distinctly greyish microtomentose knob.

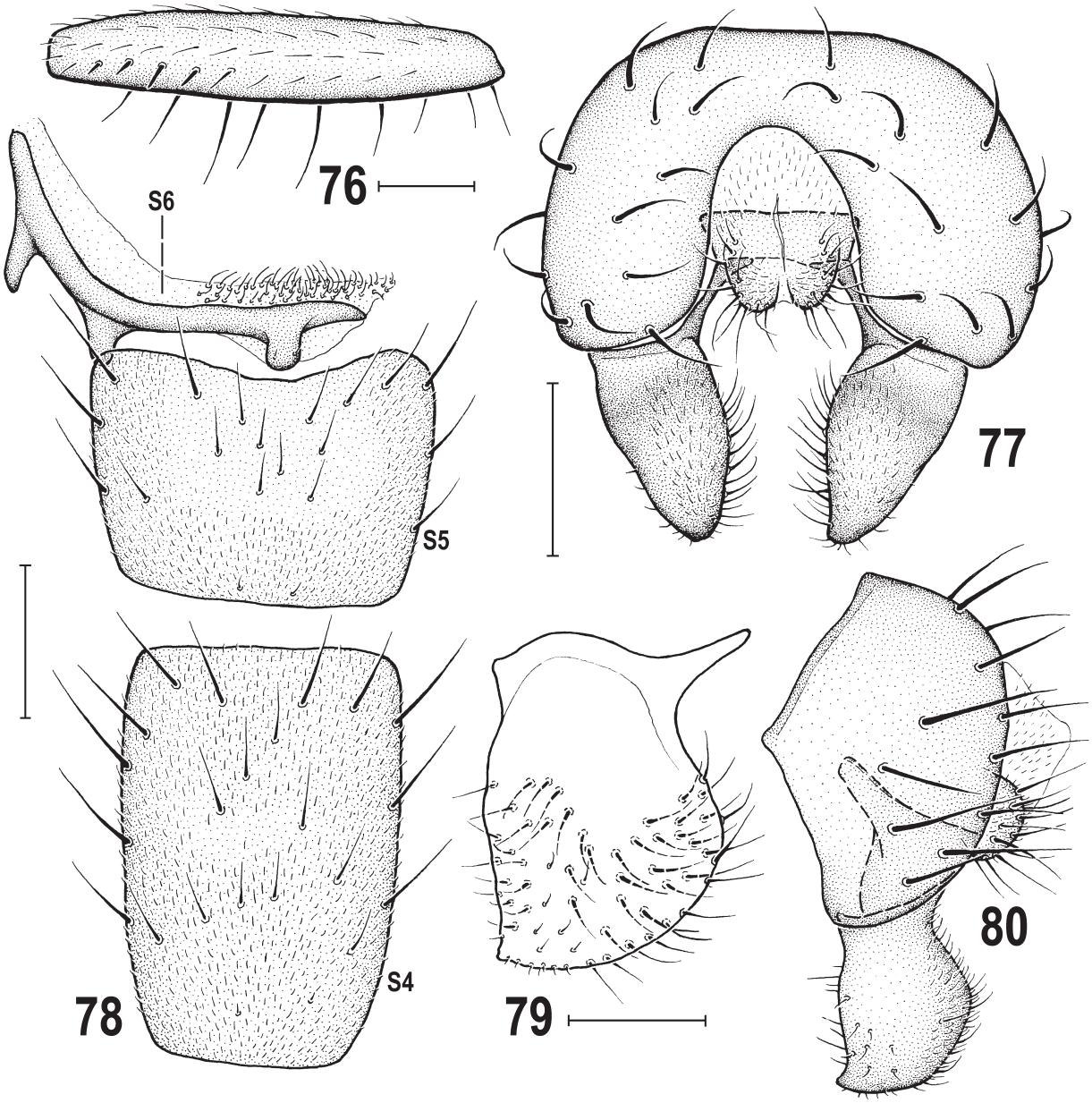
Abdomen resembling that of *P. grandiloba* including similarly formed and setose preabdominal terga but preabdominal sterna distinctly narrower; S1 short, subtrapezoidal, wider anteriorly where relatively deeply emarginated; posterior margin of S1 straight and with wider dark stripe; S2 narrow (1.5× longer than broad), with sides convex; S3 slightly longer and yet narrower than S2, elongately suboblong; S4 as long as S3 but somewhat wider, suboblong, with rounded anterior corners and almost entirely microtomentose (see Fig. 78); S5 (Fig. 78) distinctly wider and shorter than S4 but less transverse than that of *P. grandiloba*, slightly widened and very shallowly emarginate posteriorly, without unpigmented areas, setose medially and posterolaterally and micropubescent broadly along anterior and lateral margins. S6–S8 similarly shaped, dark pigmented and setose as those of *P. grandiloba* but S6 (see Fig. 78) with 3 flat anterior processes – dorsal, middle lateral and ventromedial (the latter with a pair of microsetulae) and posteromedially with a group of numerous microsetulae in membrane.

Genitalia differing from those of *P. grandiloba* as follows: Epandrium broader in caudal view (Fig. 77), wider than high; anal fissure also slightly wider. Cercus and medandrium very similar but the latter (Fig. 77) with dorsolateral corners less projecting. Gonostylus (Figs 77, 78, 80)



Figs 72–75. *Pectarista* species. 72 – *P. curta* sp. nov., female paratype, head and thorax, left laterally; 73 – *P. curta* sp. nov., male holotype, habitus, left laterally; 74 – *P. planta* sp. nov., male holotype, habitus, left laterally; 75 – *P. planta* sp. nov., female paratype with egg pushed out of the abdomen, left laterally. Scale bars: 0.5 mm.

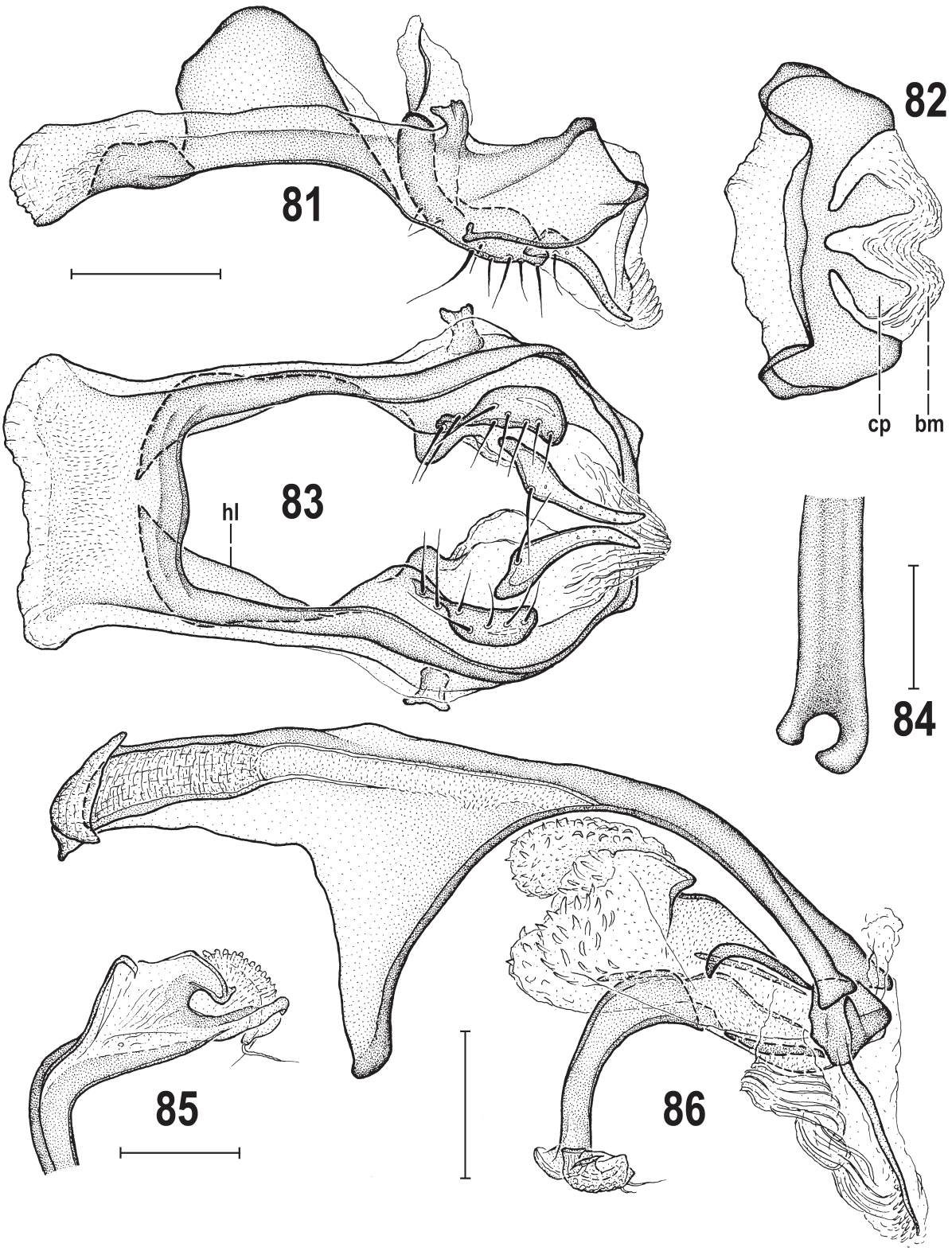
similarly subbasally constricted, distally dilated and with somewhat (but less) projecting anteroventral corner but markedly shorter and wider, with distinct micropubescence on posterior side (Fig. 77) and with more numerous and longer setae on inner side (see Fig. 79). Hypandrial complex (Figs 81, 83) a little more elongate, with less dorsally expanded and differently formed internal lobes, particularly its distal part less bulging laterally, not exceeding sides of hypandrial frame (see Fig. 83, hl); transandrium (Fig. 82) somewhat more robust medially including wider dorsal submembranous part (Fig. 82); caudal process resembling that of *P. grandiloba* but rather inverted V-shaped and its arms wider and more broadened towards apex; basal membrane more finely transversely striated but also medially



Figs 76–80. *Pectarista curta* sp. nov., male paratype. 76 – right fore femur, anteriorly; 77 – external genitalia, caudally; 78 – sterna S4, S5 and S6, ventrally; 79 – gonostylus, ventrolaterocaudally (largest extension, micropubescence omitted); 80 – external genitalia, laterally. Scale bars: 0.1 mm (Figs 76–78, 80), 0.05 mm (Fig. 79). For abbreviations see Material and methods.

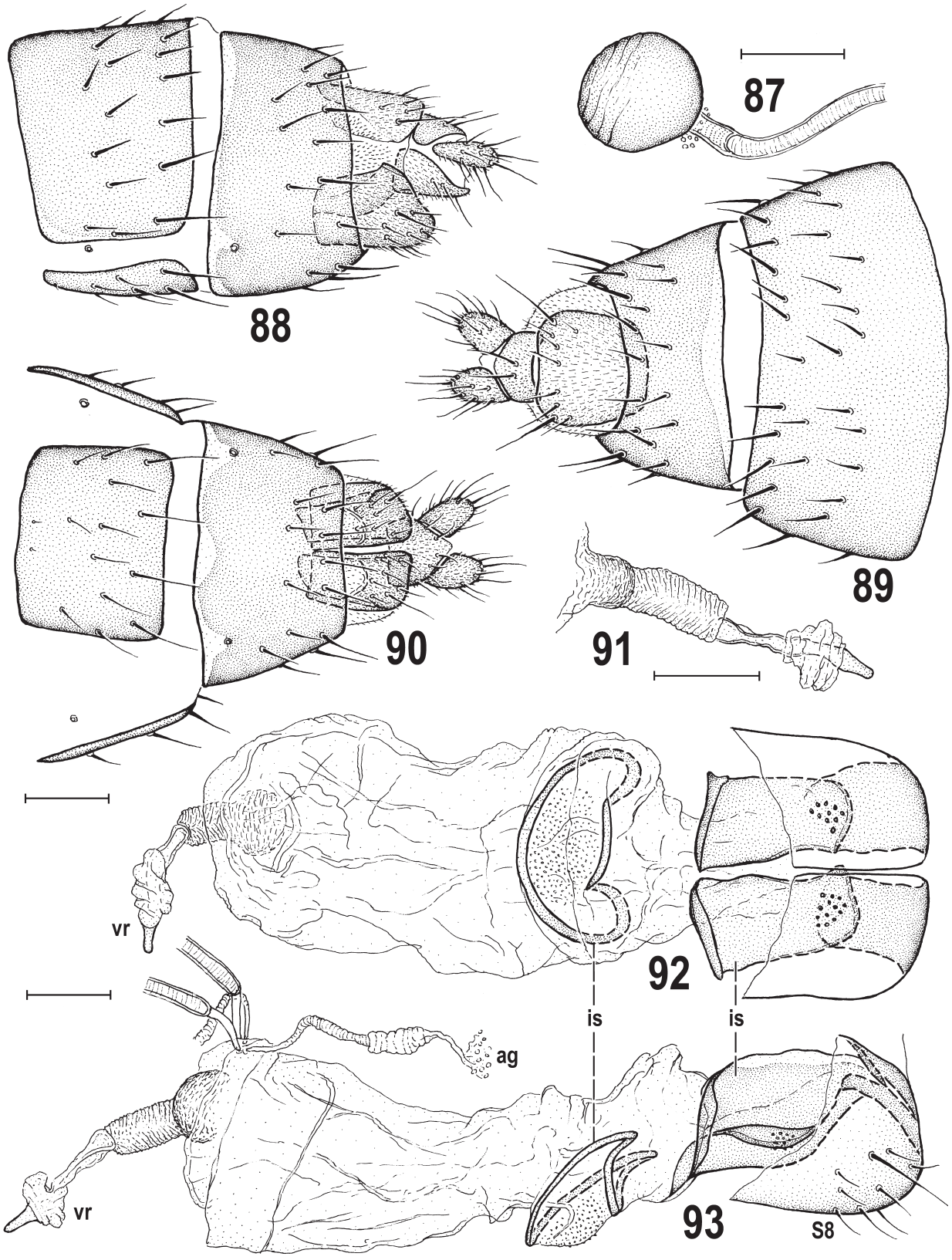
notched in caudal view (Fig. 82, bm). Pregonite (Figs 81, 83) low but slightly projecting beyond hypandrial frame (Fig. 81), somewhat shorter (in ventral view, Fig. 83) and with a series of 7 or 8 (2 or 3 longer) more robust setae. Postgonite (Figs 81, 83) very slender and somewhat sinuate in lateral view with one, distinctly longer, subbasal seta at anterior margin. Aedeagal part of folding apparatus with striated surface as in *P. grandiloba*; connecting sclerite also very similar but having group of spinulae in membrane anterior to its apex (Fig. 86). Aedeagal complex (Fig.86) differing as follows. Phallapodeme with basal half narrower (Fig. 84) but posteriorly with similar rounded incision. Phallophore with anterodorsal corner not projecting, thus shorter (Fig. 86). Saccus of distiphallus constructed as in *P. grandiloba* but its bilobed membranous part provided with slender pale spines. Filum (Fig. 86) also very similar but its complex apex is differently armed (see Fig. 85) by various processes, including a flat, fan-like lobe with marginal tubercles and two terminal filaments. Ejacapodeme not observed, but probably similar to that of *P. grandiloba*.

Female. Resembling male unless mentioned otherwise. Total body length 1.98–2.54 mm. Head anteriorly darker; face ochreous to brown but silvery-white microtomentose; parafacialia and gena dark ochreous, with blackish-brown marginal stripe and sparsely silvery-grey microtomentose. Mouthparts entirely dark brown. Fore leg differently coloured (similar to that of *P. grandiloba*): f_1 more extensively darkened, brown in distal third posteriorly, up to distal half anteriorly; t_1 and fore tarsus entirely black, all tarsal segments somewhat thickened (Fig. 72). f_2 ventrally finely



Figs 81–86. *Pectarista curta* sp. nov., male paratype. 81 – hypandrial complex, left laterally; 82 – transandrium, caudally; 83 – hypandrial complex, ventrally; 84 – proximal part of phallapodeme, dorsally; 85 – apex of filum of distiphallus, ventrally (largest extension); 86 – aedeagal complex, left laterally. Scale bars: 0.1 mm (Figs 81–84, 86), 0.05 mm (Fig. 85). For abbreviations see Material and methods.

setulose; t_2 with ventroapical seta slightly longer than in male; f_3 posteroventrally uniformly finely setose; mid and hind tarsus coloured as in those of male. Apical portion of CuA_1 slightly shorter than in male (only 0.42–0.55 times as long as dm-cu). Wing measurements: length 2.22–2.62 mm, width 0.57–0.69 mm, Cs_3 : Cs_4 = 1.67–2.11, r-m\ dm-cu : dm-cu = 3.10–3.48. Preabdominal terga wider and more transverse than in male and little extended on ventral side of abdomen, thus resembling those of female *P. grandiloba*. T2 distinctly tapered anteriorly, slightly



Figs 87–93. *Pectarista curta* sp. nov., female paratype. 87 – spermatheca; 88–90 – postabdomen (88 – left laterally, 89 – dorsally, 90 – ventrally); 91 – ventral receptacle, right sublaterally; 92–93 – genital chamber and S8: 92 – ventrally (setosity omitted), 93 – left laterally (S8 with setae, micropubescence omitted). Scale bars: 0.05 mm (Figs 87, 91–93), 0.1 mm (Figs 88–90). For abbreviations see Material and methods.

shorter and posteriorly not as wide as T3; T3–T5 subequal in length; T3 slightly narrower than T4 and somewhat widened posteriorly; T4 transversely suboblong, widest of preabdominal terga; T5 anteriorly slightly narrower than T4 but distinctly tapered posteriorly. Preabdominal sterna markedly narrower than in male but also somewhat narrower than in female *P. grandiloba*. All S2–S5 more or less longer than broad; S2 widest (at least anteriorly)

of preabdominal sterna, but tapered posteriorly where slightly wider than S3; S3 elongate oblong, more than 1.5× longer than broad, thus narrowest of preabdominal sterna; S4 slightly wider than S3, 1.5× longer than broad, oblong with rounded corners; S5 only slightly longer than broad, shortest of preabdominal sterna, wider than S4 and almost as wide as S2, suboblong with all corners rounded.

Postabdomen (Figs 88–90) short and closely resembling that of *P. grandiloba*. The main differences against the latter species are as follows. T6 shorter and more transverse, with sparser setae in posterior half (Fig. 89). S6 of similar shape (Fig. 90) but smaller, without unpigmented marginal areas and with fewer setae. T7+S7 dorsally without anterior emargination (Fig. 89) but with unpigmented anterior marginal stripe being extended laterally and ventrally where sinuate (Fig. 90) and posteriorly uniformly dark pigmented, without pale areas (Figs 88–90). T8 and S8 similarly shaped as those of *P. grandiloba* but S8 in both its parts narrower (Fig. 90) including posterodorsal (invaginated at rest) lobes of S8. Genital chamber (Figs 92, 93) with 1 pair of flat sclerites being posteriorly fused with internal lobes of S8 and having fine granulation restricted to posterolateral part; annular sclerite in ventral part of genital chamber less compressed and with its ventral membranous part more distinctly finely granular. Ventral receptacle (Figs 91–93) simply elongately conical as in *P. grandiloba* but its duct distinctly different, proximally broad and of distinctive convergently wrinkled structure, distally suddenly tapered but in front of ventral receptacle vesicularly dilated (see Fig. 91). Accessory gland on finely ringed duct being distinctly dilated in distal half (Fig. 93). Spermathecae 1+1, each irregularly shortly ovoid and subterminally finely striated (Fig. 87) as in *P. grandiloba* but terminal cervix of spermathecal duct not constricted in the middle. T10 (Figs 88, 89) somewhat longer and transversely pentagonal, evenly pigmented and with usual medial pair of setae. S10 (Fig. 90) also more elongate, about as long as broad, pentagonal (not triangular) in ventral view. Cercus (Figs 88–90) shorter and wider than that of *P. grandiloba*, with slightly shorter and subequal fine setae.

Discussion. *Pectarista curta* sp. nov. is externally very similar to *P. grandiloba* including the shape of the gonostylus but it in fact differs by numerous characters; those most diagnostic are used in the key below and others are stressed in the above comparative description. The male of *P. curta* can be easily separated from both relatives by the two distal segments of the fore tarsus blackish, and the very elongate S4 and S6 with three flat anterior projections (Fig. 78). The female differs (apart from features listed in the key) also by the abruptly dilated distal end of the duct of the ventral receptacle (Fig. 91) and the short oval cercus (Fig. 89). Owing to plesiomorphic characters in the male and female terminalia, *P. curta* is suggested as a sister species of the *P. grandiloba – P. planta* pair (see Discussion above under the genus).

Etymology. The new species is named '*curta'* (Latin adjective *curtus* meaning short) because of its short male gonostylus, and its shorter hypandrial lobe and female cercus.

Biology. Unknown. All type material was obtained from the same locality on November 5th, 1987.

Distribution. Known only from the type locality in W Cameroon.

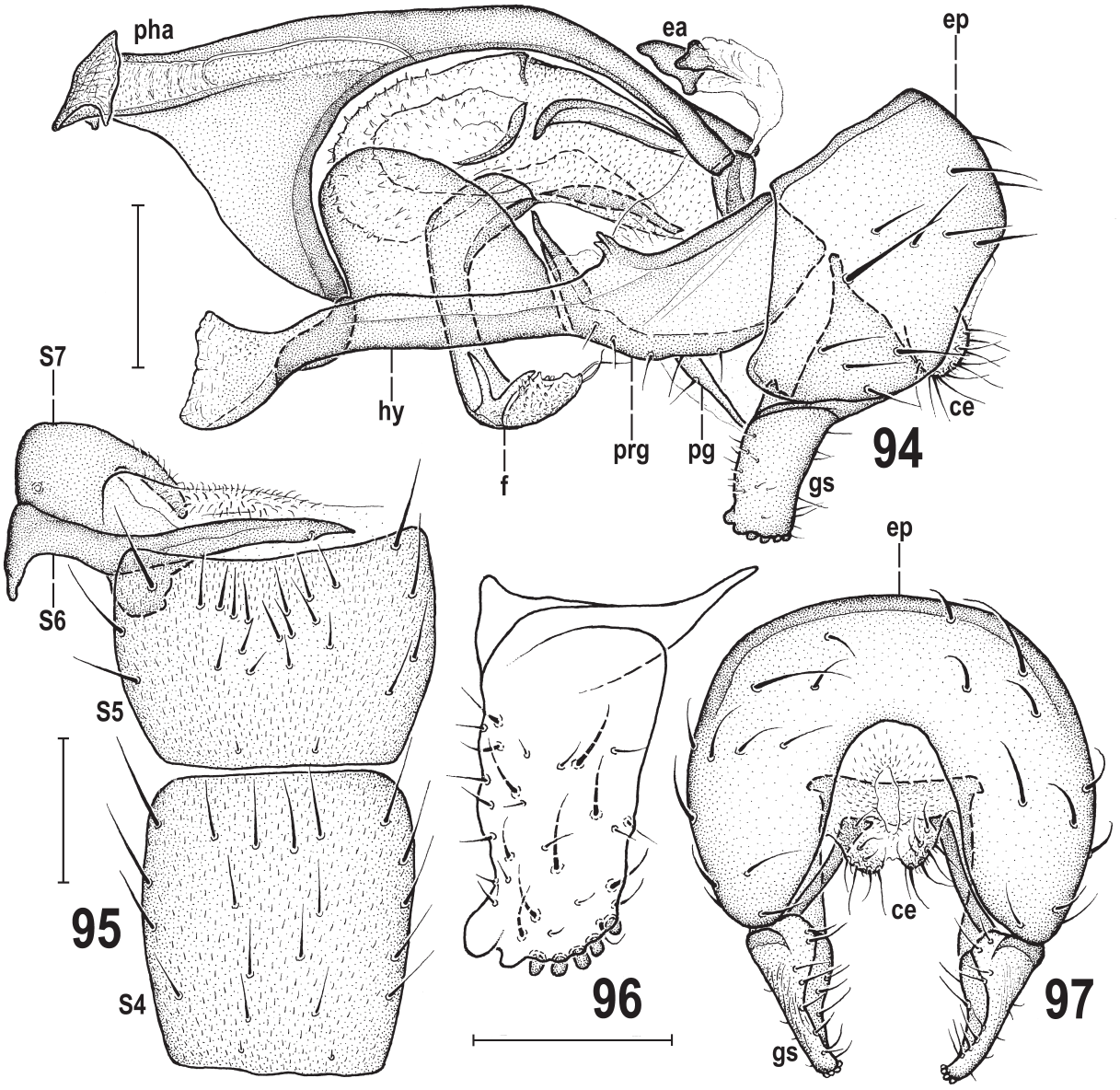
Pectarista planta sp. nov.

(Figs 47, 74, 75, 94–112)

Type material. Holotype: ♂, labelled: 'KENYA Kakamega Forest, 20-21.XI.1986, A. FREIDBERG' and 'Holotypus ♂, *Pectarista planta* sp. n., J. Roháček det. 2025' (red label). The specimen is intact (Fig. 74), minuten double pinned (TAUI). Paratypes: 1 ♂ (headless, genit. prep.) with same data as for holotype (TAUI). **KENYA:** 1 ♂ 2 ♀♀ (1 ♂ 1 ♀ genit prep.), Kenya (West), Kakamega Forest, 22.xi.1989, A. FREIDBERG & FINI KAPLAN leg. (TAUI 1 ♀, SMOC 1 ♂ 1 ♀). All paratypes with same type label as the holotype but it is yellow and has 'Paratypus ♂ or ♀' instead of 'Holotypus ♂'.

Description. ***Male.*** Generally similar to *P. grandiloba* sp. nov. and *P. curta* sp. nov. but differing as follows. Total body length 1.92–2.18 mm. Body blackish brown as in congeners but thorax dorsally rather sparsely golden-brown microtomentose (Fig. 74).

