

Taxonomic study of some Afrotropical erythroneurine leafhoppers (Hemiptera: Cicadellidae: Typhlocybinae)

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Abstract

Six Afrotropical genera of the leafhopper tribe Erythroneurini are redescribed and two new genera, *Laminaris* **gen. nov.** and *Projecta* **gen. nov.** are established. Sixteen new species are described and illustrated: *Laminaris angusta* **sp. nov.**, *Laminaris cuspidatima* **sp. nov.**, *Laminaris serrata* **sp. nov.**, *Laminaris tenuis* **sp. nov.**, *Projecta auriculata* **sp. nov.**, *Projecta brevis* **sp. nov.**, *Projecta depressa* **sp. nov.**, *Projecta draciformis* **sp. nov.**, *Accacidia obunca* **sp. nov.**, *Imbecilla bifurca* **sp. nov.**, *Imbecilla spinalis* **sp. nov.**, *Lublinia anchoroides* **sp. nov.**, *Molopopterus hastata* **sp. nov.**, *Molopopterus ugandica* **sp. nov.**, *Lamtoana exigua* **sp. nov.** and *Nsesa cameroonica* **sp. nov.** *Nsesa* Dworakowska, 1974 is newly recorded from Cameroon; *Nsimbala* Dworakowska, 1974 and *Szymczakowskia* Dworakowska, 1974 from the Central African Republic; *Lublinia* Dworakowska, 1970, *Lamtoana* Dworakowska, 1972 and *Ivorycoasta* Dworakowska, 1972 from the Republic of Congo. Keys to species of the genera *Accacidia* Dworakowska, *Imbecilla* Dworakowska, *Lublinia* Dworakowska, *Molopopterus* Jacobi, *Lamtoana* Dworakowska and *Nsesa* Dworakowska are also given.

Key words: Homoptera, Auchenorrhyncha, morphology, taxonomy, new taxa, Republic of Congo

Introduction

The known Afrotropical erythroneurine fauna, consisting of 47 genera and 264 species (Dmitriev, 2003 onward), shows generic diversity second only to that of the Oriental fauna. However, recent collections indicate that a large portion of the Afrotropical species of the tribe remains undescribed. In this paper, we treat 12 genera and 27 species based on study of recently collected specimens, primarily from the Republic of Congo. Dworakowska (1974) previously described numerous genera and species of Erythroneurini from the same country and most of the specimens are from three localities: Odzala (in the north), Dimonika (in the southwest) and Sibiti (west central), all in heavily forested areas. The material studied here is from Lesio-Loun Reserve, which is dominated by open grassland and savanna habitat in the east central part of the country (Pool Province). Two new genera, *Laminaris* and *Projecta* **gen. nov.**, are established based on four new species each. Six genera are redescribed with eight new species added.

Material and methods

The morphological terminology follows Young (1952) except for the abdominal apodemes and the wing: the definitions of the abdominal apodemes refer to Ross (1959), and the nomenclature for the wing veins is adopted from Dworakowska (1993). Habitus photos were taken using Canon EOS 5D equipped with Canon MP-E 1–5x 65mm lens. Multiple photographs were compressed into final images by CombineZP. Abdomens and genitalia were removed from specimens and cleared in a 10% KOH solution heated for 1–2 minutes. Cleared material was then rinsed in water and stored in glycerine. A Nikon SMZ1500 dissecting microscope was used for viewing and an Olympus BH-2 stereoscopic microscope for drawing. All studied specimens are deposited in the Illinois Natural History Survey, Champaign, Illinois, USA, except those followed by (IMC), which are deposited in the Iziko Museum, Cape Town, South Africa.

Laminaris Cao & Dietrich gen. nov.

Type species: *Laminaris angusta* sp. nov., here designated.

Description. Body robust and medium sized, 3.0 to 3.5 mm, without distinct color pattern. Crown fore margin broadly rounded apically, coronal suture visible basally. Ocelli vestigial, represented by pair of pale crescent-shaped areas on dorsal part of face. Head including eyes wider than pronotum. Face convex in profile. Pronotum with lateral margins only slightly divergent posteriorly in dorsal view, hind margin slightly and evenly concave. Forewing (Fig. 1a) with first and third apical cell wide, second and fourth apical cell narrow, fourth apical cell not reaching apex of wing, shorter than third, without AA and AP. Hind wing (Fig. 1b) with RA.

Male abdominal apodemes 2S very short, not extended to hind margin of sternite III. Anal tube membranous, with sclerotized ring subapically, terminating ventrolaterally in pair of long, laminate appendages to ventral margin of pygofer lobe.

Male genital capsule cylindrical, moderately sclerotized. Pygofer lobe with few fine setae near dorsal and ventral margins, hind margin rounded or truncate, with numerous spicules; dorsal appendage usually stick-like, fused to lobe basally; ventral appendage absent. Subgenital plate narrow and long, more or less evenly tapered from base to apex, surpassing hind margin of pygofer lobe, apical part narrow, curved dorsad, well pigmented; with row of stout microsetae along outer margin from subbase to apex, some microsetae scattered on distal disc, with oblique row of 4–5 macrosetae extended from outer margin of subbase to middle. Style with apical part elongated and slender, with longitudinal furrows, preapical lobe small but distinct, gemmiform. Connective V-shaped, central lobe much shorter than lateral arms, with apical margin slightly concave. Aedeagal shaft tubular, with or without process; dorsal apodeme long and narrow in lateral view, slightly wider than shaft in caudal view; preatrium rudimentary to short; gonopore subapical or central, on ventral side.

Etymology. The generic name is derived from Latin adjective “*laminaris*” which means flattened, referring to the lamellate anal tube appendage. The name is feminine.

Distribution. Republic of Congo.

Diagnosis. The new genus is similar to *Sanatana* Dworakowska, 1984 in having well-developed anal tube appendages and slender apical part of the style, but its head is wider, pygofer lobe is longer, connective has a shorter central lobe and the aedeagus lacks paired basolateral processes.

Keys to species of *Laminaris* gen. nov. (males)

- | | | |
|---|--|---|
| 1 | Aedeagal shaft with pair of ventrolateral lamelliform processes near midlength (may be small) (Figs 2i, 3i) | 2 |
| - | Aedeagal shaft without ventrolateral lamelliform processes (Figs 1k, 4i) | 3 |
| 2 | Ventral lamellae of aedeagal shaft very small, toothlike; gonopore concave in lateral view (Fig. 2i) | |
| | <i>L. cuspidatima</i> Cao & Dietrich sp. nov. | |
| - | Ventral lamellae of aedeagal shaft well developed and serrate; gonopore flat in lateral view (Fig. 3i) | |
| | <i>L. serrata</i> Cao & Dietrich sp. nov. | |
| 3 | Anal tube appendages distinctly broadened ventrally (Figs 4b, c); aedeagal shaft distinctly curved with gonopore near apex (Fig. 4i) | |
| | <i>L. tenuis</i> Cao & Dietrich sp. nov. | |
| - | Anal tube appendages slender, parallel sided (Figs 1d, e); aedeagal shaft straight with gonopore near midlength (Fig. 1k) | |
| | <i>L. angusta</i> Cao & Dietrich sp. nov. | |

1. *Laminaris angusta* Cao & Dietrich sp. nov.

(Figs 1, 24a–d)

Description. Ground color white (specimens preserved in ethanol before examination), eyes grey, face with indistinct longitudinal brown medial band. Basal triangles of mesonotum brown. Forewing dark brown apically near costal margin. (Figs 24a–d)

Anal tube appendage (Fig. 1e) narrow, base curved, apex blunt, as wide as base.

Pygofer side (Fig. 1d) rounded distally; dorsal appendage (Figs 1d, e) short, not extended to hind margin of lobe, blunt apically. Subgenital plate (Figs 1d, g) with short apical part curved dorsad; with about 4 macrosetae. Style (Figs 1h, i) with apical part straight in dorsal view, curved ventrad in lateral view, middle part short. Connective

(Fig. 1j) narrow, length greater than width. Aedeagal shaft (Figs 1k, l) narrow and straight; preatrium rudimentary, region between preatrium and dorsal apodeme slightly wider than base of shaft in caudal view; gonopore central.

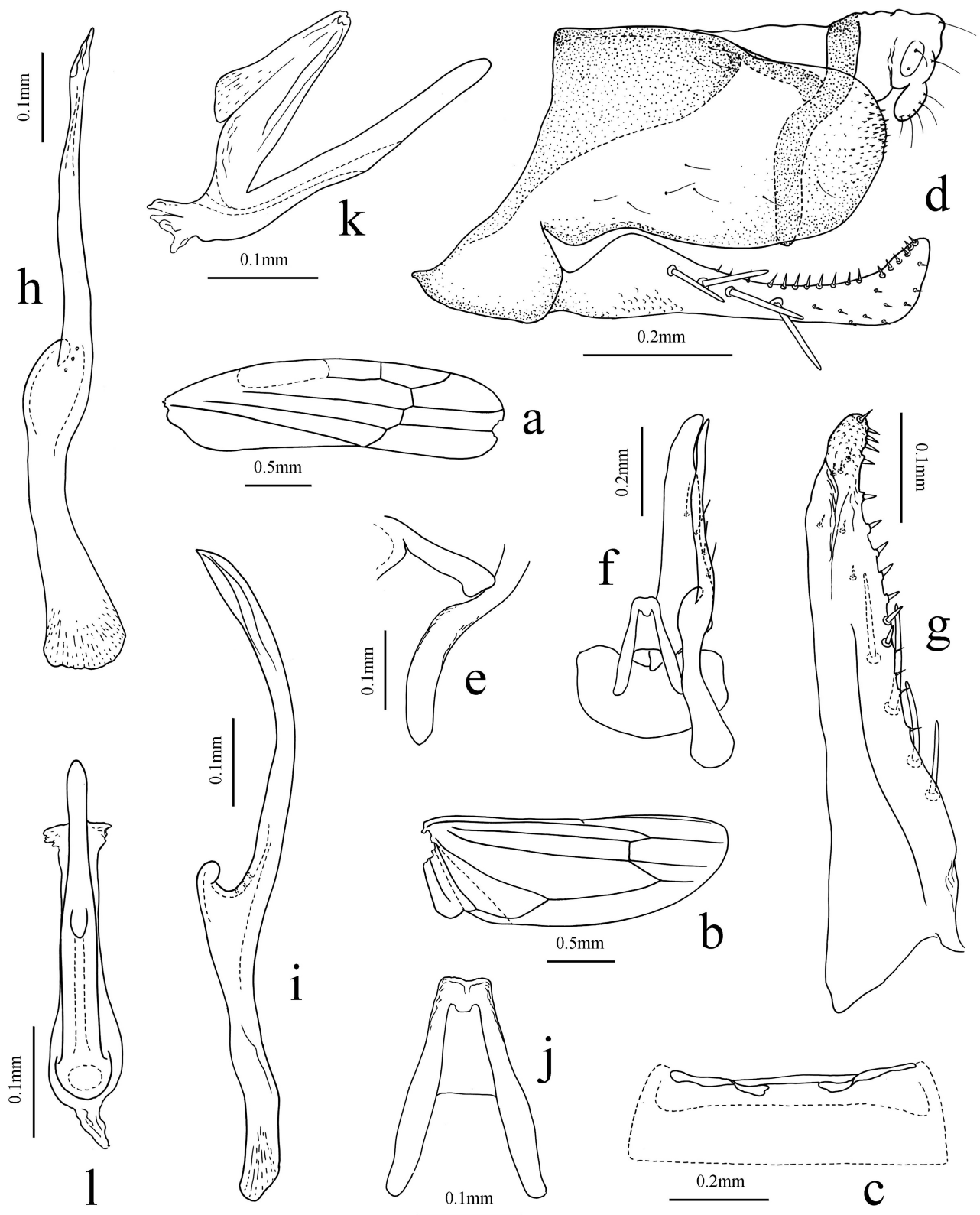


FIGURE 1. *Laminaris angusta*. a. forewing; b. hind wing; c. abdominal apodemes 2S; d. genital capsule; e. anal tube appendage and pygofer dorsal appendage; f. subgenital plate, style, connective and sternite IX; g. subgenital plate, dorsal view; h. style, dorsal view; i. style, lateral view; j. connective; k. aedeagus, lateral view; l. aedeagus, caudal view.

Measurement. Male length 3.00mm.

Material examined. Holotype: ♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.196'S, 015°28.267'E, 23.viii.2008, coll. Braet & Sharkey. Paratypes: 1♂, same data as holotype; 2♂, same data except 25.viii.2008; 1♂, same data except 03°16.020'S, 015°31.440'E, 19–26.viii.2008.

Etymology. The new specific epithet is derived from Latin adjective “*angustus*” which means narrow, referring to the narrow anal tube appendage.

Diagnosis. This species can be distinguished from the others by the anal tube appendages of uniform width and the straight aedeagal shaft.

2. *Laminaris cuspidatima* Cao & Dietrich sp. nov.

(Figs 2, 24e–h)

Description. Ground color white, heavily infused with light brown (specimens preserved in ethanol before examination), eyes grey. Basal triangles of mesonotum black. Forewing light brown apically near costal margin. (Figs 24e–h)

Anal tube appendage (Fig. 2c) greatly expanded medially, apex blunt.

Pygofer side (Fig. 2b) rounded distally; dorsal appendage (Figs 2b, c) long, surpassing hind margin of lobe, foot-like, apex pointed. Subgenital plate (Figs 2b, e) relatively short, base much wider than apex; with about 4 macrosetae. Style (Figs 2f, g) with apical part sinuate in dorsal view, sharply curved ventrad in lateral view, middle part very short. Connective (Fig. 2h) with length slightly greater than width, lateral arms slightly sinuate. Aedeagal shaft (Figs 2i, j) broad, curved dorsad, with 2 small lamellae on ventral margin near middle; dorsal apodeme and preatrium short, region between preatrium and dorsal apodeme much wider than base of shaft in caudal view; gonopore subapical, concave in lateral view.

Measurement. Male length 3.30–3.40mm.

Material examined. Holotype: ♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.020'S, 015°31.440'E, 19–26.viii.2008, coll. Braet & Sharkey. Paratype: 1♂, same data as holotype.

Etymology. The new specific epithet is derived from Latin adverb “*cuspidatim*” which means “like a spear-point”, referring to the pointed pygofer dorsal appendage.

Diagnosis. The new species is similar to *L. serrata* sp. nov., but the anal tube appendage is blunt apically, the pygofer dorsal appendage is foot-like and much longer, the style is curved sharply and the aedeagal shaft has only 2 small ventral lamellae.

3. *Laminaris serrata* Cao & Dietrich sp. nov.

(Figs 3, 24i–l)

Description. Ground color white, infused with light brown (specimens preserved in ethanol before examination), eyes grey. Basal triangles of mesonotum black. (Figs 24i–l)

Anal tube appendage (Fig. 3c) expanded subbasally, apex pointed and curved cephalad.

Pygofer side (Fig. 3b) truncate distally; dorsal appendage (Figs 3b, c) short, not extended to hind margin of lobe, blunt apically. Subgenital plate (Figs 3b, e) with long apical part curved dorsad, with about 5 macrosetae. Style (Figs 3f, g) with apical part straight in dorsal view, directed dorsad in lateral view, middle part relatively long. Connective (Fig. 3h) with length subequal to width. Aedeagal shaft (Figs 3i, j) broad, curved dorsad, dorsal edge with serrate lamella from base to middle, ventral margin with pair of triangular, serrate flanges; preatrium relatively long, region between preatrium and dorsal apodeme wider than base of shaft in caudal view; gonopore central.

Measurement. Male length 3.30–3.40mm.

Material examined. Holotype: ♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.196'S, 015°28.267'E, 05.viii.2008, coll. Braet & Sharkey. Paratypes: 1♂, same data as holotype except 25.viii.2008; 1♂, same data except 18–28.viii.2008; 1♂, same data except 03°16.020'S, 015°31.440'E, 29.viii.2008.

Etymology. The new specific epithet is derived from Latin adjective “*serratus*” which means saw-like, referring to the serrate flanges of the aedeagal shaft.

Diagnosis. The new species is similar to *L. tenuis* **sp. nov.**, but the pygofer dorsal appendage is wider, the style has a wider apical part, the aedeagal shaft is much broader but shorter, and has three serrate flanges.

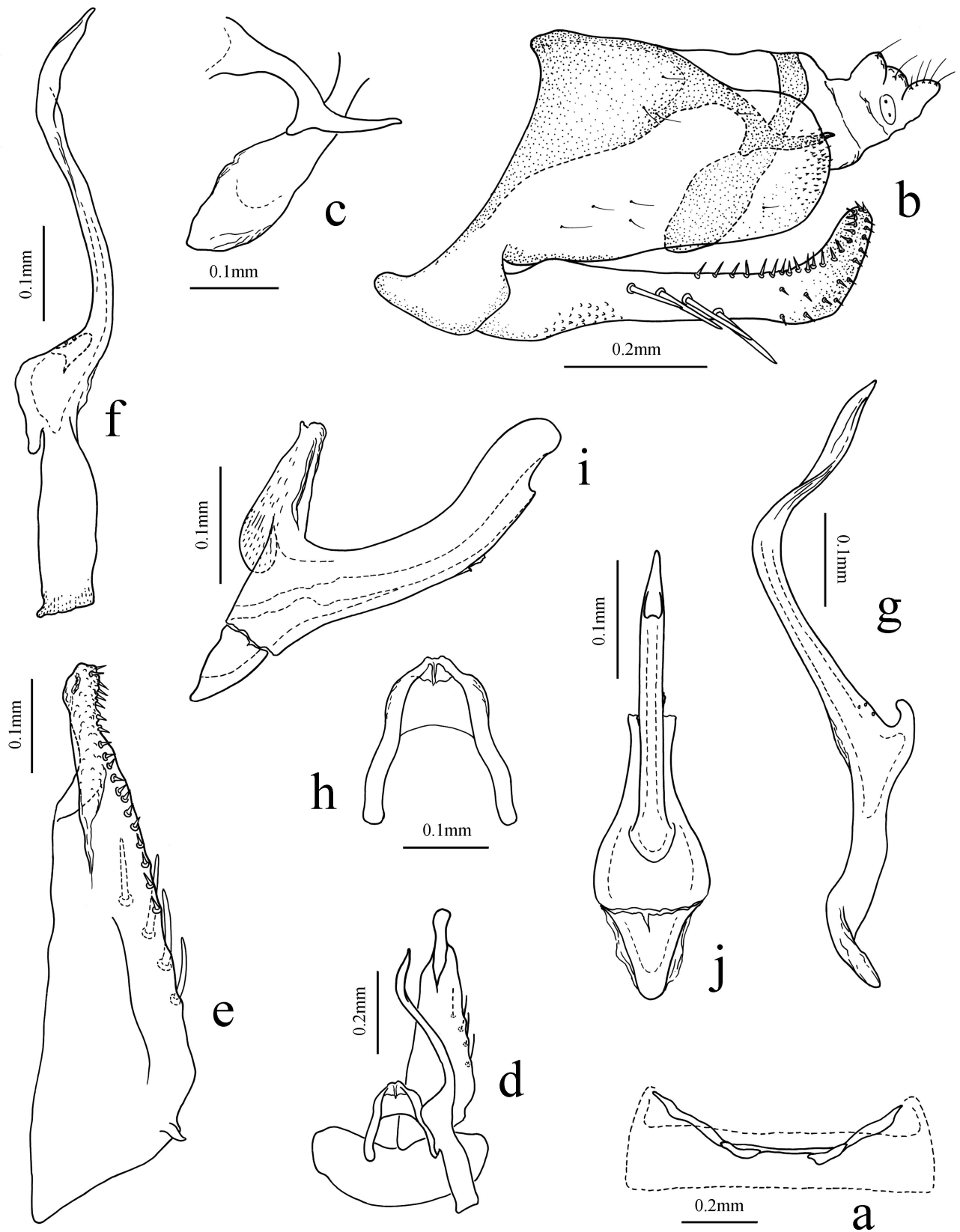


FIGURE 2. *Laminaris cuspidatima*. a. abdominal apodemes 2S; b. genital capsule; c. anal tube appendage and pygofer dorsal appendage; d. subgenital plate, style, connective and sternite IX; e. subgenital plate, dorsal view; f. style, dorsal view; g. style, lateral view; h. connective; i. aedeagus, lateral view; j. aedeagus, caudal view.

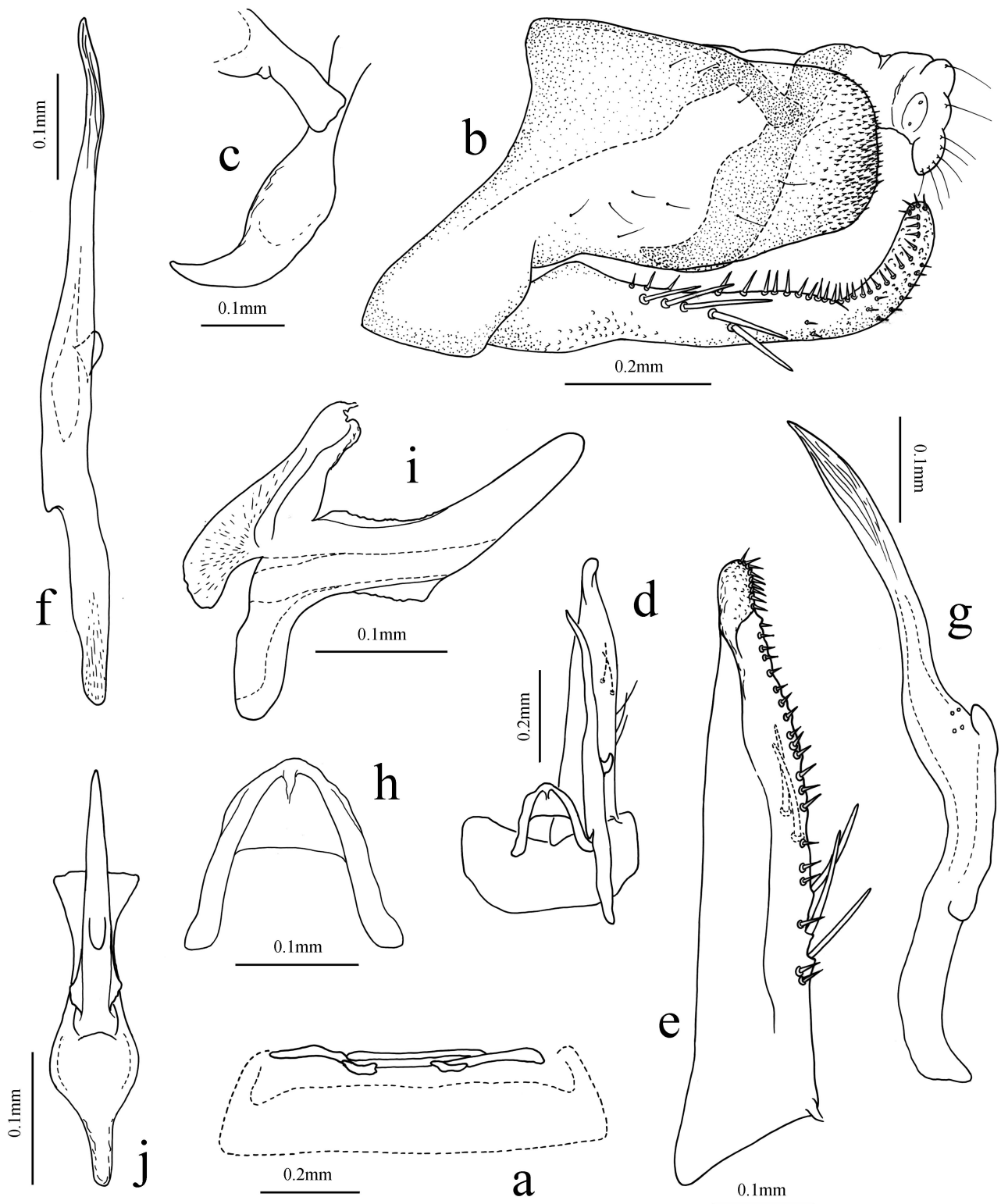


FIGURE 3. *Laminaris serrata*. a. abdominal apodemes 2S; b. genital capsule; c. anal tube appendage and pygofer dorsal appendage; d. subgenital plate, style, connective and sternite IX; e. subgenital plate, dorsal view; f. style, dorsal view; g. style, lateral view; h. connective; i. aedeagus, lateral view; j. aedeagus, caudal view.

4. *Laminaris tenuis* Cao & Dietrich sp. nov.

(Figs 4, 24m–p)

Description. Ground color white, heavily infused with light brown (specimens preserved in ethanol before examination), eyes grey. Basal triangles of mesonotum black. (Figs 24m–p)

Anal tube appendage (Fig. 4c) expanded medially, apical part narrow and curved cephalad, apex pointed.

