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New species of *Docalidia* from Peru with new records (Hemiptera: Cicadomorpha: Cicadellidae: Coelidiinae)

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Nielson M. W. & Lozada P. W. 2013: New species of *Docalidia* from Peru with new records (Hemiptera: Cicadomorpha: Cicadellidae: Coelidiinae). In: Kment P., Malenovský I. & Kolibáč J. (eds.): Studies in Hemiptera in honour of Pavel Lauterer and Jaroslav L. Stehlík. *Acta Musei Moraviae, Scientiae biologicae* (Brno) **98(2):** 191–228. – The following 19 new species of *Docalidia* Nielson, 1979 (Hemiptera: Cicadomorpha: Cicadellidae: Coelidiinae: Teruliini) from Peru are described, illustrated and photographed: *Docalidia acucifera* sp.nov., *D. basispinosa* sp.nov., *D. bilobata* sp.nov., *D. collaris* sp.nov., *D. crassitudinis* sp.nov., *D. hama* sp.nov., *D. inuncta* sp.nov., *D. lineolaris* sp.nov., *D. maldonadoi* sp.nov., *D. medispinata* sp.nov., *D. minatura* sp.nov., *D. minima* sp.nov., *D. pakitzaensis* sp.nov., *D. parabistyla* sp.nov., *D. parainsolita* sp.nov., *D. pedalis* sp.nov., *D. reticulata* sp.nov. *D. setosa*, sp.nov. and *D. trulla* sp.nov. *Docalidia dentatula* (Metcalf, 1964) and *D. zanolae* Nielson, 1986 are new records for Peru.

Keywords. Auchenorrhyncha, Cicadellidae, Coelidiinae, Teruliini, Leafhoppers, *Docalidia*, taxonomy, new species, new records, Neotropical Region, Peru

Introduction

The genus *Docalidia* Nielson, 1979 is the largest group of coelidiine leafhoppers in the New World, known only from the Neotropical region northward to Honduras and southward to Argentina. Only one species is known in each of these countries. Since the genus was first described, 179 species have been elucidated (Nielson 1979, 1982a, 1982b, 1982c, 1986, 1990, 1992, 1996, 2011). Key to species is provided in Nielson (1979, 1986, 2011).

In this paper 19 new species are added which now comprise 195 known species in the genus. Among these, 78 have been recorded from Peru and all are catalogued in Nielson (2011), except 2 (new records) and 19 described herein. Peru has the richest fauna followed by Brazil, Colombia and Bolivia. Species occupying more than one country is very low; only 10.7% among 16 countries in its range. Species diversity is very low in the extreme southern and northern ranges of the Neotropical region.

Material and methods

Specimens for this study were provided entirely by the junior author who collected much of the material. The material is deposited in the following institutions: Departamento de Entomologia, Museo de Historia, Lima, Peru (UNMSM) and Monte L. Bean Museum, Brigham Young, University, Provo, UT 84602, Utah, USA (MLBM).

Taxonomy

Genus *Docalidia* Nielson, 1979

Docalidia Nielson 1979: 179. Type species: *Jassus ruficosta* Jacobi 1905, by original designation.

Diagnosis. Members of the genus are described by the following combination of features: small to large size, robust form; color concolorous to well marked; head short, broad. often about as wide as pronotum; pronotum and mesonotum large; forewings often broad throughout; male pygofer large, often with short to long, caudoventral process, sometimes with caudodorsal margin produced to long process; segment X often with ventral process, exposed or cryptic; aedeagus always long, very slender, tubular, with single, short to long, subapical process on ventral margin, process sometimes absent; style slender to robust, apical half to one third often large, often with numerous, secondary processes in apical half; connective T-shaped, stem short to long, configuration variable; dorsal connective short, very narrow; subgenital plate large, broad, rarely narrow, glabrous to setaceous.

Basic features that separate the genus from other teruliine genera of the New World are the following combination of characters: robust form, the long, very narrow shaft of the aedeagus with a single subapical process arising from the ventral margin of the shaft (sometimes broken off or absent) and the very broad, subgenital plate.