Head distinctly (1.4×) higher than long. Occiput mostly sparsely golden-brown microtomentose but medially, behind ocellar triangle, with more glossy triangular area having its ventral corner just above foramen. Frons largely blackish brown and its anteromedial marginal area smaller and darker (ochreous brown) than in relatives. Frontal triangle longer than in congeners, with anterior corner reaching to (paler) anterior sixth of frons, blackish brown as adjacent areas but sparsely microtomentose and more shining, bounded only by more densely grey microtomentose lateral stripes; ocellar triangle poorly delimited from frontal triangle, being only slightly elevated. Fronto-orbital plate blackish brown and shining behind posterior ors (as in *P. curta*), greyish microtomentose, duller and somewhat lighter in front of it but distinctly darker than anteromedial marginal area of frons. Frontal lunule very small, brown. Face, parafacialia and gena most resembling those of *P. curta*, all pale ochreous to pale brown, silvery-white microtomentose but most densely in ventral third of facial area of head; gena as in *P. curta* but yet narrower, with blackish- brown marginal ledge covering ventral half of gena. Mouthparts with pale brown to pale-ochreous labellum, otherwise brown to dark brown but clypeus and palpus darker. Cephalic chaetotaxy (Fig. 74) differing as follows: vti very slightly shorter than vte; vte and posterior ors longest of cephalic setae; oc distinctly shorter (two-thirds to three-fourths) than vti, slightly divergent and less proclinate than in relatives; anterior ors small and weak, about one-third length of posterior ors, frontal microsetulae reduced as in *P. grandiloba*; l relatively long (almost twice as long as anterior ors) vi; subvibrissa less than half length of vi but longer than anterior peristomal; peristomals and postoculars as in *P. grandiloba*; palpus slender, ventrally and laterally with 3 or 4 dark setulae and with 1 distinct (as long as subvibrissa but thicker) subapical black seta. Eye suboval or rather reniform as in relatives, with shallow posteroventral emargination and postgena less enlarged (thus as in *P. curta*) but longest eye diameter very slightly oblique and about 1.6 times as long as shortest one. Gena narrower (shorter) than in both relatives, with shortest

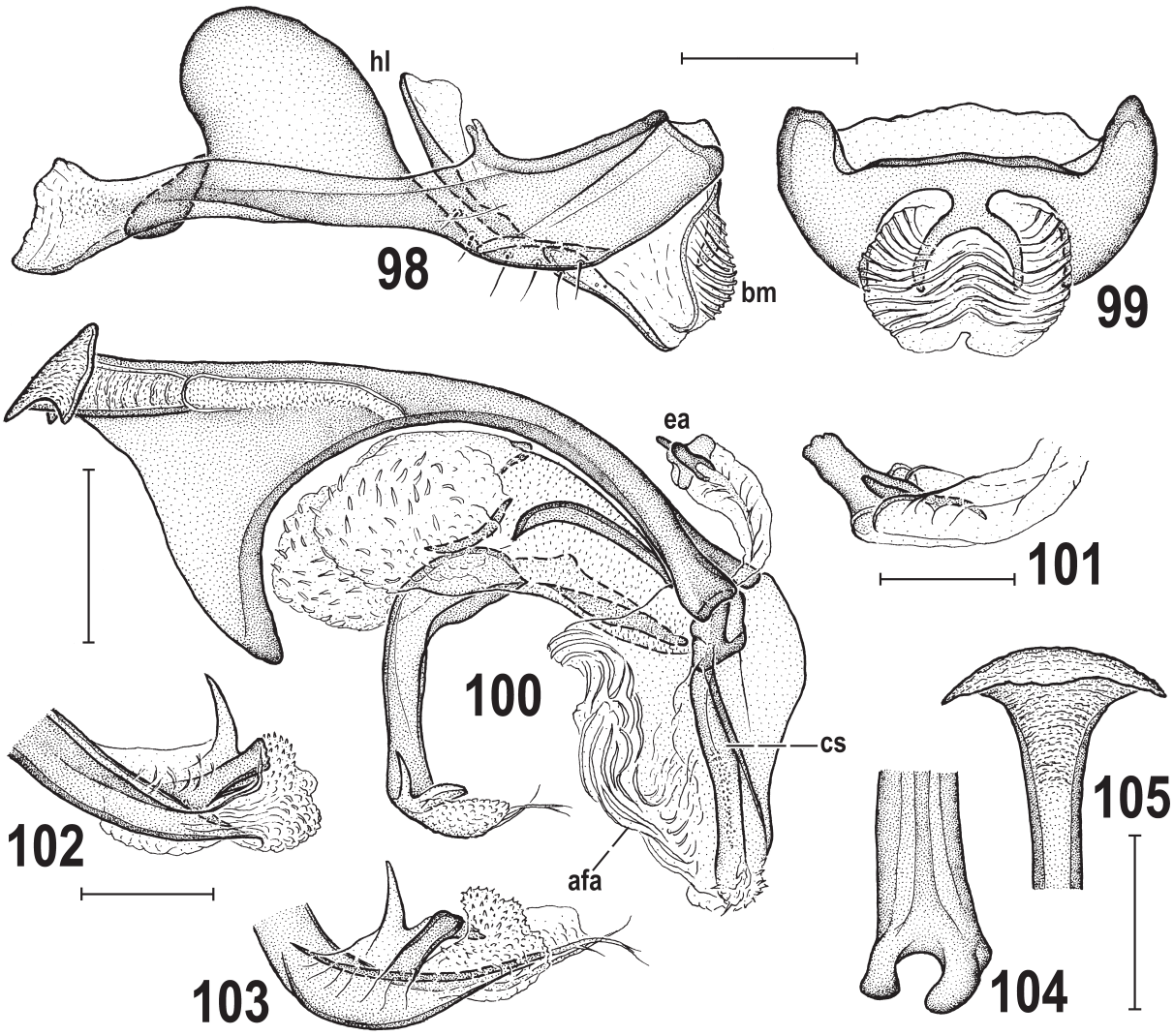


Figs 94–97. *Pectarista planta* sp. nov., male paratype. 94 – whole genitalia, left laterally; 95 – sterna S4, S5, S6 and S7, ventrally; 96 – gonostylus, sublaterally (largest extension); 97 – external genitalia, caudally. Scale bars: 0.1 mm (Figs 94, 95, 97), 0.05 mm (Fig. 96). For abbreviations see Material and methods.

height only 0.08 times as long as shortest eye diameter. Antenna most similar to that of *P. grandiloba* but scape brown; pedicel bicolourous, with brown outer side but its inner side almost completely orange to orange yellow; 1st flagellomere largely whitish yellow but its dorsobasal third pale brown or brown; apex and anterodorsal margin of 1st flagellomere with white cilia longer than in both congeners. Arista about 2.0 times as long as antenna, as densely long-pectinate as that of relatives.

Thorax as in *P. grandiloba* but mesonotum, scutellum, postscutellum and metanotum golden-brown microtomentose. Pleural part of thorax somewhat lighter than mesonotum, particularly propleuron, sternopleuron, hypopleuron and pteropleuron can be partly brown. Thoracic chaetotaxy differing as follows: 1 or 2 dc microsetae in front of dc (macroseta) more or less enlarged, others (more anterior) short; ac microsetae in 2 incomplete rows (3–5 microsetae in each row) ending in front of posterior dc as in *P. grandiloba* but less numerous; 2 sc, apical as long as dc (longest thoracic setae), laterobasal sc shorter than in relatives, hair-like, only about one-fifth of apical sc; 2 relatively long but fine stpl, posterior about three-fourths of dc, anterior weaker and about two-thirds of posterior and about 3 microsetulae below them; ventral part of sternopleuron with 3 relatively short and dark-pigmented setae.

Legs bicolourous as in relatives but with yellow or pale yellow more prevailing because f_1 with distal diffuse brownish darkening paler (sometimes only ochreous), only fore and mid tarsus with last segment blackish brown, mid tarsus with penultimate segment ochreous (not brown or blackish brown) and hind tarsus with last segment brown. Pedal chaetotaxy as in *P. grandiloba* but f_1 with posteroventral setae very long, particularly those 3 or 4 in the middle two-thirds of femur; 2 or 3 shortened and thickened

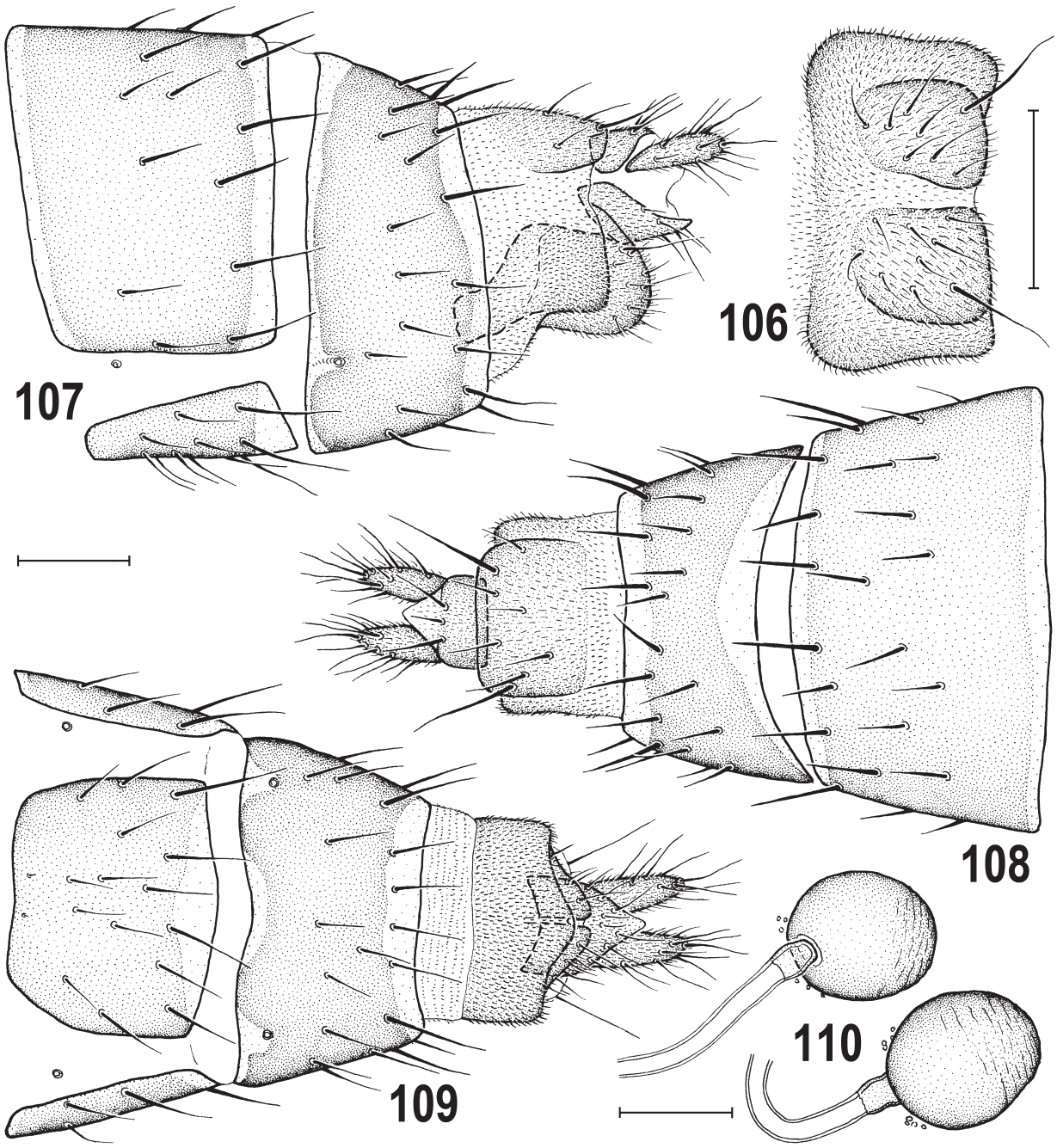


Figs 98–105. *Pectarista planta* sp. nov., male paratype. 98 – hypandrial complex, left laterally; 99 – transandrium, caudally; 100 – aedeagal complex, left laterally; 101 – ejacapodeme, dorsally (largest extension); 102–103 – apex of filum of distiphallus (102 – ventrally, 103 – lateroventrally, largest extension); 104 – proximal part of phallapodeme, dorsally; 105 – apex of phallapodeme, dorsally. Scale bars: 0.1 mm (Figs 98–100, 104, 105), 0.05 mm (Figs 101–103). For abbreviations see Material and methods.

anteroventral setae as in *P. grandiloba* but also setae in longer anterior row (in distal half of femur) shortened but less thickened; f_2 ventrally without longer erect setae; t_2 with ventroapical seta as long as distal width of tibia; f_3 with posteroventral comb of 7–9 very short spine-like setae.

Wing (Figs 47, 74) similar to those of relatives but differing as follows. Distinctly broader compared to its length. Wing membrane with broad white and iridescent transverse band in the middle being more or less widened posteriorly and with a usual spot on wing apex in cell r_{4+5} never extended beyond vein M; distal end of cell c and also narrowed cell cup not darkened, whitish as adjacent base of wing (thus as in *P. curta*). R_{4+5} slightly bent (recurved) in the middle and very slightly sinuate in distal third; apical portion of CuA_1 as in *P. curta*, 0.45–0.65 times as long as dm-cu, not reaching wing margin. Wing measurements: length 2.14–2.54 mm, width 0.61–0.73 mm, Cs_3 : Cs_4 = 1.76–2.00, r-m\dm-cu : dm-cu = 3.00–3.04. Haltere with stem proximally orange ochreous, distally whitish yellow and contrasting with blackish-brown, sparsely greyish microtomentose knob.

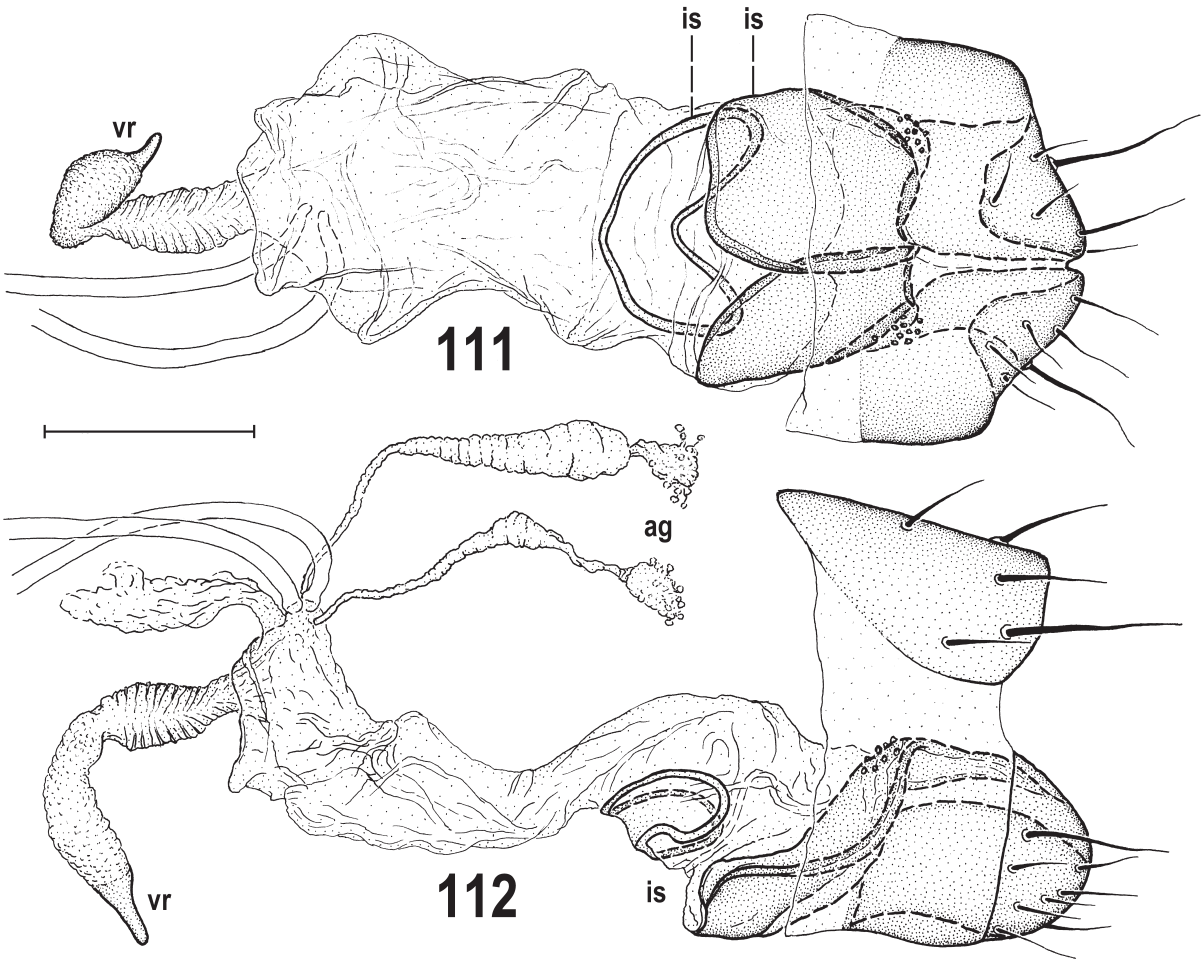
Abdomen similar to those of relatives including sparse dark grey or brownish-grey microtomentum of sclerites so differing from golden-brown microtomentum of thorax. Preabdominal terga differing in having T1 yet shorter (only third length of T2) and completely fused with T2, with boundary between them hardly visible. T2 (posteriorly), T3–T5 subequal in width; T2 and T4 slightly shorter than T3 (longest tergum) and T5 slightly shorter than T4. Preabdominal sterna most similar to those of *P. curta*, thus distinctly narrower than those of *P. grandiloba*. S1 as in the latter species, with anterior and posterior shallow emarginations and usual dark posterior marginal stripe; S2–S4 distinctly longer than broad; S2 and S3 elongate suboblong and of same width but S2 narrower posteriorly and slightly shorter while S3 narrower anteriorly; S4 (Fig. 95) slightly widened posteriorly, resembling that of *P. grandiloba* but entirely microtomentose and without posteromedial



Figs 106–110. *Pectarista planta* sp. nov., female paratype. 106 – S8 with adjacent pleural membrane, caudally; 107–109 – postabdomen (107 – left laterally, 108 – dorsally, 109 – ventrally); 110 – spermathecae. Scale bars: 0.1 mm (Figs 106–109), 0.05 mm (Fig. 110).

emargination; S5 wider than long and somewhat widened posteriorly (Fig. 95), much less transverse than that of *P. grandiloba*, thus most resembling that of *P. curta* but differing by a group of thicker setae and a small non-micropubescent area in the middle of sclerite. Synsclerite S6–S8 most similar to that of *P. grandiloba* (cf. Fig. 48) with S6 having two anterior processes (Fig. 95); both S6 and S7 bare, with only some micropubescence; S8 sparsely setose but (in contrast to relatives) with a few dorsomedial setae also in its anterior fourth or third.

Genitalia generally constructed as in those of congeners but differing as follows. Epandrium (Figs 94, 97) similar to that of *P. grandiloba*, both in shape and size, including anal fissure but with sparser setae. Also cercus small, rounded and setose as in relatives but somewhat less projecting from anal fissure (see Fig. 94). Medandrium (Fig. 97) only slightly larger (wider) than in congeners. Gonostylus (Figs 94, 96, 97) markedly different, distinctly smaller than in relatives, in sublateral view (Fig. 96) looking like the sole of a foot including 7 'toes', the latter being formed by 2 short rounded anteroventral processes and 5 robust and blunt ventral spines. Outer surface of gonostylus with a few small setulae and lacking micropubescence (as that of *P. grandiloba*), inner side with relatively sparse setae. Hypandrial complex (Fig. 98) resembling more that of *P. grandiloba*, particularly due to large hypandrial lobes



Figs 111–112. *Pectarista planta* sp. nov., female paratype. 111–112 – genital chamber and 8th segment: 111 – ventrally, 112 – left laterally (micropubescence omitted in both figures). Scale bar: 0.1 mm. For abbreviations see Material and methods.

bulging laterally beyond hypandrial frame but differing by smaller dorsal process in proximal third of hypandrial frame (forming connection to synsclerite S6–S7) situated close to posterior projection of hypandrial lobe (see Fig. 98); transandrium and its caudal process (Fig. 99) also resembling more those of *P. grandiloba* but caudal process (resembling a short, inverted Y) smaller, with arms slender and distally attenuated; basal membrane transversely striated and ventromedially notched (Fig. 99) as in relatives but extended more dorsally. Pregonite (Fig. 98) very low as in relatives but with about 6 small (none distinctly enlarged) ventral setae. Postgonite (Fig. 98) somewhat shorter and with smaller seta in proximal fifth of anterior margin but similarly shaped as in that of congeners. Aedeagal part of folding apparatus also similar, with only surface striations but connecting sclerite (Fig. 100, cs) markedly different, with posterior, very slender, strip-like dark part similar to connecting sclerites of relatives, but with an elongate, much wider anterior part in addition, being apically provided with several minute spinulae; also the normally membranous part behind connecting sclerite, unusually sclerotized (Fig. 100). Aedeagal complex generally constructed as in that of relatives. Phallapodeme basally dilated and incised as in *P. grandiloba* but more asymmetrical (Fig. 104) and its apex with more projecting lateroventral pointed corners (Fig. 105). Aedeagus: Phallophore simple, compact (Fig. 100) and yet shorter than that of *P. curta*. Saccus of distiphallus with same sclerites in basal half as that of *P. grandiloba* but its membranous bilobed distal part (see Fig. 100) with pale slender spines, as in *P. curta*. Filum (Fig. 100) compact as in relatives but its complex apex (Figs 102, 103) distinctive, particularly characterized by subapical bifurcate process consisting of a long, pale-pigmented and sharply pointed tooth and a dark-pigmented, distally blunt, projection; one of two terminal filaments on apex of filum is branched. Ejacapodeme (Figs 94, 101) robust and complex as in *P. grandiloba* but its main (larger) projection is terminally simple, not bifurcated.

Female (Fig. 75). Similar to male unless mentioned otherwise. Total body length 2.18–2.26 mm. Head anteriorly somewhat darker, including anteromedial margin of frons and face (orange brown to brown) but silvery-white microtomentose (most densely ventrally) as in male; also pedicel on inner side proximally somewhat darkened but flagellomere of the same colouration as that of male. Fore leg differently coloured (as in both congeners): f_1 distinctly brown in distal third; t_1 and fore tarsus blackish brown but tarsal segments at most slightly thickened. t_2 with ventroapical seta slightly longer than maximum width of tibia;

f_3 distally without posteroventral comb of short spine-like setae. Apical portion of CuA_1 somewhat shorter than in male (only 0.41–0.50 times as long as dm-cu). Wing measurements: length 2.50–2.58 mm, width 0.71–0.75 mm, Cs_3 : Cs_4 = 1.91–1.95, r-m\dm-cu : dm-cu = 3.25–3.38. Abdomen with preabdominal terga resembling those of congeners. T1 as in male, fused with T2; T2–T4 subequal in length but becoming wider posteriorly, T4 widest. T2 tapered anteriorly but posteriorly almost as broad as T3; T5 slightly tapered posteriorly, shorter and narrower than T4. Preabdominal sterna narrow but less elongate than those of male. S2–S4 subequal in width, all only slightly longer than broad; S2 wider anteriorly, narrowed posteriorly where as broad as S3; the latter suboblong; S4 somewhat narrower anteriorly than posteriorly; S5 somewhat wider than both S4 and S6, about as long as broad, with all corners rounded.

Postabdomen (Figs 107–109) most similar to that of *P. grandiloba* except for following. T6 slightly shorter but both anteriorly and posteriorly pale margined (Fig. 108) and less densely setose; S6 very similar but with only posterior marginal area pale pigmented (Fig. 109). T7+S7 dorsally (Fig. 108) with anterior emargination as in *P. grandiloba* but with pale-pigmented anterior and posterior marginal areas, both being extended laterally (Fig. 107) as well as ventrally (Fig. 109), where the anterior is narrow and sinuate as in *P. curta* and posterior relatively broad as in *P. grandiloba,* with 7th spiracle embedded at boundary of anterior pale-pigmented marginal stripe. T8 flat as in relatives but distinctly wider than long, transversely suboblong, with simple posterior margin and all brown, with several longer setae, those in posterior corners very long (Fig. 108). Posteroventral part of 8th segment distinguished by secondary sclerotization, pigmentation and dense micropubescence of pleural and ventral membranes (see Figs 106, 107, 109) and S8 being shifted dorsally on its caudal side (see Fig. 106) and divided into two separate sclerites having internal posterodorsal lobes partly fused with paired internal sclerites of genital chamber. Genital chamber (Figs 111, 112) with relatively large (medially meeting) posterior paired sclerites (broader than in relatives and with a group of grain-like excrescences on dorsolateral surface) and with a frontocaudally compressed and laterally curved annular sclerite situated unusually close to posterior paired sclerites. Ventral receptacle (Figs 111, 112) elongately conical with smooth surface as in relatives, indistinctly separated from broad, distally curved and externally finely wrinkled duct resembling that of *P. grandiloba* but, in contrast to latter species, this duct is somewhat constricted in the middle and its proximal part similarly convergently wrinkled as that of *P. curta*. Spermathecae 1+1, ovoid (Fig. 110), each with smooth surface in proximal half and very finely transversely striated in distal half; spermathecal duct with terminal cervix shorter than in relatives, and hardly constricted in the middle (Fig. 110). T10 (Figs 107, 108) short, transversely oblong and relatively dark pigmented, sparsely micropubescent and with 1 pair of (more distant) setae and 1 unpaired shorter seta between them. S10 (Figs 107, 109) elongately pentagonal, longer than broad, longer than that of both congeners but similarly micropubescent and setose. Cercus (Figs 107–109) brown, relatively robust and setose as in *P. grandiloba*, but somewhat narrower, more elongate.

Discussion. The new species, *Pectarista planta* sp. nov., also externally closely resembles both relatives. Although it can be recognized by its broader wings and colouration of the male tarsi and other external features (see the key), its most diagnostic characters are the shape and armature of the gonostylus (Fig. 96) and of the apex of the filum of the distiphallus (Fig. 103), the modified (enlarged) connecting sclerite, and the secondarily sclerotized part of folding apparatus situated behind the connecting sclerite and phallophore (see Fig. 100). The female externally differs only slightly from females of its congeners (see the key), but is distinguished by its unique, secondarily sclerotized pleural and ventral membranes of the 8th postabdominal segment and the bipartite S8 shifted dorsally on its caudal side (Figs 106, 109). Considering these highly derived characters, *P. planta* can be viewed as the most derived species of the genus.

Etymology. The name '*planta*' (a Latin substantive in apposition; = sole) reflects the similarity of the gonostylus (in sublateral view, see Fig. 96) of the new species to the sole of the human foot with seven short toes.

Biology. The type material of *P. planta* sp. nov. (3 males, 2 females) was collected in November in the famous Kakamega Forest, most probably in glades within the rainforest.

Distribution. The new species is known only from the type locality, Kakamega Forest in W Kenya.