Pygofer side (Fig. 4b) rounded distally; dorsal appendage (Figs 4b, c) short, not extended to hind margin of lobe, blunt apically. Subgenital plate (Figs 4b, e) with long apical part curved dorsad, with about 4 macrosetae. Style (Figs 4f, g) with apical part curved laterad in dorsal view and curved ventrad in lateral view, middle part short. Connective (Fig. 4h) with length slightly greater than width. Aedeagal shaft (Figs 4i, j) slender and long, curved dorsad, without flanges or processes, apex relatively wide; preatrium short, region between preatrium and dorsal apodeme wider than base of shaft in caudal view; gonopore subapical.

Measurement. Male length 3.30mm.

Material examined. Holotype: ♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.196'S, 015°28.267'E, 23.viii.2008, coll. Braet & Sharkey. Paratypes: 1♂, same data as holotype except 29.viii.2008; 1♂, same data except 05.viii.2008; 1♂, same data except 07–21.viii.2008.

Etymology. The new specific epithet is derived from Latin adjective “*tenuis*” which means slender, thin, referring to the slender aedeagal shaft.

Diagnosis. The new species is similar to *L. serrata* sp. nov., but the anal tube appendage is narrower apically, the pygofer dorsal appendage and the apical part of the style are narrower, the aedeagal shaft is much thinner and longer, and lacks flanges.

Projecta Cao & Zhang gen. nov.

Type species: *Projecta auriculata* sp. nov., here designated.

Description. Body slim and medium sized, 3.5 to 4.1 mm, color nearly uniformly pale overall without distinct pattern. Crown fore margin broadly rounded apically, subparallel to hind margin, coronal suture distinct. Ocelli vestigial, represented by pair of pale crescent-shaped areas on dorsal part of face. Head including eyes narrower than pronotum. Face convex in profile. Pronotum with lateral margins strongly divergent posteriorly in dorsal view, hind margin strongly concave. Forewing (Fig. 5a) with first and fourth apical cells wide, second and third apical cells narrow, third cell narrowed basally and widened apically, fourth cell almost reaching apex of wing, as long as third, AA and AP present. Hind wing (Fig. 5b) with RA.

Male abdominal apodemes 2S narrow and short, not extended to hind margin of sternite III. Anal tube membranous, long, without appendages.

Male genital capsule spherical or cylindrical, moderately sclerotized, with pair of large lamellate apodemes on dorsal half of basal margin. Pygofer lobe attenuated and well sclerotized distally, with some fine setae near ventral margin and several microsetae on inner membrane; dorsal appendage usually articulated to lobe; ventral appendage absent. Subgenital plate usually not surpassing pygofer lobe, angulate subbasally and narrowing towards apex, apical part extended vertically, wide in lateral view, with irregular row of stout microsetae subbasally on outer margin and continued with row of rigid microsetae to apex, with some microsetae scattered on distal disc and about 2 macrosetae subbasally near outer margin. Style with wide and very long middle part, apical part foot-like, transversely striate; preapical lobe broad or protruded, with a few sensory setae. Connective V-shaped, manubrium (the basal region connecting lateral arms) narrow to broad, without central lobe. Aedeagal shaft usually tubular, curved ventrad, with at least one pair of distal processes; dorsal apodeme large, lamellate; preatrium short; gonopore terminal.

Etymology. The generic name is derived from Latin adjective “*projectus*” which means projecting, referring to the attenuate pygofer lobe. The name is feminine.

Distribution. Republic of Congo.

Diagnosis. The new genus is similar to the Oriental genus *Kaukania* Dworakowska, 1972a in body shape and the angulately produced pygofer lobe, but the subgenital plate is narrower and longer, the style has a well-developed preapical lobe, the connective is articulated with the aedeagal shaft and the aedeagus has at least one pair of processes.

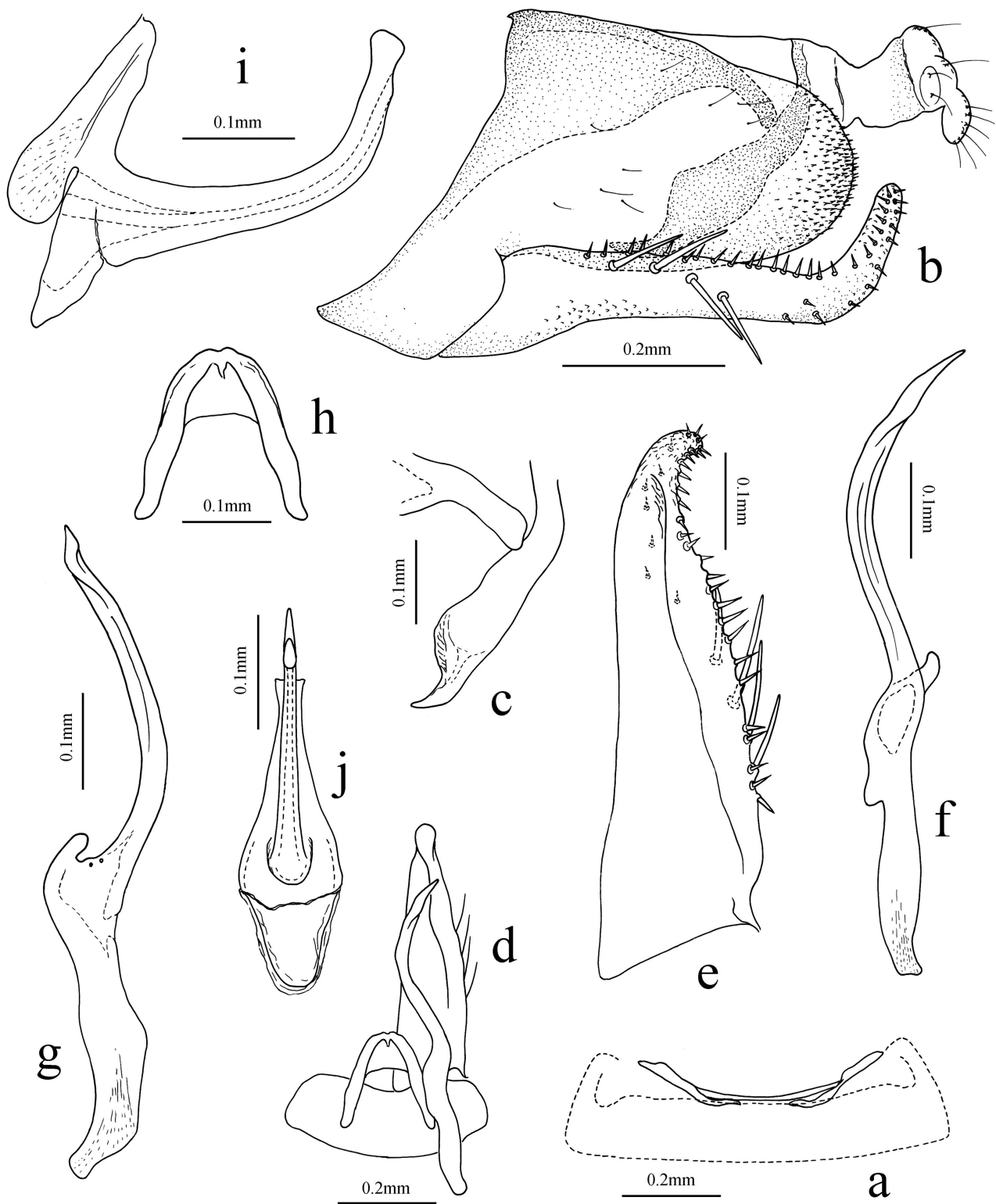


FIGURE 4. *Laminaris tenuis*. a. abdominal apodemes 2S; b. genital capsule; c. anal tube appendage and pygofer dorsal appendage; d. subgenital plate, style, connective and sternite IX; e. subgenital plate, dorsal view; f. style, dorsal view; g. style, lateral view; h. connective; i. aedeagus, lateral view; j. aedeagus, caudal view.

Key to species of *Projecta* gen. nov. (males)

- | | | |
|---|--|---|
| 1 | Pygofer with dorsal appendage branched (Figs 5e, 6b) | 2 |
| - | Pygofer with dorsal appendage unbranched (Figs 7c, 8c) | 3 |
| 2 | Pygofer apex elongate, extended beyond subgenital plate (Fig. 5d); style preapical lobe formed a finger-like protrusion (Fig. 5h). | <i>P. auriculata</i> Cao & Zhang sp. nov. |
| - | Pygofer apex short, not surpassing subgenital plate (Fig. 6b); style preapical lobe without finger-like protrusion (Fig. 6e) | <i>P. brevis</i> Cao & Zhang sp. nov. |
| 3 | Pygofer apex terminating in sharp point or bifurcated (Figs 7b, d); aedeagus with single pair of distal processes (Figs 7j, k) | <i>P. depressa</i> Cao & Zhang sp. nov. |
| - | Pygofer apex bluntly rounded (Fig. 8b, d); aedeagus with paired basal and distal processes (Figs 8j, k). | <i>P. draciformis</i> Cao & Zhang sp. nov. |

1. *Projecta auriculata* Cao & Zhang **sp. nov.**

(Figs 5, 24q–t)

Description. Ground color pale yellow (specimens preserved in ethanol before examination), eyes grey. (Figs 24q–t)

Male genital capsule (Fig. 5d) very long, cylindrical. Pygofer lobe (Fig. 5d) with attenuated distal extension; dorsal appendage (Fig. 5e) articulated to lobe, thin and long, with stick-like basal stem, bifurcated apically, dorsal branch much longer than ventral one. Subgenital plate (Figs 5d, g) not extended to apex of pygofer lobe, apical part narrow in dorsal view, rounded apically in lateral view. Style (Figs 5h, i) apex moderately attenuated and evenly curved, with middle part relatively narrow, preapical lobe long and slender with 1 seta at tip. Connective (Fig. 5j) with manubrium relatively broad. Aedeagal shaft (Figs 5k–m) thick, with pair of short, thin processes apically on dorsal margin, ear-like in caudal view, with broad, lamellate process below gonopore, finely serrate laterally, with pair of short lamellate ventrolateral processes near midlength; preatrium short.

Measurement. Male length 3.95–4.10mm.

Material examined. Holotype: ♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.196'S, 015°28.267'E, 25.viii.2008, coll. Braet & Sharkey. Paratypes: 4♂, same data as holotype.

Etymology. The new specific epithet is derived from Latin adjective “*auriculatus*” which means ear-like, referring to the ear-like processes of the aedeagal shaft when viewed caudally.

Diagnosis. This species can be distinguished from the other species of the genus by its long, slender preapical lobe of style and the broad, lamellate process below gonopore.

2. *Projecta brevis* Cao & Zhang **sp. nov.**

(Figs 6, 24u–x)

Description. Ground color pale yellow (specimens preserved in ethanol before examination), eyes grey. (Figs 24u–x)

Male genital capsule (Fig. 6b) short, length subequal to width. Pygofer lobe (Fig. 6b) with distal extension relatively short; dorsal appendage (Fig. 6b) articulated to lobe, short and thick, with stick-like basal stem, bifurcated apically, dorsal branch slightly shorter and thinner than ventral one. Subgenital plate (Figs 6b, d) slightly surpassing pygofer lobe, apical part relatively broad in dorsal view, rounded apically in lateral view, with reduced stout setae subbasally. Style (Figs 6e, f) with very small second extension apically, apex only slightly widened, with sensory pits basally on middle part, preapical lobe short and broad. Connective (Fig. 6g) with manubrium broad and lateral arms thick. Aedeagal shaft (Figs 6h, i) with two pairs of thin processes distally forming X in caudal view, shaft with two small, triangular processes near middle: one on dorso-lateral margin and one on ventral margin, pair of asymmetrical tooth-like processes present basolaterally; preatrium short; gonopore dorsal.

Measurement. Male length 3.50–3.60mm.

Material examined. Holotype: ♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.196'S, 015°28.267'E, 25.viii.2008, coll. Braet & Sharkey. Paratypes: 1♂, same data as holotype; 2♂, same data except 23.viii.2008; 1♂, same data except 18.viii.2008.

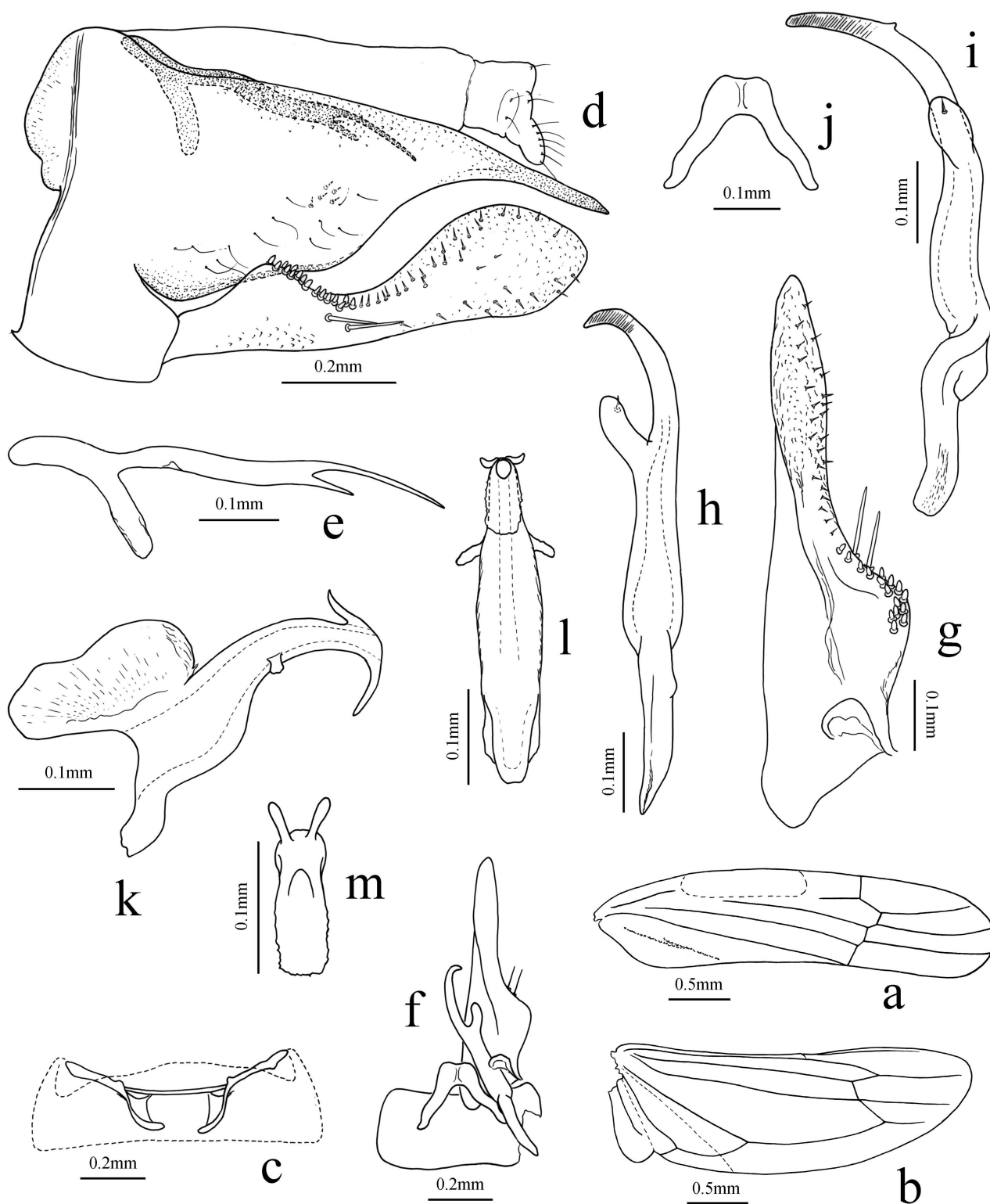


FIGURE 5. *Projecta auriculata*. a. forewing; b. hind wing; c. abdominal apodemes 2S; d. genital capsule; e. pygofer dorsal appendage; f. subgenital plate, style, connective and sternite IX; g. subgenital plate, dorsal view; h. style, dorsal view; i. style, lateral view; j. connective; k. aedeagus, lateral view; l. aedeagus, ventral view; m. apex of aedeagus, caudal view.

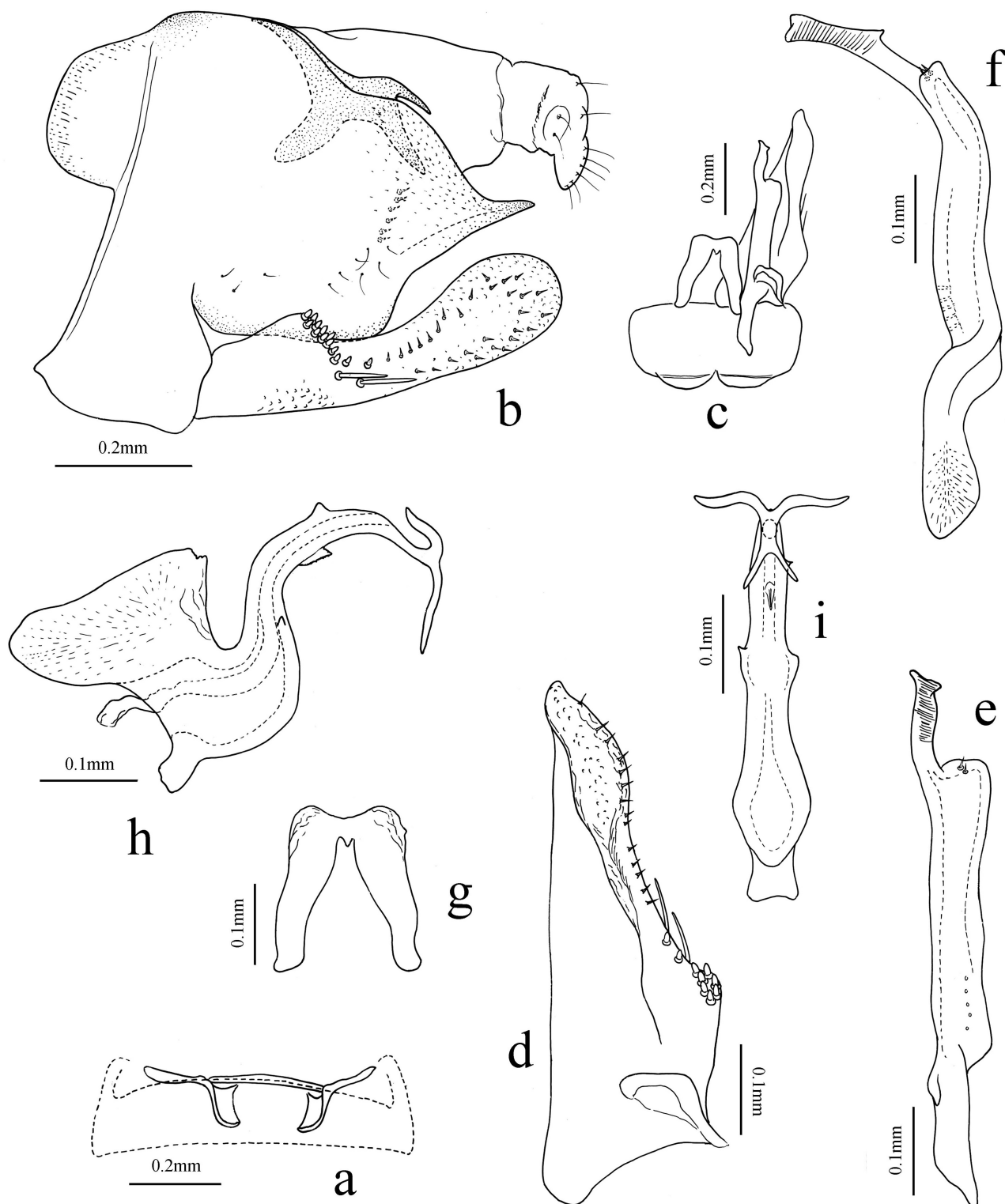


FIGURE 6. *Projecta brevis*. a. abdominal apodemes 2S; b. genital capsule; c. subgenital plate, style, connective and sternite IX; d. subgenital plate, dorsal view; e. style, dorsal view; f. style, lateral view; g. connective; h. aedeagus, lateral view; i. aedeagus, ventral view.

Etymology. The new specific epithet is derived from Latin adjective “*brevis*” which means short, referring to the short distal extension of the pygofer lobe.

Diagnosis. This species can be distinguished from the others by the relatively short distal extension of the pygofer lobe, wide manubrium of connective and X-shaped distal processes of the aedeagal shaft.

3. *Projecta depressa* Cao & Zhang sp. nov.

(Figs 7, 25a–d)

Description. Ground color pale yellow (specimens preserved in ethanol before examination), eyes grey. (Figs 25a–d)

Male genital capsule (Fig. 7b) spherical. Pygofer lobe (Figs 7b, d) with distal extension relatively long and broad, pointed or bifurcated apically; dorsal appendage (Figs 7b, c) articulated to lobe, thin and long, curved ventrad, with stick-like basal stem. Subgenital plate (Figs 7b, f) terminating well short of apex of pygofer lobe, apical part narrow in dorsal view, obliquely truncate apically in lateral view. Style (Figs 7g, h) apex moderately attenuated and evenly curved, with sensory pits basally on middle part, preapical lobe short and broad. Connective (Fig. 7i) with manubrium narrow. Aedeagal shaft (Figs 7j, k) depressed, lateral margins curved ventrad, apex denticulate on dorsal margin, with pair of long, thin processes apically, extended ventrad then strongly curved dorsad; dorsal apodeme tapered in lateral view; preatrium elongate, apex widened and blunt, directed caudad.

Measurement. Male length 4.10mm.

Material examined. Holotype: ♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.196'S, 015°28.267'E, 25.viii.2008, coll. Braet & Sharkey. Paratypes: 2♂, same data as holotype except 18.viii.2008; 1♂, same data except 29.viii.2008.

Etymology. The new specific epithet is derived from Latin adjective “*depressus*” which means flattened dorso-ventrally, referring to the depressed aedeagal shaft.

Diagnosis. This species is similar to *P. draciformis* sp. nov., but the pygofer extension is wider, the pygofer dorsal appendage is longer and curved ventrad, the aedeagal shaft is wider and has only one pair of processes, and the preatrium is much longer.

4. *Projecta draciformis* Cao & Zhang sp. nov.

(Figs 8, 25e–h)

Description. Ground color pale yellow (specimens preserved in ethanol before examination), eyes grey. (Figs 25e–h)

Male genital capsule (Fig. 8b) spherical. Pygofer lobe (Fig. 8b) with distal extension long, wide, apex serrated; dorsal appendage (Figs 8b, c) fused to lobe, foot-like, apex pointed. Subgenital plate (Figs 8b, f) not extended to apex of pygofer lobe, apical part relatively wide in dorsal view, obliquely truncate apically in lateral view. Style (Figs 8g, h) with foot-like apex very narrow, preapical lobe short and broad. Connective (Fig. 8i) with manubrium narrow. Aedeagal shaft (Figs 8j, k) depressed, lateral margins curved ventrad, with pair of long, thin processes apically, curved dorsad, and pair of thin processes basally, shorter than apical pair, directed caudad and curved inwards; dorsal apodeme tapered in lateral view; preatrium short, forming angulate process.

Measurement. Male length 3.90–4.10mm.

Material examined. Holotype: ♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.196'S, 015°28.267'E, 25.viii.2008, coll. Braet & Sharkey. Paratypes: 2♂, same data as holotype except 29.viii.2008.

Etymology. The new specific epithet is derived from Latin words “*draco*” and “*formis*”, referring to the dragon-like aedeagal shaft.

Diagnosis. This species is similar to *P. depressa* sp. nov., but the pygofer extension is narrower, the pygofer dorsal appendage is shorter and fused to the pygofer lobe, the style has a shorter apex, the aedeagal shaft is narrower and has an additional pair of processes basally, and the preatrium forms an angulate process.