Description of species

***Docalidia acucifera* sp.nov.** (Figs 1–7, 134)

Type material. Holotype ♂: PERU, Castilla, 345 m., 10°10′S 75°15′W, 11.vi.87, P. Lozada (UNMSM). Paratype, 1 ♀, same data as holotype (UNMSM).

Description. Length. Male 6.80 mm, female 7.70 mm.

External morphology. Medium-sized, robust species. General color dark brown to black; head light brown with black markings on crown in male, crown light tan in female; face black in male, brown in female. Head large, narrower than pronotum, anterior margin broadly rounded; crown broad, about as wide as eyes, short, slightly wider than long, slightly produced anteriorly, lateral margins convergent basally; eyes large, semiglobular; clypeus long, lateral margins sinuate posteriorly, clypellus long, narrow, slightly tumid basally.

Male genitalia. Pygofer in lateral view large, with long, fairly robust caudodorsal process, caudoventral process long, very narrow, sharply pointed (Fig. 1); segment X with prominent ventral process, very broad in basal half, curved dorsally, narrowed and sharply pointed in apical half (Fig. 1); aedeagus, shaft very long, very narrow in dorsal and lateral views, without subapical process (Figs 2, 3); style very long, robust in dorsal view, narrow in lateral view except inflated in distal 1/3 with narrow band of dense microsetae on lateral margin, small curved spine medially on lateral margin (Figs 4, 5); dorsal connective short, narrow (Fig. 3); connective large, T-shaped (Fig. 6); subgenital plate long, broad, glabrous (Fig. 7).

Etymology. The name of this species is descriptive for acutely narrow aedeagal shaft.

Remarks. From *D. basispinosa* sp.nov. to which it is similar in aedeagal and stylar configurations, *D. acucifera* sp.nov. is easily distinguished by the narrow ventral process of segment X, presence of medial spine on the style and broad basal half of the caudoventral pygofer process.

***Docalidia basispinosa* sp.nov.** (Figs 8–14, 135)

Type material. Holotype ♂: PERU: LO [Loreto], Requena, Jenaro Herrera, 73°40′W, 4°55′S, 21.viii.1990, P. Lozada (UNMSM).

Description. Length. Male 6.10 mm, female unknown.

External morphology. Small, robust species. General color black throughout except head; crown light yellow with small markings; eyes light green tinged with light brown; face black except for narrow light yellow on anterior margin. Head small, narrower than pronotum, anterior margin broadly rounded; crown short, broad, about as wide as width of eyes, produced beyond anterior margin of eyes, anterior margin obtusely angled, disk depressed on each side of middle, lateral margins slightly convergent basally; eyes large, elongate ovoid; clypeus long, broad, lateral margins broadly convex; clypellus broad.

Male genitalia. Pygofer in lateral view narrow, elongate, glabrous, caudodorsal process very long, nearly as long as dorsal margin of pygofer, sharply triangulate apically, caudoventral process very broad basally, narrow sharp spine apically (Fig. 8); segment X with long, narrow ventral process, sharply pointed in 1/3 (Fig. 8); aedeagus long, shaft very narrow, broadly curved in lateral view, very short process subapically (Figs 9, 10); style long, apophysis rectangulate in near distal half in dorsal view, row of short, dense setae compacted on lateral margin, few setae apically (Figs 11, 12); dorsal connective short, plate-like (Fig. 9); connective large, arms narrow, membrane and medial ridge absent, stem large, subquadrate (Fig. 13); subgenital plate long, very broad (Fig. 14).

Etymology. The name of this species is descriptive for the short row of small spines on the ventral base on the pygofer caudodorsal process.

Remarks. This species belongs to a large group in which the style is rectangulate in near distal half with a compact lateral row of short setae. From these species, *D. basispinosa* sp.nov. can be separated easily by the row of short ventral spines at base of caudodorsal pygofer process.

***Docalidia bilobata* sp.nov.** (Figs 15–21, 136)

Type material. Holotype ♂: PERU: MD [Madre de Dios], 15 km. E. Puerto Maldonado, 200 m., 4.ii.1990, P. Lozada (UNMSM). Paratype ♂: PERU: MD [Madre de Dios], Z.R. [Zona Reservada], Tambopata, 290 m, 19.iii.87, P. Lozada (MLBM).