Key to species of the genus *Pectarista*

1 Males. Fore leg with yellow tibia and tarsus except for blackish-brown to black 1 or 2 last tarsal segments (Fig. 44). 2
– Females. Fore tibia and entire tarsus blackish brown or black (Fig. 72). 4
2(1) Fore tarsus with 2 distal segments blackish brown to black; mid tarsus pale yellow with 2 distal segments blackish brown and also 3rd segment brownish. f_1 with anteroventral row of 4 or 5 shortened and thickened setae in distal third (Fig. 76). Antennal pedicel unicolourous, pale brown to brown. S4 markedly elongate and S6 with 3 flat anterior processes (Fig. 78). Gonostylus subbasally constricted but short (Fig. 79) and with distinct micropubescence on posterior side (Figs 77, 80). Hypandrial internal lobes less expanded, not exceeding sides of hypandrial frame (see Fig. 83, hl). ..... ***P. curta* sp. nov.**
– Fore tarsus with only last segment blackish brown; mid tarsus with 2 distal segments or only last segment blackish brown and penultimate segment ochreous; f_1 with anteroventral row of only 2 or 3 shortened and thickened setae in distal third. Antennal pedicel bicolourous, with outer side brown and inner side of its distal half yellow to orange. S4 less elongate and S6 with only 2 flat anterior processes (Figs 48, 95). Gonostylus of different shape (Figs 50, 96) and always without micropubescence on outer side. Hypandrial internal lobes strongly expanded, distinctly exceeding

sides of hypandrial frame (Fig. 54, hl). 3

3(1) Head distinctly (1.4×) higher than long. Mesonotum with sparse golden-brown microtomentum. Mid tarsus with last segment blackish brown and penultimate segment ochreous (not brown or blackish brown) and hind tarsus with last segment brown. Wing broader (Figs 47, 74). S4 and S5 narrower, microtomentose, without unpigmented margins (Fig. 95). Gonostylus small, resembling the sole of a foot with seven 'toes', five of them represented by short blunt spines (Fig. 96). .... ***P. planta* sp. nov.**

– Head only slightly (1.2×) higher than long. Mesonotum with dark brownish-grey microtomentum. Mid tarsus with both distal segments blackish brown and 3rd (middle) segment more or less darkened brownish; hind tarsus with last segment blackish brown. Wing narrower (Figs 44, 45). S4 and particularly S5 much wider, with very reduced microtomentum and with unpigmented posterior marginal areas (Fig. 51). Gonostylus robust, subbasally constricted and distally dilated, anteroventrally with projecting corner, finely setulose (Fig. 50). ..... ***P. grandiloba* sp. nov.**

4(3) Mid tarsus pale yellow with 2 distal segments blackish brown and also 3rd segment brownish. Antennal pedicel unicolourous brown. S6 uniformly brown pigmented including marginal areas (Fig. 90). T7+S7 dorsally without anterior emargination (Fig. 89) and posteriorly uniformly dark pigmented (Figs 88−90). Genital chamber with annular sclerite less compressed (Fig. 92). ..... ***P. curta* sp. nov.**

– Mid tarsus with 2 distal segments blackish brown or only last segment blackish brown and penultimate segment ochreous. Antennal pedicel bicolourous, with outer side brown and inner side or only its distal half yellow to orange. S6 with unpigmented posterior marginal area (Figs 61, 109). T7+S7 dorsally with anterior emargination (Figs 59, 108) and with unpigmented band along entire posterior margin (Figs 59−61, 107−109). Genital chamber with annular sclerite more compressed (Figs 69, 111). 5

5(4) Head distinctly (1.4×) higher than long. Mesonotum with sparse golden-brown microtomentum. Mid tarsus with last segment blackish brown and penultimate segment ochreous (not brown or blackish brown) and hind tarsus with last segment brown. Wing broader, with broad middle transverse white band (Fig. 47). T8 brown (also posteriorly) and distinctly wider than long. Posteroventral part of pleural membrane of 8th segment secondarily sclerotized, dark pigmented and densely micropubescent (see Figs 107, 109) and S8 (Figs 106, 107, 109) shifted dorsocaudally. Genital chamber with posterior paired sclerites broad in ventral view and annular sclerite situated close to them (Fig. 111). ..... ***P. planta* sp. nov.**

– Head only slightly (1.2×) higher than long. Mesonotum with dark brownish-grey microtomentum. Mid tarsus with both distal segments blackish brown and 3rd (middle) segment more or less brownish darkened; hind tarsus with last segment blackish brown. Wing narrower, with middle transverse white band narrow, composed of 3 spots (Fig. 45). Posteroventral part of pleural membrane of 8th segment normal, pale pigmented and finely micropubescent (Figs 60, 61); S8 also normal, situated ventrally. Genital chamber with posterior paired sclerites slender in ventral view (Fig. 67) and annular sclerite situated far from them (Figs 66, 67). ..... ***P. grandiloba* sp. nov.**

Virgatomyza gen. nov.

Type species. *Virgatomyza helvior* sp. nov., here designated.

Diagnosis. (1) ***Head*** slightly to distinctly higher than long.
(2) Eye moderate in size, broadly subovoid, with longest diameter slightly oblique; gena relatively high.
(3) Frons mostly dull, frontal triangle relatively large, reaching to anterior fourth to fifth of frons.
(4) Frontal lunule small, relatively narrow and depressed.
(5) Occiput distinctly concave, with a pair of small oval patches of silvery-white microtomentum just above foramen.
(6) Vertex (= top of head) without silvery microtomentose spots between frontal triangle and posterior part of fronto-orbital plates.
(7) Antenna geniculate, pedicel simple;
(8) arista with very short ciliation.
(9) Palpus yellow, with 1 usual subapical seta.
Cephalic chaetotaxy:
(10) pvt relatively long, strongly crossed;
(11) vti (and posterior ors) longest cephalic seta, vte and oc distinctly shorter;
(12) 3 ors, but the anterior short, 0–1 microsetulae in front of the latter;
(13) a single long row of small postocular setulae;
(14) 1 long vi; subvibrissa also long, up to three-fourths of vi length;
(15) peristomal setulae small and sparse.
(16) Posterior corner of head rounded.
(17) Antenna and face with same colouring in both sexes.
(18) ***Thorax*** about as wide as head.
(19) Thorax bicolourous, with longitudinal brown vittae on mesonotum and sometimes also on pleuron.
Thoracic chaetotaxy:
(20) 1 hu; 2 npl (anterior longer);
(21) 1 distinct prs;
(22) 1 shorter sa, 1 longer pa;
(23) 3 (all postsutural) dc but the most anterior markedly shorter, posterior dc and apical sc longest thoracic setae;
(24) ac microsetae relatively sparse, in 4 rows on suture, in 2−4 more posteriorly; medial ac pair between posterior dc often distinctly enlarged;
(25) 2 sc, basal very short and weak, apical usually as long as posterior dc;
(26) 1 distinct although fine ppl;
(27) 2 stpl, posterior more or less longer.
(28) Legs largely yellow, only apical tarsal segments usually brownish darkened.
(29) f_1 with posteroventral ctenidial spine strongly reduced, only 2−5× longer than basally thick (Figs 128, 189);
(30) t_2 with short ventroapical seta.

(31) Male f_3 with a posteroventral row of sparse setae, 3–6 of them in distal third somewhat thickened and shortened.
(32) Wing long but not very narrow;
(33) wing membrane often with longitudinal brownish band in the middle and whitish-hyaline anterior and posterior marginal areas (Fig. 113);
(34) veins in dark areas dark pigmented but those in whitish parts pale ochreous (C, Sc, R_1) to almost white (R_{2+3}).
(35) C usually with distinct but sparse spinulae between apices of R_1 and R_{2+3};
(36) R_{2+3} long, subparallel with C, in distal half somewhat converging and apically slightly upcurved to it;
(37) R_{4+5} straight, very slightly bent (recurved), distally subparallel with M;
(38) discal (dm) cell relatively long and broad, widened distally, with r-m situated distinctly in front of its middle;
(39) apical portion CuA_1 slightly shorter to slightly longer than dm-cu and almost reaching wing margin;
(40) A_1 short, ending far from wing margin.
(41) Anal lobe well developed; alula small, narrow but distinct.

Male abdomen.

(42) T1 and T2 dorsally separate, laterally fused;
(43) T2–T5 large and broad, all uniformly dark pigmented;
(44) S1–S5 narrow and paler than terga (S1 shortest and bare).

Male postabdomen:

(45) T6 reduced, short, weakly sclerotized, pale brown but medially unpigmented, bare or with 1–4 short setae (Fig. 141);
(46) pregenital synsclerite S6–S8 largely pale pigmented, contrasting with dark preabdominal terga and epandrium.
(47) S6 and S7 strongly asymmetrical (Figs 141–143), S6 with 0−4, S7 with 0–2 setulae.
(48) S8 less asymmetrical, longer than S7, setose in posterior half.
(49) 6th left spiracle unusually situated in membrane below margin of T6; 7th spiracle embedded in dorsolateral fusion of dark anterior ledges of S6 and S7 (Fig. 142).

Male genitalia.

(50) Epandrium moderate, wider than high, with 1–2 pairs of longer setae in addition to short setosity.
(51) Medandrium large, high, tapered dorsally, with more or less projecting dorsolateral corners.
(52) Cercus medium long to relatively large, projecting ventrally and with long setae (apical longest).
(53) Gonostylus long and slender, gradually tapered towards apex, usually terminated by 1 or 2 denticles, with micropubescence on outer side, setose on inner side.
(54) Hypandrium relatively robust, symmetrical (ovoid in dorsal view) and well sclerotized, with internal lobes reduced, membranous (Fig. 129);
(55) transandrium broad, medially almost straight, with ventrally projecting and distally forked caudal process (Fig. 123).
(56) Pregonite fused with hypandrial frame, bilobed, with 2 ventrally (anterior less, posterior more) projecting lobes and 2 respective groups of setae;
(57) postgonite very slender, strap-like, with 1 long anterolateral seta in proximal fourth.
(58) Phallapodeme slender (in dorsal view), with triangularly dilated and flat base (often with narrow incision) and apex mushroom-like in dorsal view (Fig. 127).

Aedeagus with

(59) short and simple compact phallophore.
(60) Distiphallus composed of largely membranous saccus and usually long, slender and sclerotized filum.
(61) Saccus largely membranous, only dorsoproximally with a pair of strip-like sclerites and a small basal sclerite; membranous distal part without surface structures (Fig. 125) or with some small grain-like excrescences (Fig. 150).
(62) Filum (Fig. 125) slender, formed by two ribbon-shaped sclerites being only basally fused; and one of them shortened, the other long and terminally forming slightly trough-shaped apex (Fig. 124);
(63) a short ventral sclerite (see Fig. 125) is present between filum and phallophore.
(64) Aedeagal part of folding apparatus membranous, largely finely striated, only posteriorly usually with small flat lenticular excrescences (Fig. 125);
(65) connecting sclerite long, slender, dark pigmented and posteriorly spinulose along most of its length (Fig. 125);
(66) basal membrane between and below arms of caudal process small, with a group of small hyaline tubercle-like excrescences.
(67) Ejacapodeme small, distally with knob-like capitellum projecting into variably long subconical to digitiform process.
(68) ***Female abdomen*** with broader, more transverse preabdominal terga and narrower and paler sterna; T2–T5 usually uniformly dark brown to yellow; S2−S6 always lighter than terga.
(69) Postabdomen moderately elongate, tapered posteriorly, with segments retractible.
(70) T6 large, usually trapezoidal to suboblong, always with unpigmented posterior marginal band; S6 broad (widest sternum), often with dark transverse ledge-like structure in middle of anterior third;
(71) T7 and S7 separate (Fig. 135). T7 blackish brown, extended far onto ventral side of postabdomen (cf. Fig. 135); 7th spiracle situated within T7 or in its ventral margin.
(72) S7 pale pigmented, narrow, elongately suboblong to trapezoidal (posteriorly narrower), with distinctive micropubescence and long setae at posterior margin;
(73) T8 elongately suboblong, but not very narrow, anteriorly and anterolaterally poorly delimited from surrounding membrane, setose in posterior half.
(74) S8 shorter than T8 but dark pigmented, longitudinally divided into two parts and each of them posteromedially dorsally narrowly invaginated.
(75) Female genital chamber largely membranous, with internal structures reduced (Figs 136, 140), submembranous or absent; paired internal sclerites not developed;
(76) annular sclerite unusually modified to very elongated (over almost all lateroventral side of genital chamber) finely ribbon-shaped unpigmented structure (Fig. 140);
(77) Ventral receptacle (Figs 136, 137) little sclerotized, strongly hooked, resembling a sheep's horn and set on very short but broad duct;
(78) accessory gland (remnant of it) small, vesiculate, hyaline and finely granular, set on slender duct, being in the middle

somewhat dilated and several times constricted.

(79) Spermathecae (1+1) barrel-shaped, with short conical terminal invagination and more or less ringed surface, sometimes with some minute spinulae around duct insertion; spermathecal ducts very long (Fig. 139), with pale-pigmented terminal cervix.

(80) T10 small, variable in shape (wider than long), shorter and narrower than S10, with 1 medial pair of long setae, sometimes with 1 additional setula.

(81) S10 larger than T10, short to elongate rounded pentagonal.

(82) Cercus (Figs 133–135) relatively long, slightly flattened dorsoventrally, with longest dorsopreapical and apical seta and some long lateral setae in addition to shorter setulae.

Discussion. *Virgatomyza* gen. nov. undoubtedly belongs to the *Anthomyza* clade (group of genera) as delimited morphologically by Roháček & Barber (2016: fig. 601) and molecularly by Roháček et al. (2019) because it shares one of two synapomorphies of this group, viz. (74) S8 longitudinally divided into two parts and each of them posteromedially dorsally narrowly invaginated. Moreover, the general appearance, wing venation, chaetotaxies and also many structures of the male and female terminalia are very reminiscent of the genera *Anthomyza* Fallén, 1823 and *Epischnomyia* Roháček, 2006, but the shared characters are largely plesiomorphic and do not demonstrate sister-group relationships to any genus of this group. Significantly, *Virgatomyza* shares several distinct apomorphies with various genera belonging to the *Anthomyza* clade. For example, with *Fungomyza* Roháček, 1999 it seems to have in common character (75) female genital chamber largely membranous, with internal structures reduced, submembranous or absent; with *Arganthomyza* Roháček, 2009 it shares (62) filum of distiphallus formed by two sclerites being partly (basally) fused; with *Ischnomyia* Loew, 1864 character (55) transandrium with ventrally projecting and distally forked caudal process; with *Epischnomyia* character (77) ventral receptacle (Figs 137, 184) sclerotized, strongly horn-like hooked and set on short broad duct (but in *Epischnomyia* species this duct is much longer). Interestingly, I have not found any synapomorphy shared with *Anthomyza*, although *Virgatomyza* species have the female postabdomen very similar to those of *Anthomyza* species having T7 and S7 separate, e.g. *A. sulphurea* Roháček, 2016 or *A. breviclavus* Roháček, 2021, the latter having moreover similarly longitudinally-banded wings (see Roháček 2021b: figs 18, 24).

Owing to a lack of more synapomorphies with other genera currently recognized in the *Anthomyza* group, a new genus, *Virgatomyza* gen. nov., is established here for the four Afrotropical species described below. This genus proved to be a compact group of very similar and closely allied species. It can be best delimited by the following combination of features (those apomorphic marked 'A', those unique 'U'): (5) occiput distinctly concave, with a pair of small oval patches of silvery-white microtomentum just above foramen (A); (10) pvt relatively long, strongly crossed; (12) 3 ors, but the anterior short; (19) thorax bicolourous, with longitudinal brown vittae (A); (23) 3 (all postsutural) dc; (29) f_1 with posteroventral ctenidial spine strongly reduced, only 2−5× longer than basally thick (A); (33) wing membrane with longitudinal brownish band in the middle and whitish-hyaline anterior and posterior marginal areas (A); (46) male pregenital synsclerite S6–S8 largely pale pigmented, contrasting with dark preabdominal terga and epandrium (A); (49) 6th left spiracle unusually situated in membrane below margin of T6 (?A); (55) transandrium broad, medially almost straight, with ventrally projecting and distally forked caudal process (A); (62) filum slender, formed by two ribbon-shaped sclerites being only basally fused and one of them shortened, the other long and terminally forming slightly trough-shaped apex (U); (71) female T7 and S7 separate; (74) S8 longitudinally divided into two parts and each of them posteromedially dorsally narrowly invaginated (A); (75) female genital chamber largely membranous, with internal structures reduced; (76) annular sclerite unusually modified to very elongated (over almost all lateroventral side of genital chamber) finely ribbon-shaped unpigmented structure (U); (77) ventral receptacle strongly hooked, resembling a sheep's horn and set on very short but broad duct (U).

Notes. i) The reduced ctenidial spine on the fore femur of *Virgatomyza* species, although surely synapomorphic for the genus, is not unique within the *Anthomyza* group of genera. A similarly abbreviated ctenidial spine is known in *Anthomyza sulphurea* from China (Roháček 2018: fig. 111) and in *A. aspina* Roháček, 2021 this spine is even entirely absent (Roháček 2021b: fig. 2).

ii) The brown-and-white longitudinal wing pattern also is not restricted to the genus *Virgatomyza* but has evolved independently in several other genera of the *Anthomyza* group. Similarly coloured wings are long known in the Nearctic *Ischnomyia albicosta* (Walker, 1857) and *Arganthomyza vittipennis* (Walker, 1857) (for detail see Roháček & Barber 2016), and in all three species of the genus *Epischnomyia* (occurring in E. Asia, see Roháček 2006, 2009, 2018). However, they were recently also recorded (Roháček 2020, 2021b) in two species of *Anthomyza*, viz. *A. caesarea* Roháček, 2020 (Taiwan) and *A. breviclavus* Roháček, 2021 (North Korea), the latter species having the pattern particularly similar to that of *Virgatomyza* species, i.e. having extreme apex of wing whitish. Considering this fact, it is not excluded that within *Virgatomyza* there might exist species with unpatterned hyaline wings because *V. bivirgata* already has the longitudinal dark band reduced, with fumose darkening only along the veins (Fig. 118).

The relationships of species within the genus *Virgatomyza* are not definitely resolved. The presence of a dorsal brown band on pleuron, the elongate oblong shape of the female S7, the short ventral receptacle and the distinctly ringed surface of the spermathecae indicate a close relationship between *V. helvior* and *V. bivirgata*. Similarly, *V. discolor* and *V. dissimilis* can be allied, as judged from the shared pale bluish microtomentum of the thorax, the posteriorly tapered female S7, the elongate ventral receptacle and the spermathecae with spinulae at

the proximal end. However, which of these characters are really synapomorphic is not clear.

Etymology. The name *Virgatomyza* is an abbreviated conjunction of *virgat*[*us* + *Anth*]*omyz*a, gender feminine. It is derived from the longitudinally striped (= *virgatus* in Latin) wing of all species included and also reflects the relationship of the new genus to the *Anthomyza* group of genera sensu Roháček & Barber (2016) and Roháček et al. (2019).

Species included. *Virgatomyza helvior* sp. nov. (Ethiopia, Kenya, Tanzania), *V. bivirgata* sp. nov. (Ethiopia), *V. discolor* sp. nov. (Kenya), *V. dissimilis* sp. nov. (Ethiopia). These four species are the first representatives of the *Anthomyza* group of genera recorded from the Afrotropical Region.

Virgatomyza helvior sp. nov.

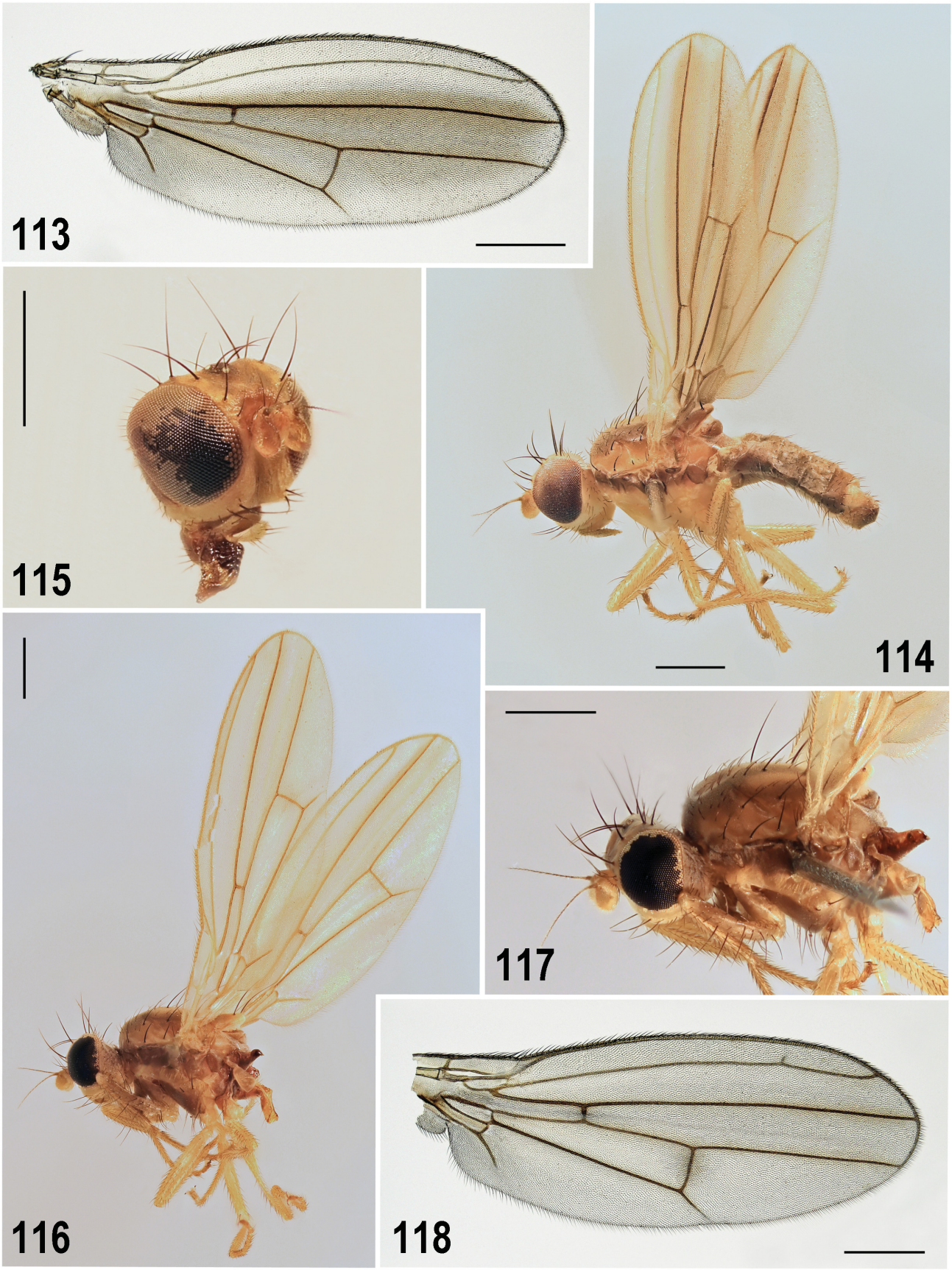
(Figs 113, 114, 119–140)

Type material. Holotype: ♂, labelled: 'ETHIOPIA: Bale, Bale Mountains, Robe, 30kmW, 2900m, 3.ii.2000, A. FREIDBERG & I. YAROM' and 'Holotypus ♂, *Virgatomyza helvior* sp. n., J. Roháček det. 2025' (red label). The specimen is intact (Fig. 114), minuten double pinned (TAUI). Paratypes: 2 ♂♂ (1 ♂, genit. prep.), with same data as for holotype (TAUI 1 ♂, SMOC 1 ♂). **ETHIOPIA:** 2 ♂♂, Bale, Bale Mountains, Micha River, 10 km S Goba, 3100 m, 1.ii.2000 (TAUI); 1 ♂ 2 ♀♀ (1 ♂ 1 ♀, genit. prep.), Bale, Bale Mountains, 10 km S Goba, 3200 m, 31.i.2000, (TAUI 1 ♂, SMOC 1 ♀); 1 ♀, Kefa, Jimma, 35 km S, 2700 m, 11.ii.2000, (TAUI), all A. Freidberg & I. Yarom leg.; 1 ♀, Gamo Gofa, Chencha, 40 km NW Arba Minch, 2800 m, 6.ii.2000, I. Yarom & A. Freidberg leg. (TAUI); 2 ♂♂ 2 ♀♀ (1 ♂ 2 ♀♀, genit. prep.), Sheva, Menagesha Forest, 9°02'N 38°35'E, 3050 m, 11.x.2005, (TAUI 1 ♂ 1 ♀, SMOC 1 ♂ 1 ♀). **KENYA:** 2 ♂♂ (1 ♂, genit. prep.), 30 km NE Kericho, 10.xi.1983, A. Freidberg leg. (TAUI 1 ♂, SMOC 1 ♂); 1 ♀, 15 km NE Kericho forest, 18.xi.1986, A. Freidberg leg. (TAUI); 1 ♀, Kericho, 2000 m, 20.xii.1986, I. Yarom & A. Freidberg leg. (TAUI); 1 ♂, Molo 19, 27.xi.1986, A. Freidberg & Fini Kaplan leg.; 1 ♂, Gilgil, 8.x.1998, F. Kaplan & A. Freidberg leg.; 1 ♀, Aberdare, 3000–4000 m, 1.xii.1986, A. Freidberg leg. (all TAUI); 1 ♂ 1 ♀ (both genit. prep.), Taita Hills, Vuria Peak, 3°24'S 38°18'E, 2200 m, 19.ix.2005, A. Freidberg leg. (TAUI 1 ♂, SMOC 1 ♀). **TANZANIA:** 1 ♂ (genit. prep.), Ngorongoro Wildlife Lodge, 2250 m, 3.–4.ix.1992, A. Freidberg leg. (TAUI). All paratypes with same type label as the holotype but it is yellow and has 'Paratypus ♂ or ♀' instead of 'Holotypus ♂'.