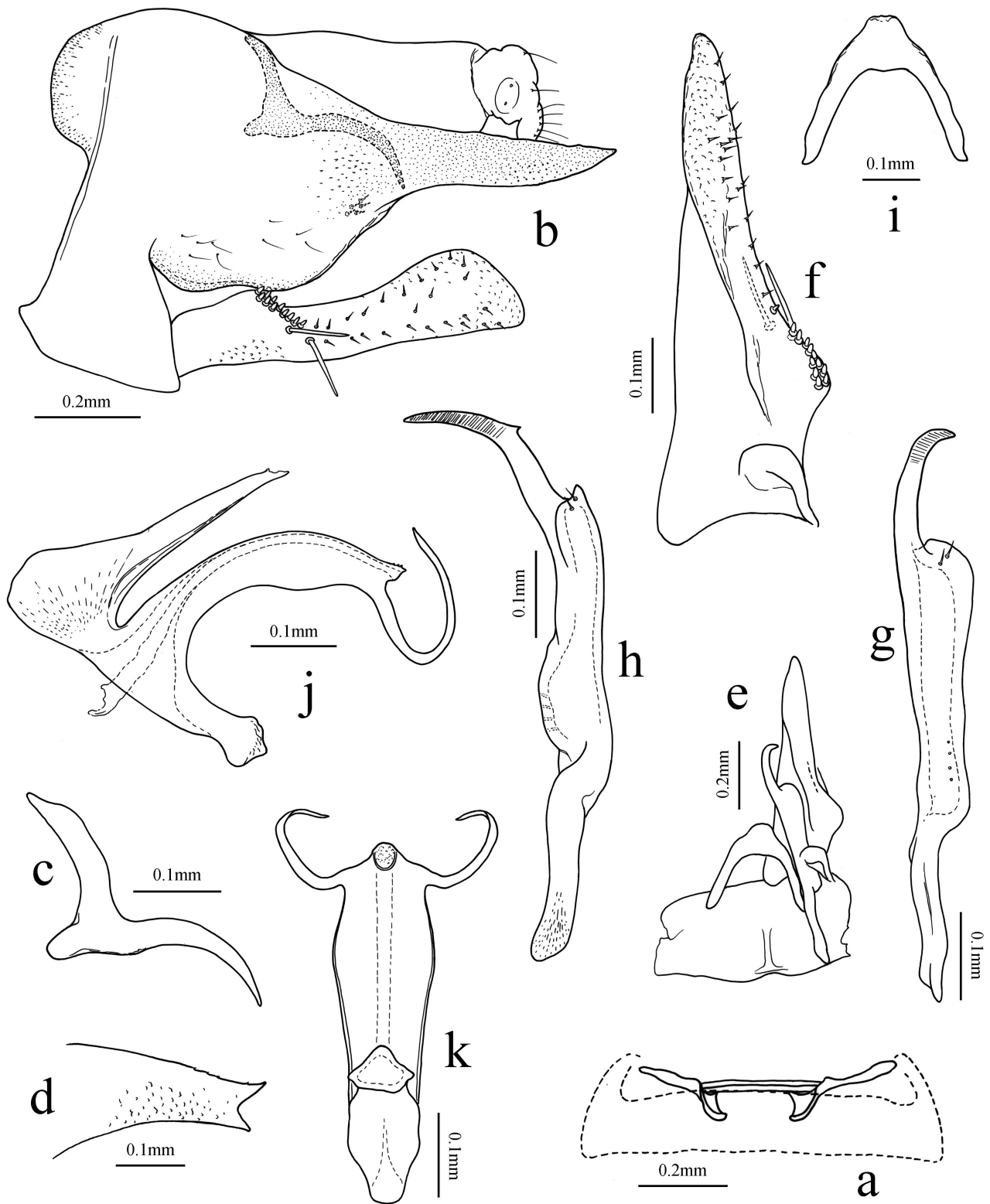


FIGURE 7. *Projecta depressa*. a. abdominal apodemes 2S; b. genital capsule; c. pygofer dorsal appendage; d. apex of pygofer extension of paratype; e. subgenital plate, style, connective and sternite IX; f. subgenital plate, dorsal view; g. style, dorsal view; h. style, lateral view; i. connective; j. aedeagus, lateral view; k. aedeagus, ventral view.

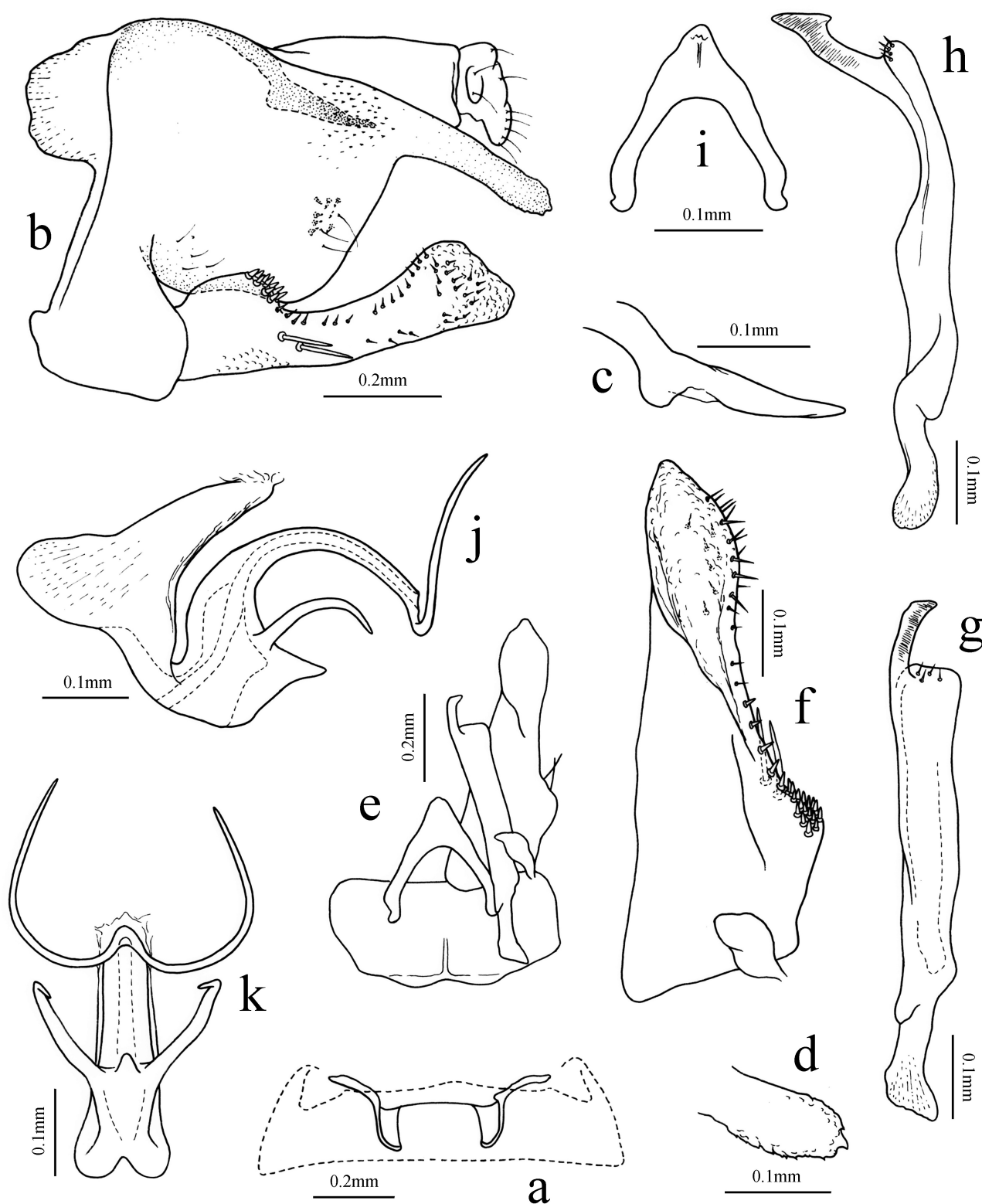


FIGURE 8. *Projecta draciformis*. a. abdominal apodemes 2S; b. genital capsule; c. pygofer dorsal appendage; d. apex of pygofer extension; e. subgenital plate, style, connective and sternite IX; f. subgenital plate, dorsal view; g. style, dorsal view; h. style, lateral view; i. connective; j. aedeagus, lateral view; k. aedeagus, ventral view.

Accacidia Dworakowska, 1971

Accacidia Dworakowska, 1971: 113

Type species: *Accacidia dlabolai* Dworakowska, 1971, by original designation

Description. Body usually robust and short, mostly 2.0 to 3.0 mm. Head including eyes usually as wide as or wider than pronotum, crown fore margin angulately produced or rounded apically, coronal suture visible at least basally. Ocelli rudimentary with elongated, crescent-shaped vestiges. Face somewhat convex in profile. Forewing (Fig. 9a) with four apical cells almost equal in length and width, AA and AP indistinct or fused. Hind wing (Fig. 9b) with or without RA.

Male abdominal apodemes 2S well developed, narrow to wide, extended to sternite IV–VII. Anal tube with appendages basally.

Male genital capsule usually spherical, weakly sclerotized. Pygofer lobe with spicules on distal half, with some fine setae usually near ventral margin, sometimes with several rigid microsetae near caudal margin; usually without dorsal appendage; with or without ventral appendage. Subgenital plate surpassing hind margin of pygofer lobe, slightly infuscated, widened subbasally, usually angulately produced, with about 2–3 macrosetae subbasally near outer margin, with 2 rows of stout setae on subbasal angle and continued with row of rigid microsetae to apex, with some microsetae scattered on distal disc. Style with apical part foot-like, with transverse furrows, preapical lobe well developed, usually with sensory setae both on preapical lobe and basally of middle part. Connective V-shaped, manubrium usually narrow, with or without central lobe. Aedeagal shaft tubular, with pair of thin processes apically in most species; dorsal apodeme well developed, usually narrow and long in lateral view; preatrium short, with very long preatrial process, usually with whorl-like sculptures apically; gonopore apical or subapical, on ventral side.

Distribution. Austria; Burkina Faso; Republic of Congo; Egypt; Ethiopia; Germany; India; Israel; Jordan; Pakistan; Saudi Arabia; South Africa; Sudan; Uganda; Yemen.

Diagnosis. This genus is similar to *Singaporea* Mahmood, 1967, but the vertex lacks a dark spot apically, the ocelli are rudimentary, the subgenital plate lacks marginal macrosetae subbasally, the style is shorter and the aedeagal shaft is fused with the preatrium.

Key to species of *Accacidia* (males)

Note: The following three species currently placed in *Accacidia* are doubtfully included in this genus and are excluded from the key: *A. dactyla* (Naudé, 1926); *A. garhiensis* Ahmed, 1970; *A. limitata* Dlabola, 1979. These are here considered *species incertae sedis* within Erythroneurini.

- | | | |
|---|---|---|
| 1 | Aedeagal shaft in lateral view with angulate apical or preapical projection on dorsal margin extended antirad (Figs 9k, l) . . . | 2 |
| - | Aedeagal shaft in lateral view without angulate preapical or apical projection on dorsal margin. | 12 |
| 2 | Dorsal projection of aedeagal shaft sharp, spinelike, longer than broad in lateral view | 3 |
| - | Dorsal projection of aedeagal shaft blunt, shorter than broad in lateral view (Figs 9k, l) | 4 |
| 3 | Unpaired basal appendage of aedeagus much shorter than shaft, paired apical processes of shaft extended to midlength of shaft, each with 3–4 lateral teeth; dorsal pygofer appendage unbranched | <i>A. nigropunctata</i> Dworakowska |
| - | Unpaired basal appendage of aedeagus slightly longer than shaft, paired apical processes of shaft very short and bifid basally; dorsal pygofer appendage bifid | <i>A. rubrata</i> Dworakowska |
| 4 | Pygofer lobe with ventral tooth or process distally (Fig. 9d) | 5 |
| - | Pygofer lobe without ventral tooth or process | 6 |
| 5 | Pygofer lobe with short ventroapical tooth, not surpassing dorsal angle of pygofer lobe (Fig. 9d); process of anal tube unbranched with apex hooked (Fig. 9e); aedeagus with ventral process broadly and immovably attached to base (Fig. 9k) | <i>A. obunca</i> Cao & Dmitriev sp. nov. |
| - | Pygofer lobe with long ventroapical process, surpassing hind margin of pygofer lobe; process of anal tube forked and straight apically; aedeagus with ventral process narrowly and flexibly attached to base | <i>A. joannae</i> Dworakowska |
| 6 | Aedeagus with distal processes distinctly longer than half shaft length | 7 |
| - | Aedeagus with distal processes shorter than or equal to half shaft length, or absent. | 8 |
| 7 | Aedeagus with dorsal projection situated at apex, weakly falcate; ventral process distinctly shorter than shaft; distal paired processes strongly diverging from shaft in posterior view. | <i>A. irregularis</i> Dworakowska |
| - | Aedeagus with dorsal projection situated well basad of apex, obtuse; ventral process distinctly longer than shaft; distal paired processes close to shaft in posterior view. | <i>A. cerutti</i> Dworakowska |
| 8 | Aedeagus with distal processes absent, apex expanded in lateral view and denticulate | <i>A. metcalfi</i> Dworakowska |

-	Aedeagus with distal processes present, apex not expanded in lateral view and without denticule	9
9	Aedeagus with dorsal projection situated at apex, tooth-like, four distal processes arising separately from ventral part of broad lateral flange and extended basad to near midlength of shaft	<i>A. dlabolai</i> Dworakowska
-	Aedeagus with dorsal projection situated well basad of apex, angulate, paired distal processes much shorter than half shaft length, bifurcated or with teeth apically	10
10	Unpaired basal appendage of aedeagus distinctly longer than shaft, distal processes divergent from shaft in posterior view	<i>A. simillima</i> , Dworakowska
-	Unpaired basal appendage of aedeagus as long as shaft, distal processes parallel to shaft in posterior view	11
11	Anal tube appendage with upper branch much longer than lower branch	<i>A. badeniensis</i> , Dworakowska
-	Anal tube appendage with two branches subequal in length	<i>A. linnavuorii</i> , Dworakowska
12	Aedeagus with distal processes extended distad	13
-	Aedeagus with distal processes extended basad	14
13	Distal processes of aedeagus distinctly curved laterad in posterior view, basal appendage of aedeagus with apex spear-shaped	<i>A. divergiprocessicae</i> Sohi, Mann & Shenhmar
-	Distal processes of aedeagus weakly curved in posterior view, basal appendage of aedeagus evenly tapered from base to apex	<i>A. lyrifora</i> Dworakowska
14	Aedeagal shaft apex with unpaired median spine extended ventrad and longer than paired processes	<i>A. jacobii</i> Sohi
-	Aedeagal shaft apex without unpaired spine-like process	15
15	Aedeagus with distal processes much shorter than half length of shaft	16
-	Aedeagus with distal processes nearly as long as or longer than half length of shaft	17
16	Anal tube appendage with upper branch thicker and longer than lower branch; aedeagus with distal processes branched	<i>A. kluczykae</i> Dworakowska
-	Anal tube appendage with upper branch thinner and shorter than lower branch; aedeagus with distal processes unbranched	<i>A. chamburasca</i> Einyu & Ahmed
17	Aedeagus with paired distal processes unbranched and without teeth	<i>A. stehliki</i> Dworakowska
-	Aedeagus with paired distal processes branched or toothed	18
18	Distal processes of aedeagus with one branch very short or tooth-like	19
-	Distal processes of aedeagus with two branches moderately long	22
19	Anal tube appendage unbranched	20
-	Anal tube appendage bifurcated	21
20	Aedeagus with distal processes toothed beyond midlength	<i>A. improvisa</i> (Linnavuori)
-	Aedeagus with distal processes toothed basad of midlength	<i>A. dubia</i> Dworakowska
21	Aedeagus with distal processes serrate on upper margin	<i>A. maxima</i> Dworakowska
-	Aedeagus with distal processes smooth	<i>A. kenyii</i> Einyu & Ahmed
22	Distal processes of aedeagus with two branches subequal in length	23
-	Distal processes of aedeagus with one branch distinctly shorter than another	24
23	Aedeagus with distal processes divergent from shaft in posterior view	<i>A. coronata</i> Dlabola
-	Aedeagus with distal processes close to shaft in posterior view	<i>A. spinata</i> Dlabola
24	Basal appendage of aedeagus shorter than or as long as shaft	25
-	Basal appendage of aedeagus longer than shaft	26
25	Anal tube appendage with lower branch much broader but shorter than upper branch	<i>A. regularis</i> Dworakowska
-	Anal tube appendage with two branches subequal in thickness	<i>A. aurea</i> Dworakowska
26	Aedeagus with distal processes divergent from shaft in posterior view	<i>A. acaciae</i> (Linnavuori)
-	Aedeagus with distal processes close to shaft in posterior view	<i>A. irina</i> Dlabola

1. *Accacidia obunca* Cao & Dmitriev sp. nov.

(Figs 9, 25i–l)

Description. Ground color off white (specimens preserved in ethanol before examination) without distinct markings. Body thin. Head distinctly narrower than pronotum, crown fore margin broadly rounded apically, anteclypeus long. (Figs 25i–l). Forewing (Fig. 9a) with fourth apical cell wide and third apical cell narrow.

Male abdominal apodemes 2S (Fig. 9c) narrow, extended to middle of sternite V. Anal tube appendage (Figs 9d, e) directed ventrad, pointed and hooked apically.

Pygofer lobe (Fig. 9d) with dorso-caudal angle produced, hind margin with small process medially. Subgenital plate (Figs 9d, g) with outer margin rounded subapically, with about 2 macrosetae. Style (Figs 9h, i) with apical margin slightly concave, preapical lobe with small process ventrad of apical part, only with sensory setae on preapical lobe. Connective (Fig. 9j) with manubrium moderately wide, central lobe almost as long as lateral arms, apical margin slightly convex. Aedeagal shaft (Figs 9k–n) narrowing towards apex, dorsal margin protruded near apex, with pair of short apical processes extended basad, with small tooth subapically on ventral margin of process; dorsal

apodeme large, lamellate; preatrial process longer than shaft, apex curved caudad, smooth, without sculpture, connection between shaft and preatrial process wide and inflexible; gonopore subapical.

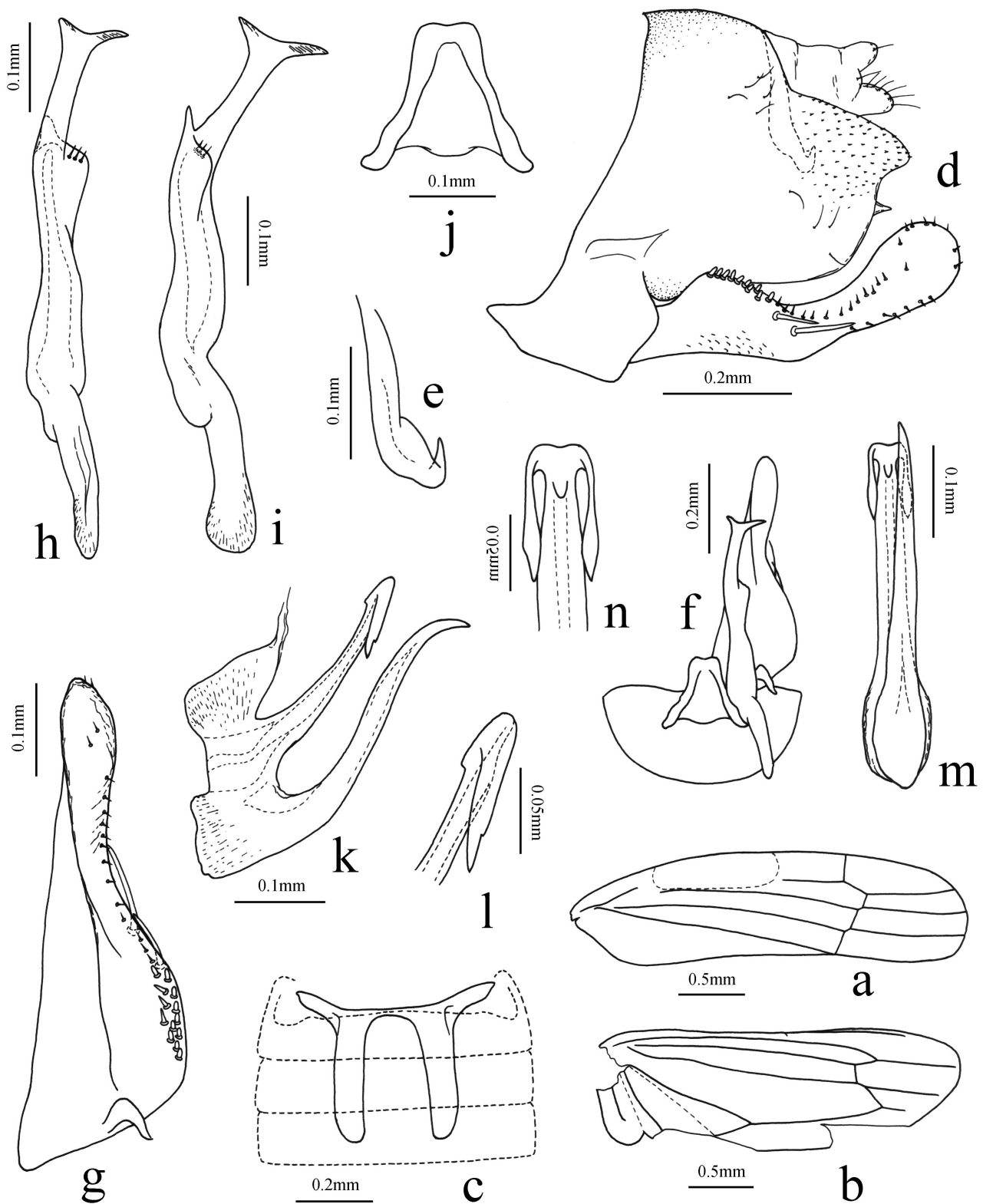


FIGURE 9. *Accacidia obunca*. a. forewing; b. hind wing; c. abdominal apodemes 2S; d. genital capsule; e. anal tube appendage; f. subgenital plate, style, connective and the sternite IX; g. subgenital plate, dorsal view; h. style, dorsal view; i. style, lateral view; j. connective; k. aedeagus, lateral view; l. apex of aedeagus, lateral view; m. aedeagus, ventral view; n. apex of aedeagus, ventral view.

Measurement. Male length 3.70–3.75mm.

Material examined. Holotype: ♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.020'S, 015°31.440'E, 29.viii.2008, coll. Braet & Sharkey. Paratype: 1♂, same data as holotype except 03°16.196'S, 015°28.267'E, 25.viii.2008.

Etymology. The new specific epithet is derived from Latin adjective “*obuncus*” which means hooked, referring to the hooked anal tube appendage.

Diagnosis. The new species differs from most of the other species of the genus in having a longer and thinner body with the head narrower than the pronotum. In these respects, it is similar to two other species previously described from the Republic of Congo (Odzala): *A. stehliki* Dworakowska, 1974 and *A. metcalfi* Dworakowska, 1974. The male genitalia are most similar to *A. simillima* Dworakowska, 1971, but the style is concave on the apical margin and has a small process on the preapical lobe, the aedeagal shaft is longer, the apical processes of the shaft are longer and the connection between the shaft and the preatrial process is much wider.

***Imbecilla* Dworakowska, 1970**

Imbecilla Dworakowska, 1970a: 703

Type species: *Erythroneura lubiae* China, 1931, by original designation

Description. Body robust and short, mostly 2.0 to 3.0 mm. Crown fore margin broadly rounded apically, coronal suture visible at least basally. Head including eyes as wide as or wider than pronotum. Ocelli rudimentary with elongated, crescent-shaped vestiges. Face convex in profile. Pronotum with lateral margins parallel or divergent posteriorly in dorsal view, hind margin concave. Forewing (Figs 10a, 11a) with four apical cells almost equal in length and width, third apical cell narrow basally and wide apically, AA and AP fused. Hind wing (Figs 10b, 11a) with or without RA.

Male abdominal apodemes 2S narrow, extended to sternite IV–VI. Anal tube sclerotized distally, without appendages.

Male genital capsule short, length subequal to width, sclerotized. Pygofer lobe usually membranous at lower ventral margin, with spicules on distal part, with some fine setae near ventral margin; dorsal appendage articulated to lobe, lamellate, sometimes with additional process; ventral appendage absent. Subgenital plate surpassing hind margin of pygofer lobe, broadened subbasally, evenly tapered from subbase to apex, outer margin with inner plica, usually forming pigmented protrusion medially, with group or row of peg-like microsetae on subbasal angle and continued with rigid microsetae, with some microsetae scattered on distal disc and about 2–3 macrosetae subbasally near outer margin. Style with second extension apically, usually elongated; preapical lobe distinct, usually with sensory setae. Connective lamellate, manubrium usually narrow, central lobe well developed. Aedeagal shaft tubular; dorsal apodeme long, widened in caudal view; preatrium short, usually with pair of long preatrial processes; gonopore apical or subapical.

Distribution. Central African Republic; Republic of Congo; Ethiopia; Guinea; Israel; Ivory Coast; Lebanon; Nigeria; Sudan; Uganda.

Diagnosis. This genus is similar to *Empoascanara* Distant, 1918, but the head is usually wider, the fourth apical cell of the forewing is as long as the third one, the subgenital plate is evenly tapered from subbase to apex and the style has second extension.

Key to species of *Imbecilla* (males)

Note: *Imbecilla viridus* Ahmed, 1979, here considered a *species incertae sedis* within Erythroneurini, is not included in the key.