Description. Length. Male 7.70 mm, female unknown.

External morphology. Medium-sized, robust species. General color light brown with numerous black markings; forewings light brown with numerous black markings in basal

half, veins interspersed with small black and light brown spots; mesonotum and pronotum light brown, speckled with black markings; crown light brown; eyes light brown suffused with dark brown along posterior margin; face light brown with numerous black markings; clypeus light brown, row of short, transverse black stripes on each side, coalesced medially, clypellus light brown, genae and lorae black bordered by light brown. Head large, short, narrower than width of eyes, anterior margin broadly rounded; crown short, about as long as wide, narrower than width of eyes; eyes large, semiglobular; clypeus long broad anteriorly, lateral margins broadly convex; clypellus narrow.

Male genitalia. Pygofer in lateral view with very long caudodorsal process, small digitate caudoventral lobe, glabrous (Fig. 15); segment X ventral process absent; aedeagus long, very narrow, tubular, with long subapical process on ventral margin, small flange medially (Figs 16, 17); style very long, robust, inflated in distal 1/5, in dorsal view with two visible lobes in distal 1/5, one lobe glabrous, bisected, one profusely and densely setaceous (Figs 18, 19); dorsal connective short, strap-shaped (Figs 16, 17); connective large, lateral arms broad, long, membrane and medial ridge absent, stem bifurcate (Fig. 20); subgenital plate long, very broad, glabrous (Fig. 21).

Etymology. The name of the species is descriptive for the apical, bilobed style.

Remarks. This species is unique by virtue of two apical lobes on the style in combination with the bifurcate stem on the connective which will separate the species from all others.

***Docalidia collaris* sp.nov.** (Figs 22–28, 137)

Type material. Holotype ♂: PERU: LO [Loreto], Centro de Investigacion, Jenaro Herrera, 73°45′W 4°55′S, 25.x.1989, P. Lozada (UNMSM).

Description. Length. Male 7.90 mm, female unknown.

External morphology. Moderately large, very robust species. General color black throughout, face black. Head small, broad, narrower than pronotum, anterior margin broadly rounded; crown very broad, wider than width of eyes, slightly produced anteriorly, lateral margins nearly parallel; eyes large, elongate ovoid; clypeus long, broad, lateral margins broadly convex, clypellus broad, not as wide as clypeus.

Male genitalia. Pygofer in lateral view large, caudodorsal process long, pointed apically, caudodorsal process rectangulate, obliquely truncate apically (Fig. 22); segment X with very long ventral process, apical half curved, sharply pointed (Fig. 22); aedeagus short, shaft uniformly wide except apically, in ventral view with median, longitudinal ridge to apex, ventral subapical process absent (Figs 23, 24); style long, longer than aedeagus, moderately robust, with long process below middle on lateral margin in dorsal view (Figs 25, 26); dorsal connective moderately long, strap-shaped (Fig. 23, 24); connective large, arms horizontal, membrane and medial ridge absent, stem semiovate (Figs 27); subgenital plate large, very broad, profusely setose (Fig. 28).

Etymology. The name of the species is descriptive for the ventral longitudinal ridge (carina) on the aedeagal shaft.

Remarks. The following combination of distinctive characters will separate *D. collaris* sp.nov. from all species: aedeagus glabrous with ventral, longitudinal median ridge, style with digitate process distad of middle, subgenital plate with numerous long microsetae, segment X with long, narrow ventral process.

Docalidia crassitudinis sp.nov. (Figs 29–35, 138)

Type material. Holotype ♂: PERU: LO [Loreto], Requena, 4.5 Km. Carretera Jenaro, Herrera- Puerto Angamos, 31.viii.1990, P. Lozada (UNMSM).
Additional material examined. 1 ♂ (damaged), same data as holotype (MLBM).

Description. Length. Male 8.50 mm, female unknown.