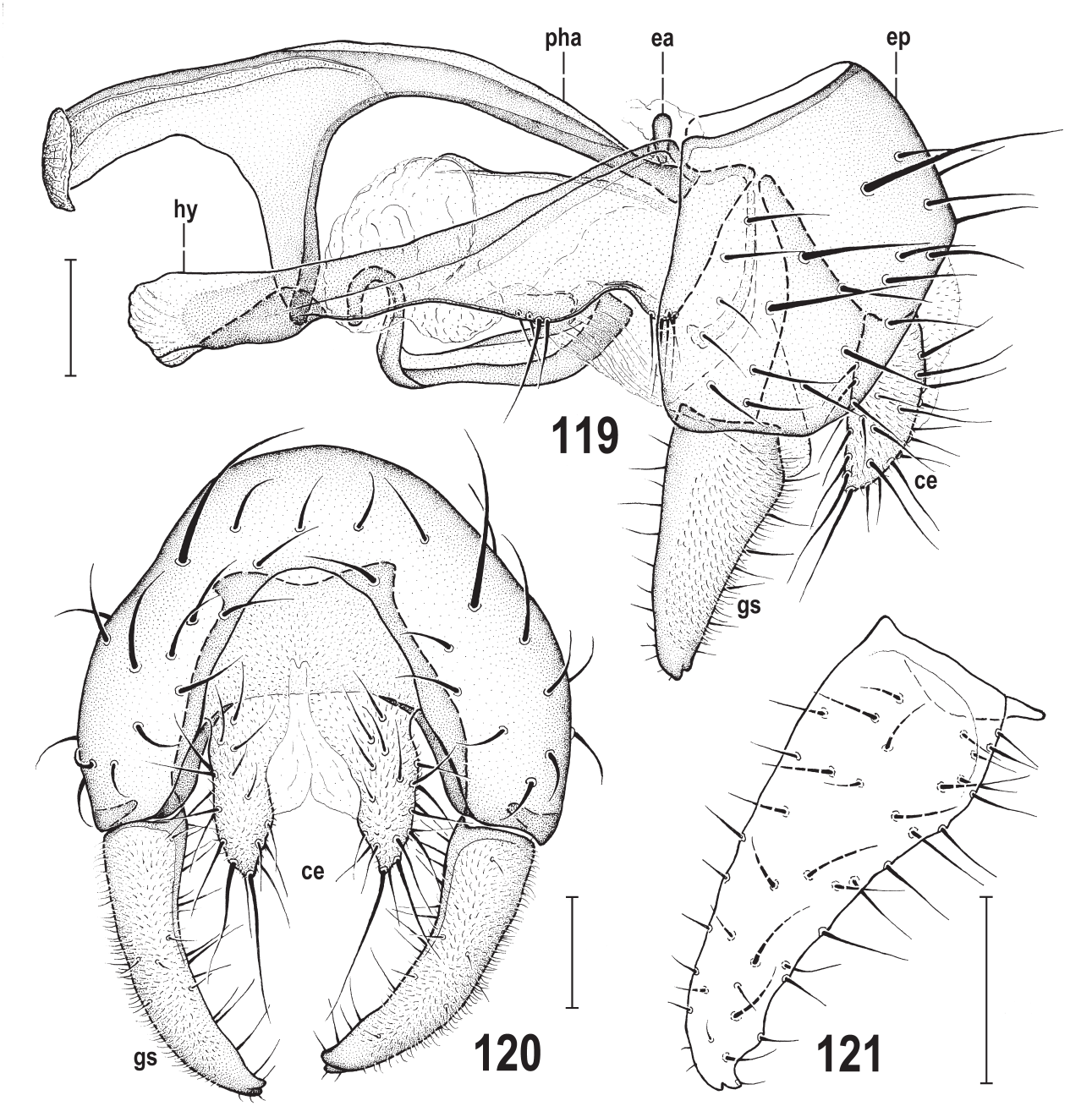
Description. ***Male.*** Total body length 2.42–2.98 mm. Body bicolourous, largely yellow or ochreous yellow, with partly or largely brown head and longitudinal brown vittae on thorax (Fig. 114) and dark brown preabdominal terga; sparsely pale-grey microtomentose, subshining.

Head about 1.3× higher than long, anteriorly rounded in profile. Colouration of head unusually variable, ranging from largely yellow to pale brown, only ocellar triangle always dark brown. Occiput distinctly concave, yellow (only laterally somewhat darkened) to largely brown with only medial third ochreous to yellow, lightest ventrally below foramen and entirely sparsely grey microtomentose but with a pair of small oval patches of silvery-white microtomentum just above foramen. Frontal triangle relatively large, delimited by slightly depressed lateral margins, usually paler and more glittering than adjacent areas (except for fronto-orbital plates) and reaching to anterior fourth or fifth of frons. Ocellar triangle small, dark brown, microtomentose and dull, with relatively small ocelli. No silvery spots on vertex between posterior end of frontal triangle and fronto-orbital plates. Fronto-orbital plate pale yellow to dark ochreous but always with whitish (but not dense) microtomentum. Frontal lunule small, relatively narrow and depressed, yellow. Face yellowish white to dark ochreous and whitish microtomentose, only marginal stripe separating it from similarly coloured parafacialia darker and bare. Parafacialia, gena and postgena whitish yellow to pale brown, all silvery-white microtomentose. Mouthparts ochreous with distinctly paler palpus; clypeus pale yellow to ochreous. Cephalic chaetotaxy: all macrosetae long and strong; pvt relatively long (one-third to half length of vti but thin) and crossed in their middle; vti and posterior ors subequal and longest of cephalic setae; vte distinctly shorter than vti; oc shorter and thinner than vti, slightly divergent and strongly proclinate; 3 ors but only 2 posterior long (middle only slightly shorter than, sometimes as long as hindmost ors), foremost ors short and weak, one-third to half length of middle ors; 2 (rarely 1) pairs of medial microsetulae near anterior corner of frontal triangle; postocular setulae (10–12) in one long row and almost as long as peristomal setulae; 1 setula behind vte hardly longer than uppermost postocular setula; vi long (almost as long as middle ors but thinner); subvibrissa also long, two-thirds to three-fourths of vi length; peristomal setulae (8–9) relatively small; posterior corner of occiput and postgena with scattered setulae plus 1–2 slightly longer posteroventral setae. Palpus yellow, with usual longer preapical seta and 5 or 6 short setulae ventrally or lateroventrally. Eye not very large, broadly subovoid, dorsally wider, ventrally tapered; its longest diameter slightly oblique and about 1.2 times as long as shortest. Gena short, its height about 0.12 times as long as shortest eye diameter. Antenna also somewhat variable in colouration, with yellow to orange-ochreous scape and pedicel; 1st flagellomere laterally flattened, distinctly bicolourous, proximally and ventrally narrowly pale to dark yellow, rest (on both sides) pale brown to brown, with short whitish cilia; arista about 2.1 times as long as antenna, blackish brown including both thickened basal segments and very short dark ciliation.

Thorax about as broad as head, bicolourous, yellow or dark yellow on ground, with longitudinal brown vittae both on mesonotum and pleuron (Fig. 114), sparsely pale grey microtomentose, subshining. Mesonotum yellow laterally and medially, with a pair of relatively broad brown bands between prs-sa and dc lines being extended on lateral sides of scutellum; humeral callus, postscutellum and mediotergite brown but notopleural area and laterotergite yellow as adjacent part of mesonotum; scutellum yellow medially (including apex) but laterally brown and also posteromedially ventrally narrowly brown margined. Pleural part of thorax sparsely microtomentose and more shining than mesonotum, largely yellow to pale yellow but dorsally with longitudinal brown stripe extended from dorsal part of propleuron (and humeral callus) to haltere. Thoracic chaetotaxy: All macrosetae relatively long but fine; 1 hu (almost as long as anterior npl), 2 npl (anterior distinctly longer), 1 distinct prs (as long as anterior npl), 1 slightly shorter sa, 1 longer pa; 3 postsutural dc; foremost dc small and weak (only half length of middle dc) and situated just behind suture, middle dc long and relatively robust (slightly longer than pa), posterior dc very long, together with apical



Figs 113–118. *Virgatomyza* species. 113–114 – *V. helvior* sp. nov.: 113 – male paratype, wing; 114 – male holotype, habitus, left laterally. 115–118 – *V. bivirgata* sp. nov.: 115 – male holotype, head, right anterolaterally; 116 – female paratype, habitus (abdomen removed), left laterally; 117 – female paratype, head and thorax, left laterally; 118 – male paratype, wing. Scale bars: 0.5 mm.

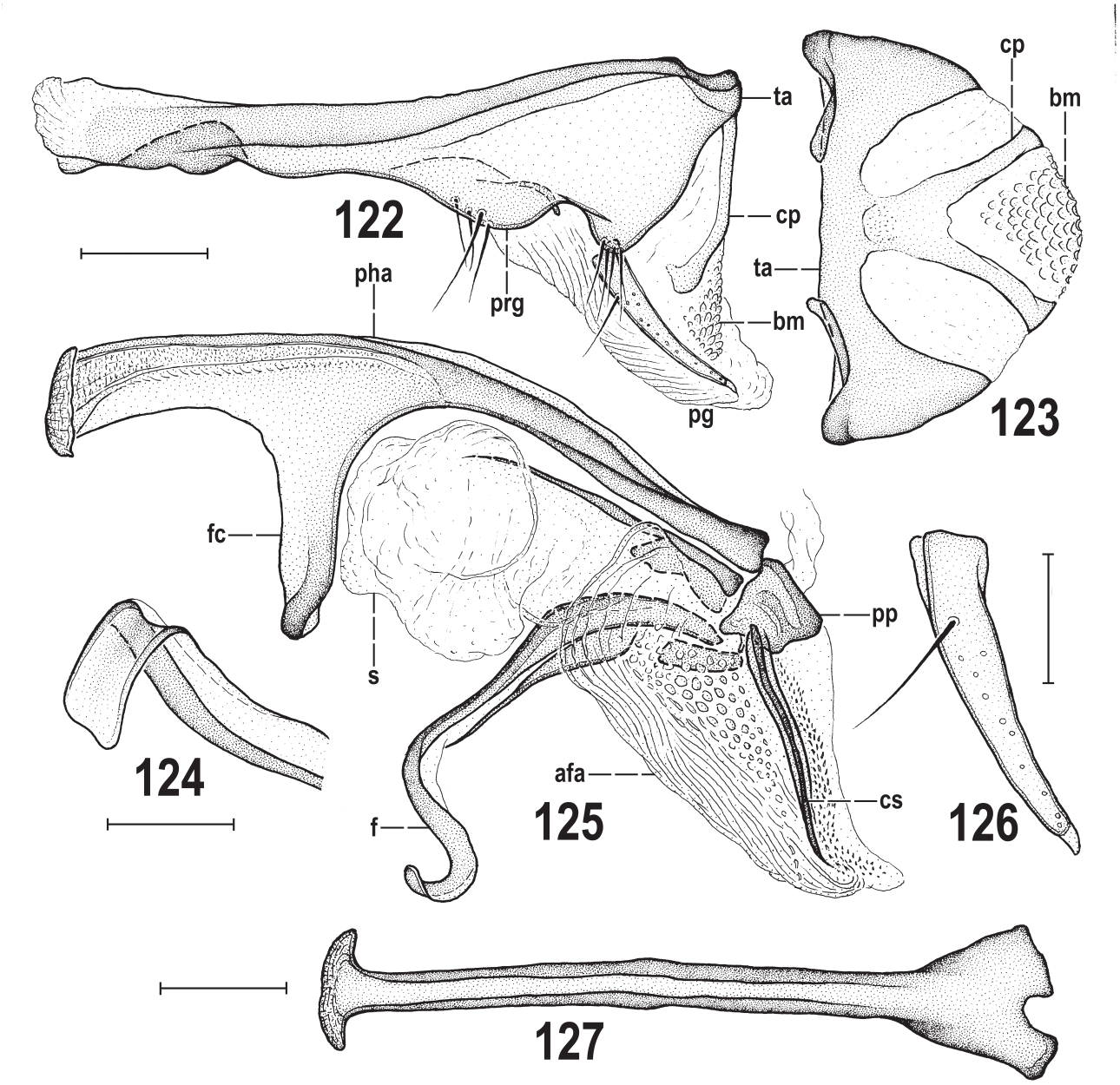


Figs 119–121. *Virgatomyza helvior* sp. nov., male paratype. 119 – whole genitalia, left laterally; 120 – external genitalia, caudally; 121 – gonostylus, ventrolaterocaudally (largest extension, micropubescence omitted). Scale bars: 0.1 mm. For abbreviations see Material and methods.

sc longest of thoracic setae; 5 dc microsetae in front of anterior dc; ac microsetae fine and sparse, in 4 rows on suture and in 4 (or only 2) rows between posterior dc, medial pair between posterior dc distinctly prolonged (twice or more as long as other ac microsetae); 2 sc, apical strong and as long as posterior dc, laterobasal relatively long but weaker, almost as long as middle dc; 1 distinct ppl, reaching to half of propleuron; 2 long stpl (anterior distinctly shorter), 2–3 upcurved setulae below and 1 in front of anterior stpl and 3 or 4 longer setae and several setulae on ventral corner of sternopleuron. Scutellum triangular with rounded apex, relatively long and almost flat dorsally.

Legs generally yellow, coxae and trochanters usually lighter and femora (on their distal half) somewhat darkened, apical segment of all tarsi brownish (Fig. 114). f_1 with posteroventral ctenidial spine very reduced, only 2–3× longer than basally thick and usually differently directed (more parallel to longitudinal axis of femur) than other setae in the row (see Fig. 128); setae in posterodorsal and posteroventral rows relatively sparse and only 3–5 of them long; t_2 with very short (about as long as maximum width of tibia) ventroapical seta; f_3 with a long row of posteroventral setae, 4–6 of them in about distal third somewhat thickened and shortened but those also sparsely spaced; fore basitarsus with 2 ventrobasal setulae enlarged but not thickened; other parts of legs simply finely setulose.

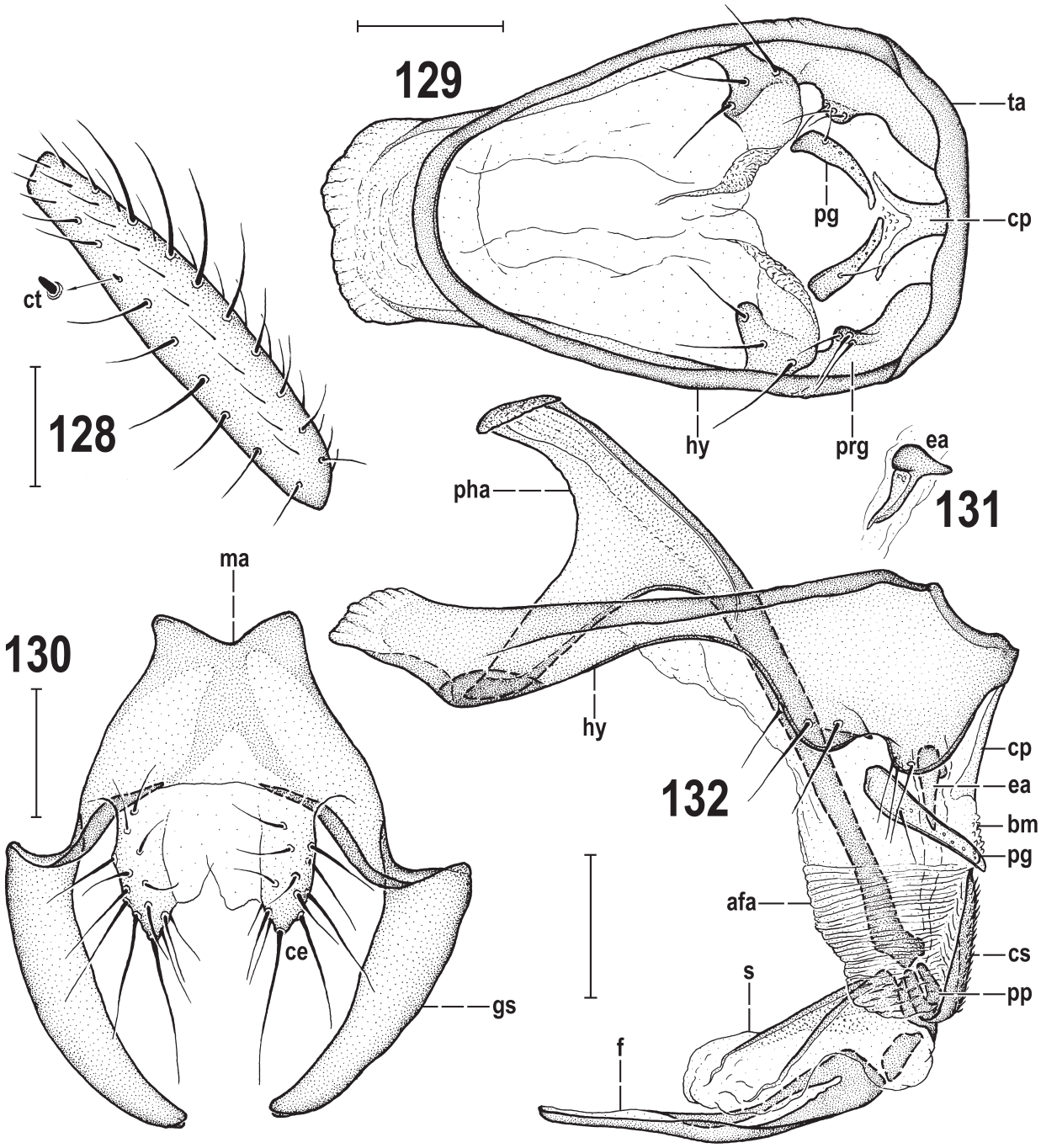
Wing (Fig. 113) long but not very narrow; membrane with longitudinal brownish band in the middle and whitish-hyaline anterior and posterior marginal areas. However, this brownish pattern is not homogenous but



Figs 122–127. *Virgatomyza helvior* sp. nov., male paratype. 122 – hypandrial complex, left laterally; 123 – transandrium, caudally; 124 – apex of filum of distiphallus, lateroventrally (largest extension); 125 – aedeagal complex, left laterally (ejacapodeme not illustrated, lost); 126 – postgonite, left laterally; 127 – phallapodeme, dorsally. Scale bars: 0.1 mm (Figs 122, 123, 125, 127), 0.05 mm (Figs 124, 126). For abbreviations see Material and methods.

darker along veins R_{4+5}, M, CuA_1 and A_1 and lighter in the middle of cells r_{4+5} and dm and at wing apex; cell bm entirely pale while cell cup dark brown; correspondingly to dark pigmentation of membrane, all veins in dark areas are dark pigmented, while those in whitish parts are pale ochreous (C, Sc, R_1) to dirty white (R_{2+3}). C with distinct but sparse spinulae between apices of R_1 and R_{2+3}. R_{2+3} subparallel to C, in distal half somewhat converging and apically slightly upcurved to it. R_{4+5} ending close to wing apex, very slightly bent (recurved) and distally parallel or very slightly convergent to M; the latter almost straight. Discal (dm) cell relatively long and broad, with r-m situated distinctly in front of its middle (in about basal two-fifths); apical portion of CuA_1 usually slightly longer than dm-cu and almost reaching wing margin; A_1 short, ending far from wing margin. Alula small, narrow but distinct; anal lobe well developed. Wing measurements: length 2.78–3.53 mm, width 0.89–1.17 mm; Cs_3 : Cs_4 = 0.92–1.30, rm\dm-cu : dm-cu = 2.60–3.30. Haltere with ochreous stem and darker brown knob.

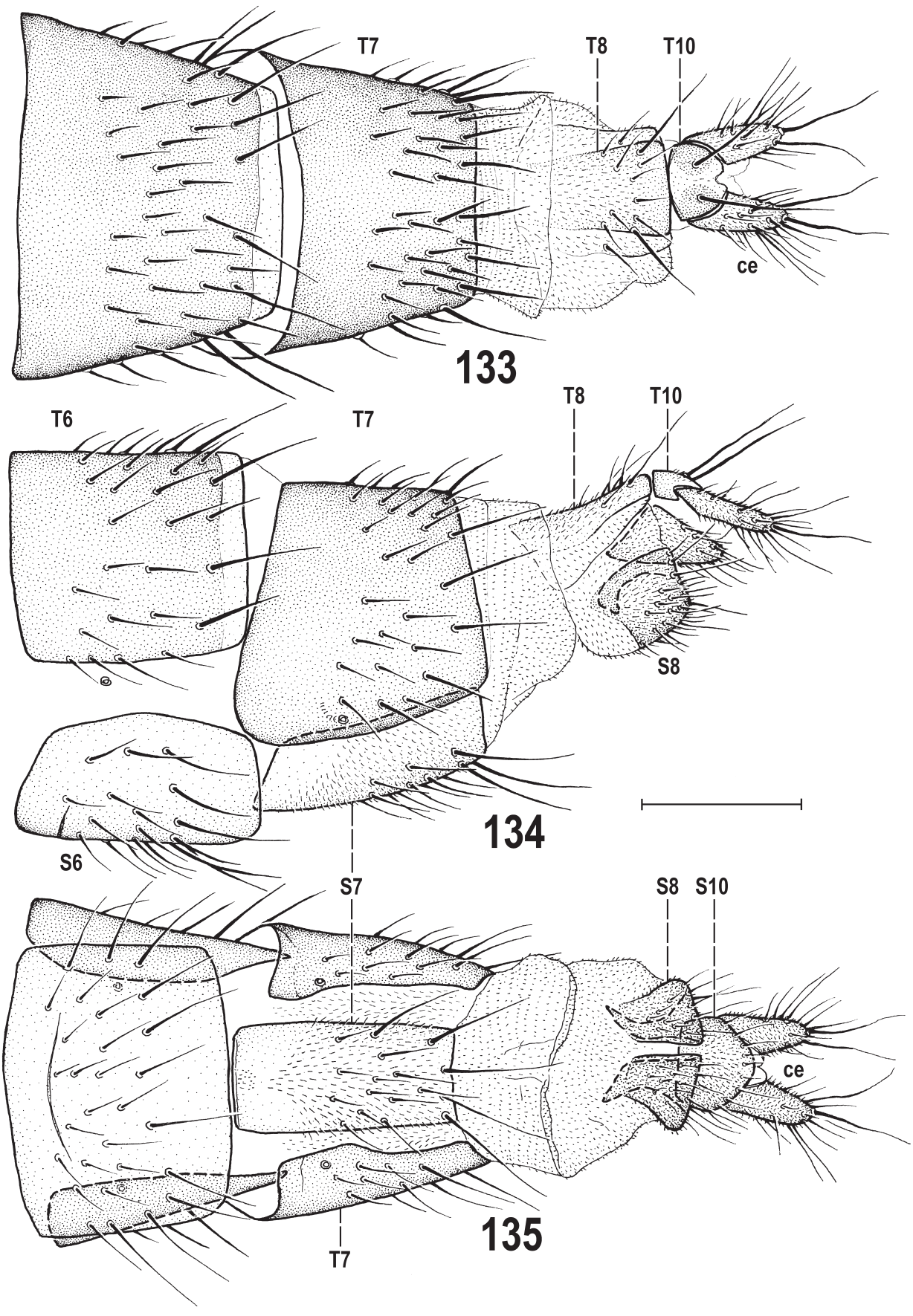
Abdomen with terga and sterna sparsely grey microtomentose, more shining than mesonotum. Preabdominal terga large, bent ventrally onto pleural part of abdomen, all brown to dark brown but slightly lighter than epandrium. T1 only dorsally separate from T2, shortly and sparsely setulose. T2–T5 unicolourous and uniformly sparsely setose. T2 somewhat shorter than T3, T3–T5 subequal in length and width or becoming very slightly narrower posteriorly. Preabdominal sterna narrower but relatively large, whitish yellow to ochreous, S1 bare, S2–S5 more finely but longer setose than associated terga. S1 short, transverse, darkened at posterior margin; S2–S4 as long



Figs 128–132. *Virgatomyza helvior* sp. nov., male paratype. 128 – left fore femur, posteriorly; 129 – hypandrial complex, ventrally; 130 – medandrium, gonostyli and cerci, caudally (micropubescence omitted, gonostylus also with setae omitted); 131 – ejacapodeme (largest extension); 132 – internal genitalia (hypandrial and aedeagal complex) in erect position, left laterally. Scale bars: 0.2 mm (Fig. 128), 0.1 mm (Figs 129–132). For abbreviations see Material and methods.

as wide to slightly wider than long, suboblong; S5 largest, posteriorly distinctly wider than anteriorly, subtrapezoidal, unicolourous, with long setae (longer than those on other preabdominal sclerites) posterolaterally. T6 short, transverse, usually with a few (1–4) short setae, pale brown but seemingly bipartite because dorsomedially unpigmented. S6–S8 dorsally fused to form pregenital synsclerite. S6–S7 asymmetrical, pale ochreous, with only very thin anterior ledge-like margins brown. S6 with 1–4, S7 with 1 or 2 small setae. S8 distinctly longer than S7, situated dorsally, more symmetrical and somewhat darker than S6 and S7 (but contrasting with dark brown epandrium) and setose in posterior two-thirds.

Genitalia. Epandrium (Figs 119, 120) medium sized, wider than high, with large, ventrally broad anal fissure (see Fig. 120), relatively sparsely setose, with longer setae laterally, that dorsolateral longest. Cercus (Figs 119, 120) relatively large, projecting ventrally and with long setae (apical longest). Medandrium (see Fig. 120) large, tapered dorsally, with somewhat projecting dorsolateral corners, entirely bare, its lateral arms connected with gonostyli. Gonostylus (Figs 119–121) long and slender (but shorter



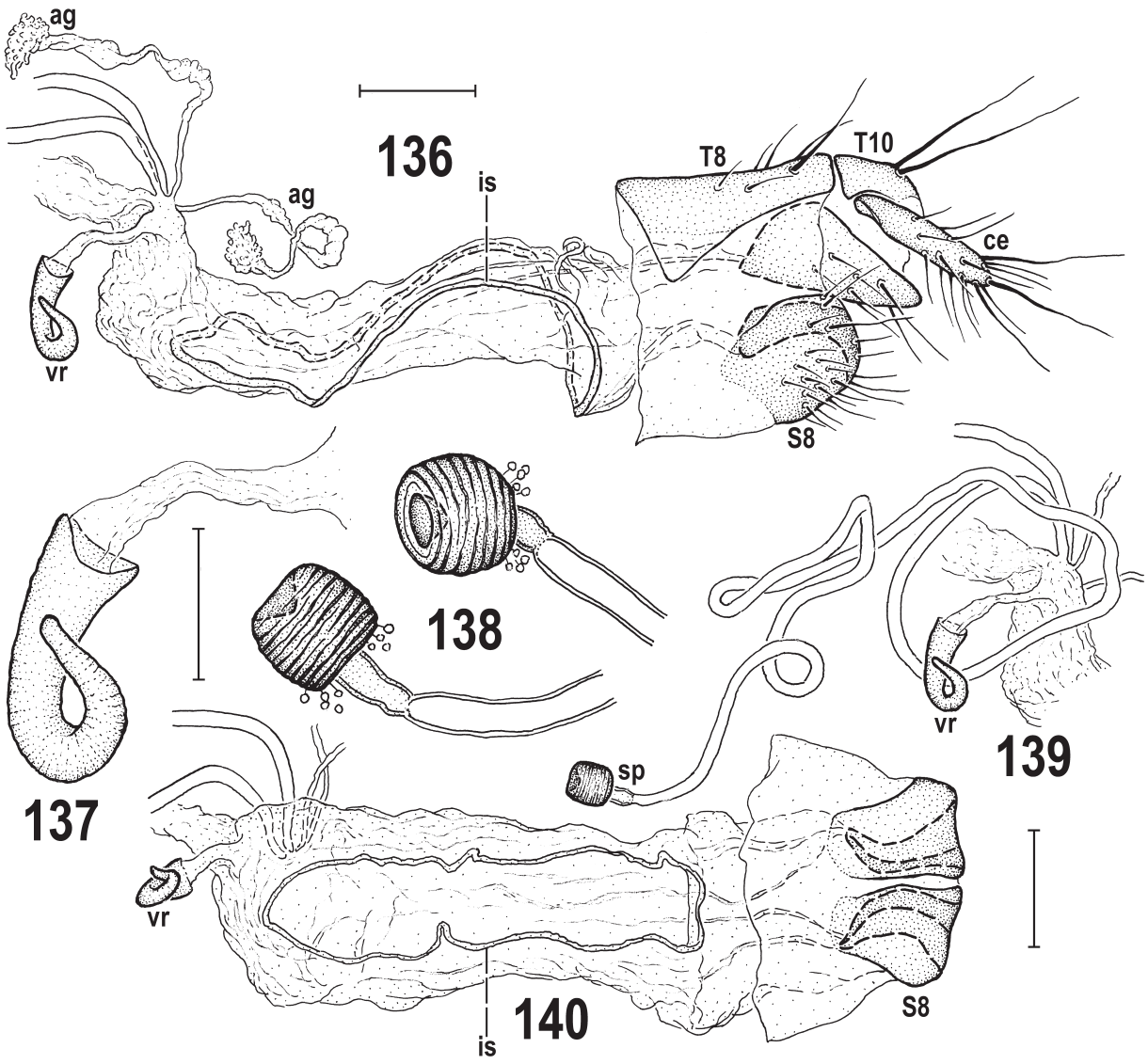
Figs 133–135. *Virgatomyza helvior* sp. nov., female paratype, postabdomen. 133 – dorsally, 134 – left laterally, 135 – ventrally. Scale bar: 0.2 mm. For abbreviations see Material and methods.

than epandrial height), somewhat curved medially, widest proximally and gradually tapered towards apex, the latter slightly bent posteriorly and terminating in 2 denticles (Fig. 121), micropubescent on outer side except for anterior margin and apex, and with setae (not very long) largely on inner side. Hypandrium (Figs 122, 129, 132) not large compared to epandrium but relatively robust, particularly posteriorly where widest (Fig. 122); hypandrial lobes reduced and membranous (Fig. 129). Transandrium (Fig. 123) broad, medially straight, with ventrally projecting and distally forked but slender caudal process (Fig. 123); basal membrane between and below arms of caudal process small, with a group of small hyaline tubercle-like excrescences (Figs 122, 123). Pregonite (Figs 122, 129, 132) fused with posterior part of hypandrium, distinctly bilobed, with anterior lobe usually low and longer, posterior shorter and more bulging; anterior lobe with 3 or 4, posterior with 3–5 subequal setae (Figs 122, 132). Postgonite very slender, strap-like, distally somewhat tapered (Fig. 126), with one long seta in basal fourth and series of grain-like sensilla on outer side. Aedeagal part of folding apparatus membranous, largely finely striated, only posteriorly with small flat lenticular excrescences (Fig. 125); connecting sclerite long and slender, well sclerotized and dark pigmented, posteriorly spinulose along most of its length (Fig. 125). Aedeagal complex (Figs 125, 132). Phallapodeme slender including fulcrum but with triangularly dilated and flat base having posteromedial (rather asymmetrical) incision (Fig. 127); apex of phallapodeme laterally widened, mushroom-like in dorsal view (Fig. 127). Phallophore short, simple, compact. Distiphallus composed of largely membranous saccus and slender sclerotized filum. Saccus (Figs 125, 132) variably voluminous (size different at rest and when erected), with a pair of fine strip-like dorsal sclerites and a small basal sclerite, otherwise simply membranous, without surface structures. Filum (Figs 125, 132) slender, sclerotized and dark pigmented, formed by two ribbon-shaped sclerites being only basally fused (Fig. 132), one of these sclerites short (ending attenuated in about distal third of filum), the other long, distally straight to variously twisted, and terminally forming slightly trough-shaped apex (Fig. 124); between filum and phallophore there is short ventral sclerite (see Figs 125, 132). Ejacapodeme distinct, distally with knob-like capitellum projecting into a short subconical process (Fig. 131).