- | | | |
|---|---|----------------------------------|
| 1 | Style apex with second extension little or no longer than distance between mesal and lateral angles of first extension | 2 |
| - | Style apex with second extension distinctly longer than distance between mesal and lateral angles of first extension (Figs 10g, 11h). | 8 |
| 2 | Style apex with second extension very short and broad, lamelliform | <i>I. imbecilla</i> (Linnavuori) |
| - | Style apex with second extension acutely produced | 3 |

3	Style apex with second extension as long as or slightly longer than distance between mesal and lateral angles of first extension	4
-	Style apex with second extension shorter than distance between mesal and lateral angles of first extension	7
4	Style with second extension strongly curved; aedeagal shaft expanded near midlength with lateral flange in posterior view, basal processes not extended to level of shaft apex	5
-	Style with second extension straight or nearly so; aedeagal shaft slender in posterior view, basal processes extended to or well beyond shaft apex	6
5	Pygofer dorsal appendage without additional process, aedeagal shaft in posterior view with lateral flanges angulate and smooth, paired basal processes robust and well separated from shaft in lateral view, apical processes very short.	<i>I. lubiae</i> (China)
-	Pygofer dorsal appendage with additional process, aedeagal shaft in posterior view with lateral flanges rounded and serrate, paired basal processes slender and close to shaft in lateral view, apical processes long	<i>I. igneusa</i> Dworakowska
6	Pygofer dorsal appendage with two or three angulate distal projections; basal processes of aedeagus well separated and divergent from each other	<i>I. tera</i> Dworakowska
-	Pygofer dorsal appendage terminating in a single point; basal processes of aedeagus crossing each other near base	<i>I. cretinica</i> Dworakowska
7	Aedeagal shaft in lateral view bent anterodorsad at acute angle near midlength, with preapical angulate projection on dorsal surface.	<i>I. cinerea</i> Dworakowska
-	Aedeagal shaft in lateral view curved dorsad from base then slightly arcuate, without preapical projection on dorsal surface	<i>I. variata</i> Dworakowska
8	Style apex with second extension evenly recurved, apex oriented basolaterad	9
-	Style apex with second extension straight or irregularly curved, apex oriented distad (Figs 10g, 11h)	10
9	Aedeagal shaft broad in lateral view, ventral processes strongly divergent in ventral view	<i>I. rhynchosiae</i> Einyu & Ahmed
-	Aedeagal shaft slender in lateral view, ventral processes convergent in ventral view	<i>I. nebulosa</i> Dworakowska
10	Style apex with second extension straight or slightly curved (Fig. 11h)	11
-	Style apex with second extension irregularly and strongly curved (Fig. 10g)	13
11	Subgenital plate with long apical spine extended mesad (Fig. 11g)	<i>I. spinalis</i> Cao & Dmitriev sp. nov.
-	Subgenital plate without apical spine	12
12	Aedeagal shaft with pair of small projections apically, basal processes arising away from shaft on ventral side.	<i>I. nigra</i> Dworakowska
-	Aedeagal shaft with pair of thin processes apically, basal processes arising from dorsal side of shaft.	<i>I. africana</i> Ahmed
13	Basal processes of aedeagus bifid apically (Fig. 10i)	<i>I. bifurca</i> Cao & Dmitriev sp. nov.
-	Basal processes of aedeagus tapered to single point apically.	14
14	Pygofer dorsal appendage with dorsal extension distinctly longer than broad basal section; aedeagus with basal processes not surpassing shaft	<i>I. microcephalica</i> Dworakowska
-	Pygofer dorsal appendage with dorsal extension shorter than broad basal section; aedeagus with basal processes surpassing shaft	15
15	Pygofer dorsal appendage with dorsal extension shorter than half length of broad basal section.	<i>I. sclerosa</i> Dworakowska & Lauterer
-	Pygofer dorsal appendage with dorsal extension longer than half length of broad basal section	<i>I. debilis</i> Dworakowska

1. *Imbecilla bifurca* Cao & Dmitriev sp. nov.

(Figs 10, 25m–p)

Description. Ground color off white, infused with brown (specimens preserved in ethanol before examination), eyes grey. Head wider than pronotum. (Figs 25m–p)

Pygofer lobe (Fig. 10c) with dorsal margin angulately emarginate, hind margin truncate; dorsal appendage (Figs 10c, d) with additional thin process on dorso-caudal angle, directed ventrad. Subgenital plate (Figs 10c, f) with about 3 macrosetae, with peg-like setae from subbase to middle and rigid setae from subbase to apex. Style (Fig. 10g) with second extension very long and curved mesad, with setae on preapical lobe and sensory pits basally on middle part. Connective (Fig. 10h) with manubrium wide, central lobe convex on apical margin. Aedeagal shaft (Fig. 10i, j) slender, curved subbasally; preatrial processes longer and thicker than shaft, apices slightly bifurcated; gonopore terminal on ventral side.

Measurement. Male length 2.50mm, female length 2.75mm.

Material examined. Holotype: ♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.196'S, 015°28.267'E, 25.viii.2008, coll. Braet & Sharkey. Paratypes: 2♂, same data as holotype except 29.viii.2008.

Etymology. The specific epithet is derived from Latin adjective “*bifurcus*” which means forked, referring to the forked preatrial processes.

Diagnosis. This species is very similar to *I. debilis* Dworakowska, 1970a, but the pygofer dorsal appendage is shorter and has an additional process close to the basal appendage, the aedeagal shaft is curved and the preatrial processes are bifurcated apically.

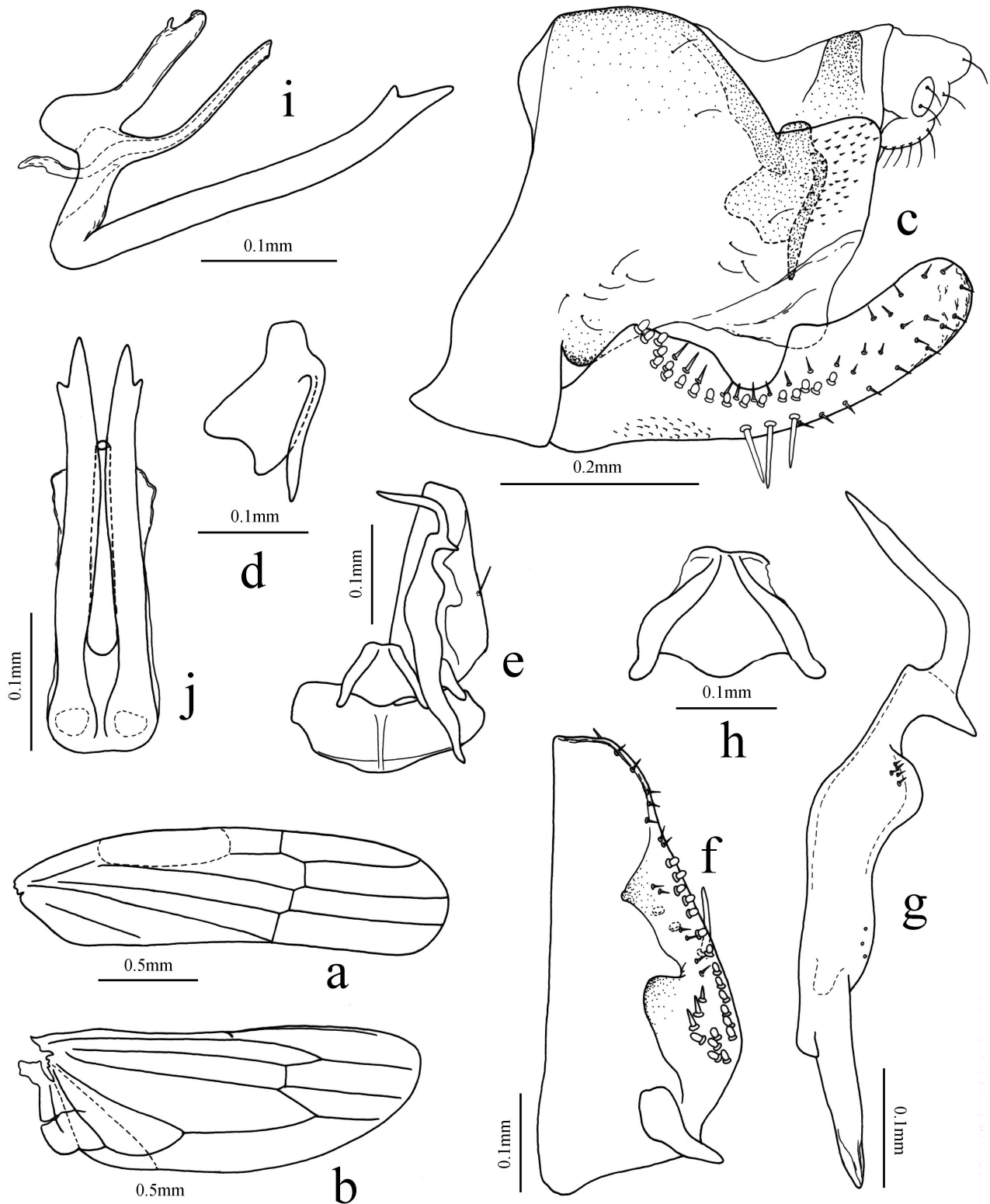


FIGURE 10. *Imbecilla bifurca*. a. forewing; b. hind wing; c. genital capsule; d. pygofer dorsal appendage; e. subgenital plate, style, connective and sternite IX; f. subgenital plate, dorsal view; g. style, dorsal view; h. connective; i. aedeagus, lateral view; j. aedeagus, ventral view.

2. *Imbecilla cretinica* Dworakowska, 1974

(Figs 25q–t)

Imbecilla cretinica Dworakowska, 1974: 194, Figs 484–488

Material examined. 4♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.196'S, 015°28.267'E, 29.viii.2008, coll. Braet & Sharkey; 1♂, CENTRAL AFRICAN REPUBLIC, Prefecture Sangha-Mbaéré, Parc National de Dzanga-Ndoki, Mabéa Bai, 21.4km, 53° NE Bayanga, 3°02.01'N, 16°24.57'E, 510m, 01–02.v.2001, Malaise trap, Lowland Rainforest, marsh clearing, coll. S. van Noort (IMC).

Remarks. This is a new recorded for Central African Republic.

Distribution. Republic of Congo; Central African Republic.

3. *Imbecilla spinalis* Cao & Dmitriev sp. nov.

(Figs 11, 25u–x)

Description. Ground color yellowish-brown (specimens preserved in ethanol before examination). Anterior part of vertex, frontoclypeal area and anteclypeus black, lorum and gena dark brown, eyes grey. Pronotum with midline and hind margin infuscated. Mesonotum with basal triangles light, midline infuscated. Forewing dark with brochosoma field dark. Head wider than pronotum. (Figs 25u–x)

Male abdominal apodemes 2S (Fig. 11c) extended to middle of sternite IV.

Pygofer lobe (Fig. 11d) with dorsal margin angulately emarginate, hind margin truncate; dorsal appendage (Figs 11d, e) nearly triangular, directed ventrad. Subgenital plate (Figs 11d, g) with long, spine-like process subapically, directing inwards, with about 2 macrosetae and reduced marginal rigid setae. Style (Fig. 11h) with second extension moderately long, without setae but sensory pits on preapical lobe. Connective (Fig. 11i) with manubrium narrow, central lobe convex on apical margin. Aedeagal shaft (Figs 11j, k) slender, slightly sinuated, with pair of thin processes basally, as long as shaft, apex serrated; without preatrial processes; gonopore terminal on ventral side.

Measurement. Male length 2.35–2.50mm.

Material examined. Holotype: ♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.196'S, 015°28.267'E, 29.viii.2008, coll. Braet & Sharkey. Paratypes: 1♂, same data as holotype; 3♂, same data except 25.viii.2008; 1♂, same data except 12–18.viii.2008.

Etymology. The specific epithet is derived from Latin adjective “*spinalis*” which means spined, referring to the spine-like process of the subgenital plate.

Diagnosis. This species is unique within the genus in having a spine-like process on the subgenital plate. It lacks the preatrial processes, but has a pair of long basal processes on the aedeagus.

Lublinia Dworakowska, 1970

Lublinia Dworakowska, 1970b: 629

Type species: *Erythroneura gediensis* Linnavuori, 1962, by original designation

Description. Body robust and short, mostly 2.0 to 3.0 mm. Head wider than pronotum, crown fore margin usually broadly rounded apically, coronal suture visible basally. Ocelli rudimentary with elongated, crescent-shaped vestiges. Face convex or flat in profile. Pronotum relatively short, lateral margins parallel or slightly divergent posteriorly in dorsal view, hind margin concave. Forewing (Fig. 12a) with first and third apical cell broad, second and fourth apical cell narrow, fourth cell not reaching tip of wing, slightly shorter than third, AA and AP fused. Hind wing (Fig. 12b) with or without RA.

Male abdominal apodemes 2S broad, extended to sternite IV–V. Anal tube slightly sclerotized apically, without appendages.

Male genital capsule short, length subequal to width, moderately sclerotized. Pygofer lobe with spicules medially or near caudal margin, with some fine setae medially and near ventral margin; dorsal appendage usually articulated to lobe, lamellate, curved ventrad; ventral appendage extended from ventro-caudal angle of lobe, thin,

sometimes with tooth-like inner margin. Subgenital plate short but surpassing hind margin of pygofer lobe, angulately protruded subbasally, apical part pigmented and bent dorsad, with about 2–3 macrosetae medially near outer margin, with group of thickened microsetae on subbasal angle, continued with row of rigid microsetae to apex and a few rigid, long microsetae basad, with some microsetae scattered on distal disc. Style with apical part foot-like, preapical lobe large, with some sensory pits near or on preapical lobe. Connective V-shaped or U-shaped, lateral arms thick, manubrium narrow to broad, without central lobe. Aedeagal shaft tubular, usually with pair of thin processes apically; dorsal apodeme well developed; preatrium rudimentary or short; gonopore terminal.

Distribution. Republic of Congo; Israel; Ivory Coast; South Africa; Sudan; Uganda.

Remarks. This is the first record of the genus for Republic of Congo.

Diagnosis. This genus is similar to *Lamtoana* Dworakowska, 1972b, but the apical part of the subgenital plate is darker and curved dorsad more strongly, the style is wider apically and flat, and the aedeagus has well developed dorsal apodeme.

Key to species of *Lublinia* (males)

- | | | |
|---|---|--|
| 1 | Aedeagus with pair of long lateral processes apically, basal processes absent (Fig. 12l, 13j) | 2 |
| - | Aedeagus without apical processes, with pair of long basal processes extended distad along shaft | <i>L. secunda</i> Dworakowska |
| 2 | Aedeagus in posterior view with lateral processes divergent from shaft in basal half, curved basad or mesad distally (Fig. 13j) | 3 |
| - | Aedeagus in posterior view with lateral processes extended basad along shaft then curved laterad (Fig. 12l) | 4 |
| 3 | Aedeagal processes extended laterad in posterior view, curved only slightly basad (Fig. 13j) | |
| | | <i>L. anchoroides</i> Cao & Dmitriev sp. nov. |
| - | Aedeagal processes arched laterad in posterior view with apices approaching shaft | <i>L. irenae</i> Theron |
| 4 | Aedeagal shaft with dorsal or ventral margin serrate (Fig. 12k) | 5 |
| - | Aedeagal shaft with dorsal and ventral margins smooth | 6 |
| 5 | Aedeagal shaft serrate dorsally (Fig. 12k) | <i>L. acaciae</i> Einyu & Ahmed |
| - | Aedeagal shaft serrate ventrally | <i>L. frater</i> Dworakowska |
| 6 | Aedeagal shaft in posterior view distinctly broadened apically | <i>L. aurata</i> Dworakowska |
| - | Aedeagal shaft in posterior view parallel-sided through most of length | 7 |
| 7 | Pygofer dorsal appendage unbranched, base wider than apex | <i>L. gediensis</i> (Linnavuori) |
| - | Pygofer dorsal appendage with a short branch basally, subbase as wide as subapex. | <i>L. katookyensis</i> Einyu & Ahmed |

1. *Lublinia acaciae* Einyu & Ahmed, 1982

(Figs 12, 26a–d)

Lublinia acaciae Einyu & Ahmed, 1982: 239, Figs 28–35

Material examined. 1♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.196'S, 015°28.267'E, 29.viii.2008, coll. Braet & Sharkey; 2♂, same data except 25.viii.2008.

Distribution. Republic of Congo; Uganda.

Remarks. This is a new record for the Republic of Congo.

2. *Lublinia anchoroides* Cao & Dmitriev **sp. nov.**

(Figs 13, 26e–h)

Description. Ground color brown (specimens preserved in ethanol before examination). Crown fore margin angulately produced medially, face flat in profile. (Figs 26e–h)

Male abdominal apodemes 2S (Fig. 13a) extended to middle of sternite IV.

Pygofer dorsal appendage (Figs 13b, c) fused to lobe, extended from dorsal inner ridge, stick-like and short; ventral appendage (Figs 13b, d) partly fused to caudal margin of lobe, with relatively wide dentate inner margin. Subgenital plate (Figs 13b, f) with about 3 small macrosetae. Connective (Fig. 13h) with lateral arms very short, manubrium wide and relatively long. Aedeagal shaft (Figs 13i, j) short, slightly arcuate, pair of moderately long

lateral processes arising apically and extended basad curving away from shaft in ventral view; dorsal apodeme large, lamellate, not widened in ventral view; preatrium short.

Measurement. Male length 2.50mm.

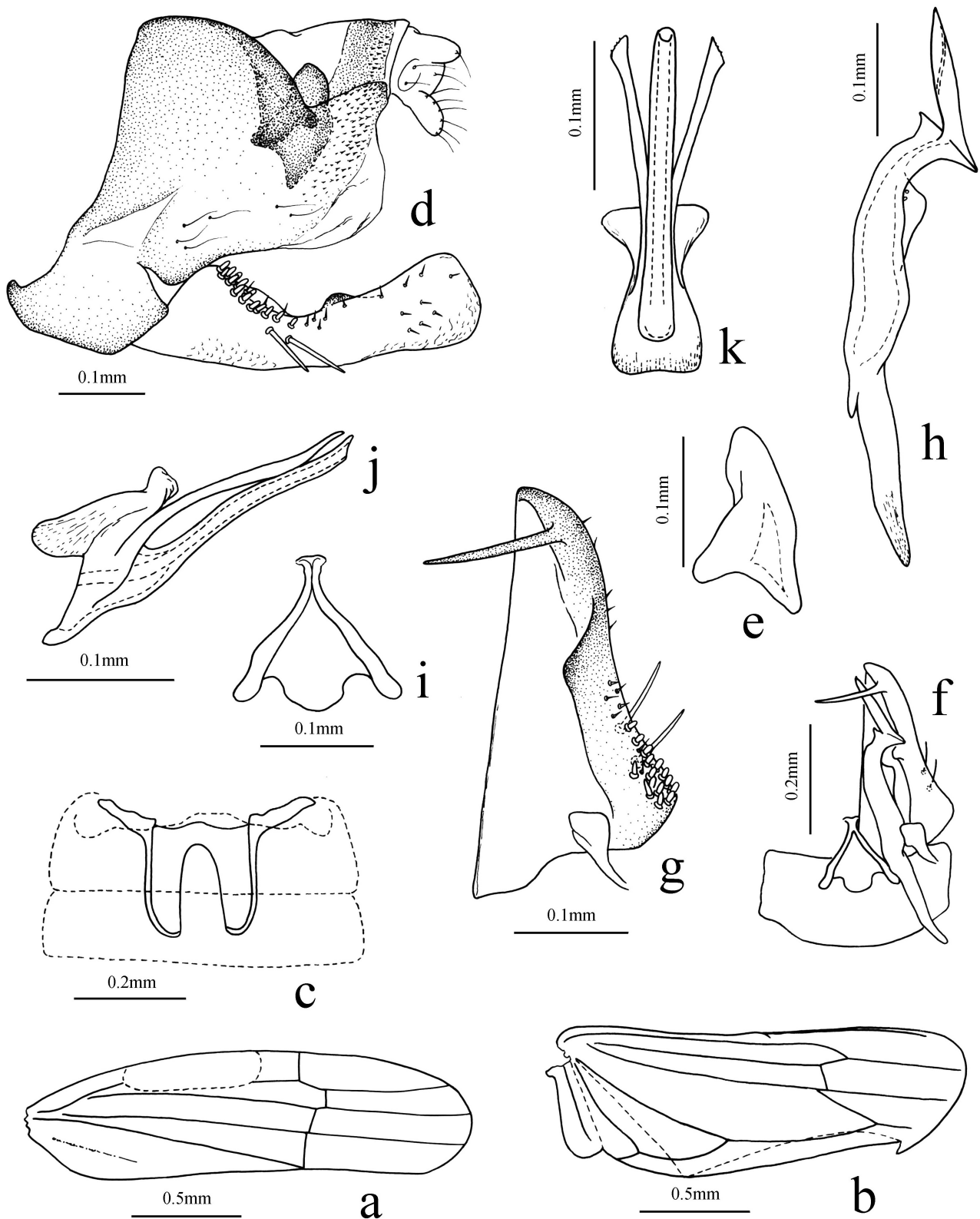


FIGURE 11. *Imbecilla spinalis*. a. forewing; b. hind wing; c. abdominal apodemes 2S; d. genital capsule; e. pygofer dorsal appendage; f. subgenital plate, style, connective and sternite IX; g. subgenital plate, dorsal view; h. style, dorsal view; i. connective; j. aedeagus, lateral view; k. aedeagus, ventral view.

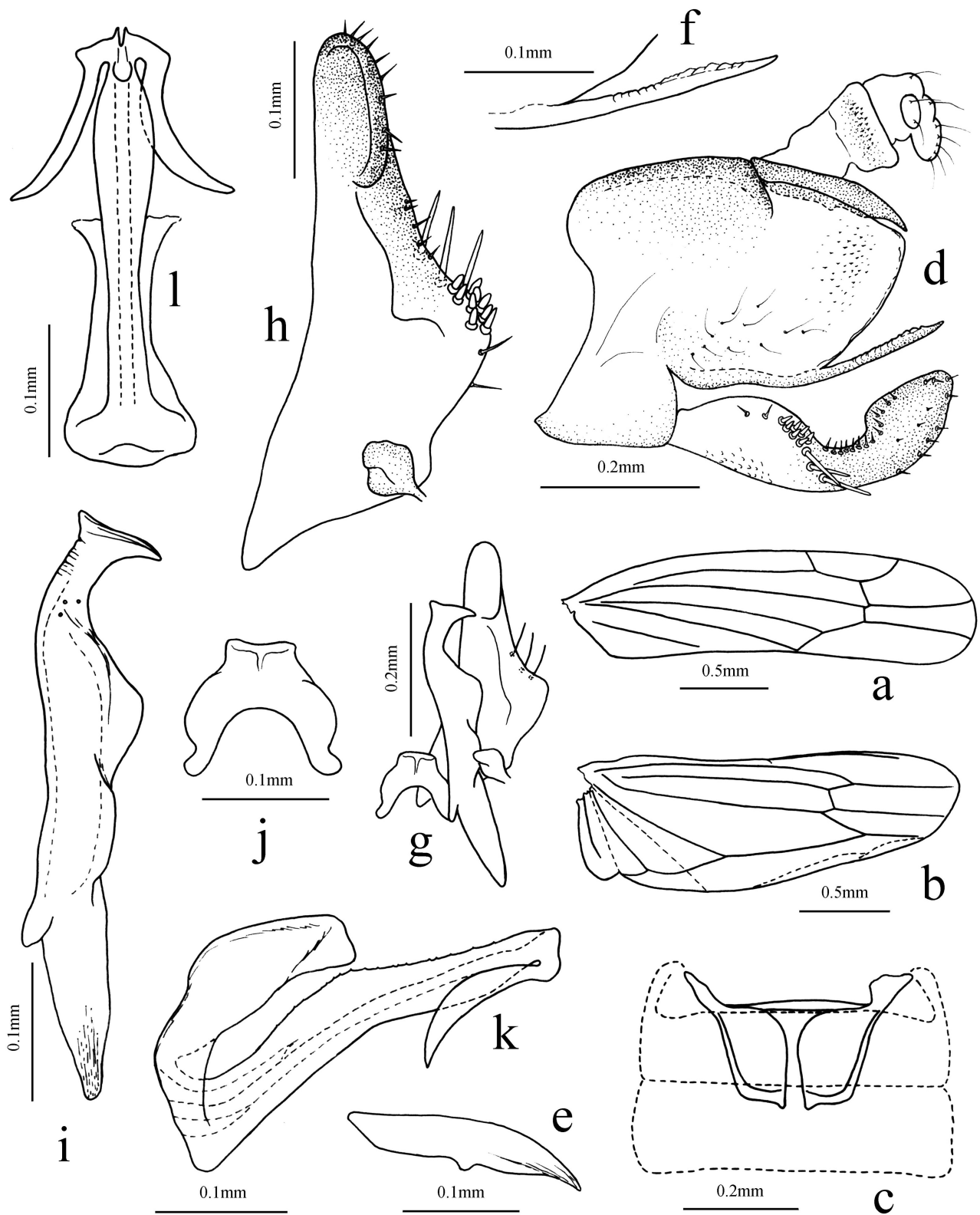


FIGURE 12. *Lublinia acaciae*. a. forewing; b. hind wing; c. abdominal apodemes 2S; d. genital capsule; e. pygofer dorsal appendage; f. pygofer ventral appendage; g. subgenital plate, style and connective; h. subgenital plate, dorsal view; i. style, dorsal view; j. connective; k. aedeagus, lateral view; l. aedeagus, ventral view.