External morphology. Moderately large, robust species. General color dark brown to black with small, yellow spots on veins of forewings and pronotum; mesonotum black; crown light brown with black markings; eyes light brown; face black. Head small, narrower than pronotum, anterior margin broadly rounded; crown broad, about as wide as width of eyes, slightly produced anteriorly, lateral margins convex; eyes large, semiglobular; clypeus long, broad, lateral margins broadly convex; clypellus broad, narrower than clypeus.

Male genitalia. Pygofer in lateral view narrow, glabrous with moderately long caudodorsal process, small, digitate caudoventral process (Fig. 29); segment X with small, digitate ventral process (Fig. 29); aedeagus long, broad in dorsal view, slightly constricted near middle, narrow, tubular in lateral view with long, subapical process on ventral margin (Figs 30, 31); style long, broad, in dorsal view with row of coarse spines submedially on lateral margin, narrow parallel stripe of dense setae surpassing spines, tuft of fine microsetae in apical 1/6 (Figs 32, 33); dorsal connective short, strap-shaped (Fig. 31); connective large, T-shaped, arms horizontal, stem large, digitate, short, basolateral process on each side (Fig. 34); subgenital plate long, very broad, glabrous (Fig. 35).

Etymology. The name of the species is descriptive compound name for the dense, dentate processes on the style.

Remarks. From *D. pedalis* sp.nov. to which it has similar features of the pygofer and style, *D. crassitudinis* sp.nov. can be distinguished by the broader subgenital plate, presence of the subapical aedeagal process and by dentate processes in combination with microsetae on the style

Docalidia hama sp.nov. (Figs 36–42, 139)

Type material. Holotype ♂: PERU: LO [Loreto], Requena Jenaro Herrera, 73°40′W 4°55′S, 21.viii.1990, P. Lozada (UNMSM).

Description. Length. 7.60 mm, female unknown.

External morphology. General color dark brown to black with light brown markings; forewings dark brown, narrow uneven broken transverse light brown band below apex of

mesonotum, large triangular, light brown marking near middle of costa, with many small spots and irregular shape, light brown markings; mesonotum black; pronotum black with few light brown spots; crown light tan with black markings; eyes tan; face black; clypeus with anterior margin tan. Head large, broad, narrower than pronotum, anterior margin broadly rounded; crown short, broad, wider than width of eyes, slightly produced anteriorly, lateral margins slightly convergent basally; clypeus long, broad, lateral margins broadly convex; clypellus about 1/3 as long as clypeus, broad, narrower than clypeus.

Male genitalia. Pygofer in lateral view large, triangulate, glabrous, caudodorsal process very long, narrow, slightly constricted along middle, apex obliquely truncate, caudoventral process very short, curved ventrally (Fig. 36); segment X with small ventral process medially (Fig. 36); aedeagus long, very narrow in dorsal view, base twisted, small, near middle lateral flange, in lateral view, shaft broad in basal half, narrow in distal half, apex curved laterally, very small subapical spine on ventral margin (Figs 37, 38); style very long, robust, in lateral view apophysis with prominent lateral process distad of middle, small subapical process, in dorsal view apophysis sinuate, slightly tumid along middle below lateral process, inner margin slightly undulate before narrow apex (Figs 39, 40); dorsal connective short (Fig. 38); connective large, T-shaped, stem long (Fig. 41); subgenital plate long, very broad medially, glabrous (Fig. 42).

Etymology. The name of the species (a noun in apposition) is descriptive for the hook-like process on the apophysis of the style.

Remarks. From *D. parabistyla* sp.nov. to which it is similar in configuration of the style, *D. hama* sp.nov. can be separated by the very short, curved pygofer caudoventral process (very long in *D. parabistyla*) and by the glabrous subgenital plate (profusely setaceous in *D. parabistyla*).

Docalidia iuncta sp.nov. (Figs 43–49, 140)

Type material. Holotype ♂: PERU: MD [Madre de Dios], 10 km. Puerto Maldonado, Rio de Dios, 7.IUv.1986, I. Bohorque (UNMSM).

Description. Length. Male 6.10 mm, female unknown.