Female. Similar to male (including occurrence of brown-headed specimens) unless mentioned otherwise. Total body length 2.58–3.49 mm. Cephalic and thoracic macrosetae often somewhat longer and thicker, also peristomal setae sometimes more numerous (more than 10). Ctenidial spine on f_1 sometimes longer (up to 4× longer than basally thick). f_3 posteroventrally uniformly finely setose, without thickened and shortened setae. Wing measurements: length 3.05–3.97 mm, width 0.99–1.27 mm; $Cs_3 : Cs_4 = 0.95–1.27$, rm\dm-cu : dm-cu = 2.72–3.23. Preabdomen with all terga brown or dark brown but usually slightly paler than T6 or T7. T1 distinctly shorter and narrower than T2; T2 shorter than T3 or T4, the latter two subequal in size; T5 somewhat longer but narrower (slightly tapered posteriorly) than T4. Preabdominal sterna very pale and similarly setose as those in male); S2 and S3 about as long as broad; S4 and S5 wider than long, slightly (S4) to distinctly (S5) transverse; S5 widest preabdominal sternum (slightly wider than S6) and somewhat shorter than S4.

Postabdomen (Figs 133–135) moderately elongate, tapered posteriorly, with segments retractible. T6 tapered posteriorly, brown, with pale-pigmented posterior marginal stripe and rich setosity in posterior three-fourths, with longest and thickest setae at posterior margin. S6 broad, transversely suboblong, pale pigmented but anteromedially with dark fine transverse sclerotized strip in middle two-thirds (behind the above strip finely but relatively long setose. Tergosternal complex of 7th segment with T7 and S7 separate. T7 dark brown, large, somewhat tapered posteriorly and laterally extended onto ventral side (cf. Figs 134, 135), similarly but more densely setose than T6 in posterior two-thirds; 7th spiracle embedded in T7 close to its ventral margin (Fig. 135); S7 pale pigmented, narrow, elongately suboblong, with distinct longer micropubescence (Fig. 135), setose in posterior half and having (usually) 4 setae at posterior margin distinctly longer than those on T7. T8 relatively small, pale pigmented only in medial two-thirds, anteriorly and anterolaterally poorly delimited from membranous part of 8th segment, setose in posterior half, with only posterolateral seta long, sparsely micropubescent except for posterior marginal area (Fig. 133). S8 shorter than T8 but dark pigmented, densely finely setose and micropubescent; it is longitudinally divided into two parts (Figs 135, 140) and each of them posteromedially narrowly invaginated. Internal structures of genital chamber (Figs 136–140) reduced and submembranous, with posterior paired sclerites absent and annular sclerite unusually modified to very elongated (over almost all lateroventral side of genital chamber) finely ribbon-shaped unpigmented structure (Figs 136, 140, is). Ventral receptacle (Figs 137, 139) little sclerotized, strongly hooked, resembling a sheep's horn and set on relatively short (only as long as ventral receptacle) but broad duct (most similar to that of *Epischnomyia* species). Accessory gland (remnant of it) small, vesiculate (Fig. 136), on slender duct, only in the middle somewhat dilated and several times constricted. Spermathecae (1+1) shortly barrel-shaped, with ringed surface, short conical terminal invagination (Fig. 138); spermathecal ducts very long (Fig. 139), with relatively long, pale-pigmented terminal cervix. T10 (Fig. 133) small, suboval (wider than long) with distinct anterolateral corners and narrow posteromedial emargination, laterally with pigmented oval spot, dorsally with 1 pair of long (longer than cercus) setae and very sparse and fine micropubescence. S10 (Fig. 135) larger than T10, rounded pentagonal, finely setose at posterolateral margins and micropubescent on ventral surface. Cercus (Figs 133–136) relatively long, slightly flattened and hence slender in lateral view (Fig. 134), with longest dorsopreapical and apical seta and some longer lateral setae in addition to shorter setulae.

Discussion. *Virgatomyza helvior* sp. nov. is peculiar due to unusual variability of the colouration of the head, ranging from pale yellow to pale brown. Interestingly, pale- and



Figs 136–140. *Virgatomyza helvior* sp. nov., female paratype. 136 – end of abdomen and genital chamber, left laterally (micropubescence omitted); 137 – ventral receptacle, laterally; 138 – spermathecae; 139 – distal end of genital chamber, with spermathecal ducts, left laterally; 140 – genital chamber and S8, ventrally (setosity and micropubescence omitted). Scale bars: 0.1 mm (Figs 136, 139, 140), 0.05 mm (Figs 137, 138). For abbreviations see Material and methods.

dark-headed specimens were found in populations both from Ethiopia and Kenya. It is to stress that there are also intermediate forms, consequently this colour variability is continuous. All the most diagnostic characters of *V. helvior* are listed in the key below. Although distinctly different, *V. bivirgata* is the closest known relative of *V. helvior*, see also above in the discussion under the genus.

Etymology. The species is named '*helvior*' (Latin, 2nd degree adjective meaning paler, lighter) because it has a paler thoracic pleuron than its close relative, *V. bivirgata* sp. nov. (also described below).

Biology. The (rather sparse) label data indicate a preference for higher altitudes (2000–3200 m) and adult occurrence in September to February but habitat association of this species remains unknown.

Distribution. The species seems to be widespread in mountain ranges of East Africa, being recorded from Ethiopia, Kenya and Tanzania.

Virgatomyza bivirgata sp. nov.

(Figs 115–118, 141–163)

Type material. Holotype: ♂, labelled: 'ETHIOPIA: Bale, Bale Mountains, Micha River, 10kmS Goba, 3100m, 1.ii.2000, A. FREIDBERG & I. YAROM' and 'Holotypus ♂, *Virgatomyza bivirgata* sp. n., J. Roháček det. 2025' (red label). The specimen is minuten double pinned, with intact thorax, wing and abdomen but somewhat damaged, with head and legs glued on rectangular card, pinned below specimen (TAUI). Paratypes: 1 ♂ 1 ♀ (both genit. prep.), with same data as for holotype (SMOC 1 ♂, TAUI 1 ♀). Both paratypes with same type label as the holotype but it is yellow and has 'Paratypus ♂ or ♀' instead of 'Holotypus ♂'.

Description. ***Male.*** Closely allied and very similar to *Virgatomyza helvior* sp. nov. but differing from it as follows. Total body length 2.58–3.01 mm. Body bicolourous but thorax more extensively brown, with yellow areas smaller and in different pattern both on mesonotum and thoracic pleuron (Figs 116, 117); body distinctly pale-grey microtomentose (with some greenish tinge on mesonotum), duller than in *V. helvior*.

Head (Fig. 115) only about 1.15× higher than long,

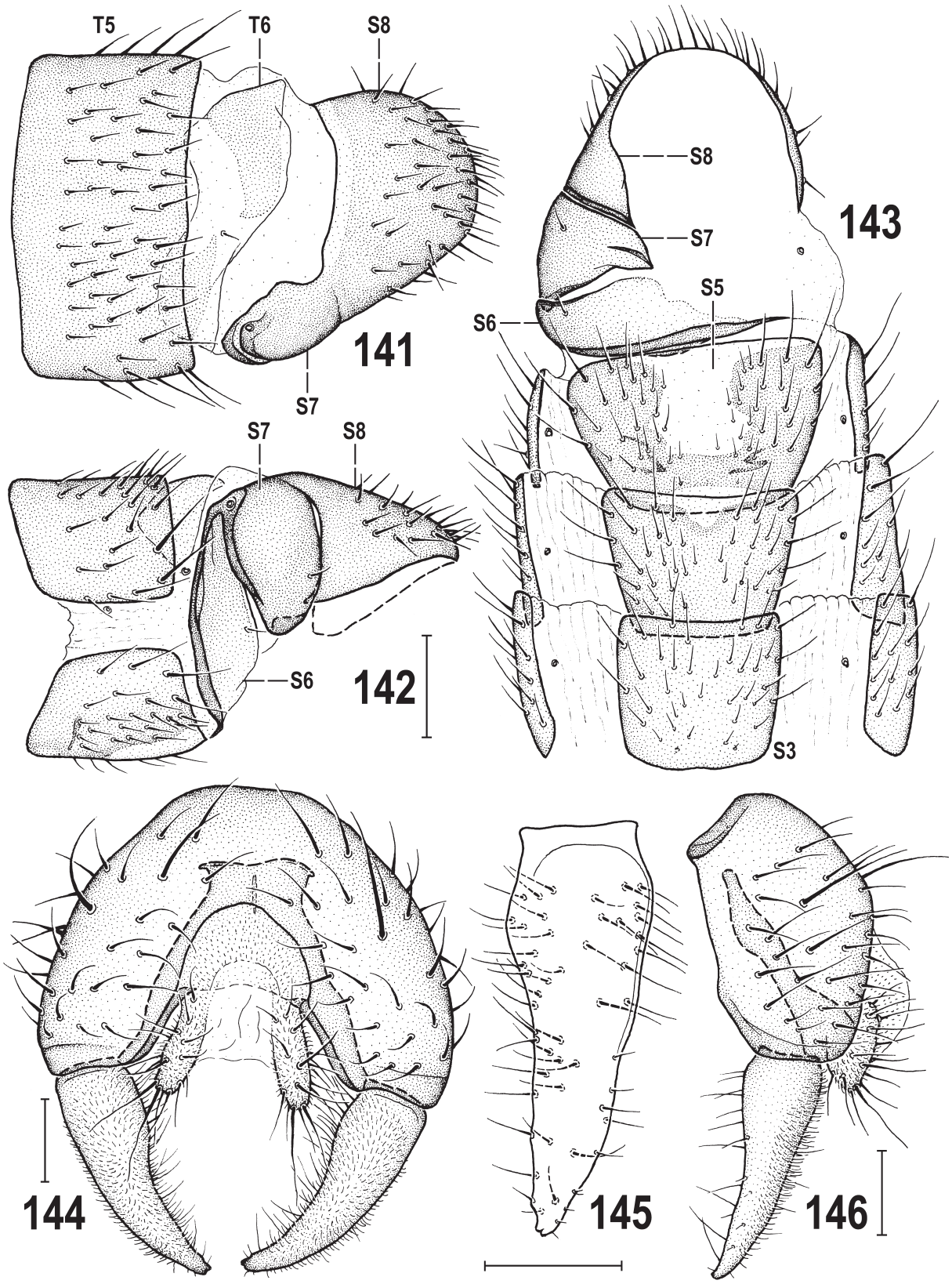
anteriorly rounded in profile, largely dark yellow but with some parts brown or pale yellow. Occiput distinctly concave, bicolourous, laterally brown and distinctly pale grey microtomentose, medially largely yellow but with small (more or less distinct) narrowly triangular brown spot behind pvt and with a pair of small oval patches of silvery-white microtomentum just above foramen. Frons largely dark yellow. Frontal triangle as in *V. helvior* but somewhat shorter, reaching to anterior third to fourth of frons, dark yellow but often brownish darkened around ocellar triangle; the latter small, brown and grey microtomentose. Fronto-orbital plate narrow, pale yellow and whitish microtomentose. Face narrowly yellow laterally and pale brown medially, sparsely whitish microtomentose, only margin ochreous and bare. Parafacialia, gena and postgena yellow and whitish microtomentose. Mouthparts ochreous but clypeus and distal parts of proboscis (including labellum) brown and palpus pale yellow. Cephalic chaetotaxy (see Fig. 115) as in *V. helvior* but pvt variable (one-fourth to more than half length of vti); vti slightly longer than posterior ors; oc robust (as thick as vti), almost as long as posterior ors, proclinate but parallel; only 1 pair of medial microsetulae in front of anterior corner of frontal triangle; postocular setulae (12–14) shorter than peristomal setulae; subvibrissa variable, one-half to three-fourths of vi length; peristomal setulae (6–8) longer. Palpus yellow, with usual longer preapical seta and 5 or 6 short setulae ventrally or lateroventrally. Eye irregularly subovoid but broad, its longest diameter about 1.3 times as long as shortest. Gena higher, its height ca. 0.16 times as long as shortest eye diameter. Antenna yellow to orange yellow including 1st flagellomere; thus, the latter paler than that of *V. helvior*, only slightly ochreous darkened below insertion of arista; arista about 2.2 times as long as antenna, otherwise as in *V. helvior*.

Thorax bicolourous, yellow and brown but with brown colour prevailing and in different pattern both on mesonotum and pleuron, pale grey microtomentose (with greenish tinge in anterior part of mesonotum) and duller than in *V. helvior*. Mesonotum yellow laterally (from notopleural area to pr-sa line) and narrowly medially, with a pair of broad (wider than in *V. helvior*) longitudinal brown bands (extended from prs-sa line over dc line far to acrostichal area); in each brown band there is typically (in holotype male and paratype female) a yellow, elongate oval spot situated in posterior half of mesonotum (roughly between both posterior dc and sa macrosetae) but this spot can be reduced to absent (in male paratype); medial yellow stripe anteriorly (in front of suture) strongly tapered but reaching almost to anterior margin of mesonotum, posteriorly broadened and covering medial part of scutellum (as in *V. helvior*); postscutellum and mediotergite brown and laterotergite yellow as in *V. helvior*. Pleural part of thorax dorsally with longitudinal brown stripe (wider than in *V. helvior*) ranging from propleuron (also covering humeral callus) to haltere, ventrally with another brown area (cf. Fig. 117) covering most of sternopleuron and hypopleuron (= meron), leaving only middle longitudinal stripe between both dark bands yellow. Thoracic chaetotaxy: All macrosetae mostly as in *V. helvior* but foremost small dc situated very close to robust middle dc (the latter more anteriorly); posterior dc longer than apical sc, hence longest of thoracic setae; ac microsetae sparse, in 4 rows on suture, between middle and posterior dc setae in only 2 rows (sometimes with single microseta in addition), medial pair between posterior dc variable, slightly to distinctly prolonged; 2 sc, apical strong and as long (but shorter than posterior dc), laterobasal sc fine and short, only about half length of middle dc, thus markedly smaller than that of *V. helvior*; 2 long stpl (anterior only slightly shorter), 2–3 upcurved setulae below and 1 in front of anterior stpl but only 2 longer setae and 2–3 shorter setae on ventral corner of sternopleuron.

Legs darker than in *V. helvior*, largely ochreous including coxae and trochanters, with femora and tibiae (f_1 and t_1 in particular) more or less darkened but knees pale yellow; tarsi yellow but apical segments brown. f_1 with posteroventral ctenidial spine reduced but somewhat longer than that of *V. helvior*, 3–4× longer than basally thick and similarly directed as adjacent long setae in posteroventral row; t_1 ventrally with a short (as long as distal width of tibia) but distinct subapical seta; t_2 with short (slightly longer than maximum width of tibia) ventroapical seta; f_3 with a row of sparse posteroventral setae, 5 of them in distal two-fifths thickened and shortened (Fig. 153).

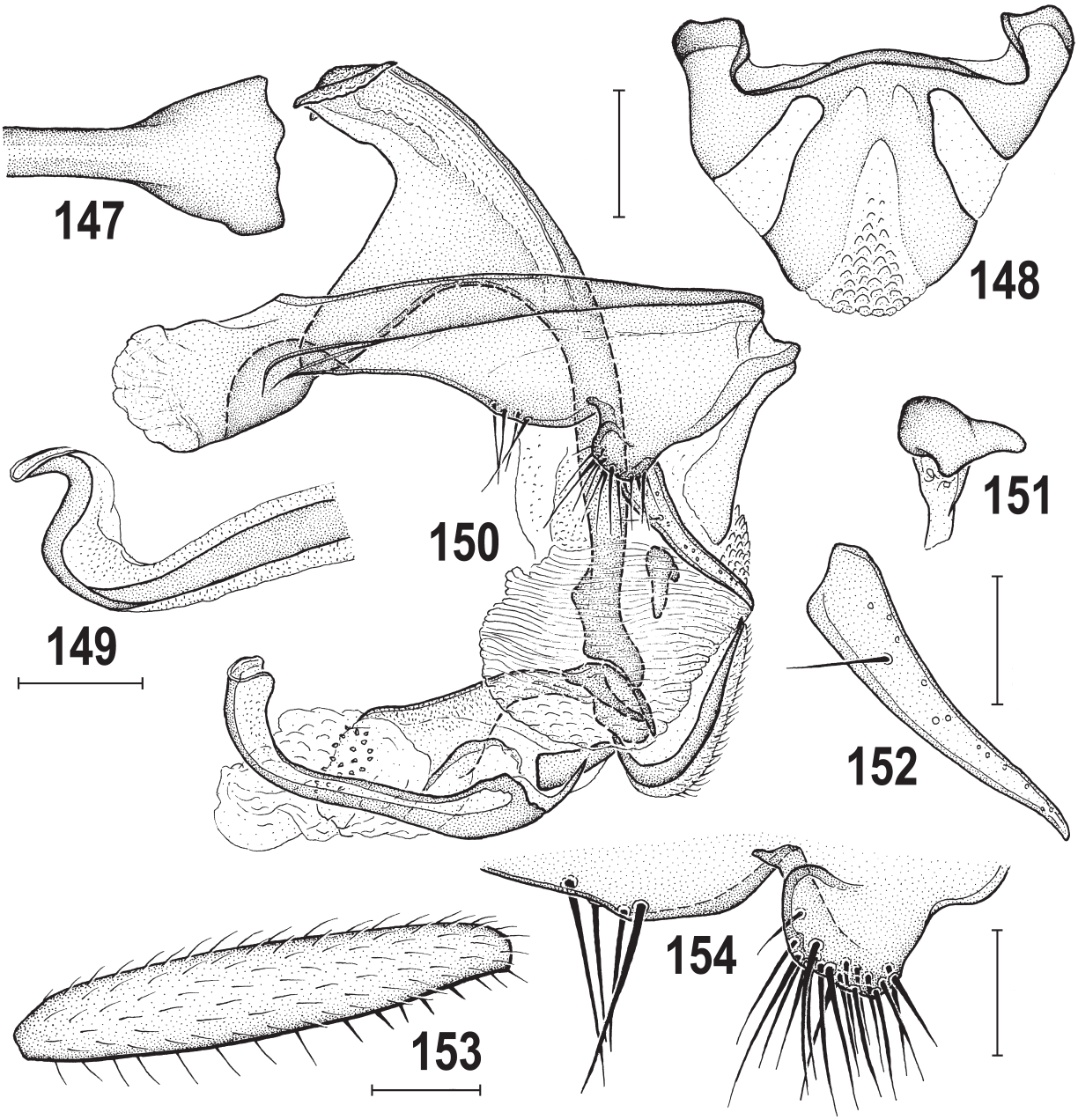
Wing (Fig. 118) with dark pattern different from that of *V. helvior* and other allies, with longitudinal darkening of membrane reduced, distinct along veins R_{4+5}, M, CuA_1 and A_1 (darkest around cross-veins r-m and dm-cu) while faded in cells r_{4+5} and dm and at wing apex; anterior marginal area somewhat darker (not white) and R_{2+3} pale ochreous. Apical portion of CuA_1 subequal to slightly shorter (0.88–0.94×) than dm-cu. Wing measurements: length 3.41–3.49 mm, width 1.09–1.11 mm; Cs_3 : Cs_4 = 1.05–1.27, rm\dm-cu : dm-cu = 2.67–2.81. Haltere with pale brown stem and darker brown knob.

Abdomen with dark brown terga and (in contrast to all relatives) brown sterna, only postabdominal S6, S7 and left anterior corner of S8 yellow to ochreous. Preabdominal terga as in *V. helvior* but T1 only dorsomedially separate from T2; T2 very slightly shorter than and posteriorly as broad as T3; T3 and T4 subequal in length but T4 slightly narrower; T5 distinctly narrower and somewhat shorter than T4. Preabdominal sterna narrower than terga, but becoming wider posteriorly (S5 widest), all (including S1) brown except for unpigmented areas in S4 and S5; S1 bare, S3–S5 with relatively long but fine setae but medially with only a few or without setae. S1 short, transverse, distinctly emarginated both anteriorly and posteriorly and with darkened posterior margin; S2 slightly wider than long, suboblong with rounded sides; S3 as long as wide, with rounded corners and posteriorly shallowly emarginate; S4 trapezoidal, distinctly widened posteriorly and posteromedially with narrow unpigmented area in addition to posterior margin; S5 largest, subtrapezoidal (wider posteriorly), with distinctive pigmentation (Fig. 143): unpigmented deeply posteromedially and also along anterior margin and with small, very dark irregular arrow-like spots anterolaterally. T6 short, somewhat irregular, with poorly delimited



Figs 141–146. *Virgatomyza bivirgata* sp. nov., male holotype. 141–142 – 5th segment and S6–S8 (141 – dorsally, 142 – left laterally); 143 – 3rd–8th abdominal segments, ventrally; 144 – external genitalia, caudally; 145 – gonostylus, ventrolaterocaudally (largest extension, micropubescence omitted); 146 – external genitalia, laterally. Scale bars: 0.2 mm (141–143), 0.1 mm (144–146). For abbreviations see Material and methods.

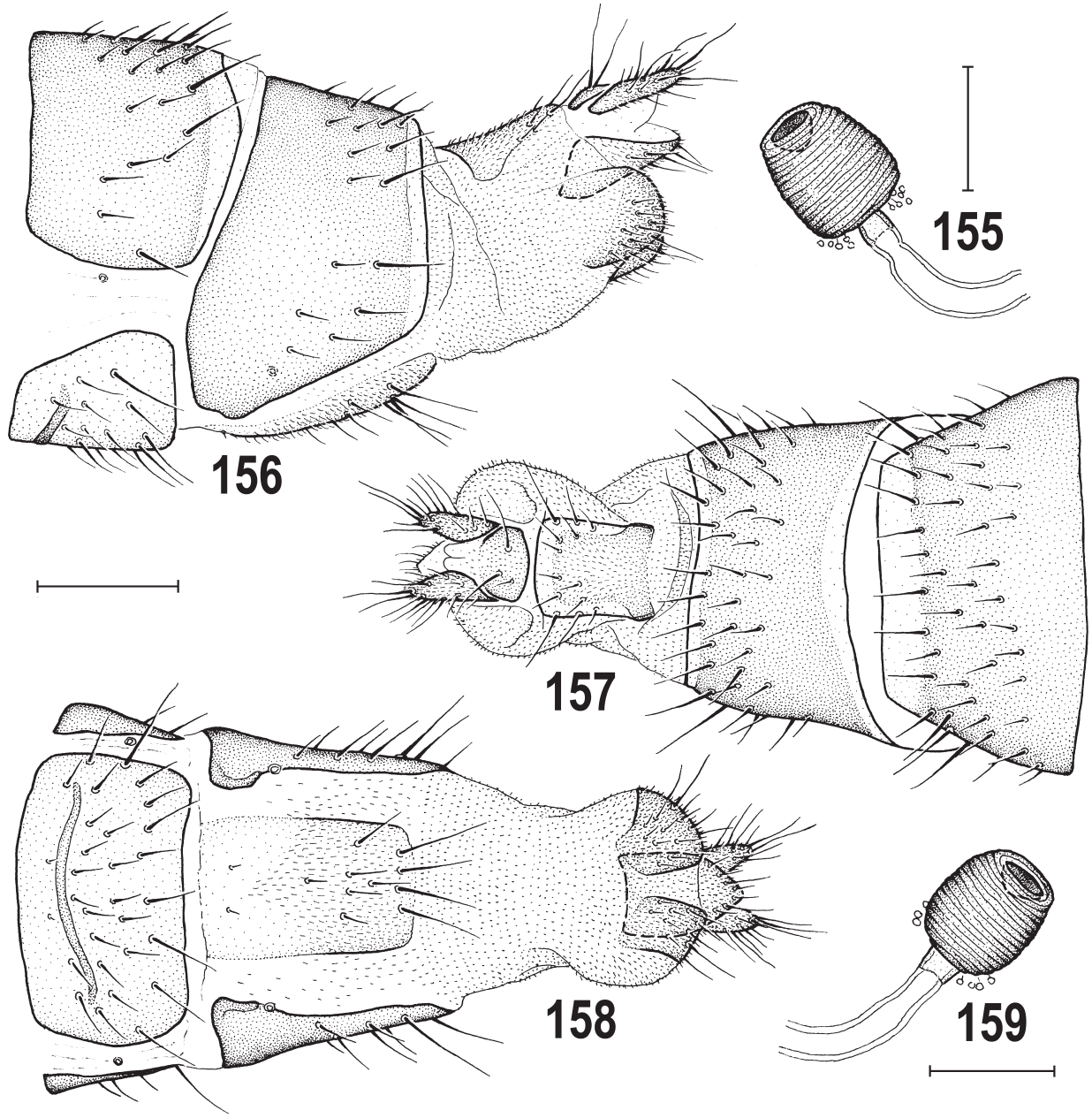
margins, with 1 small setula and bipartite pigmentation (Fig. 141). S6–S8 fused to form pregenital synsclerite as usual (Figs 141–143). S6–S7 yellow to pale ochreous (contrasting with dark preabdominal sclerites), with only slender anterior ledge-like margins dark brown. S6 with 1, S7 with 2 small setae (Fig. 142). S8 less asymmetrical, dark brown except for yellow left anterolateral corner, densely setose in posterior two-thirds. 6th spiracle (only



Figs 147–154. *Virgatomyza bivirgata* sp. nov., male holotype. 147 – proximal end of phallapodeme, dorsally; 148 – transandrium, caudally; 149 – apex of filum, ventrally; 150 – internal genitalia (hypandrial and aedeagal complex) in erect position, left laterally; 151 – ejacapodeme (largest extension); 152 – postgonite, left laterally; 153 – right hind femur, posteriorly; 154 – pregonite, left laterally. Scale bars: 0.1 mm (Figs 147, 148, 150), 0.05 mm (Figs 149, 151, 152, 154), 0.2 mm (Fig. 153).

left one present) situated in membrane near posteroventral corner of T6, close to anterior margin of S6; 7th left spiracle embedded in dorsolateral fusion of dark anterior ledges of S6 and S7 (Fig. 142).