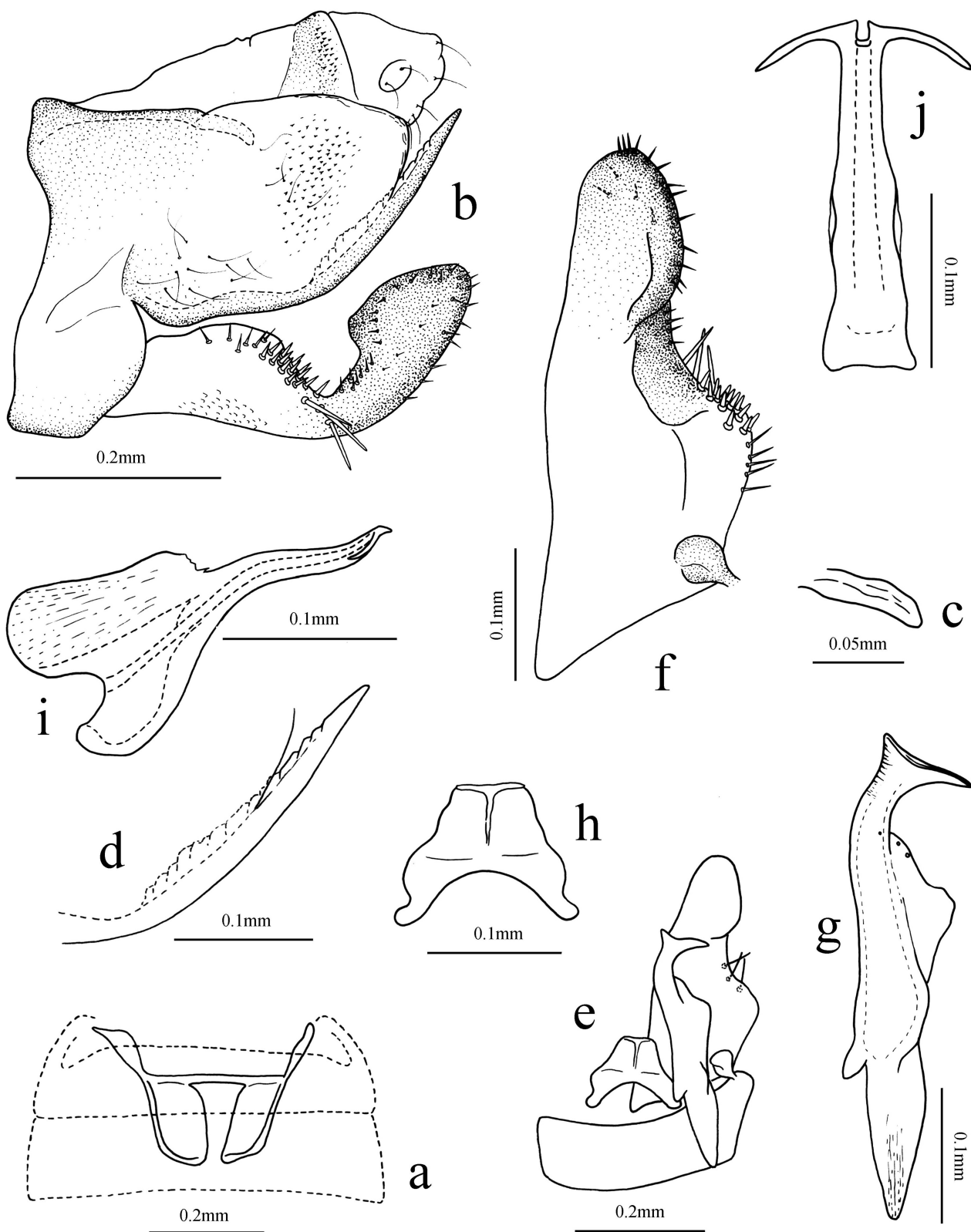


FIGURE 13. *Lublinia anchoroides*. a. abdominal apodemes 2S; b. genital capsule; c. pygofer dorsal appendage; d. pygofer ventral appendage; e. subgenital plate, style, connective and sternite IX; f. subgenital plate, dorsal view; g. style, dorsal view; h. connective; i. aedeagus, lateral view; j. aedeagus, ventral view.

Material examined. Holotype: ♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.196'S, 015°28.267'E, 29.viii.2008, coll. Braet & Sharkey. Paratype: 1♂, same data as holotype except 25.viii.2008.

Etymology. The new specific epithet is derived from Latin adjective “*anchoroides*” which means anchor-shaped, referring to the anchor-shaped aedeagus in caudal view.

Diagnosis. The new species differs from the other species of the genus in having the crown fore margin angulate, the face flattened, the dorsal appendage fused to the pygofer lobe and the aedeagal processes curving away from the shaft apically.

Molopopterus Jacobi, 1910

Molopopterus Jacobi, 1910: 133; Dworakowska, 1973: 39; Theron, 1978: 31

Melopopterus Mayné & Ghesquière, 1934: 27 (Misspelling)

Type species: *Molopopterus nigriplaga* Jacobi, 1910, by original designation

Description. Body short to medium sized, mostly 2.0 to 3.5 mm, robust. Head as wide as or wider than pronotum, crown fore margin subparallel to hind margin, coronal suture distinct. Ocelli fully developed, round, on or near crown anterior margin. Face convex in profile. Pronotum with lateral margins parallel or slightly divergent posteriorly in dorsal view, hind margin strongly concave. Forewing with four apical cells almost equal in length and width, AA and AP present or absent. Hind wing with or without RA.

Male abdominal apodemes 2S relatively broad, extended to sternite IV–V, sometimes apodemes 3T present, broader than apodemes 2S. Anal tube long, sclerotized distally, without appendage.

Male genital capsule cylindrical, sclerotized. Pygofer lobe long, angulately produced distally, membranous on ventro-caudal margin, with spicules on distal part, with fine setae near ventral margin and few microsetae near distal angle; dorsal appendage usually absent or very small; ventral appendage absent. Subgenital plate short, usually not surpassing hind margin of pygofer lobe, angulately protruded subbasally and narrowing towards apex, apex rounded, with about 2–5 small macrosetae near middle, with irregular rows of marginal microsetae from subbase to apex, size various, with some microsetae scattered on distal disc. Style with apical part short to long, foot-like, basal part short, preapical lobe developed, small to large, with sensory setae on or above preapical lobe, sometimes also with sensory setae basad of middle part. Connective lamellate, usually triangular, manubrium narrow to broad, central lobe as long as lateral arms. Aedeagal shaft tubular, with or without processes; atrium long and narrow, usually gradually narrowing from base of atrium to apex of shaft, with deep cleft between dorsal apodeme and preatrium, some southern African species with preatrium expanded at connection with shaft; gonopore subapical or apical, dorsal or ventral.

Distribution. Burkina Faso; Republic of Congo; Ethiopia; Ivory Coast; Nigeria; South Africa; Sri Lanka; Sudan; Uganda.

Diagnosis. This genus is one of the few erythroneurine genera possessing fully developed ocelli. It is similar to *Imbecilla* Dworakowska externally, but the male genitalia are different: the pygofer lobe is longer and produced distally, the pygofer dorsal appendage is absent or very small, the style lacks a second extension apically and the atrium of the aedeagus has a deep cleft between the dorsal apodeme and the preatrium.

Key to species of *Molopopterus* (males)

Note: *M. mallyi* (Cogan, 1916) and *M. nigriplaga* Jacobi, 1910, known only from females, are not included in the key. *M. velox* Vayssière, 1930 and *M. binotatulus* Vayssière, 1930 are excluded from Erythroneurini according to the illustrations of their wing venation. *M. velox* is moved to Empoascini as a *species Incertae sedis*. *M. binotatulus* is consistent with Typhlocybini in hind wing venation, but its forewing venation is unusual, therefore is considered as a *species Incertae sedis* within Typhlocybinae.

- 1 Aedeagus with pair of slender processes (may be very small) arising laterally at or near apex of shaft (Figs 14g, h, 15g, h) . . . 2
- Aedeagus without lateral pair of slender distal processes (Figs 16f, 17h) 21

2	Aedeagus in lateral view with rounded ventroapical lobe extended posterad below distal processes.	3
-	Aedeagus in lateral view with shaft tapered toward apex, without rounded lobe below distal processes (Figs 14g, 15g)	4
3	Distal processes of aedeagus elongate, curved posterolaterad in lateral view	<i>M. ksi</i> Dworakowska
-	Distal processes of aedeagus short, extended posteroventrad in lateral view	<i>M. superjota</i> Dworakowska
4	Aedeagus with distal processes extended distad, laterad or basad, not forming acute or obtuse angle with shaft posteroventrally in lateral view (Fig. 14g)	5
-	Aedeagus with distal processes extended posteroventrad in lateral view, forming distinct posteroventral angle with shaft (Fig. 15g)	10
5	Aedeagus with distal processes extended distad in lateral view, aligned with long axis of shaft	6
-	Aedeagus with distal processes extended laterad.	7
-	Aedeagus with distal processes extended basad along dorsal margin of shaft (Figs 14g, h)	<i>M. hastata</i> Cao & Dietrich sp. nov.
6	Aedeagal shaft strongly sinuate in lateral view	<i>M. masakaensis</i> Ahmed
-	Aedeagal shaft evenly curved dorsad in lateral view	<i>M. mi</i> Dworakowska
7	Aedeagal shaft distinctly curved dorsad in lateral view.	8
-	Aedeagal shaft nearly straight in lateral view	<i>M. teta</i> Dworakowska
8	Aedeagal shaft strongly sinuate preapically in lateral view.	<i>M. raunoi</i> Dworakowska
-	Aedeagal shaft bent or curved dorsad in lateral view, not sinuate preapically.	9
9	Aedeagus with distal processes short, angulate	<i>M. dworakowskai</i> Ahmed
-	Aedeagus with distal processes longer, digitiform.	<i>M. epsilon</i> Dworakowska
10	Aedeagus with distal processes in lateral view forming distinctly acute angle with adjacent ventral margin of shaft	11
-	Aedeagus with distal processes in lateral view forming right or obtuse angle with adjacent ventral margin of shaft (Fig. 15g) .	15
11	Aedeagus with distal processes extended laterad in ventral view	12
-	Aedeagus with distal processes extended distad in ventral view.	14
12	Aedeagus with preapical ventral spine on shaft basad of distal processes.	<i>M. eta</i> Dworakowska
-	Aedeagus without preapical ventral spine, distal processes much longer than shaft width near midlength in ventral view. . .	13
13	Distal processes much longer than shaft width near midlength in ventral view	<i>M. alfa</i> Dworakowska
-	Distal processes shorter than shaft width near midlength in ventral view	<i>M. ishashaensis</i> Einyu & Ahmed
14	Aedeagus with distal processes arising from quadrate expansion of shaft in ventral view	<i>M. crassajota</i> Dworakowska
-	Aedeagus with distal processes arising directly from shaft in ventral view.	<i>M. jota</i> Dworakowska
15	Aedeagus with distal processes extended laterad in ventral view	16
-	Aedeagus with distal processes extended distad in ventral view (Fig. 15h)	17
16	Aedeagus with distal processes straight or curved posterodorsad in lateral view, forming concave distal surface.	<i>M. beta</i> Dworakowska
-	Aedeagus with distal processes curved posteroventrad in lateral view, forming convex distal surface <i>M. gamma</i> Dworakowska	
17	Style apex aviccephaliform, with lateral and mesal angles subequal in size and shape	18
-	Style apex footlike, with lateral toe much more strongly produced than mesal heel (Fig. 15e)	19
18	Aedeagus with distal processes processes arising from quadrate expansion of shaft in ventral view. . .	<i>M. kappa</i> Dworakowska
-	Aedeagus with distal processes arising directly from shaft in ventral view.	<i>M. zeta</i> Dworakowska
19	Pygofer lobe with distal angle curved ventrad (Fig. 15b); aedeagus in lateral view without dorsal extension (Fig. 15g) . . .	20
-	Pygofer lobe with distal angle straight; aedeagus in lateral view with small, fingerlike dorsal extension adjacent to base of distal processes.	<i>M. eujota</i> Dworakowska
20	Aedeagal shaft in lateral view with distal third strongly sinuate, distal processes well separated from each other	<i>M. ro</i> Dworakowska
-	Aedeagal shaft in lateral view with distal third nearly straight (Fig. 15g), distal processes relatively close to each other (Fig. 15h).	<i>M. parajota</i> Dworakowska
21	Aedeagal shaft in lateral view curved dorsad (Fig. 16f)	<i>M. steeleae</i> (Ross)
-	Aedeagal shaft in lateral view straight or curved ventrad (Fig. 17h).	22
22	Aedeagus with gonopore preapical on dorsal surface (Fig. 17h).	23
-	Aedeagus with gonopore terminal or preapical on ventral surface	25
23	Aedeagal shaft in lateral view straight.	<i>M. delta</i> Dworakowska
-	Aedeagal shaft in lateral view distinctly arcuate (Fig. 17h).	24
24	Aedeagal shaft with angulate ventral projection subapically.	<i>M. allardi</i> Dworakowska
-	Aedeagal shaft without ventral projection (Fig. 17h).	<i>M. ugandica</i> Cao & Dietrich sp. nov.
25	Aedeagal shaft tubular, dorsal margin not expanded preapically or apically in lateral view, slender throughout length	26
-	Aedeagal shaft compressed in distal half, dorsal margin expanded preapically or apically in lateral view	35
26	Aedeagal shaft with paired lamellae apically.	27
-	Aedeagal shaft without paired lamellae apically	29
27	Atrium much longer than shaft, apical lamellae of shaft smooth.	<i>M. lambda</i> Dworakowska
-	Atrium no longer than shaft, apical lamellae of shaft serrate.	28
28	Aedeagus in lateral view with ventral preapical lobes obtuse	<i>M. obliquus</i> Theron
-	Aedeagus in lateral view with ventral preapical lobes acute	<i>M. ceresi</i> Theron
29	Aedeagus with gonopore terminal	30

-	Aedeagus with gonopore subapical	31
30	Aedeagus truncate apically, with ventral serrations below gonopore apically.	<i>M. pi</i> Dworakowska
-	Aedeagus tapered apically, without ventral serrations	<i>M. ni</i> Dworakowska
31	Aedeagus with gonopore, in lateral view, separated from apex of shaft by more than three times width of shaft at level of gonopore	32
-	Aedeagus with gonopore, in lateral view, separated from apex of shaft by less than twice width of shaft at level of gonopore	33
32	Abdominal apodemes 2S small, bidentate	<i>M. curtatus</i> Theron
-	Abdominal apodemes 2S larger, rounded.	<i>M. cliffortius</i> Theron
33	Aedeagus with produced part of atrium slender, spinelike in lateral view.	<i>M. struthiolus</i> Theron
-	Aedeagus with produced part of atrium broad and blunt	34
34	Dorsal margin of aedeagal shaft expended subbasally in lateral view.	<i>M. perlus</i> Theron
-	Dorsal margin of aedeagal shaft not expended in lateral view.	<i>M. crinitus</i> Theron
35	Aedeagus in lateral view with apex of shaft dorsad of gonopore emarginate	36
-	Aedeagus in lateral view with apex of shaft rounded or truncate	44
36	Apex of aedeagus with emargination forming right or acute angle	37
-	Apex of aedeagus with emargination forming obtuse angle or shallowly concave	40
37	Aedeagus in lateral view with atrium produced below shaft	38
-	Aedeagus in lateral view with atrium straight on ventral margin.	<i>M. heroldi</i> Theron
38	Dorsal margin of aedeagal shaft serrate subapically	<i>M. agathosmus</i> Theron
-	Dorsal margin of aedeagal shaft smooth	39
39	Emargination at apex of aedeagus forming right angle	<i>M. ater</i> Theron
-	Emargination at apex of aedeagus forming acute angle.	<i>M. passerinus</i> Theron
40	Dorsal margin of aedeagal shaft distinctly expended subbasally in lateral view.	<i>M. capensis</i> Theron
-	Dorsal margin of aedeagal shaft not expended in lateral view.	41
41	Aedeagus in lateral view with atrium almost straight on ventral margin.	<i>M. calitzi</i> Theron
-	Aedeagus in lateral view with atrium produced below shaft	42
42	Apex of aedeagus in lateral view with dorsal lobe formed by distal emargination much longer than ventral lobe.	<i>M. clanus</i> Theron
-	Apex of aedeagus in lateral view with dorsal lobe formed by distal emargination shorter than ventral lobe	43
43	Aedeagus with produced part of atrium slender, spinelike in lateral view.	<i>M. bainsi</i> Theron
-	Aedeagus with produced part of atrium blunt	<i>M. damus</i> Theron
44	Aedeagal shaft in lateral view almost straight, produced part of atrium spinelike	<i>M. araratus</i> Theron
-	Aedeagal shaft in lateral view distinctly arcuate, atrium not produced or bluntly produced.	45
45	Aedeagal shaft in lateral view distinctly broadened subapically	46
-	Aedeagal shaft in lateral view parallel-sided or slightly broadened subbasally.	51
46	Broadened area of aedeagal shaft in distal half limited to angulate dorsal projection, giving apex a footlike appearance	<i>M. psoralus</i> Theron
-	Broadened area of aedeagal shaft in distal half more extensive.	47
47	Aedeagal shaft with ventral margin serrate basad of gonopore	48
-	Aedeagal shaft with ventral margin smooth basad of gonopore	49
48	Atrium well produced below aedeagal shaft in lateral view	<i>M. laidsmithi</i> Theron
-	Atrium in lateral view only formed a small tooth on ventral margin.	<i>M. cedarus</i> Theron
49	Gonopore emarginate in lateral view	<i>M. dilatus</i> Theron
-	Gonopore not emarginate in lateral view	50
50	Aedeagal shaft distinctly curved basally	<i>M. fruticanus</i> Theron
-	Aedeagal shaft almost straight in basal half.	<i>M. theae</i> Theron
51	Aedeagal shaft in lateral view with apex truncate	<i>M. sani</i> Theron
-	Aedeagal shaft in lateral view with apex rounded	52
52	Aedeagal shaft in lateral view slightly broadened subbasally, less than three times longer than maximum width.	<i>M. pulchra</i> (Naudé)
-	Aedeagal shaft in lateral view parallel-sided, more than three times longer than maximum width	<i>M. artus</i> Theron

1. *Molopopterus hastata* Cao & Dietrich sp. nov.

(Figs 14, 26i–l)

Description. Body lemon yellow (specimen preserved in ethanol before examination). Apical area of vertex, central area of pronotum and brochosome field of forewing slightly darkened; eyes grey; tip of anteclypeus dark brown; basal triangles of mesonotum brown, long. (Figs 26i–l)

Male abdominal apodemes 2S (Fig. 14a) extended to middle of sternite IV. Anal tube (Fig. 14b) far surpassing hind margin of pygofer lobe.

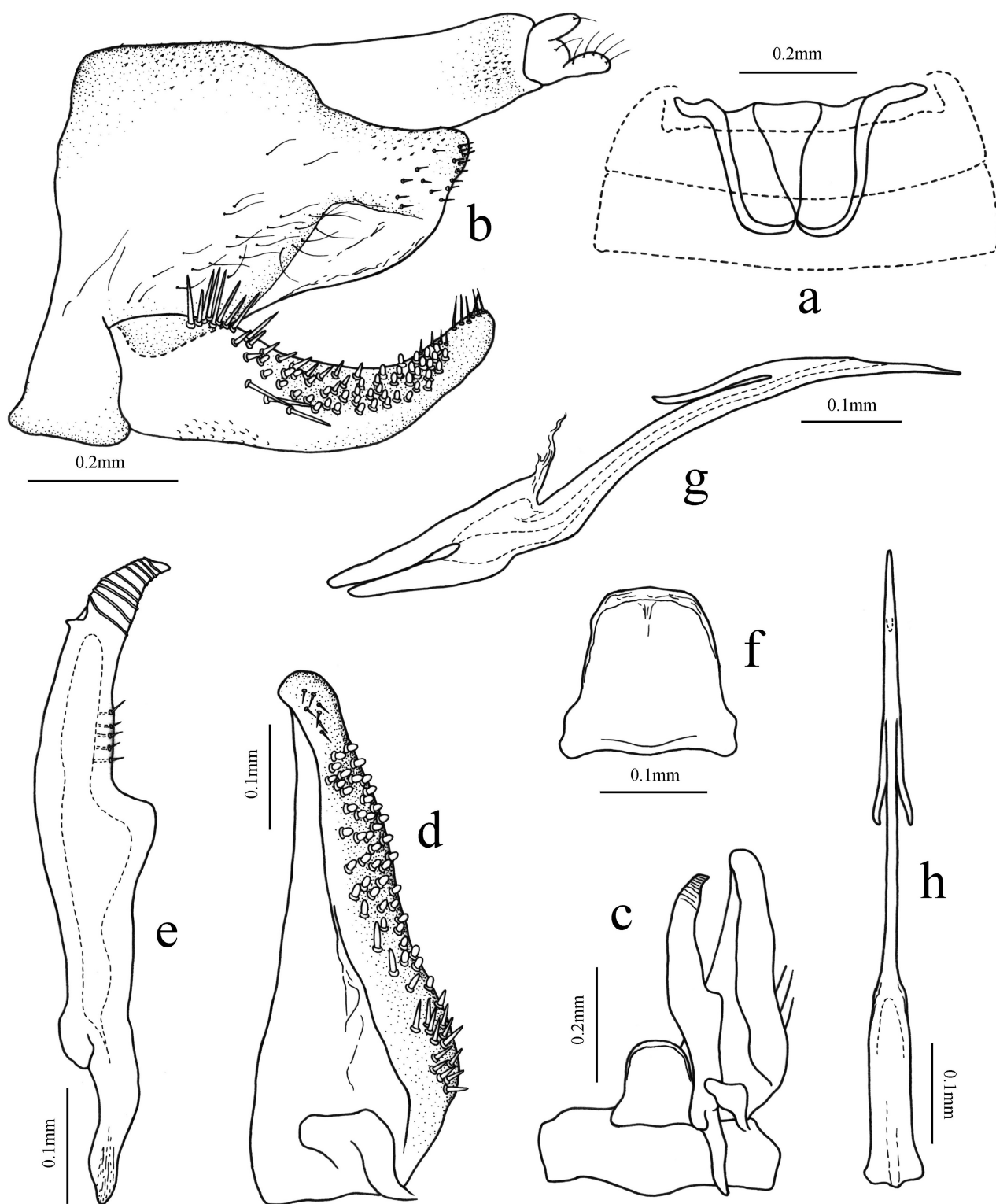


FIGURE 14. *Molopopterus hastata*. a. abdominal apodemes 2S; b. genital capsule; c. subgenital plate, style, connective and sternite IX; d. subgenital plate, dorsal view; e. style, dorsal view; f. connective; g. aedeagus, lateral view; h. aedeagus, ventral view.

Pygofer lobe (Fig. 14b) with distal angle somewhat blunt, with relatively dense fine setae and microsetae. Subgenital plate (Figs 14b, d) with about 3 macrosetae, marginal setae numerous, differentiated into three groups: basal group long and thick; middle group peg-like, from subbase to subapex; apical group rigid, relatively long and sparse. Style (Fig. 14e) with apical part robust, with transverse whorl-like sculptures; preapical lobe relatively small,

with row of sensory setae above preapical lobe. Connective (Fig. 14f) with manubrium very wide. Aedeagal shaft (Figs 14g, h) thin and long, slightly curved, apex acuminate, with pair of thin processes subapically on dorsal margin directed basad and close to shaft; dorsal apodeme slightly expanded dorsad; preatrium and dorsal apodeme closely appressed, cleft narrow; gonopore subapical on dorsal side.

Measurement. Male length 2.90mm.

Material examined. Holotype: ♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.196'S, 015°28.267'E, 01.vi–18.vii.2008, sweeping, coll. Sharkey.

Etymology. The new specific epithet is derived from Latin adjective “*hastatus*” which means “with spear”, referring to the spear-like apex of the aedeagal shaft.

Diagnosis. This species can be distinguished from the other species of the genus by the large group of peg-like setae medially on the subgenital plate, the apical whorl-like sculpture of the style and the spear-like apex of the aedeagal shaft.

2. *Molopopterus parajota* Dworakowska, 1973

(Figs 15, 26m–p)

Molopopterus parajota Dworakowska, 1973: 44, Figs 6–10, 60–63

Material examined. 1♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.196'S, 015°28.267'E, 25.viii.2008, coll. Braet & Sharkey.