External morphology. General color black grading to light brown with numerous yellow spots or markings; forewings dark brown in basal 1/3 grading to light brown in distal 2/3, with numerous small spots on veins; mesonotum black; pronotum black with numerous yellow spots; crown black, ocelli ringed with yellow; eyes dark brown; face black with few yellow spot on clypeus. Head large, broad, anterior margin broadly rounded, narrower than pronotum; crown longer than wide, narrower than width of eyes, slightly produced anteriorly, lateral margins convergent basally; eyes large, semiglobular; clypeus long, broad, lateral margin broadly convex; clypellus broad, narrower than clypeus.

Male genitalia. Pygofer in lateral view small, glabrous, caudodorsal process deeply bifurcate, caudoventral process long, lobe-like (Fig 43); segment X with very broad

ventral process, small curved spine apically (Fig. 43); aedeagus long, tubular, slender with very small, ventral subapical process (Figs 44, 45); style very long, longer than aedeagus, in dorsal view with robust, elliptical lobe in distal 2/5, lobe dentate on inner lateral margin, cleft longitudinally, in lateral view narrow with triangulate lobe distad of middle (Figs 46, 47); dorsal connective long, narrow (Fig. 45); connective T-shaped, stem small (Fig. 48); subgenital plate short, broad, glabrous (Fig. 49).

Etymology. The name of the species is descriptive for the deep basal attachment of the pygofer caudodorsal, bifurcate processes.

Remarks. Six species are known with a bifurcate, caudodorsal process on the pygofer. From the other five of these species (*D. youngi* Nielson, 1979; *D. pectinata* Nielson, 1979; *D. bifurcata* Nielson, 1979; *D. hansoni* Nielson, 1982; and *D. paradiscissa* Nielson, 1990), *D. iuncta* sp.nov. can be distinguished by the long, elliptical, dentate, apical lobe of the style (rectangulate or without such lobe in other species) and short, digitate, lobe-like caudoventral process (short to long, very narrow caudoventral process in other species).

***Docalidia lineolaris* sp.nov.** (Figs 50–56, 141)

Type material. Holotype ♂: PERU: MD [Madre de Dios], 15 km. E. Puerto Maldonado, 200 m., 30.i.1990, P. Lozada (UNMSM).

Description. Length. Male 8.40 mm, female unknown.

External morphology. Moderately large, robust species. General color tan with dark brown markings; forewings with large dark brown marking in basal 1/3, large, irregular light brown band medially, large, suffused, light brown marking apically (part of right forewing missing); mesonotum, pronotum, head tan; face light brown. Head moderately sized, narrower than pronotum, anterior margin broadly rounded; crown broad, about as wide as width of eyes, slightly produced medially, disk depressed on each side of middle, lateral margins slightly convergent basally; eyes large, elongate ovoid; clypeus long, broad, lateral margins broadly convex; clypellus broad, narrower than clypeus.

Male genitalia. Pygofer in lateral view large, elongate, glabrous, caudodorsal process long, very narrow, caudoventral process extremely long, slightly cleft subapically (Fig. 50); segment X with long, very narrow ventral process (Fig. 50); aedeagus in dorsal and lateral views long, narrow, tubular with narrow flange medially, base of shaft inflated in dorsal view (Figs 51, 52); style extremely long, narrow, with row of short processes in distal 2/7 (Figs 53, 54); dorsal connective short, narrow (Figs 51, 52); connective T-shaped, arms long, stem digitate (Fig. 55); subgenital plate long, very broad, row of short microsetae on inner lateral margin (Fig. 56).

Etymology. The name of the species is descriptive for the long, linear aedeagus and style.

Remarks. From all other known species, *D. lineolaris* sp.nov. can be separated easily by the combination of very long, linear features of the aedeagus, style and caudoventral, pygofer process. The row of short setae on style, while not unique, supplements the other characters.

***Docalidia maldonadoi* sp.nov.** (Figs 57–63, 142)

Type material. Holotype ♂: PERU: MD [Madre de Dios], 15 km. Puerto Maldonado, 4.ii.1990, 200 m., P. Lozado (UNMSM). Paratype: 1 ♂, same data as holotype except 6.ii.1990 (MLBM).

Description. Length. Male 7.40–7.60 mm, female unknown.