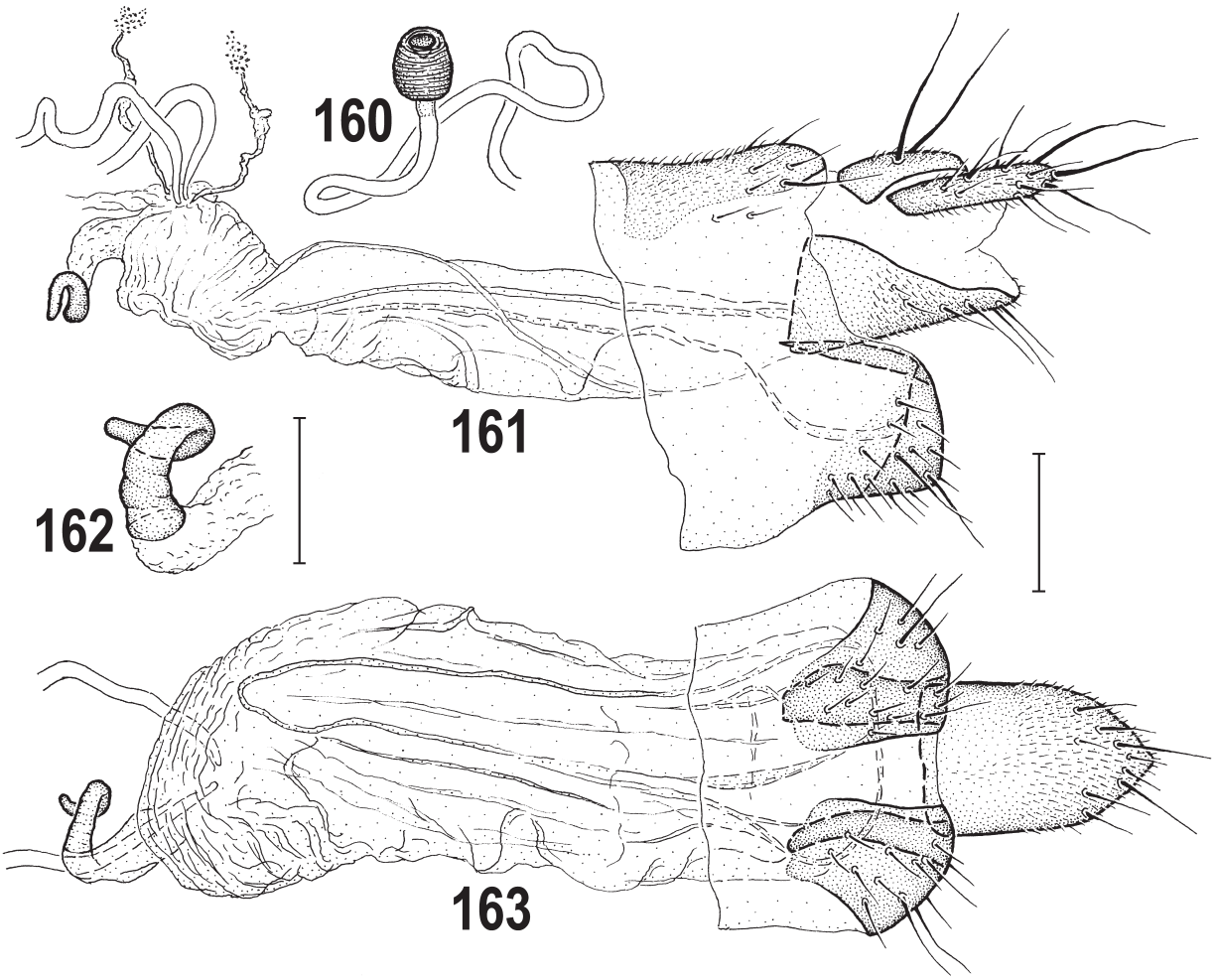
Genitalia similar to those of *V. helvior* except for the following items: Epandrium (Figs 144, 146) markedly shorter (Fig. 146) and wider compared to its height, with small, dorsally much narrower anal fissure (see Fig. 144); more densely setose than epandrium of *V. helvior*. Cercus (Fig. 144) somewhat smaller and more slender. Medandrium (see Fig. 144) high, distinctly narrower and more tapered dorsally. Gonostylus (Figs 144–146) similarly long but more slender than that of *V. helvior*, gradually tapered but more acute apically, with apex relatively straight and carrying 2 very small denticles (Fig. 145) and with more numerous setae on inner side. Hypandrium (Fig. 150) more robust (particularly anteriorly) in lateral view. Transandrium (Fig. 148) dorsomedially with dark marginal ledge; its caudal process similarly distally forked but its arms robust (Fig. 148); basal membrane covering narrower area but similarly armed (Figs 148, 150). Pregonite (Fig. 150) fused with posterior part of hypandrium and bilobed, but its anterior lobe very low and with only 4 (2 longer) setae, while posterior lobe rather rectangular, strongly projecting ventrally and with a cluster of numerous setae (Figs 150, 154). Postgonite (Fig. 152) as in *V. helvior* but with seta in basal fourth shorter and apex somewhat more acute. Aedeagal part of folding apparatus membranous, only finely



Figs 155–159. *Virgatomyza bivirgata* sp. nov., female paratype. 155 – spermatheca; 156–158 – postabdomen (156 – left laterally, 157 – dorsally, 158 – ventrally); 159 – spermatheca. Scale bars: 0.05 mm (Figs 155, 159), 0.2 mm (Figs 156–158).

striated, without other armature (Fig. 150); connecting sclerite long, slender and dark pigmented but posteriorly finely haired (Fig. 150). Aedeagal complex (Fig. 150, in erect position). Phallapodeme closely resembling that of *V. helvior* but its triangularly dilated base simple, without posteromedial incision (Fig. 147). Phallophore obviously shorter. Saccus (Fig. 150) more elongate, dorsobasally weakly sclerotized, with distal membranous part with small grain-like excrescences. Filum very similar to that of *V. helvior* but shorter, with somewhat wider trough-shaped apex (Figs 149, 150). Ejacapodeme also very similarly constructed but its proximal part shorter and subconical process apically blunter (Fig.151).

Female (Fig. 116). Similar to male unless mentioned otherwise. Total body length 2.98 mm. Subvibrissa almost as long as vi. Mesonotum with brown and yellow pattern as in male holotype but with yellow medial stripe anteriorly (in front of suture) gradually fading, not reaching its anterior margin. Laterobasal sc somewhat longer, about two-thirds of middle dc seta length but weak as in male. Ctenidial spine on f_1 sometimes longer (about 5× longer than thick). f_3 posteroventrally uniformly finely setose, without thickened and shortened setae. Wing measurements: length 3.53 mm, width 1.17 mm; $Cs_3 : Cs_4 = 1.05$, rm\dm-cu : dm-cu = 3.03. Preabdomen with all terga brown (T5 darkest) but distinctly paler than blackish-brown postabdominal T6 and T7. T2 distinctly shorter than T3, the latter slightly shorter than T4; T3 and T4 widest terga; T5 somewhat longer but narrower (tapered posteriorly) and somewhat darker than T4. Preabdominal sterna pale



Figs 160–163. *Virgatomyza bivirgata* sp. nov., female paratype. 160 – spermatheca with duct; 161 – genital chamber and apex of abdomen, left laterally (micropubescence on S8 omitted); 162 – ventral receptacle, subventrally; 163 – genital chamber, S8 and S10, ventrally (micropubescence of S8 omitted). Scale bars: 0.1 mm (Figs 160, 161, 163), 0.05 mm (Fig. 162).

brown, thus distinctly darker than those of *V. helvior*. S2–S5 becoming wider posteriorly; S2 and S3 as in male but narrower; S4 slightly wider than long and posteriorly somewhat widened; S5 markedly wider than S4, more than 1.5× wider than long, subtrapezoidal (widest posteriorly) but narrower than S6. Both S4 and S5 with unpigmented posteromedial area reaching to posterior third (S4) to half (S5) of sclerite.

Postabdomen (Figs 156–158) as in *V. helvior* but differing as follows. T6 shorter, more transverse and with distinctly shorter setae including those longest at posterior margin. S6 also shorter and more transverse, darker, shortly setose and anteromedially with larger, wider and thicker transverse sclerotized ledge-like strip (Fig. 158). T7 blackish brown as in *V. helvior* but with narrow pale-pigmented marginal stripe both anteriorly and posteriorly (Fig. 157), otherwise shortly and more sparsely setose; 7th spiracle inserted in ventral margin of T7 (see Fig. 158); S7 pale pigmented and elongately suboblong (with margins poorly delimited) and similarly micropubescent as that of *V. helvior* but distinctly shorter, less and shorter setose (Fig. 158). T8 also similar, pale pigmented except for lateral and posterior margins but with characteristically darkened anterior corners (see Fig. 157). S8 slightly shorter than T8 but dark pigmented and longitudinally divided into two parts, each having slender dorsomedial invagination (cf. Figs 158, 161, 163). Internal structures of genital chamber (Figs 161, 163) more reduced and more membranous than those of *V. helvior* with very elongated annular sclerite poorly visible (Fig. 163). Ventral receptacle (Figs 161–163) somewhat more sclerotized, terminally differently twisted and set on broader membranous duct than that of *V. helvior*. Accessory gland (remnant of it, Fig. 161) very small, vesiculate, on relatively short slender duct being irregularly dilated and with a few constrictions in distal two-thirds. Spermathecae (1+1) barrel-shaped and with short conical invagination on top as in *V. helvior* but of more elongate and distally tapered shape and with densely ringed surface (Figs 155, 159); spermathecal ducts (Fig. 160), with short pale-pigmented terminal cervix (Figs 155, 159). T10 (Fig. 157) small, transversely suboval as in *V. helvior* but uniformly pigmented and without micropubescence and with 1 pair of (not very long) setae plus 1 additional setula. S10 (Figs 158, 161, 163) larger than T10, elongately rounded pentagonal, twice as long as wide, finely setose in posterior third and micropubescent in posterior half of ventral

surface. Cercus (Figs 156–158, 161) slender, slightly dorsoventrally flattened with longest dorsopreapical and apical setae shorter than length of cercus.

Discussion. The new species, *V. bivirgata* sp. nov. differs at first glance from all congeners in having the thoracic pleuron also ventrally brown and wing with brown darkening restricted to edging of veins R_{4+5}, M, CuA_1, A_1, cross-veins r-m and dm-cu (Fig. 118). Moreover, it also has a characteristically bicolourous male S5 (Fig. 143); for other diagnostic characters see the key below. As given above in discussion under the genus, *V. bivirgata* is probably the nearest relative of *V. helvior*. Both these species were found in common in Ethiopia: Bale Mountains, Micha River, 10 km S Goba, the type locality of *V. bivirgata*.

Etymology. The name '*bivirgata*' (Latin adjective meaning double striped) reflects two brown bands on thoracic pleuron of the new species.

Biology. All three type specimens of the new species were found (together with *V. helvior* sp. nov.) at altitude 3100 m on February 1st. No more biological data are available; consequently, its habitat association is unknown.

Distribution. Hitherto known only from Ethiopia.

Virgatomyza discolor sp. nov.

(Figs 164–166, 168–184)

Type material. Holotype: ♂, labelled: 'KENYA 30kmN Kakamega (forest), 23.XI.1986, A. FREIDBERG' and 'Holotypus ♂, *Virgatomyza discolor* sp. n., J. Roháček det. 2025' (red label). The specimen (Fig. 164) is minuten double pinned, with one wing removed and genit. prep. (TAUI). Paratypes: 1 ♀, with same data as for holotype (TAUI). **KENYA:** 1 ♀ (immature), 30 km N Kakamega (forest), 23.xi.1986; 1 ♀, Kakamega forest, 20.xi.1986, both I. Susman leg. (TAUI); 1 ♀ (genit. prep.), Kakamega Forest, 14.i.1996, I. Yarom & A. Freidberg leg. (SMOC). All paratypes with same type label as the holotype but it is yellow and has 'Paratypus ♀' instead of 'Holotypus ♂'.

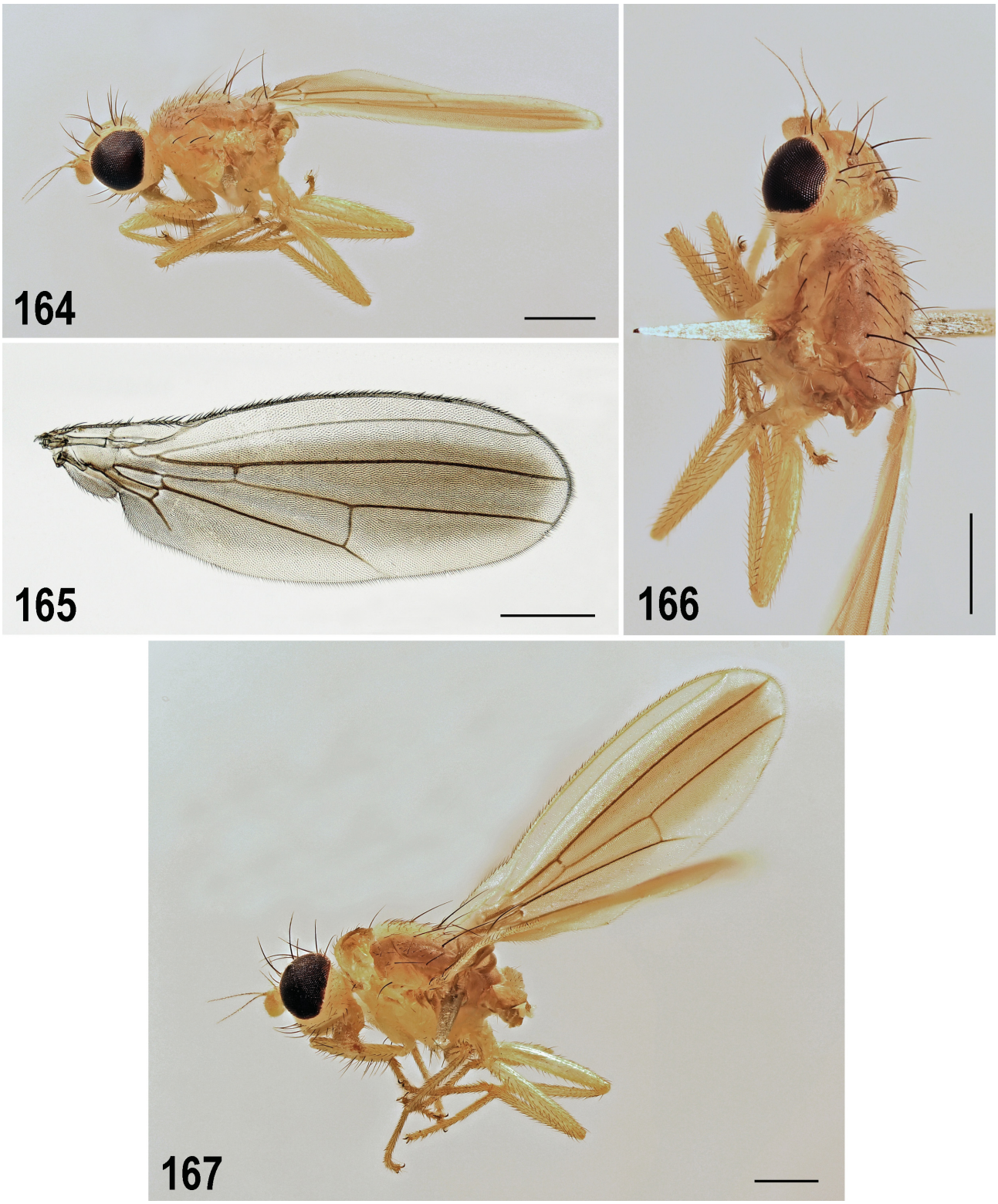
Description. ***Male.*** Similar to *V. helvior* sp. nov. but differing as follows. Total body length 2.46–2.74 mm. Body bicolourous but generally lighter, largely yellow (Figs 164, 166), only mesonotum with broad longitudinal (rather pale) brown vittae and abdomen brown to dark brown.

Head only about 1.1× higher than long, rounded quadrangular in profile, dirty yellow to (anteroventrally) white, only ocellar triangle brown. Occiput yellow or pale yellow and sparsely whitish microtomentose, only laterally behind eyes narrowly darkened and more densely white microtomentose; small patches of silvery-white microtomentum above foramen reduced and often poorly visible. Frons dirty yellow, somewhat darker along fronto-orbital plates and at anterior margin. Frontal triangle somewhat lighter than adjacent areas (except for fronto-orbital plates), shorter than that of *V. helvior* reaching to anterior third of frons. Fronto-orbital plate narrow, whitish up to vte and silvery-white microtomentose. Face dirty white, only very narrow marginal stripe pale ochreous and bare. Parafacialia, gena and postgena white and all (including face) silvery-white microtomentose, only ventral marginal stripe of gena (thicker than that between face and parafacialia) ochreous and bare. Mouthparts pale yellow to ochreous brown, with whitish palpus, yellow clypeus and ochreous to brown proboscis (including labellum). Cephalic chaetotaxy (see Fig. 166) as in *V. helvior* but oc almost as long as vti and more distinctly divergent; middle ors distinctly shorter than hindmost ors; foremost ors weak, less than one-third length of middle ors and 1 microsetula just in front of it in addition; 1 pair of medial microsetulae in front of anterior corner of frontal triangle; postocular setulae (ca. 10) shorter than peristomal setulae; vi shorter and thinner than middle ors; subvibrissa about two-thirds of vi length; peristomal setulae (8) with at least those anterior, longer than postoculars; posteroventral corner of occiput with relatively short setae. Palpus white, very slender, with long preapical seta and 7 or 8 short setulae ventrally or lateroventrally. Eye subovoid but more tapered posterodorsally and wider anteroventrally; its longest (oblique) diameter about 1.3 times as long as shortest. Gena higher, its shortest height about 0.16 times as long as shortest eye diameter. Antenna with pale yellow scape and pedicel; 1st flagellomere similarly bicolourous as in that of *V. helvior*, proximally and ventrally narrowly whitish yellow, otherwise pale brown; arista longer, ca. 2.5 times as long as antenna, blackish brown but both thickened basal segments pale brown and cilia (shorter than those on 1st flagellomere) whitish.

Thorax bicolourous, largely yellow, with a pair of broad longitudinal brown vittae only on mesonotum (Fig. 166), also distinguished by distinctive, pale blue microtomentum on mesonotum and scutellum. Mesonotum medially with narrow, rather diffusely yellow stripe, otherwise with broad, brown (or pale brown) lateral bands extended almost to notopleural areas; scutellum (often paler medially), postscutellum and mediotergite brown; humeral callus dorsally pale brown, ventrally ochreous yellow; notopleural area and laterotergite yellow to pale ochreous. Pleural part of thorax almost completely yellow to pale yellow, only dorsal margin of mesopleuron and pteropleuron faintly brownish darkened (Figs 164, 166). Thoracic chaetotaxy differing from that of *V. helvior* as follows: 1 distinct prs but shorter than anterior npl; foremost dc shorter, only about 3 times as long as dc microsetae in front of it; middle dc variable, slightly to markedly longer than pa; posterior dc very long, as long as or longer than apical sc; 5–7 dc microsetae in front of anterior dc; ac microsetae denser, in 5–6 rows on suture and in 4 rows also behind posterior dc, medial pair between posterior dc slightly or not prolonged; 2 sc macrosetae plus several (up to 4 pairs) microsetae on scutellum (1–2 laterobasal, 1 on disc, 1 subapical between apical sc, see Fig. 166); laterobasal sc markedly shorter and weaker than pa.

Legs almost completely yellow, only apical segment (or its distal half) of all tarsi brownish darkened. f_1 with posteroventral ctenidial spine very reduced, less than 2× longer than basally thick but not differently directed than other setae in the posteroventral row, the latter setae sparse and only 5 or 6 of them long; t_2 with very short (shorter than maximum width of tibia) ventroapical seta; f_3 with a long row of sparse posteroventral setae but only 3 of them in distal fourth thickened and shortened.

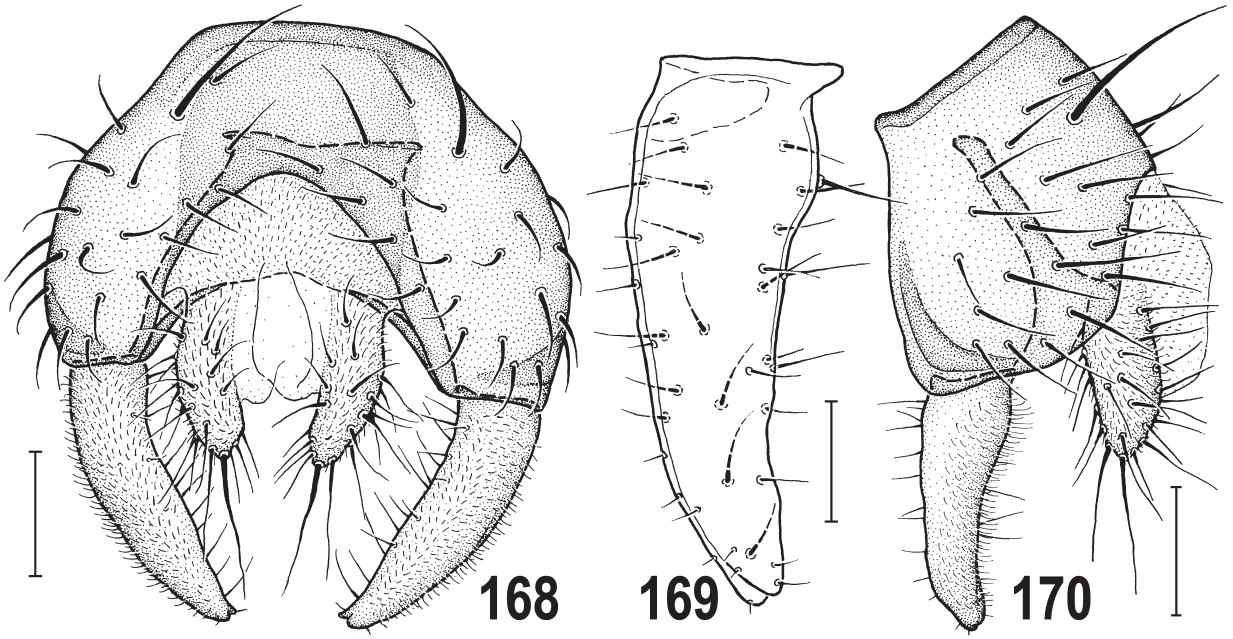
Wing (Fig. 165) as in *V. helvior* but longitudinal dark band of wing membrane more homogenous, at most slightly faded in the middle of cell dm. C with longer sparse spinu-



Figs 164–167. *Virgatomyza* species. 164–166 – *V. discolor* sp. nov.: 164 – male holotype, habitus (abdomen removed), left laterally; 165 – male paratype, wing; 166 – male holotype, head and thorax, left laterodorsally. 167 – *V. dissimilis* sp. nov., female holotype, habitus (abdomen removed), left laterally. Scale bars: 0.5 mm.

lae between apices of R_1 and R_{2+3}, particularly in proximal half of Cs_2. Apical portion of CuA_1 0.83–0.92× shorter than dm-cu and not reaching wing margin. Wing measurements: length 2.78–2.86 mm, width 0.95–0.99 mm; Cs_3 : Cs_4 = 1.27–1.31, rm\dm-cu : dm-cu = 2.72–2.80. Haltere with pale-ochreous stem and darker brownish knob.