Distribution. Republic of Congo; Central African Republic.

Remarks. This is a new record for Republic of Congo.

3. *Molopopterus steeleae* (Ross, 1965)

(Figs 16, 26q–t)

Erythroneura steeleae Ross, 1965: 66

Molopopterus steeleae: Dworakowska, 1973: 47, Figs 92–95

Material examined. 2♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.020'S, 015°31.440'E, 29.viii.2008, coll. Braet & Sharkey.

Distribution. Republic of Congo; Nigeria; Sudan.

Remarks. This is a new record for Republic of Congo.

4. *Molopopterus ugandica* Cao & Dietrich sp. nov.

(Figs 17, 26u–x)

Description. Body dark lemon yellow (specimen preserved in ethanol before examination). Vertex with semicircular median area dark brown; eyes grey; anteclypeus slightly infuscated; pronotum with short medial band on anterior margin, midline and long band near posterior margin dark brown; mesonotum and brochosome area of forewing black. (Figs 26u–x)

Male abdominal apodemes 2S (Fig. 17a) extended to middle of sternite IV, apodemes 3T (Fig. 17b) broad but short, not reaching hind margin of sternite III.

Pygofer lobe (Fig. 17c) long, apex somewhat blunt, without microsetae on distal half. Subgenital plate (Figs 17c, e) with about 2 macrosetae, with group of thickened microsetae on subbasal angle and continued with irregular rows of rigid microsetae to apex. Style (Fig. 17f) with foot-like apex short and region between it and middle part long, preapical lobe relatively small, with row of sensory setae on preapical lobe. Connective (Fig. 17g) with manubrium relatively broad. Aedeagal shaft (Figs 17h, i) thin and relatively long, slightly arcuate, without process, atrium almost as long as shaft, dorsal apodeme closely appressed to preatrium; gonopore terminal on dorsal side.

Measurement. Male length 3.60mm.

Material examined. Holotype: ♂, UGANDA, Kibale National Park, Kanyawara, Makerere University Biological Field Station, 1484m, 0°34.405'N, 30°21.646'E, 02–12.viii.2005, Malaise trap, primary mid-altitude Rainforest, near stream, coll. S.van Noort (IMC).

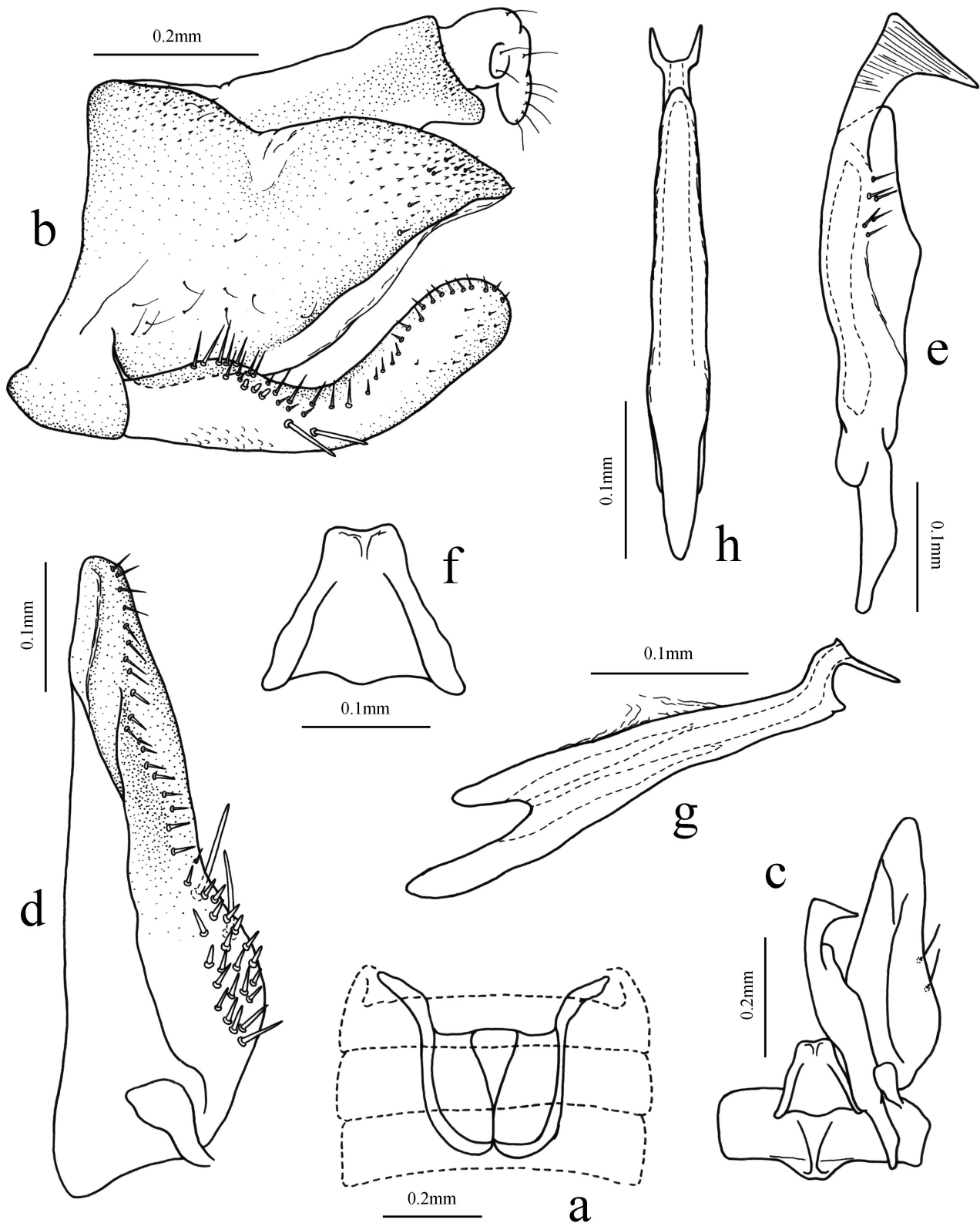


FIGURE 15. *Molopopterus parajota*. a. abdominal apodemes 2S; b. genital capsule; c. subgenital plate, style, connective and sternite IX; d. subgenital plate, dorsal view; e. style, dorsal view; f. connective; g. aedeagus, lateral view; h. aedeagus, ventral view.

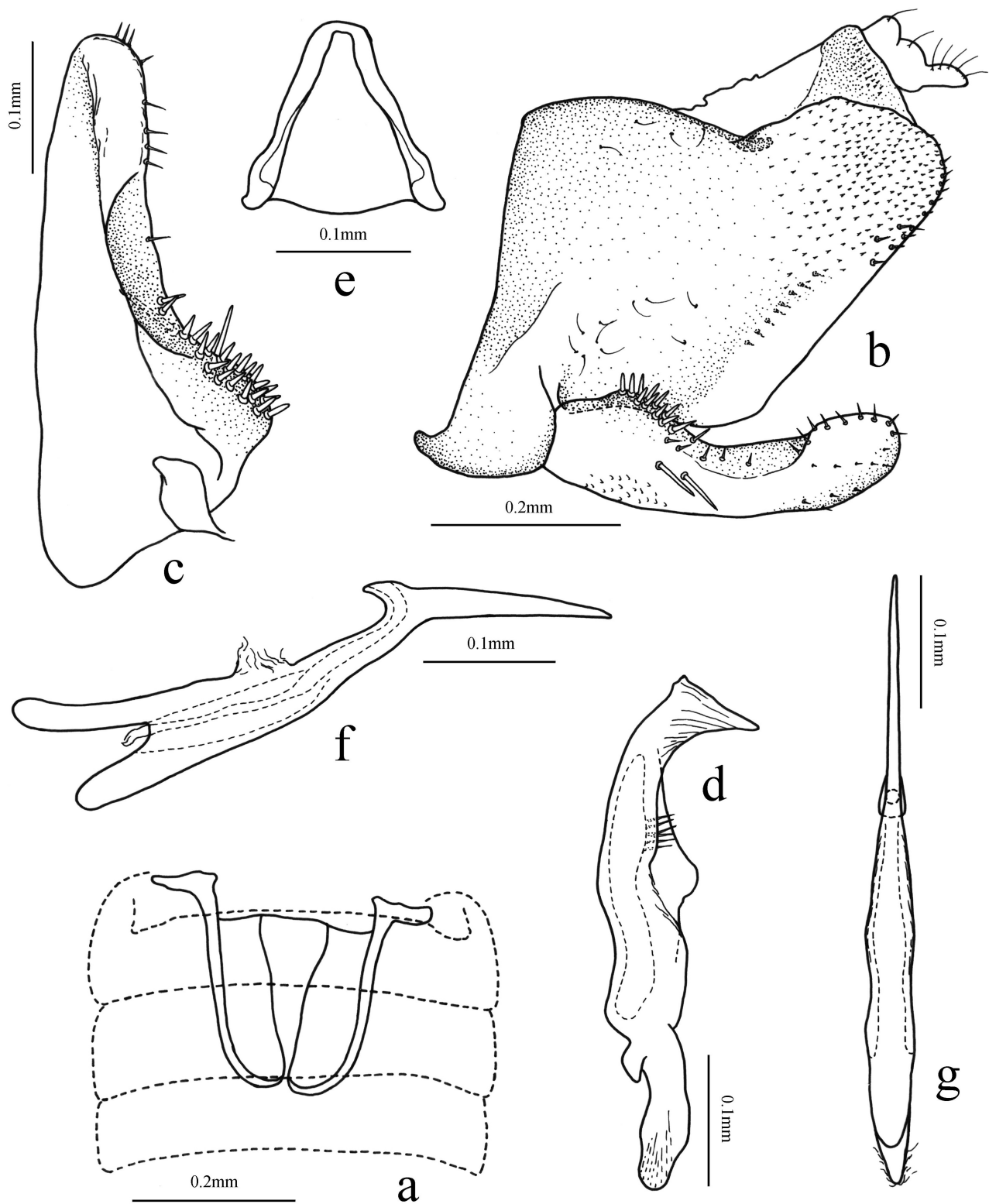


FIGURE 16. *Molopopterus steeleae*. a. abdominal apodemes 2S; b. genital capsule; c. subgenital plate, dorsal view; d. style, dorsal view; e. connective; f. aedeagus, lateral view; g. aedeagus, ventral view.

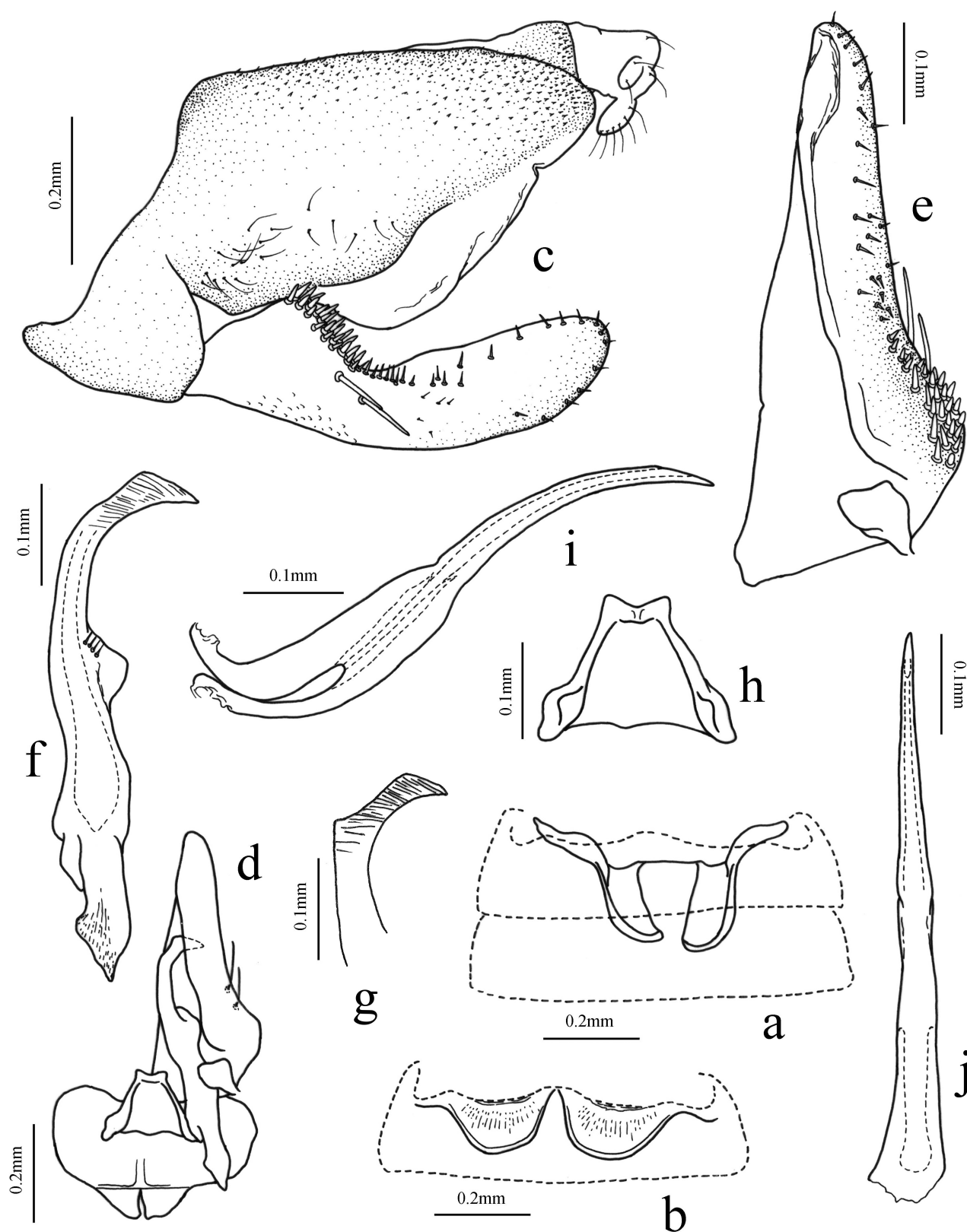


FIGURE 17. *Molopopterus ugandica*. a. abdominal apodemes 2S; b. abdominal apodemes 3T; c. genital capsule; d. subgenital plate, style, connective and sternite IX; e. subgenital plate, dorsal view; f. style, dorsal view; g. apex of style, lateral view; h. connective; i. aedeagus, lateral view; j. aedeagus, ventral view.

Etymology. The new species is named for the type locality, Uganda.

Diagnosis. This species is very similar to *M. delta* Dworakowska, 1973, but the pygofer lobe is longer, the foot-like apex of the style is shorter, the connective is narrower and the aedeagal shaft is curved.

Lamtoana Dworakowska, 1972b

Lamtoana Dworakowska, 1972b: 853

Type species: *Lamtoana sordida* Dworakowska, 1972b, by original designation

Description. Body short to medium sized, mostly 2.5 to 3.5 mm. Head as wide as or slightly narrower than pronotum, crown fore margin rounded apically, coronal suture visible basally. Ocelli rudimentary with elongated, crescent-shaped vestiges. Face convex in profile. Pronotum with lateral margins slightly divergent posteriorly in dorsal view, hind margin weakly concave. Forewing (Fig. 18a) with first and third apical cell wide, second and fourth apical cell narrow, fourth cell not reached tip of wing, as long as or slightly shorter than third, AA fused with AP. Hind wing (Fig. 18b) with or without RA.

Male abdominal apodemes 2S broad, usually extended to sternite IV. Anal tube sclerotized distally, without appendage.

Male genital capsule cylindrical, moderately sclerotized. Pygofer lobe membranous dorso-apically, with distinct inner ridge between basal sclerite and distal membrane, with fine setae on middle and ventral part; dorsal appendage articulated to lobe, base enlarged, apical part thin, pointed distally; ventral appendage extended from lower distal angle of sclerotized part of lobe, thin or lamellate. Subgenital plate short but surpassing hind margin of pygofer lobe, angulately protruded subbasally, apical part rounded and pigmented, curved dorsad, with about 3–4 macrosetae in row near outer margin, with irregular rows of marginal microsetae from subbase to apex, basal ones distinctly thickened, with some microsetae scattered on distal disc. Style with apical part short, foot-like, preapical lobe enlarged, expanded medially, with some sensory pits subapically, basal part thick. Connective U-shaped, manubrium narrow to broad, usually without central lobe. Aedeagal shaft tubular, almost straight, base thicker than apex, with pair of thin processes apically; dorsal apodeme rudimentary to developed; preatrium moderately long, but shorter than shaft; gonopore terminal on ventral side.

Diagnosis. This genus is similar to *Lublinia* Dworakowska, but the pygofer lobe is membranous dorso-apically, the pygofer dorsal appendage is expanded basally, the apical part of the style is narrower and extended from the dorsal side of the preapical lobe, and the aedeagus has a well-developed preatrium.

Distribution. Canary Islands; Central African Republic; Republic of Congo; Ivory Coast; Uganda.

Remarks. This genus is a new recorded for Republic of Congo.

Key to species of *Lamtoana* (males)

- | | | |
|---|--|---|
| 1 | Pygofer with ventral appendage sinuate in lateral view, apex curved ventrad. | 2 |
| - | Pygofer with ventral appendage straight or curved slightly dorsad in lateral view (Figs 18d, 19b, 20b) | 4 |
| 2 | Aedeagus with distal processes more than half as long as shaft | <i>L. sordida</i> Dworakowska |
| - | Aedeagus with distal processes less than half as long as shaft. | 3 |
| 3 | Basal triangles of mesonotum black. | <i>L. hoslundiae</i> Einyu & Ahmed |
| - | Basal triangles of mesonotum pale. | <i>L. okiai</i> Ahmed |
| 4 | Aedeagus without distal processes. | <i>L. magnifica</i> Ahmed |
| - | Aedeagus with pair of distal processes (Figs 18l, 19j, 20j) | 5 |
| 5 | Pygofer with ventral appendage very short, not surpassing apex of lobe (Fig. 20b) | <i>L. exigua</i> Cao & Dmitriev sp. nov. |
| - | Pygofer with ventral appendage extended well beyond apex of lobe (Figs 18d, 19b). | 6 |
| 6 | Pygofer ventral appendage broadened and obliquely truncate apically in lateral view (Figs 19b, d) | <i>L. nakulabica</i> Ahmed |
| - | Pygofer ventral appendage tapered apically in lateral view (Figs 18d, f) | <i>L. flavoscuta</i> (Naudé) |

1. *Lamtoana flavoscuta* (Naudé, 1926)

(Figs 18, 27a–d)

Erythroneura flavoscuta Naudé, 1926: 102

Lamtoana flavoscuta: Theron, 1988: 199, Figs 105–116

Material examined. 3♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.196'S, 015°28.267'E, 29.viii.2008, coll. Braet & Sharkey; 2♂, same data except 25.viii.2008; 1♂, CENTRAL AFRICAN REPUBLIC, Prefecture Sangha-Mbaéré, Parc National de Dzanga-Ndoki, 38.6km, 173° S Lidjombo, 2°21.60'N, 16°03.20'E, 350m, 22–23.v.2001, Malaise trap, Lowland rainforest, coll. S. van Noort (IMC).

Distribution. Republic of Congo; Central African Republic.

Remarks. This is a new record for Republic of Congo.

2. *Lamtoana nakulabica* Ahmed, 1979

(Figs 19, 27e–h)

Lamtoana nakulabica Ahmed, 1979: 38, Figs 15A–15G

Material examined. 2♂, UGANDA, Kibale National Park, Kanyawara, Makerere University Biological Field Station, 1505m, 0°33.859'N, 30°21.630'E, 5–12.viii.2005, Malaise trap, primary mid-altitude Rainforest, coll. S. van Noort (IMC).

Distribution. Uganda.

3. *Lamtoana exigua* Cao & Dmitriev sp. nov.

(Figs 20, 27i–l)

Description. Body off white, heavily marked with dark brown (specimen preserved in ethanol before examination). Vertex with large brown patch apically at transition from vertex to face, with pair of brown patches medially, near to each other; tip of anteclypeus darkened. Pronotum with middle anterior margin and central part brown. Basal triangles of mesonotum dark. Forewing with inner margin of clavus darkened. (Figs 27i–l)

Male abdominal apodemes 2S (Fig. 27a) extended to middle of sternite IV.

Pygofer dorsal appendage (Figs 27b, c) with apical part short, apex blunt; ventral appendage (Figs 27b, d) very short, germ-like. Subgenital plate (Figs 27b, f) with about 4 macrosetae. Style (Fig. 27g) with pointed, tooth-like process extended from subapical inner edge of apical part, upper part of preapical lobe weakly sclerotized and serrated. Connective (Fig. 27h) with manubrium wide and long, lateral arms thick and short. Aedeagus (Figs 27i, j) with apical processes moderately long, extended away from shaft in caudal view; dorsal apodeme well developed, widened in caudal view.

Measurement. Male length 3.50mm.

Material examined. Holotype: ♂, UGANDA, Kibale National Park, Kanyawara, Makerere University Biological Field Station, 1587m, 0°33.408'N, 30°22.603'E, 30.vii–05.viii.2005, Malaise trap, degraded mid-altitude Rainforest, coll. S. van Noort (IMC).

Etymology. The new specific epithet is derived from Latin adjective “*exiguus*” which means short, small, referring to the short pygofer ventral appendage.

Diagnosis. This species can be distinguished from the other species the genus by the shortened pygofer ventral appendage, presence of a tooth-like process on the style and by the well-developed dorsal apodeme.

Nsesa Dworakowska, 1974

Nsesa Dworakowska, 1974: 233

Type species: *Nsesa matteba* Dworakowska, 1974, by original designation

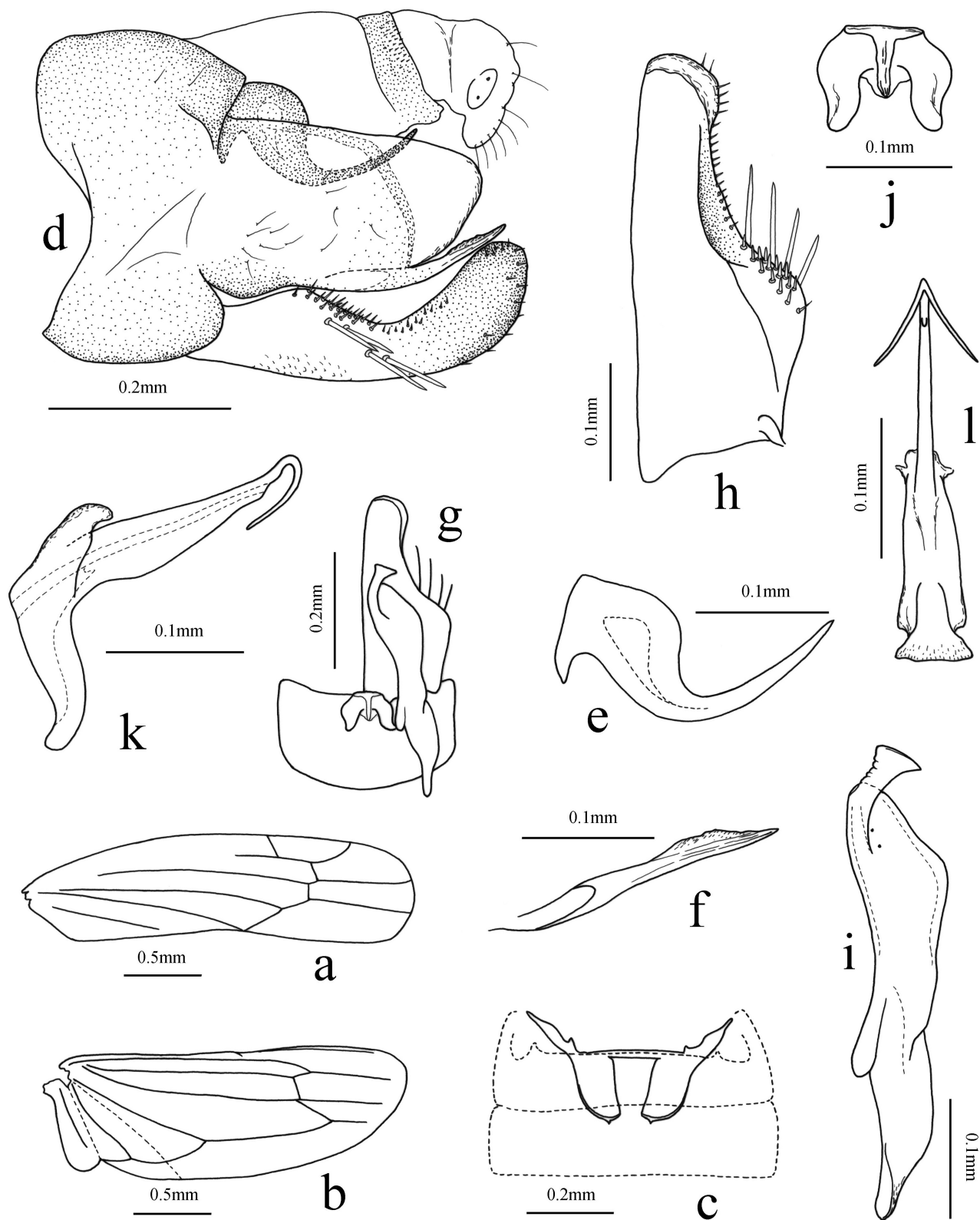


FIGURE 18. *Lamtoana flavoscuta*. a. forewing; b. hind wing; c. abdominal apodemes 2S; d. genital capsule; e. pygofer dorsal appendage; f. pygofer ventral appendage; g. subgenital plate, style, connective and sternite IX; h. subgenital plate, dorsal view; i. style, dorsal view; j. connective; k. aedeagus, lateral view; l. aedeagus, ventral view.

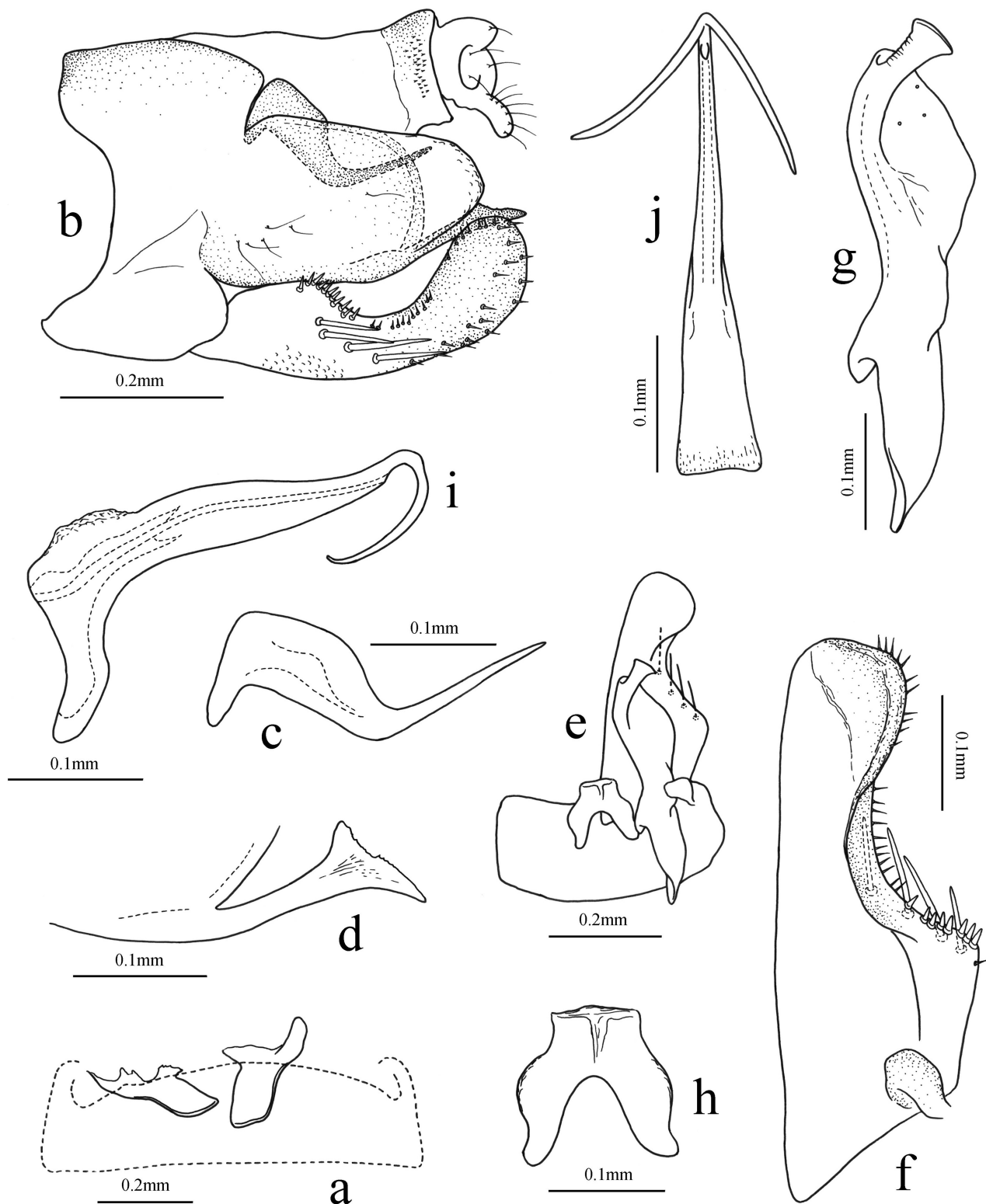


FIGURE 19. *Lamtoana nakulabica*. a. abdominal apodemes 2S; b. genital capsule; c. pygofer dorsal appendage; d. pygofer ventral appendage; e. subgenital plate, style, connective and sternite IX; f. subgenital plate, dorsal view; g. style, dorsal view; h. connective; i. aedeagus, lateral view; j. aedeagus, ventral view.

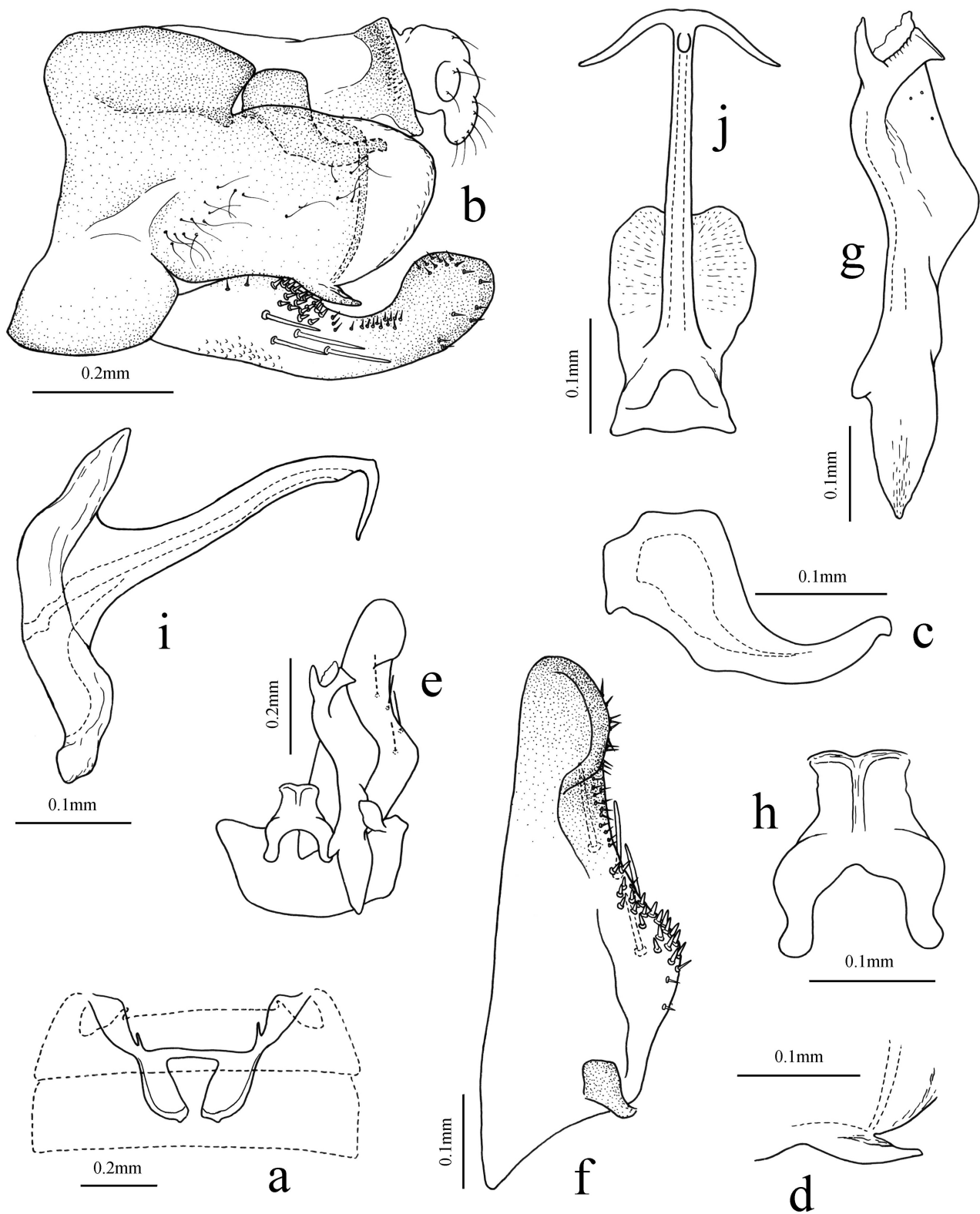


FIGURE 20. *Lamtoana exigua*. a. abdominal apodemes 2S; b. genital capsule; c. pygofer dorsal appendage; d. pygofer ventral appendage; e. subgenital plate, style, connective and sternite IX; f. subgenital plate, dorsal view; g. style, dorsal view; h. connective; i. aedeagus, lateral view; j. aedeagus, ventral view.

Description. Body large and robust, body length of most species ranges from 5.0 to 6.0 mm. Head slightly narrower than pronotum, crown fore margin subparallel to hind margin, coronal suture distinct. Ocelli rudimentary with elongated, crescent-shaped vestiges. Face convex in profile. Pronotum with lateral margins divergent posteriorly in dorsal view, hind margin almost straight. Forewing (Fig. 21a) with first and third apical cell wide, second and fourth apical cell narrow, fourth cell not extended to tip of wing, shorter than third. Hind wing (Fig. 21b) with or without RA.

Male abdominal apodemes 2S very small, not extended to hind margin of sternite III. Anal tube short, membranous, without appendages.

Male genital capsule cylindrical, sclerotized. Pygofer lobe long, with some small setae dorsally near base, with row of rigid microsetae on distal angle and near ventral margin on inner membrane; dorsal appendage fused to lobe basally, small to large; ventral appendage absent. Subgenital plate narrow and long, surpassing hind margin of pygofer side, rounded and pigmented distally, macrosetae absent to many, with row of fine setae along outer margin and numerous microsetae scattered on distal disc. Style with apical part greatly elongated, thin, preapical lobe indistinct. Connective completely fused to aedeagus, usually without central lobe. Aedeagal shaft tubular, curved dorsad, usually with asymmetric processes apically; dorsal apodeme short to long; preatrium rudimentary; gonopore usually terminal.

Distribution. Republic of Congo; Cameroon.

Remarks. This is a new record for Cameroon.

Diagnosis. This genus is similar to *Szymczakowskia* Dworakowska, 1974, but the pygofer lobe lacks the sclerotized inner plica and has numerous microsetae near ventral margin, the style is elongate and thin, and the connective is fused with the aedeagus.

Key to species of *Nsesa* (males)

- | | | |
|---|---|---|
| 1 | Pygofer dorsal appendage branched (Fig. 21e); aedeagus with shaft evenly curved dorsad, processes small or absent (Fig. 21i) | 2 |
| - | Pygofer dorsal appendage unbranched (may have small apical teeth); aedeagus with shaft straight or slightly sinuate through most of length, with long processes | 3 |
| 2 | Aedeagus without processes (Figs 21i, j); branches of pygofer appendage nearly equal in length (Fig. 21e) | <i>N. cameroonica</i> Cao & Zhang sp. nov. |
| - | Aedeagus with small spinelike preapical processes; dorsal branch of pygofer appendage much shorter than ventral branch | <i>N. mpanza</i> Dworakowska |
| 3 | Aedeagus with two long distal processes arising at or very near apex, subequal in length and extended distad | 4 |
| - | Aedeagus with three distal processes | 5 |
| 4 | Pygofer dorsal appendage evenly tapered to acute point, extended to apex of lobe | <i>N. matteba</i> Dworakowska |
| - | Pygofer dorsal appendage with apex bearing small toothlike projections, not reaching apex of lobe | <i>N. napmza</i> Dworakowska |
| 5 | Aedeagus with distal processes extended basad, one long and single, other two shorter and arising from common stem; pygofer appendage short with blunt apex | <i>N. rajsikii</i> Dworakowska |
| - | Aedeagus with distal processes extended distad, spinelike, slender, arising separately from shaft preapically | <i>N. pulawskii</i> Dworakowska |

1. *Nsesa cameroonica* Cao & Zhang **sp. nov.**

(Figs 21, 27m–p)

Description. Ground color pale yellow, eyes grey, gena pale, basal triangles of mesonotum dark brown. (Figs 27m–p)

Pygofer dorsal appendage (Figs 21d, e) large, base extended dorsad then directed ventrad, basal part long, apical part bifurcated, upper branch thinner and shorter than lower branch. Subgenital plate (Figs 21d, g) without macroseta, with numerous fine setae marginally. Style (Fig. 21h) with apical part sinuated. Connective (Fig. 21h) with central lobe, convex on apical margin. Aedeagus (Figs 21i, j) simple, apex extended on dorsal side, pointed; dorsal apodeme short; gonopore subapical.

Measurement. Male length 5.60mm.

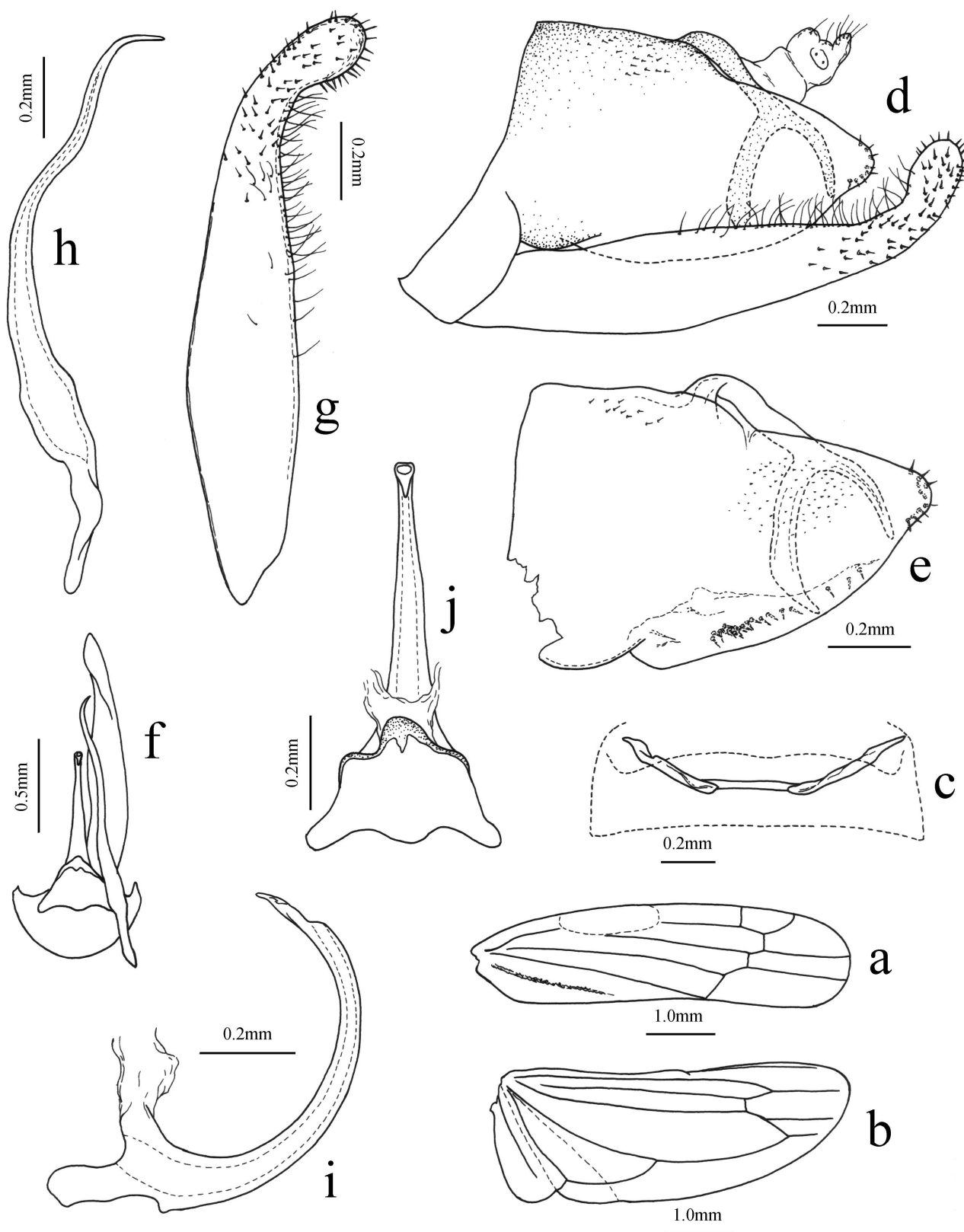


FIGURE 21. *Nsesa cameroonica*. a. forewing; b. hind wing; c. abdominal apodemes 2S; d. genital capsule; e. pygofer lobe; f. subgenital plate, style, connective, aedeagus and sternite IX; g. subgenital plate, lateral view; h. style, lateral view; i. aedeagus and connective, lateral view; j. aedeagus and connective, dorsal view.

Material examined. Holotype: ♂, CAMEROON: Adamaoua; Mbam et Djerem National Park; WCS Guest-house; N6° 12' 08.1" E12° 44' 41.7"; 15-30.iii.2009; J.R. Cryan & G.J. Svenson,

Etymology. The new species is named for the type locality "Cameroon".

Diagnosis. The new species is similar to *N. mpanza* Dworakowska, 1974, but the pygofer lobe is longer, the pygofer dorsal appendage is thinner and has longer upper branch, the subgenital plates lack macrosetae, the aedeagal shaft is thinner and lacks process.

***Nsimbala* Dworakowska, 1974 n. rec. for Central African Republic**

Nsimbala Dworakowska, 1974: 213

Type species: *Nsimbala tukula* Dworakowska, 1974, by original designation

Distribution. Central African Republic; Republic of Congo.

Remarks. This is a new record for Central African Republic.

1. *Nsimbala kinlaza* Dworakowska, 1974

(Figs 27q–t)

Nsimbala kinlaza Dworakowska, 1974: 217, Figs 605–627, 629

Material examined. 1♂, CENTRAL AFRICAN REPUBLIC, Prefecture Sangha-Mbaéré, Parc National de Dzanga-Ndoki, 38.6km 173° S Lidjombo, 2°21.60'N, 16°03.20'E, 350m, 22–23.v.2001, Malaise trap, Lowland rainforest, coll. S. van Noort (IMC).

Distribution. Central African Republic; Republic of Congo.

Remarks. This is a new record for Central African Republic.

2. *Nsimbala wenea* Dworakowska, 1974

(Figs 22, 27u–x)

Nsimbala wenea Dworakowska, 1974: 221, Figs 639–643

Material examined. 1♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.020'S, 015°31.440'E, 11–18.xi.2008, coll. Braet & Sharkey.

Distribution. Republic of Congo.

***Nkumba* Dworakowska, 1974**

Nkumba Dworakowska, 1974: 208

Type species: *Nkumba wumba* Dworakowska, 1974, by original designation

Distribution. Republic of Congo.

1. *Nkumba omani* Dworakowska, 1974

(Figs 23, 28a–d)

Nkumba omani Dworakowska, 1974: 210, Figs 569–577

Material examined. 1♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.196'S, 015°28.267'E, 25.vii.2008, coll. Braet & Sharkey.

Distribution. Republic of Congo.

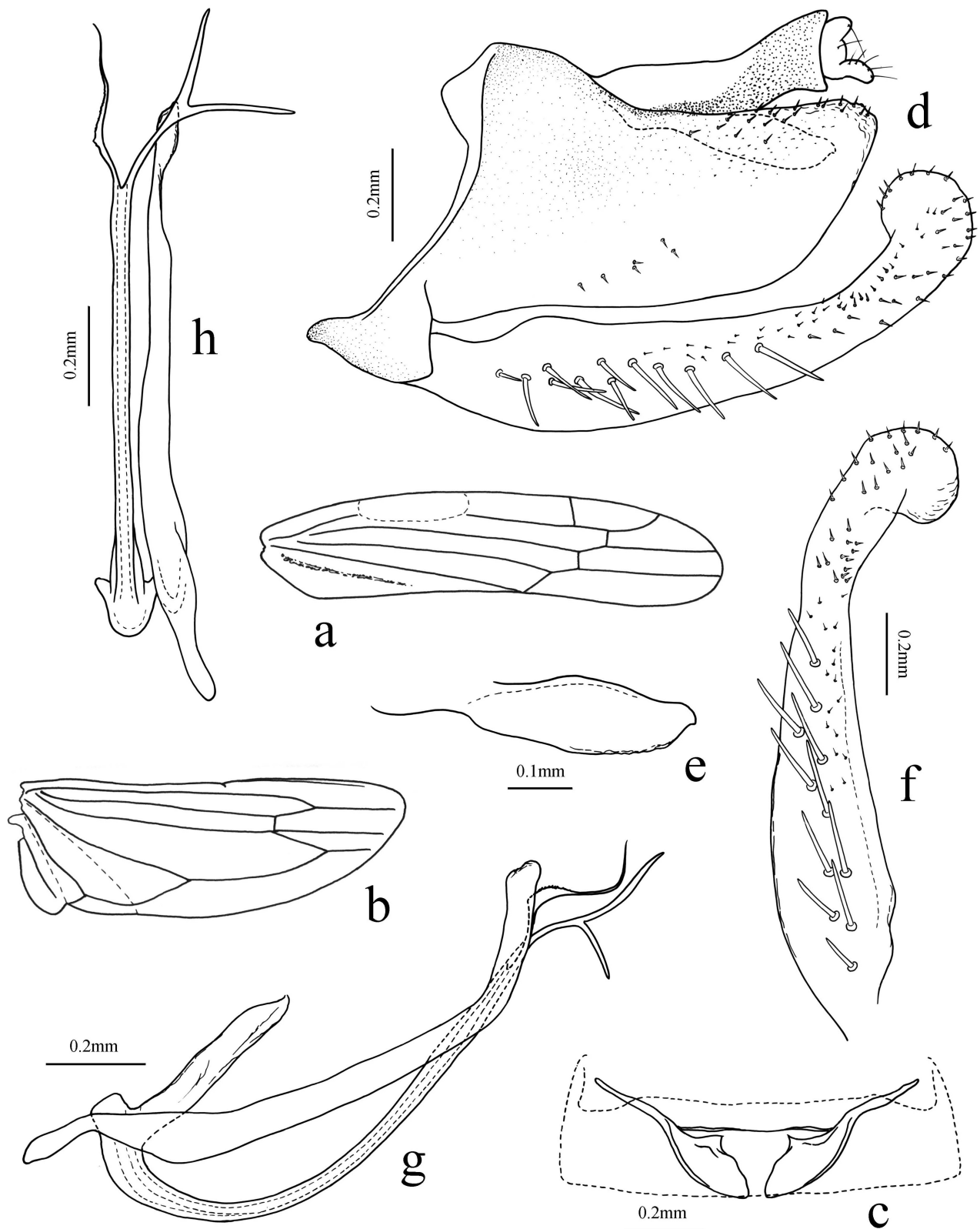


FIGURE 22. *Nsimbala wenea*. a, b. after Dworakowska, 1974; a. forewing; b. hind wing; c. abdominal apodemes 2S; d. genital capsule; e. pygofer dorsal appendage; f. subgenital plate, ventral view; g. style, aedeagus and connective, lateral view; h. style, aedeagus and connective, ventral view.