Abdomen dark brown dorsally and pale brown ventrally, with terga (more densely) and sterna (sparsely) pale bluish microtomentose but more shining than mesonotum. Preabdominal terga as in *V. helvior*. Preabdominal sterna pale brown, narrower and becoming wider posteriorly. S2 suboblong, shorter than but as broad as S4; S3–S5 of the



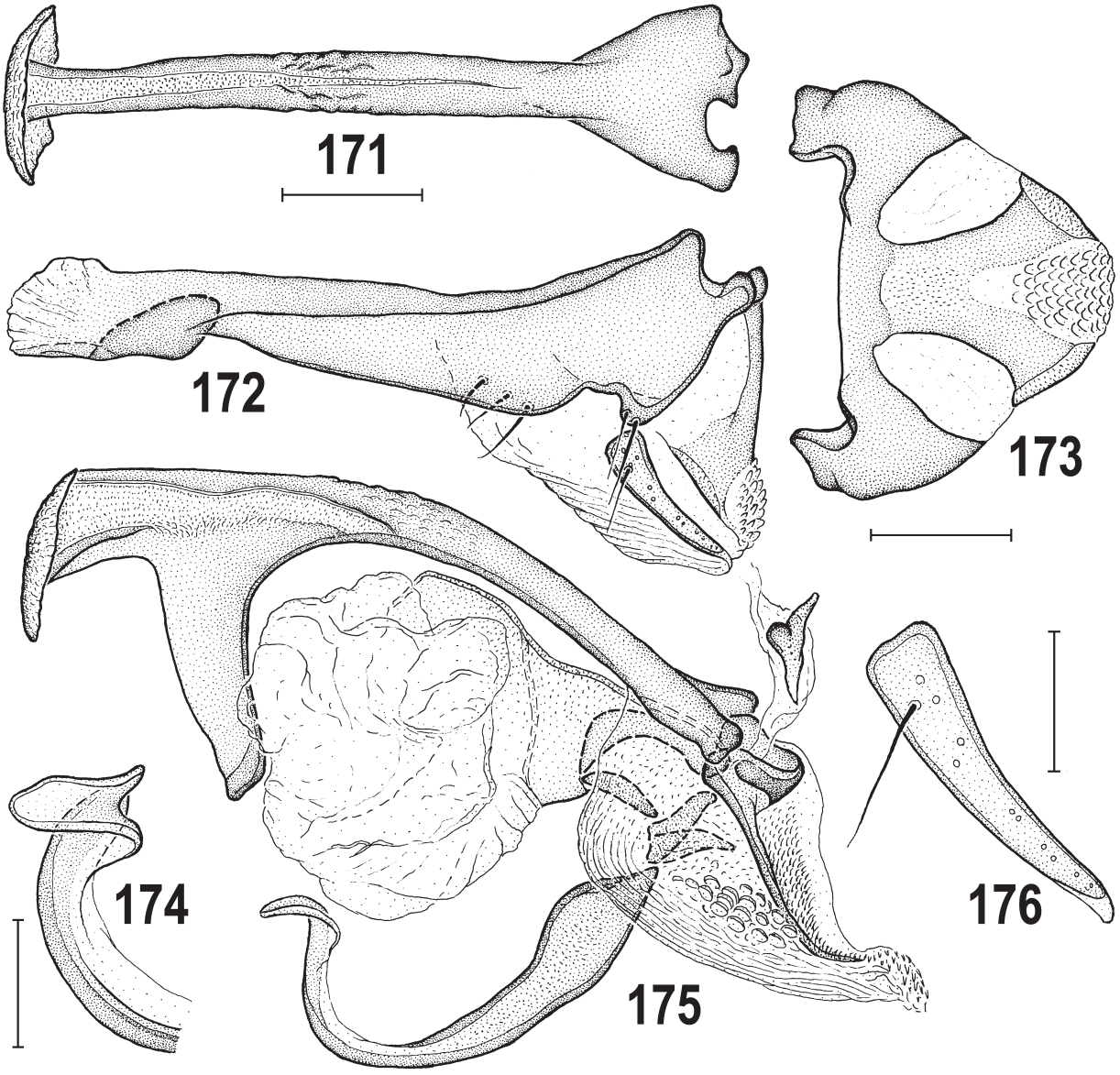
Figs 168–170. *Virgatomyza discolor* sp. nov., male paratype. 168 – external genitalia, caudally; 169 – gonostylus, ventrolaterocaudally (largest extension, micropubescence omitted); 170 – external genitalia, laterally. Scale bars: 0.1 mm (Figs 168, 170), 0.05 mm (Fig. 169).

same length but becoming successively larger posteriorly, each narrower anteriorly and wider posteriorly and similarly setose. S5 widest, distinctly wider than long, transversely subtrapezoidal, unicolourous. T6 short, transverse and asymmetrical, bare, with bipartite pigmentation formed by 2 transverse, medially narrowly separate, pale brown spots. S6–S8 formed as in those of congeners but this synsclerite (+ adjacent lateral parts of epandrium) pale pigmented, ochreous yellow, only S6 and S7 with dark slender anterior ledges; both S6 and S7 without setae.

Genitalia. Epandrium (Figs 168, 170) medium sized, wider (compared to height) than in relatives, and with wider and lower anal fissure (see Fig. 168), moderately setose, with 1 long dorsolateral seta, mainly distinguished by colouration: laterally ochreous yellow but medially brown (see Fig. 168). Cercus (Fig. 168) most similar to that of *V. helvior*, including setosity. Medandrium (see Fig. 168) broad, lower than in congeners, tapered dorsally, with distinctly projecting dorsolateral corners. Gonostylus (Figs 168–170) slender, slightly bent medially and posteriorly, proximally narrower and with blunter apex than in relatives, the latter with denticle on inner side (Figs 168, 169), similarly micropubescent and setose as that of *V. helvior*. Hypandrium (Fig. 172) and transandrium (Fig. 173) closely resembling those of *V. helvior* but caudal process (Fig. 173) markedly wider and narrowly forked distally, thus more similar to that of *V. bivirgata*; basal membrane small (narrow in caudal view) and most similar to that of the latter species including armature (Figs 172, 173). Pregonite (Fig. 172) formed as in that of *V. helvior* but with anterior lobe yet lower and with 3 setae; posterior lobe more projecting but with only 2 setae. Postgonite strap-like (Fig. 176), hardly different from that of *V. helvior*. Aedeagal part of folding apparatus differing from that of *V. helvior* mainly by larger lenticular excrescences situated more ventrally (Fig. 175); connecting sclerite characterized by densely finely spinulose area along its posterior margin (Fig. 175). Phallapodeme also most similar to that of *V. helvior* but in the middle dorsally slightly tuberculate and posterior incision of its triangularly dilated base situated more left laterally (Fig. 171). Aedeagus also resembling most of that of *V. helvior* but distiphallus with saccus more voluminous (Fig. 175) and filum with apex somewhat different (Fig. 174). Ejacapodeme differing from those of relatives in having, besides knob-like capitellum, a longer digitiform projection (Fig. 175).

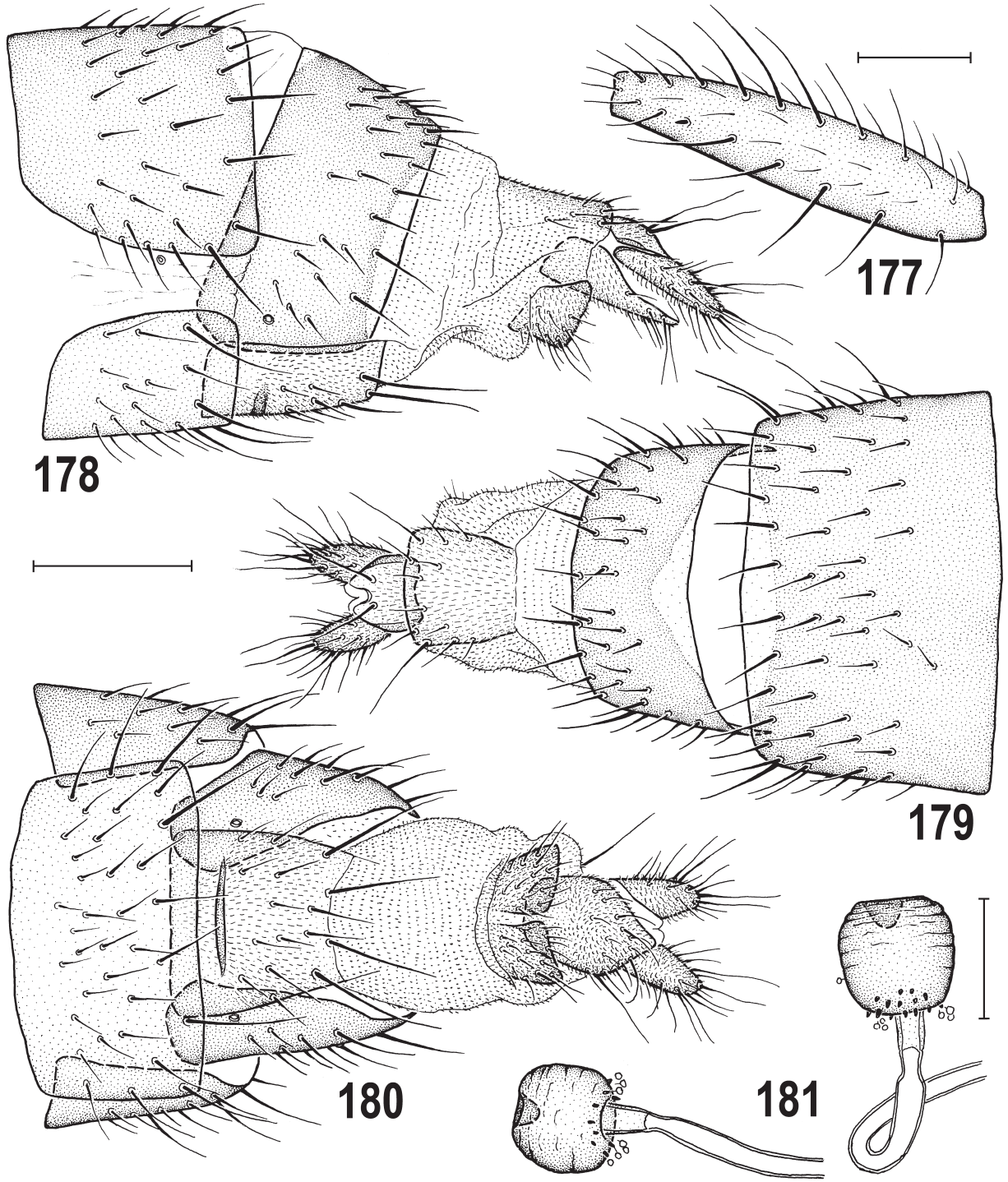
Female. Similar to male unless mentioned otherwise. Total body length 2.78–3.26 mm. Cephalic and thoracic macrosetae somewhat longer and thicker, also peristomal and postocular setulae sometimes more numerous. Foremost ors often longer and more robust, middle ors sometimes longer than hindmost ors. Scutellum on disc often with more additional setulae (up to 5 observed). Ctenidial spine on f_1 (Fig. 177) hardly longer than in male. f_3 posteroventrally uniformly finely setose, without thickened and shortened setae. Left wing of one female paratype with cross-vein dm-cu interrupted in the middle. Apical portion of CuA_1 0.78–0.93× shorter than dm-cu. Wing measurements: length 3.18–3.45 mm, width 0.99–1.15 mm; $Cs_3 : Cs_4 = 1.28–1.39$, rm\dm-cu : dm-cu = 2.63–3.52. Preabdomen with all terga uniformly brown and similar to those of *V. helvior* but distinctly pale bluish-grey microtomentose and T5 as long as T4. Preabdominal sterna also similarly shaped and setose as those of *V. helvior* but darker ochreous and with light bluish-grey microtomentum; S5 widest preabdominal sternum (wider than S6) as in *V. helvior* but not shorter than S4.

Postabdomen (Figs 178–180) similarly formed and setose as that of *V. helvior* but differing as follows: T6 hardly tapered posteriorly and distinctly shorter, at poste-



Figs 171–176. *Virgatomyza discolor* sp. nov., male paratype. 171 – phallapodeme, dorsally; 172 – hypandrial complex, left laterally; 173 – transandrium, caudally; 174 – apex of filum, dorsolaterally; 175 – aedeagal complex, left laterally; 176 – postgonite, left laterally. Scale bars: 0.1 mm (Figs 171–173, 175), 0.05 mm (Figs 174, 176).

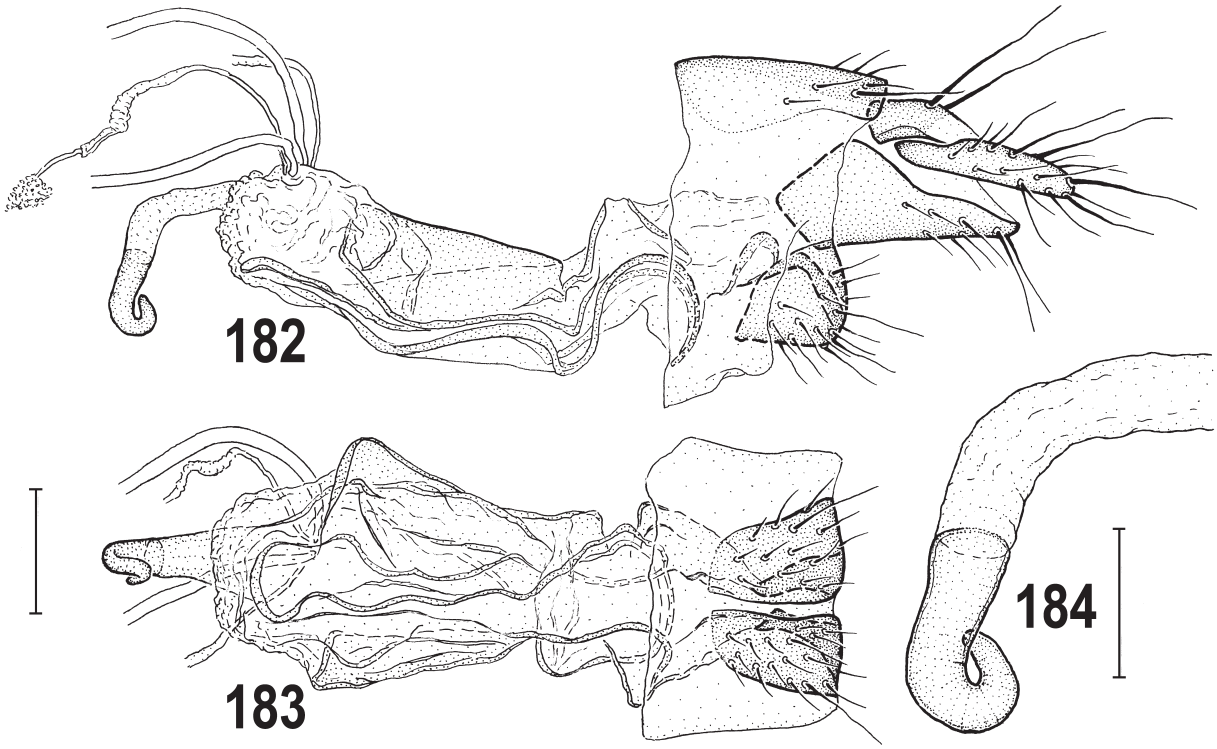
rior margin only dorsomedially pale pigmented (Fig. 179). S6 shorter, wider and hence more transverse, uniformly ochreous (without dark anteromedial transverse ledge, Fig. 180) and with shorter setae. T7 dorsally markedly shorter, dark brown but anteromedially with pale-pigmented broadly subtriangular area (Fig. 179) and similarly pale pigmented laterally, at posterior margin (Fig. 178); T7 extended and bent onto ventral side, with 7th spiracle embedded far from its ventral margin (Figs 178, 180); S7 distinctive, wider and shorter than that of *V. helvior*, distinctly tapered posteriorly, pale pigmented but with well-developed transverse dark sclerotized ledge-like strip in the middle of anterior third, micropubescent over most of surface (Fig. 180) and setose in posterior half, with 4 long setae at posterior margin (longest setae of all postabdominal sclerites). T8 relatively small (Fig. 179), about as long as broad (wider posteriorly), pale pigmented, with setae at lateral and posterior margins (only posterolateral seta long), sparsely micropubescent over most of surface. S8 similarly formed, pigmented and setose as that of *V. helvior* but with posteromedial invaginated parts (see Figs 180, 182, 183) more slender. Internal structures of genital chamber (Figs 182, 183) reduced and less distinct than in *V. helvior* including poorly defined, very elongate, annular sclerite but the middle part of genital chamber dorsolaterally somewhat sclerotized (Fig. 182) and pale pigmented. Ventral receptacle (Figs 182–184) little sclerotized, similarly hooked as that of *V. helvior* but twisted more distally and set on broader duct (Fig. 184). Accessory gland also similar, including slender duct (Fig. 182). Spermathecae (1+1) shortly barrel-shaped as in *V. helvior* but with indistinctly ringed surface (in distal two-thirds only), with terminal invagination narrower and proximally, around insertion of duct, with a crown of small, short but



Figs 177–181. *Virgatomyza discolor* sp. nov., female paratype. 177 – left fore femur, posteriorly; 178–179 – postabdomen (178 – left laterally, 179 – dorsally; 180 – ventrally); 181 – spermathecae. Scale bars: 0.2 mm (Figs 177–180), 0.05 mm (Fig. 181).

distinct blunt spines (Fig. 181); spermathecal ducts very long as in *V. helvior* and terminating in medium-long, pale-pigmented cervix. T10 (Fig. 179) small, about as long as broad, anteriorly slightly, posteriorly deeply emarginated, laterally darkened, dorsally with 1 pair of long setae (but shorter and situated more posteriorly than that of *V. helvior*) and with distinct but fine micropubescence. S10 (Fig. 180) twice as long as T10, rounded subpentagonal but markedly longer than that of *V. helvior*, setose in posterior half at margins, micropubescent in posterior two-thirds. Cercus (Figs 178–180, 182) formed and setose as that of *V. helvior* but setae (including dorsopreapical and apical) somewhat shorter.

Discussion. *Virgatomyza discolor* sp. nov. is most similar and probably also related to *V. dissimilis* sp. nov. in having the pleuron without dorsal brown band, thorax with pale blue microtomentum and scutellum with additional setulae. It differs from the latter species by the brown pattern of the mesonotum and colouration of the humeral callus and laterotergite, the more reduced ctenidial spine and other



Figs 182–184. *Virgatomyza discolor* sp. nov., female paratype. 182 – genital chamber and apex of abdomen, left laterally (micropubescence omitted); 183 – genital chamber and S8, ventrally (micropubescence of S8 omitted). 184 – ventral receptacle, sublaterally. Scale bars: 0.1 mm (Figs 182, 183), 0.05 mm (Fig. 184).

characters given in the key below. Both species also differ in structures of the female T7 and S7 and some detail in the shape of the ventral receptacle and surface structures of the spermathecae. The male *V. discolor* is distinguished by the very slender gonostylus, the shape and structure of the phallapodeme, the reduced setosity of the postgonite and the voluminous unarmed saccus of the distiphallus.

Etymology. The new species is named '*discolor*' (Latin adjective meaning 'having a different colour') because the thoracic pleuron is differently coloured compared to other species of the genus *Virgatomyza*.

Biology. All type specimens were collected in (northern part of) Kakamega Forest which lies at altitude 1500–1600 m, most probably in grassland glades formed within a tropical rainforest. Flies were captured in November and January.

Distribution. The species is hitherto known only from Kakamega Forest in Kenya.

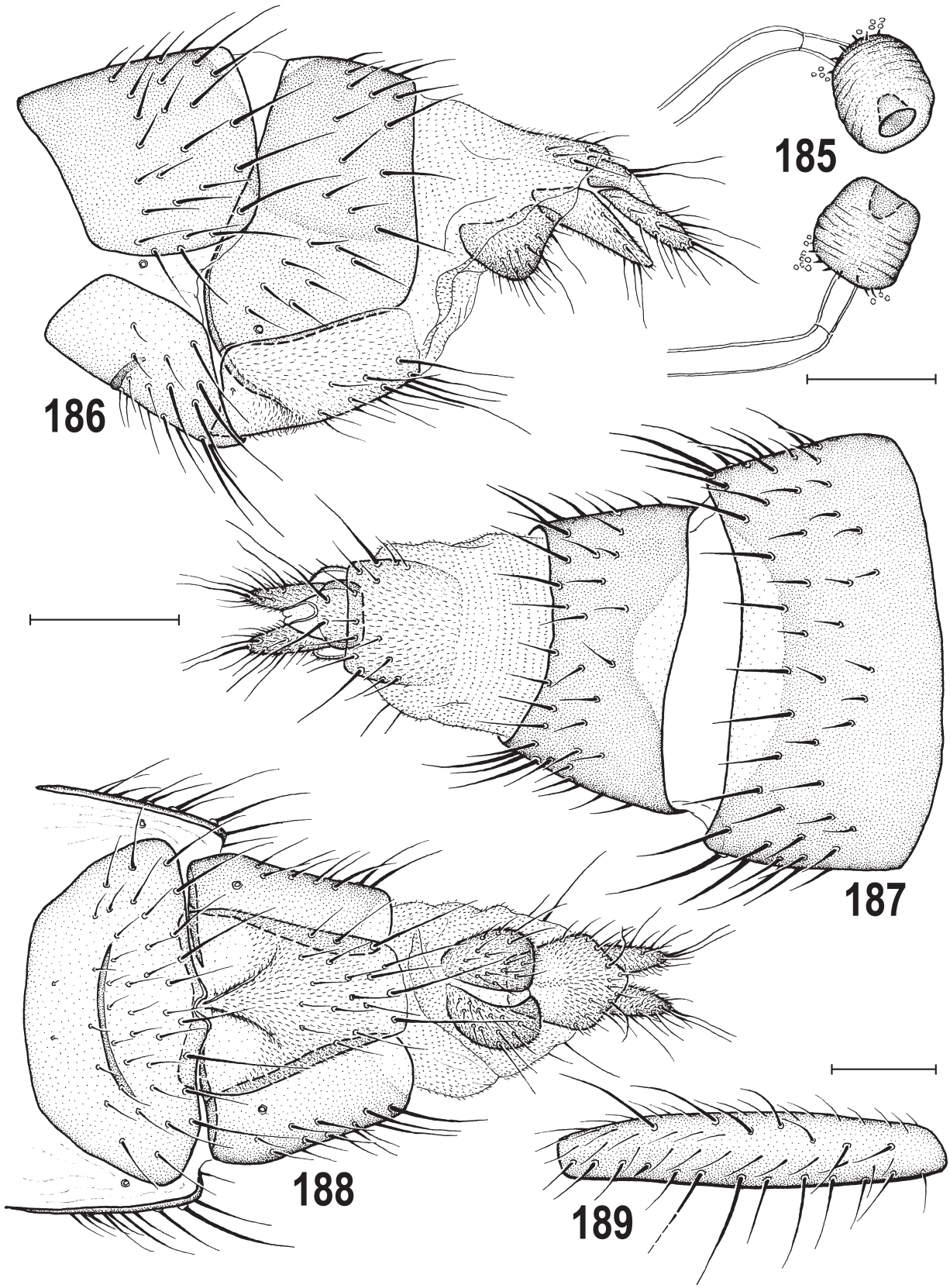
Virgatomyza dissimilis sp. nov.

(Figs 167, 185–193)

Type material. Holotype: ♀, labelled: 'ETHIOPIA: Shewa, Wendo Genet, 2100m, 29.i.2000, A. FREIDBERG & I. YAROM, x 92' and 'Holotypus ♀, *Virgatomyza dissimilis* sp. n., J. Roháček det. 2025' (red label). The specimen is minuten double pinned, with somewhat damaged thorax (Fig. 167) and detached abdomen (genit. prep.) being preserved in glycerine in sealed plastic tube pinned below specimen (TAUI).

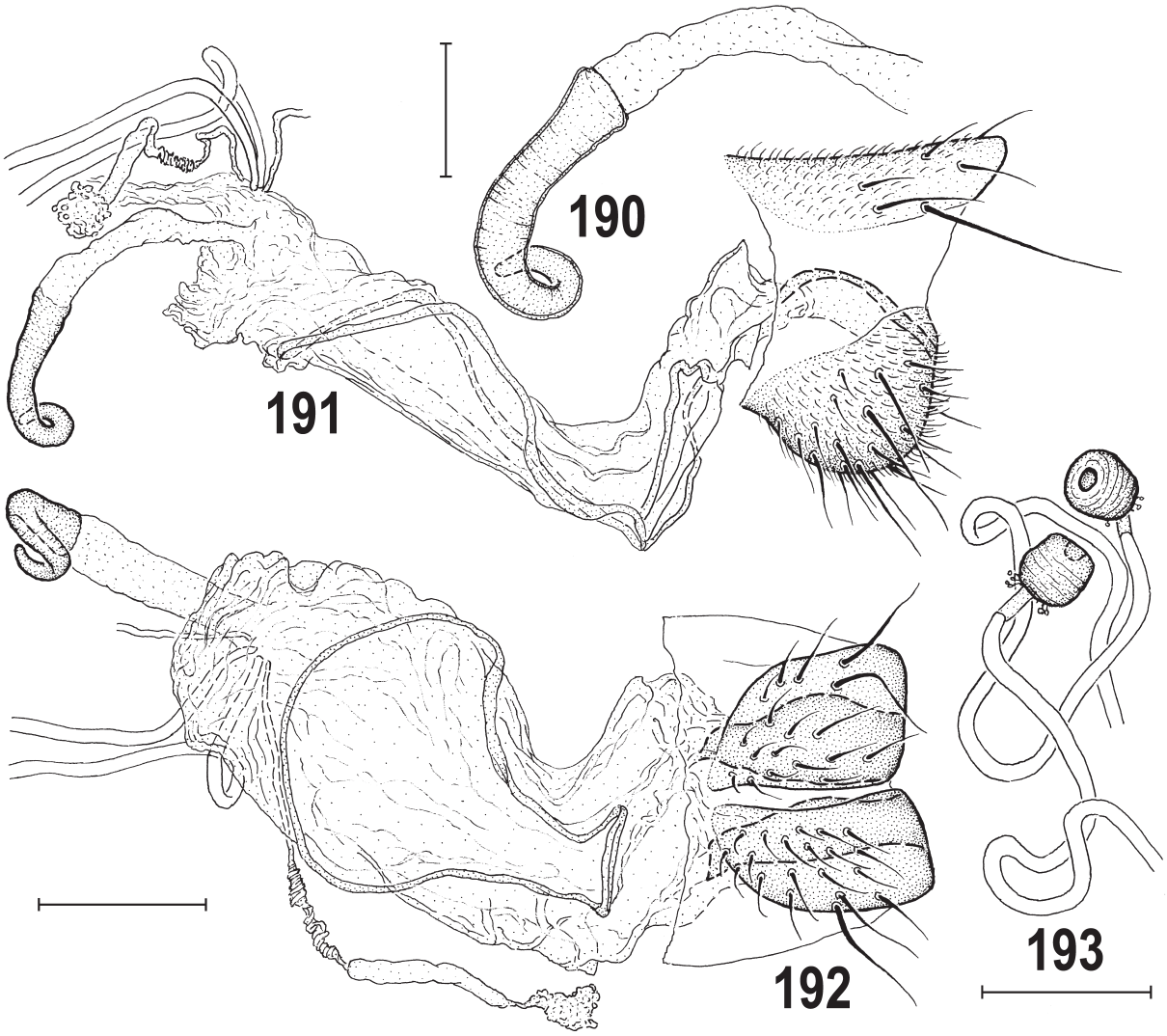
Description. ***Male.*** Unknown. ***Female.*** Very similar to *V. discolor* sp. nov. in external appearance but differing as follows. Total body length 2.82 mm. Body bicolourous but yet lighter, with thorax more yellow than in relatives (Fig. 167).