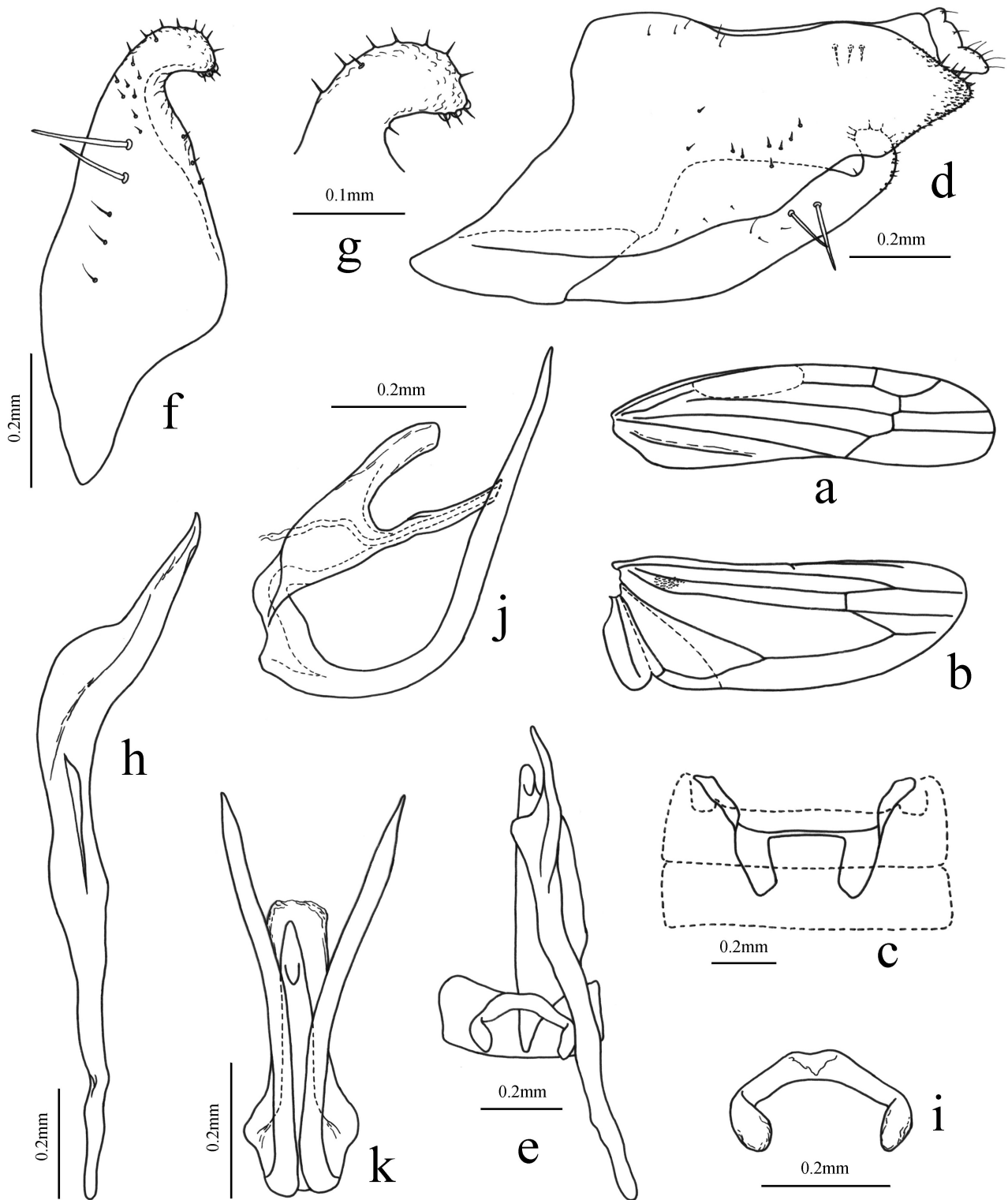


FIGURE 23. *Nkumba omani*. a, b. after Dworakowska, 1974; a. forewing; b. hind wing; c. abdominal apodemes 2S; d. genital capsule; e. subgenital plate, style, connective and sternite IX; f. subgenital plate, lateral view; g. apex of subgenital plate; h. style, lateral view; i. connective; j. aedeagus, lateral view; k. aedeagus, caudal view.

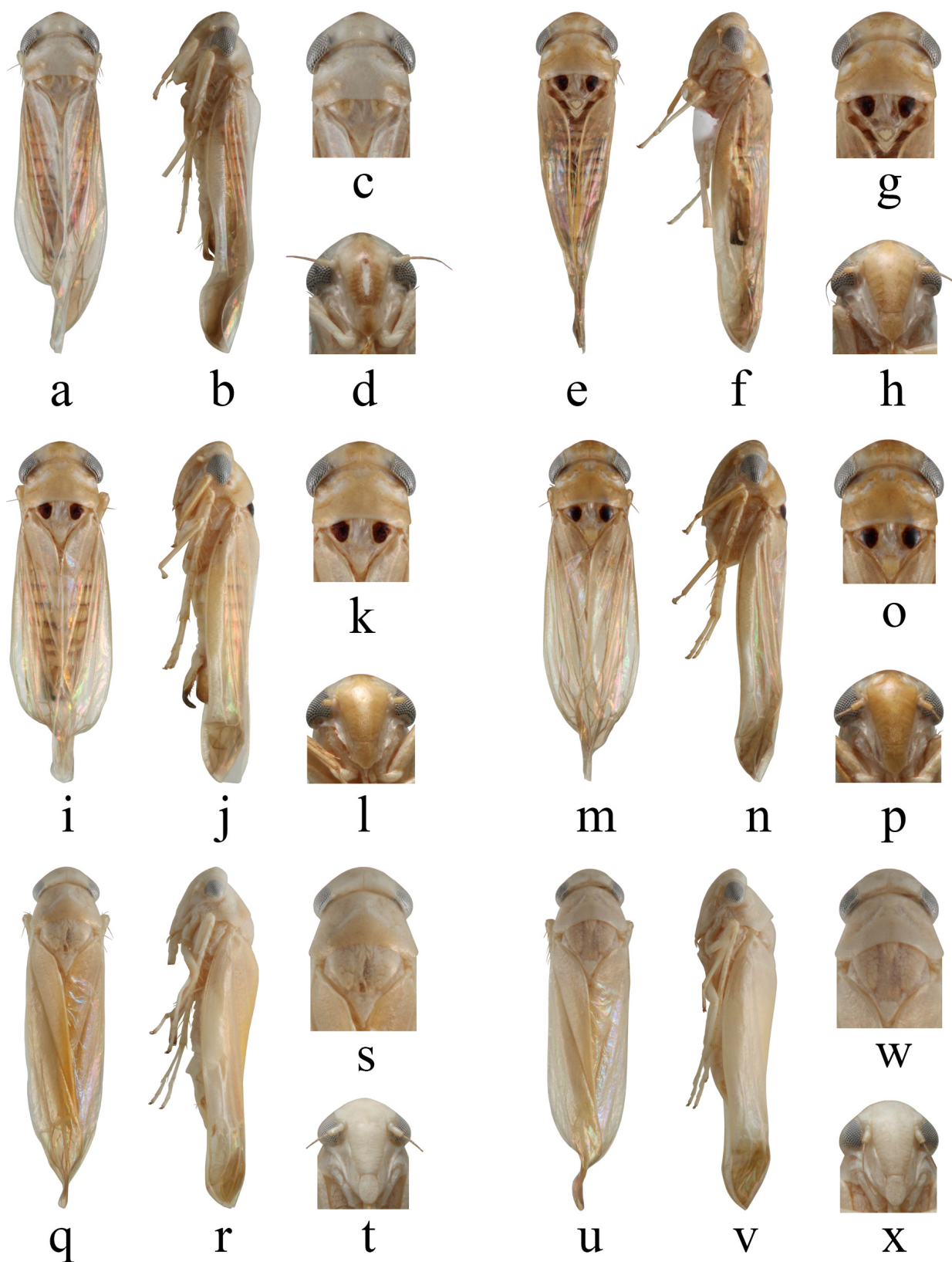


FIGURE 24. a–d. *Laminaris angusta*; e–h. *Laminaris cuspidatima*; i–l. *Laminaris serrata*; m–p. *Laminaris tenuis*; q–t. *Projecta auriculata*; u–x. *Projecta brevis*.

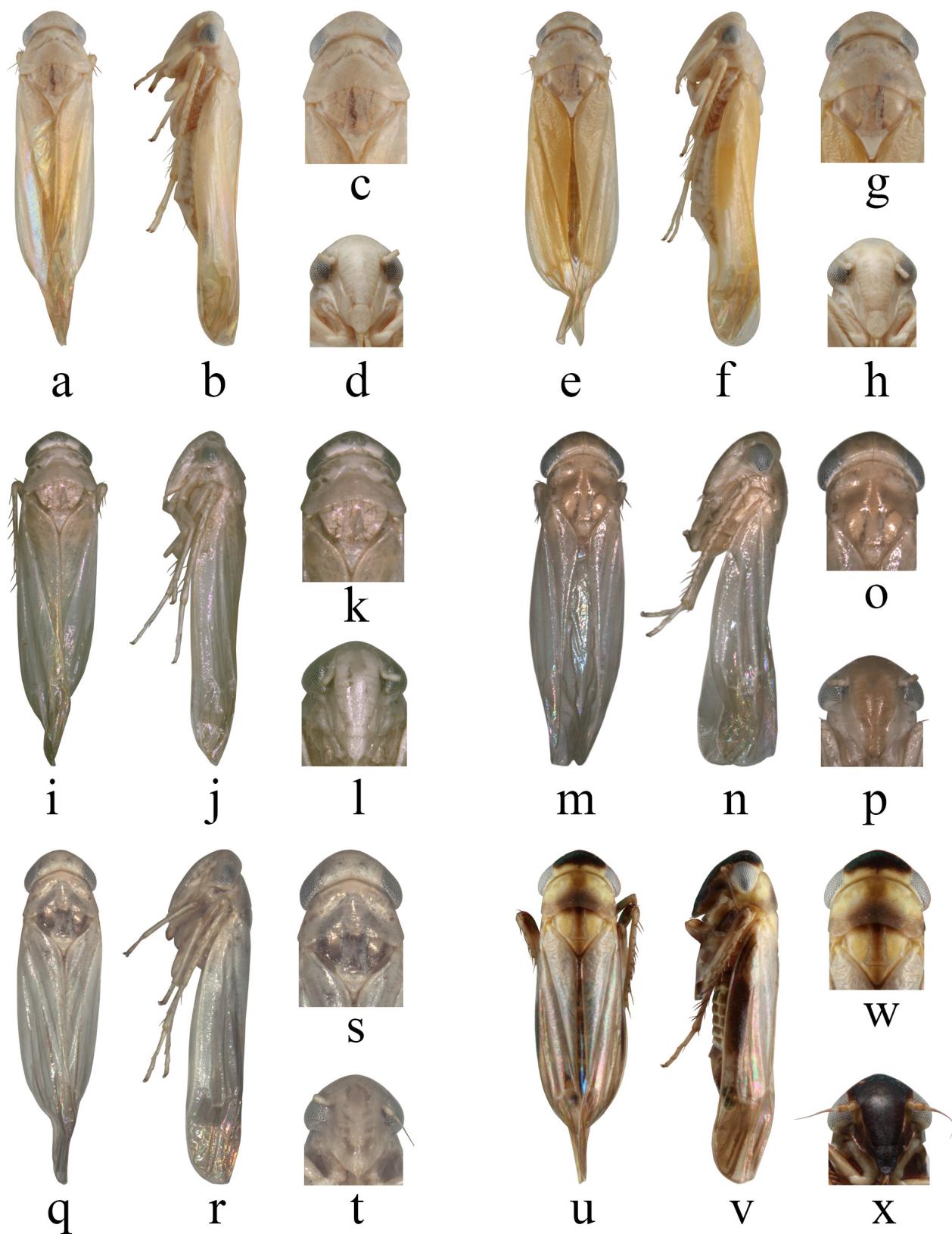


FIGURE 25. a–d. *Projecta depressa*; e–h. *Projecta draciformis*; i–l. *Accacidia obunca*; m–p. *Imbecilla bifurca*; q–t. *Imbecilla cretinica*; u–x. *Imbecilla spinalis*.

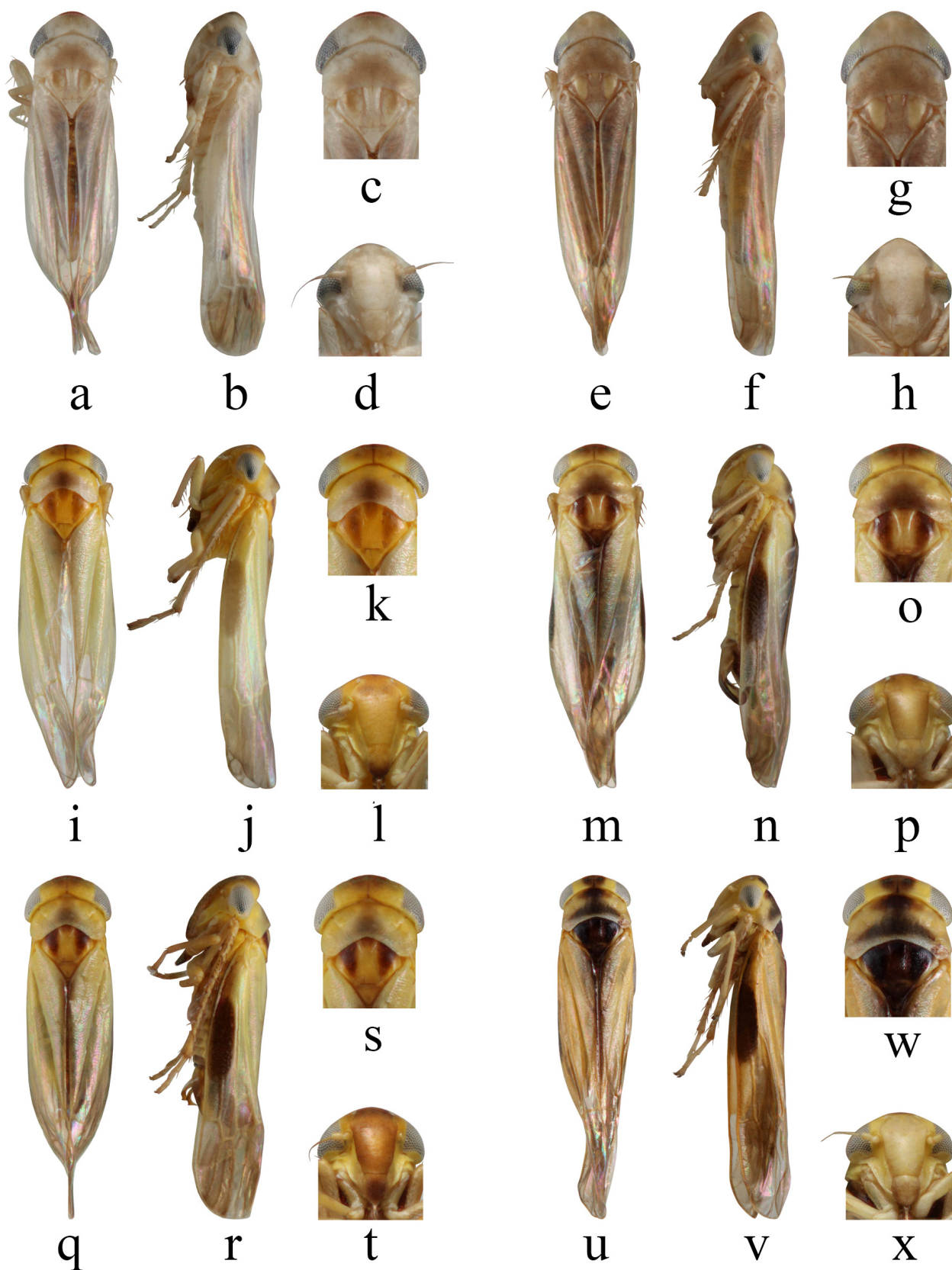


FIGURE 26. a–d. *Lublinia acaciae*; e–h. *Lublinia anchoroides*; i–l. *Molopopterus hastata*; m–p. *Molopopterus parajota*; q–t. *Molopopterus steeleae*; u–x. *Molopopterus ugandica*.

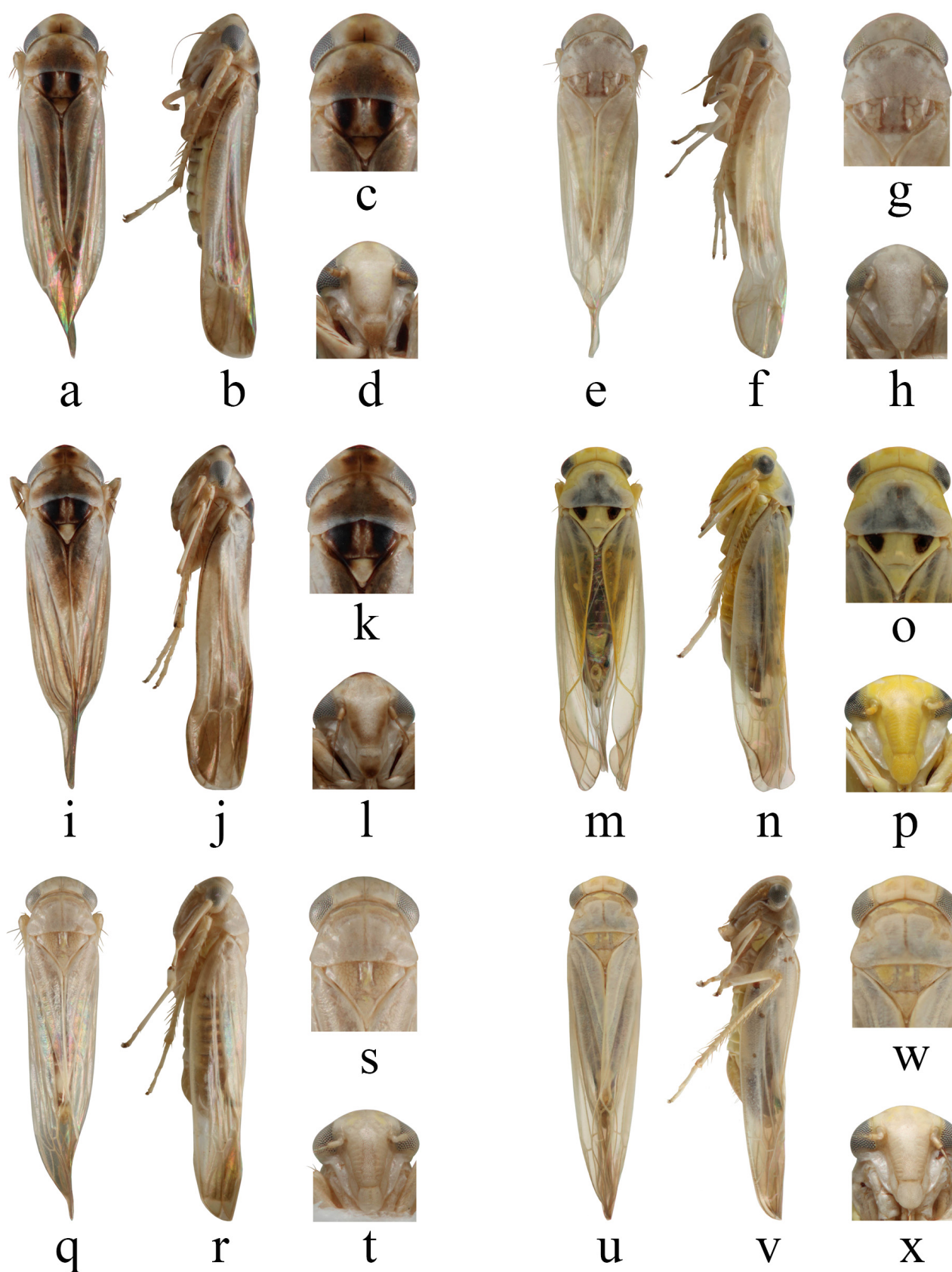


FIGURE 27. a–d. *Lamtoana flavoscuta*; e–h. *Lamtoana nakulabica*; i–l. *Lamtoana exigua*; m–p. *Nsesa cameroonica*; q–t. *Nsimbala kinlaza*; u–x. *Nsimbala wenea*.

***Szymczakowskia* Dworakowska, 1974**

Szymczakowskia Dworakowska, 1974: 238

Type species: *Szymczakowskia linnavuorii* Dworakowska, 1974, by original designation

Distribution. Cameroon; Central African Republic; Republic of Congo.

Remarks. This is a new record for Central African Republic.

1. *Szymczakowskia linnavuorii* Dworakowska, 1974

(Figs 28e–h)

Szymczakowskia linnavuorii Dworakowska, 1974: 240, Figs 725–732

Material examined. 1♂, CENTRAL AFRICAN REPUBLIC, Prefecture Sangha-Mbaéré, Parc National de Dzanga-Ndoki, Mabéa Bai, 21.4km, 53° NE Bayanga, 3°02.01'N, 16°24.57'E, 510m, 01–02.v.2001, Malaise trap, Lowland Rainforest, marsh clearing, coll. S. van Noort (IMC).

Distribution. Central African Republic; Republic of Congo.

Remarks. This is a new record for Central African Republic.

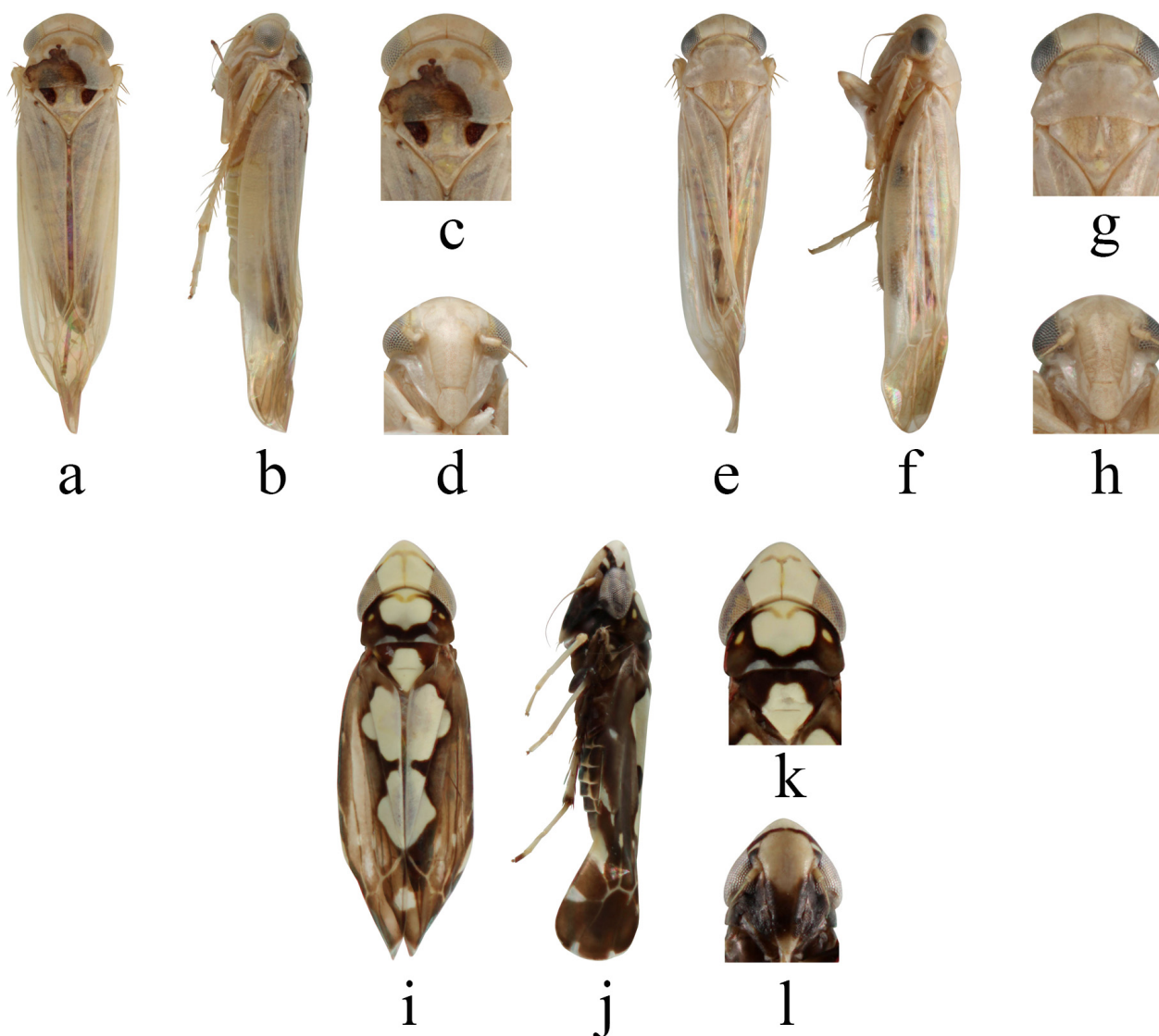


FIGURE 28. a–d. *Nkumba omani*; e–h. *Szymczakowskia linnavuorii*; i–l. *Ivorycoasta pulchra*.

***Ivorycoasta* Dworakowska, 1972b**

Ivorycoasta Dworakowska, 1972b: 851

Type species: *Ivorycoasta pulchra* Dworakowska, 1972b, by original designation

Distribution. Republic of Congo; Sudan.

Remarks. This is a new record for Republic of Congo.

1. *Ivorycoasta pulchra* Dworakowska, 1972b

(Figs 28i–l)

Ivorycoasta pulchra Dworakowska, 1972b: 851, Figs 88–97

Material examined. 1♂, REPUBLIC OF CONGO, Dept. Pool, Iboubikro site, Lesio-Loun Pk, 340m, 03°16.196'S, 015°28.267'E, 07–21.vii.2008, coll. Braet & Sharkey; 1♂, same data except 23.vii.2008; 1♂, same data except 12–18.viii.2008; 1♂, same data except 03°16.020'S, 015°31.440'E, 29.viii.2008.

Distribution. Republic of Congo; Sudan.

Remarks. This is a new record for Republic of Congo.

Acknowledgements

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