Head 1.1× higher than long and rounded quadrangular in profile as in *V. discolor*, almost entirely yellow to (anteroventrally) white. Occiput yellow or pale yellow including lateral areas and whitish microtomentose; small silvery-white patches above foramen almost invisible. Frons yellow, only ocellar triangle pale brown. Frontal triangle delimited by slightly depressed margins and largely golden glittering, reaching to anterior fourth of frons. Ocellar triangle more elongate and paler than that of *V. discolor*, bluish-grey microtomentose; ocelli distinctly larger than in all other relatives. Fronto-orbital plate very narrow, only between ors and eye margin whitish up to vte and silvery-white microtomentose. Face, parafacialia, gena and postgena as in *V. discolor* but mouthparts lighter, particularly as regards proboscis being yellow to ochreous (labellum darkest). Cephalic chaetotaxy as in *V. discolor* but pvt very strongly (in basal third) crossed; oc very slightly divergent; 2 (incomplete) pairs of medial microsetulae in front of anterior corner of frontal triangle; postocular setulae (more than 12) in long row but small; vi shorter, only two-thirds of middle ors; subvibrissa relatively stout, almost as thick as vi and about two-thirds of vi length. Eye as in *V. discolor* but broader and with distinctly straightened posteroventral margin; its longest (strongly oblique) diameter about 1.2 times as long as shortest. Gena higher, its shortest height 0.18 times as long as shortest eye diameter. Antenna as in *V. discolor* but flagellomere only slightly bicolourous, with darkening on both its sides less distinct; arista shorter, ca. 2.1 times as long as antenna, and its cilia relatively pale but not whitish.



Figs 185–189. *Virgatomyza dissimilis* sp. nov., female holotype. 185 – spermathecae; 186–188 – postabdomen (186 – left laterally, 187 – dorsally, 188 – ventrally); 189 – left fore femur, posteriorly. Scale bars: 0.05 mm (Figs 185), 0.2 mm (Figs 186–189).

Thorax similarly patterned as that of *V. discolor* but yet more yellow because lateral brown (to pale brown) longitudinal vittae narrower, extended from notopleural area to about dc lines, leaving medial pale yellow band broad but ending in front of scutellum. Scutellum (medially lighter), postscutellum, mediotergite and also laterotergite (!) pale



Figs 190–193. *Virgatomyza dissimilis* sp. nov., female holotype. 190 – ventral receptacle, laterally; 191 – genital chamber and 8th segment of abdomen, left laterally; 192 – genital chamber and S8, ventrally (micropubescence of S8 omitted); 193 – spermathecae with ducts. Scale bars: 0.05 mm (Fig. 190), 0.1 mm (Figs 191–193).

brown (Fig. 167); also humeral callus completely pale brown and contrasting with pale yellow propleuron; notopleural area only narrowly yellow. Pleural part of thorax as in *V. discolor* including faint diffuse darkening at dorsal margin of mesopleuron and on pteropleuron but being posteriorly extended to cover also laterotergite. Thoracic chaetotaxy as in *V. discolor* but ac microsetae in 6 rows on suture; scutellum besides 2 sc, with only 1 additional setula medially on disc of scutellum and laterobasal sc longer, almost as long as but thinner than pa.

Legs yellow, with paler coxae, trochanters and basal parts of femora and with darker yellow tarsi but their apical segments not darkened, concolourous with rest of tarsus. f_1 with posteroventral ctenidial spine longer (about 5× longer than basally thick, Fig. 189) and with more setae in posteroventral row; t_2 with ventroapical seta slightly longer than maximum width of tibia; f_3 with a long row of sparse uniform posteroventral setae.

Wing (Fig. 167) as in *V. discolor* but longitudinal dark band somewhat narrower, leaving white anterior and posterior marginal areas wider. Cell bm not white but also darkened brownish although distinctly paler than (darkest) cell cup. Cell dm longer and narrow. Apical portion of CuA_1 1.10× longer than dm-cu but not reaching wing margin. Wing measurements: length 3.37 mm, width 1.09 mm; $Cs_3 : Cs_4 = 1.17$, rm\dm-cu : dm-cu = 3.34. Haltere pale brown, with somewhat lighter stem.

Preabdomen as in *V. discolor*. Terga uniformly brown and pale bluish-grey microtomentose; T3–T5 subequal in length and also width. Preabdominal sterna also similarly shaped and setose as those of *V. discolor*, all ochreous and becoming successively wider posteriorly; S3 as long as broad, S4 distinctly wider than long, subtrapezoidal (widened posteriorly); S5 as long as S4 but distinctly wider (widest preabdominal sternum) than both S4 and S6, transversely trapezoidal but posteriorly shallowly emarginated.

Postabdomen (Figs 186–188) most resembling that of *V. discolor* but differing as follows: T6 shorter and wider, hence more transverse, with longer more stout setae posterolaterally but with similar pale-pigmented area at posterior

margin (Fig. 187). S6 characteristically modified, distinctly smaller (and shorter) than S5, with broadly rounded anterior corners and hence almost semicircular, with dark medial transverse sclerotized ledge-like strip in the middle and with small posteromedial incision (Fig. 188), setose in posterior two-thirds, with longest setae at posterior margin. T7 dorsally very similar to that of *V. discolor* including short anteromedial pale-pigmented area (Fig. 187) but laterally more extended, with large ventrolateral pale brown part (Fig. 186) and with unique anteroventral strap-like projection on each side far reaching ventromedially (see Figs 186, 188); S7 also distinctive although similarly formed as that of *V. discolor*, but more elongate and more tapered posteriorly, with a fine anteromedial V-shaped lineal structure (instead of transverse strip) anteriorly delimiting micropubescent area (Fig. 188), hence anterolateral corners bare; posterior margin of S7 with very long setae and anterior sensory setulae situated unusually medially, close to each other, on both sides of the corner of the above V-shaped structure. T8 as in *V. discolor* but hardly widened posteriorly (Fig. 187). S8 similarly formed as that of relatives, with posteromedial invaginated parts (see Figs 188, 191, 192) somewhat wider than in *V. discolor*. Internal structures of genital chamber (Figs 191, 192) submembranous and poorly defined, represented by elongate, annular sclerite being posteriorly bent dorsally (see Fig. 191) and anteriorly unusually widened onto lateral sides of the chamber (Fig. 192). Ventral receptacle (Figs 190–192) distinctly more elongated and distally more strongly twisted than that of *V. discolor*; also its duct is longer. Accessory gland with similarly slender but longer duct (see Fig. 192) being in the middle ringed, more distally slightly dilated and with plain surface. Spermathecae (1+1) shortly barrel-shaped and with narrow terminal invagination as in *V. discolor* but (rather indistinctly) ringed in proximal two-thirds to three-fourths and spinulae around insertion of duct pointed (Fig. 185); terminal cervix of long spermathecal duct (Fig. 193) slightly longer (Fig. 185). T10 formed, setose and pigmented as in *V. discolor* but shorter than broad (Fig. 187). S10 also very similarly shaped but micropubescent in posterior half only and very finely also along midline more anteriorly (Fig. 188). Cercus (Figs 186–188) hardly different from that of *V. discolor*.

Discussion. Although the male of *Virgatomyza dissimilis* sp. nov. remains unknown, the species is described here from a single female because it differs distinctly from all relatives both in several external characters (see the key) and structures of the female postabdomen and terminalia, particularly as regards the modified female S6, T7 and S7. T7 is unique not only by its anteroventral strap-like projections but also in having the dorsal half blackish brown while ventrally it is pale brown (see Fig. 186). Its relationship to *V. discolor* is discussed above under that species.

Etymology. The species is named '*dissimilis*' (Latin adjective meaning unlike, different, dissimilar) to stress that it is not conspecific with its very similar relative *Virgatomyza discolor* sp. nov. from Kenya.

Biology. The holotype was found at altitude 2100 m, in January.

Distribution. The species is known only from the female holotype from the Shewa region of Ethiopia.

Key to species of the genus *Virgatomyza*

1 Thoracic pleuron with distinct longitudinal brown band along dorsal margin, ranging from dorsal part of propleuron (and also including humeral callus) to haltere (Figs 114, 116). Mesonotum and scutellum pale grey microtomentose. Scutellum with only 2 usual pairs of sc macrosetae. 2

– Thoracic pleuron almost completely yellow, thus without dorsal brown band, at most dorsal margin of mesopleuron and pteropleuron faintly brownish darkened (Figs 164, 167). Mesonotum and scutellum with pale blue microtomentum. Scutellum with several (1−7) setulae in addition to sc macrosetae. 3

2(1) Pleural part of thorax with only dorsal longitudinal band brown, ventrally yellow (Fig. 114). Wing with longitudinal brown band in the middle (Fig. 113). 1st antennal flagellomere distinctly bicolourous, proximally and ventrally narrowly yellow, rest (on both sides) pale brown to brown. Abdomen with preabdominal sterna whitish yellow to ochreous. Male S5 uniformly ochreous yellow. Epandrium longer (Fig. 119), with large, dorsally broad anal fissure (see Fig. 120). Pregonite with both anterior and posterior lobes bulging ventrally, each with 3–5 subequal setae (Figs 122, 132). Phallapodeme with triangularly dilated base having distinct posteromedial incision (Fig. 127). Female S6 markedly longer, anteromedially with dark fine transverse strip (Fig. 135). T8 pale pigmented including indistinctly delimited anterior corners (Fig. 133). Spermathecae shortly barrel-shaped and with sparsely but strongly ringed surface (Fig. 138). ..... ***V. helvior* sp. nov.**

– Pleural part of thorax besides dorsal brown band with another brown area ventrally covering most of sternopleuron and hypopleuron, leaving only middle longitudinal stripe between both dark bands yellow (Fig. 117). Wing darkened only along veins (Fig. 118). 1st antennal flagellomere yellow to orange yellow, at most ochreous darkened below insertion of arista. Preabdominal sterna brown. Male S5 brown but posteromedially deeply unpigmented (Fig. 143). Epandrium shorter (Fig. 146), with small, dorsally narrow anal fissure (see Fig. 144). Pregonite (Fig. 150) with anterior lobe very low and with 4 setae, while posterior lobe rectangular, strongly projecting ventrally and with a cluster of setae (Fig. 154). Phallapodeme with triangularly dilated base simple, without posteromedial incision (Fig. 147). Female S6 shorter and more transverse, anteromedially with larger, wider and thicker transverse sclerotized ledge-like strip (Fig. 158). T8 pale pigmented, but with characteristically darkened anterior corners (see Fig. 157). Spermathecae more elongate and distally somewhat tapered, with densely ringed surface (Figs 155, 159). ..... ***V. bivirgata* sp. nov.**

3(1) Mesonotum with broad brown lateral vittae extended from notopleural areas medially over dc lines, hence

medial yellow stripe narrow; humeral callus dorsally pale brown, ventrally ochreous yellow; mediotergite brown, laterotergite yellow. Scutellum with several (up to 4 pairs) microsetae (Fig. 166). Last segment (or its distal half) of all tarsi brown darkened. f_1 with posteroventral ctenidial spine strongly reduced, about 2× longer than basally thick and other setae in the posteroventral row sparse (Fig. 177). Gonostylus slender, slightly bent medially and posteriorly (Fig. 169), proximally narrow, with blunt apex having a denticle on inner side (Fig. 168). Pregonite with anterior lobe very low and with 3 setae; posterior lobe more projecting but with only 2 setae (Fig. 172). Phallapodeme dorsally somewhat tuberculate (Figs 171, 175) and posterior incision of its triangularly dilated base situated left laterally (Fig. 171). Female S6 simple, transversely suboblong, without peculiarities (Fig. 180); T7 with ventrolateral part concolourous with rest of tergum and its anteroventral margin simple (Fig. 178); S7 shorter and less tapered posteriorly, largely micropubescent, with well-developed transverse dark sclerotized ledge-like strip in the middle of anterior third (Fig. 180). ..... ***V. discolor* sp. nov.**

– Mesonotum with longitudinal brown vittae narrower, extended from notopleural area to about dc lines, leaving medial, pale yellow band broad but ending in front of scutellum; humeral callus completely pale brown; laterotergite concolourous with mediotergite, pale brown. Scutellum with only one additional microseta. Tarsi with last segment not darkened, concolourous with rest of tarsus. f_1 with ctenidial spine longer (about 5× longer than basally thick) and with more setae in posteroventral row (Fig. 189). Male unknown. Female S6 with rounded anterior corners, almost semicircular, with dark medial transverse sclerotized ledge-like strip in the middle and with a small posteromedial incision (Fig. 188). T7 with large ventrolateral part pale brown and having unique anteroventral strap-like projection (see Figs 186, 188). S7 more elongate and more tapered posteriorly, with a fine anteromedial V-shaped lineal structure (Fig. 188) anteriorly delimiting micropubescent area (hence anterolateral corners of S7 bare). ..... ***V. dissimilis* sp. nov.**

Key to Afrotropical genera of Anthomyzidae

This is an update of the key by Roháček (2021a). Therefore, it covers all formerly described genera as well as the three new genera described here, and largely refers to illustrations presented in the previous study. For detailed (re)descriptions and illustrations see Roháček (1993) for genera *Amnonthomyza* and *Barbarista*, Roháček (1998) for *Apterosepsis*, Roháček & Barraclough (2003) for *Margdalops*, Roháček (2004) for *Amygdalops*, and Roháček (2014) for *Scelomyza*.

1 Wings and halteres absent; minute ant-mimicking flies (Roháček 2021a: figs 13, 14); thoracic chaetotaxy reduced (hu, npl, prs, pa, sc and stpl setae minute or absent), but with extremely enlarged sa seta (Roháček 2021a: figs 13, 14); abdomen basally with petiole, formed by constricted segment 1 and preabdominal terga extended ventrally; female abdominal spiracles 2–6 inserted in tergal margins (Roháček 2021a: fig. 47) (male unknown). ..... ***Apterosepsis*** Richards, 1962

– Wings and halteres present (Figs 3, 44, 114); not ant-mimicking flies; thoracic chaetotaxy with most setae well developed (e.g., Figs 5, 72, 117), sa seta of normal size or small; abdomen never petiolate basally, preabdominal terga smaller; female abdominal spiracles 2–6 inserted in pleural membrane. 2

2(1) Head distinctly higher than long, with ocellar triangle small, shifted posteriorly slightly behind vertex of head (Roháček 2021a: fig. 9); frons with 1 long ors; 1st antennal flagellomere with strikingly long pale setae on apex (Roháček 2021a: fig. 9); f_1 with distinct posteroventral ctenidial spine (Roháček 2021a: fig. 18) (male unknown). ..... ***Scelomyza*** Séguy, 1938

– Head at most slightly higher than long, with ocellar triangle situated anterior to vertex of head (Figs 2, 72, 117); frons with 2 long ors; 1st antennal flagellomere ciliate, without long setae (Figs 2, 72, 117); fore femur with ctenidial spine small (Figs 128, 189) or absent (Figs 4, 44; Roháček 2021a: fig. 19). 3

3(2) Basal part of wing strongly narrowed, with reduced anal lobe and alula absent (Figs 45, 47; Roháček 2021a: figs 25, 26); A_1 very shortened but reaching wing margin due to reduced anal lobe and apical portion of CuA_1 very short (Fig. 45; Roháček 2021a: figs 25, 26); pvt absent; mesonotum and scutellum with finely shagreened or granular surface; female T7 and S7 fused, forming annular synsclerite (Figs 59–61; Roháček 2021a: figs 40–42). 4

– Basal part of wing wider, with distinct anal lobe and alula (Figs 1, 113); A_1 well developed but ending far from wing margin and apical portion of CuA_1 longer (Figs 1, 113, 118, 165); pvt present, convergent or crossed; mesonotum and scutellum with plain surface; female with T7 and S7 separate (Figs 22, 135, 158). 6

4(3) Head distinctly longer than high; antenna porrect, with arista densely and long hirsute, particularly basally (Roháček 2021a: figs 8, 11, 12); fore leg coloured identically in both sexes; male S6 with anterior heavily sclerotized ledge simple, without anterior processes; internal hypandrial lobes reduced and membranous (Roháček 2021a: figs 31, 32, 38); female genital chamber with two pairs of posterior internal sclerites (Roháček 1993: figs 72, 73; Roháček 2021a: figs 44, 46). 5

– Head somewhat higher than long; antenna geniculate, with arista densely and long-pectinate (Fig. 72); fore leg sexually dichroic (see Figs 72, 73); male S6 with heavily sclerotized anterior ledge having 2 or 3 flat anterior processes (Figs 78, 95); internal hypandrial lobes heavily sclerotized, dorsally strongly expanded and its larger distal part ladle-shaped, bulging laterally (Figs 52, 54); female genital chamber with one pair of posteriorly shifted internal sclerites, each carrying a group of grain-like excrescences (Figs 92, 93). ..... ***Pectarista* gen. nov.**

5(4) Basal thickened segment of antennal arista elongate (Roháček 2021a: fig. 12); f_1 without thickened antero-

ventral setae; wing membrane brownish, with pale spots absent or small; R_{2+3} curved along C and M sinuate (Roháček 1993: figs 82, 83); transandrium with small medial caudal process, split or bipartite (Roháček 2021a: figs 35, 36); postgonite robust and heavily sclerotized (Roháček 2021a: figs 38, 39); filum of distiphallus compact, without lateral branch (Roháček 1993: figs 63, 77); female genital chamber without sclerite at insertion of spermathecal ducts; ventral receptacle reduced, indistinct). ..... ***Amnonthomyza*** Roháček, 1993

– Basal thickened segment of antennal arista short (Roháček 2021a: fig. 8); f_1 with short thickened anteroventral setae (Roháček 2021a: fig. 16); wing membrane (Roháček 1993: figs 54–58) dark brown with whitish maculate pattern; R_{2+3} strongly sinuate; M relatively straight (Roháček 1993: figs 55, 56); transandrium with long, flat, medial caudal process (Roháček 2021a: figs 29, 32); postgonite slender; filum of distiphallus with slender side branch in addition to main shaft (Roháček 2021a: figs 29, 32); female genital chamber with sickle-shaped sclerite at insertion of spermathecal ducts (Roháček 2021a: fig. 43); ventral receptacle membranous, large, long and acutely pointed (Roháček 2021a: figs 43, 46). ..... ***Barbarista*** Roháček, 1993

6(3) Arista pectinate (Fig. 4; Roháček 2021a: figs 4, 10). 7

– Arista ciliate (Fig. 117; Roháček 2021a: fig. 7). 8

7(6) Occiput medially simple, without spot above foramen; posteroventral corner of head (postgena) obtuse-angled or rounded (Roháček 2021a: fig. 10); thoracic pleuron pale yellow to whitish, with only dorsal longitudinal band brown (Roháček 2021a: fig. 1); wing membrane pale, with subapical darkening or brown, with white spots, rarely unicolourous hyaline; discal (dm) cell shorter and narrower (Roháček 2021a: figs 20–22); C without spinulae among fine setulae on Cs_2; S2–S5 of both sexes unicolourous, usually pale pigmented; epandrium posteroventrally normal, not projecting (Roháček 2021a: fig. 34); anal fissure larger and situated in middle of epandrium (Roháček 2004: figs 29, 110); filum of distiphallus slender and formed by two ribbon-shaped sclerites (Roháček 2004: figs 7, 26, 81); entire female T7 brown or blackish brown (at most with pale narrow anterior and/or posterior margins (Roháček 2004: figs 12, 55, 105); female genital chamber posteriorly with 2 pairs of flat (sometimes fused) pale-pigmented sclerites (Roháček 2004: figs 18, 58, 84). ..... ***Amygdalops*** Lamb, 1914

– Occiput with a medial, pale-pigmented, whitish-grey microtomentose spot above foramen; posteroventral corner of head (postgena) almost rectangular (Fig. 4); thoracic pleuron unicolourous brown (Fig. 3); wing membrane pale, unicolourous, without spots; discal (dm) cell longer and wider (Fig. 1); C with spinulae among fine setulae on Cs_2; S2–S5 with bicolourous pattern, largely brown with unpigmented (postero) medial areas (Figs 6, 18, 29, 36); epandrium extended posteroventrally (Fig. 27) to form medially projecting corners; anal fissure unusually small and shifted dorsally (Fig. 10); filum very robust, compact and heavily sclerotized (Fig. 16); female T7 blackish brown laterally but with large dorsomedial pale-pigmented area (Fig. 20); female genital chamber (besides 2 pairs of flat sclerites) with unpaired, dark-pigmented, transversely suboval sclerite (Figs 23, 26, uis) situated above S8. .... ***Durantha*** **gen. nov.**

8(6) Wing membrane (Roháček 2021a: fig. 23) markedly darkened along anterior margin; discal medial cell (dm) short and very narrow and distal part of vein M long (Roháček 2021a: fig. 23); f_1 without posteroventral ctenidial spine; only 2 (both postsutural) dc setae; male cercus enlarged and heavily sclerotised (Roháček & Barraclough 2003: figs 4, 24, 53–56); medandrium broad and medially very shortened (Roháček 2021a: fig. 33); transandrium without medial caudal process (Roháček & Barraclough 2003: figs 1, 15, 38); saccus of distiphallus armed with various setulae, spines and/or tubercles (Roháček & Barraclough 2003: figs 17, 50); female S7 dark-pigmented and S8 only posteromedially incised (Roháček & Barraclough 2003: figs 8, 23, 47); female genital chamber with internal structures distinctly developed but variable, annular sclerite short (Roháček & Barraclough 2003: figs 10, 21, 44, 46); ventral receptacle cup-like or flask-shaped with digitiform to vermicular terminal projection (Roháček & Barraclough 2003: figs 22, 34). .... ***Margdalops*** Roháček & Barraclough, 2003

– Wing membrane with longitudinal brownish band in the middle and whitish-hyaline anterior and posterior marginal areas (Fig. 113) or only darkened along veins R_{4+5}, M and CuA_1 (Fig. 118); discal medial cell (dm) long and broad and distal part of vein M short (Fig. 113); f_1 with posteroventral ctenidial spine, although markedly reduced (Figs 128, 189); 3 (all postsutural) dc setae; male cercus medium sized and weakly sclerotised (Figs 119, 120); medandrium broad but medially long (Figs 120, 130); transandrium with ventrally projecting and distally forked caudal process (Figs 123, 173); saccus of distiphallus unarmed or with only a few minute grains (Figs 125, 150); female S7 pale pigmented, submembranous and S8 longitudinally divided into two parts (Figs 135, 180); female genital chamber with internal structures reduced; annular sclerite modified into very elongate ribbon-shaped unpigmented structure (Figs 140, 163); ventral receptacle hooked, resembling a sheep's horn (Figs 137, 190). ..... ***Virgatomyza*** **gen. nov.**

Discussion and conclusions

i) Three new genera established in this study are distinctive, well-defined monophyletic groups, distinctly different from all other genera of Anthomyzidae hitherto known from the Afrotropical Region (see Roháček 2021a). They proved to be related to three different lineages of the family.

ii) The genus *Durantha* has been recognized as a branch of the *Amygdalops* clade, formerly represented in the Afrotropics by two genera, *Amygdalops* (see Roháček 2004) and *Margdalops* (see Roháček & Barraclough 2003), whereas *Durantha* is probably closer to *Amygdal-*

ops. The compact and robust filum of the distiphallus of *Durantha* species, probably formed by a single sclerite, has not been expected to occur in the *Amygdalops* group of genera, although in the most derived species of *Margdalops*, e.g. *M. angustus* Roháček & Barraclough, 2003 or *M. signatus* Roháček & Barraclough, 2003 the originally two sclerites are more or less fused so that their filum is basally compact and only distally split (cf. Roháček & Barraclough 2003: figs 17, 29). Interestingly, also in *Amygdalops* there is an aberrant species, viz., *A. abnormis* Roháček, 2008 from Srí Lanka, having a compact filum of the distiphallus (Roháček 2008: figs 134, 135). However, in all these cases, the filum remains long, slender and evidently evolved by a fusion of two original ribbon-shaped sclerites, consequently, diametrically different from the extremely robust filum diagnosing the genus *Durantha*.

iii) *Pectarista* gen. nov. is a monophyletic group most closely allied to the genus *Barbarista* although *Amnonthomyza* also belongs to this alliance. Roháček (1993) suggested that the pair *Barbarista-Amnonthomyza* has probably derived from 'the same stock as *Anthomyza* Fallén, 1810' (= *Anthomyza* clade sensu Roháček & Barber 2016). However, this hypothesis can hardly be demonstrated because most of the shared features in the male and female terminalia are plesiomorphic and the seemingly synapomorphic female tergosternum T7+S7 and similarly longitudinally divided female S8 or the compact (but distally variously modified) filum could evolve as homoplasies in both these lineages. The strongly derived external characters (heavily sclerotized thorax with microgranular sculpture, reduced thoracic chaetotaxy, modified arista or the entire antenna, reduced wing base and relevant veins) indicate that the clade with *Barbarista*, *Pectarista* and *Amnonthomyza* is relatively distant from that of *Anthomyza* and allied genera. The sexually dichroic fore leg of *Pectarista* species seems to be unique within Anthomyzidae but is reminiscent of that of some species of *Trixoscelis* Rondani, 1856 (Heleomyzidae: Trixoscelidinae) which have the fore leg in the female (except for coxa) blackish while it is yellow and dark grey variegated in the male (see Hackman 1970).

iv) *Virgatomyza* is the first Afrotropical genus belonging to the *Anthomyza* clade. Its sister group has not been hitherto recognized because shared apomorphies are scattered among several genera of this group (see above under the genus). Molecular analysis could help to resolve the relationships of *Virgatomyza*, it is true, but no fresh material of any species of this genus is currently available for such a study. However, the longitudinally-banded wings of *Virgatomyza* species clearly separate this group from any other genera of Afrotropical Anthomyzidae, either those described (for key to genera see Roháček 2021a) or unnamed (Roháček, in litt.). On the other hand, in the world fauna four other genera with similarly dark-banded wings (at least in some species) are known, viz., *Anthomyza*, *Arganthomyza*, *Epischnomyia* and *Ischnomyia*, for more information see Roháček & Barber (2016), Roháček (2009, 2018, 2020, 2021b). These similarly patterned wings clearly evolved independently in several lineages of the *Anthomyza* group of genera, owing to the protection of these species against enemies by means of distractive colouration, see also Roháček & Barber (2016: 44) and Roháček (2020: 289).

v) While the *Amygdalops* group of genera (including *Durantha*) and the *Anthomyza* group of genera (including *Virgatomyza*) are widespread, represented in more biogeographical regions, the *Barbarista* group of genera (including *Pectarista*) seems to be limited to the Afrotropical Region.

vi) Six genera and 26 species of Anthomyzidae have hitherto been known from the Afrotropical Region (Roháček 2014). With the addition of three new genera and nine new species described above, the regional fauna currently comprises 9 genera and 35 species of Anthomyzidae. Thus, the number of species recorded in the Afrotropics now represents only a little more than one third of the presumed number (ca. 90) hitherto collected (!) in this region (see Roháček 2021a). Consequently, it can be expected that the actual number of taxa occurring in tropical Africa will be substantially higher.

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