External morphology. Moderately large, robust species. General color black throughout except for brown head; face black bordered with light tan line; clypeus with spots and short transverse dashes on each side; clypellus, lorae and genae bordered with tan line. Head moderately large, narrower than pronotum, anterior margin broadly rounded; crown broad, about as wide as width of eyes, slightly longer than wide, slightly produced anteriorly, disk slightly depressed, anterior margins nearly parallel; clypeus long, broad, lateral margins broadly convex; clypellus slightly broad, narrower than clypeus, apex flared.

Male genitalia. Pygofer in lateral view large, broad, glabrous, caudodorsal process long, stout, segmented in distal 1/3, caudoventral process moderately long, lobe-like (Fig. 57); segment X with short, lobe-like ventral process (Fig. 57); aedeagus short, broad in dorsal view with rounded flange medially on lateral margin, in lateral view very narrow, tubular, without subapical, ventral process (Figs 58, 59); style very long, nearly 1/3 longer than aedeagus, apical third with narrow, compressed band of short setae on outer margins (Figs 60, 61); dorsal connective short, strap-shaped (Figs 58, 59); connective broadly curved with very narrow, lateral arms, stem separated into two short, digitate processes (Fig. 62); subgenital plate long, very broad on outer lateral margin, glabrous (Fig. 63).

Etymology. The species is named in honor of Faustino Maldonado, 19th century explorer of the Madre de Dios mountains in Peru.

Remarks. The following combination of features will separate *D. maldonadoi* sp.nov. from all other species: style in lateral view is 1/3 longer than the aedeagus, very slender, bordered by a slender band of compact, short setae in apical 1/6, caudodorsal pygofer process with apical secondary process, aedeagus with medial flange on shaft and the subgenital plate which is very broad medially on the outer lateral margin.

***Docalidia mediospinata* sp.nov.** (Figs 64–70, 143)

Type material. Holotype ♂: PERU: AM [Amazonas], Rio Huahuaga, Camino Imacita-Aramango, 5Vii.1986, I. Bohorquez (UNMSM).

Description. Length. Male 8.50 mm, female unknown.

External morphology. Moderately large, robust species. General color light to dark brown to black; forewings with clavus and costa light brown, dark brown between; face tan. Head large, narrower than pronotum, anterior margin broadly rounded; crown very broad, wider than width of eyes, produced anteriorly about 1/4 of entire length, lateral margins nearly parallel; eyes large, semiglobular; crown long, broad, lateral margins broadly convex; clypellus narrow, narrower than clypeus, apex flared.

Male genitalia. Pygofer in lateral view small, triangulate, glabrous, caudodorsal process long, narrow, caudoventral process very small, with one seta apically, small lobe below (Fig. 64), segment X with long narrow ventral process, tapered apically (Fig. 64); aedeagus in dorsal view short, very narrow, tubular, sharply tapered to apex, in lateral view curved laterally in apical 1/6, small subapical process on ventral margin (Figs 65, 66); style slightly longer than aedeagus, robust with prominent lateral spine medially, apical 1/4 with row of teeth on lateral margin (Figs 67, 68); dorsal connective short, strap-shaped (Figs 65, 66); connective T-shaped, lateral arms horizontal, membrane and medial ridge absent, stem short, bifurcate apically (Fig. 69); subgenital plate long, broad medially, glabrous (Fig. 70).

Etymology. The species name is descriptive for the prominent spine on the middle of stylar apophysis.

Remarks. Many species of *Docalidia* have a prominent medial spine on the style. From them, *D. mediospinata* sp.nov. is nearest to *D. scopa* Nielson, 1979 and can be separated by the glabrous subgenital plate, small, setate pygofer caudoventral lobe and the very narrow aedeagal shaft.

***Docalidia minatura* sp.nov.** (Figs 71–77, 144)

Type material. Holotype ♂: PERU: MD [Madre de Dios], P. V. Pakitza, Zona Reservada Manu, 22.ix.1988, 450 m., Malaise trap, H. Blancas (UNMSM).

Description. Length. Male 6.80 mm, female unknown.

External morphology. Small, very robust species. General color black with numerous, small, irregularly shaped, yellow markings; forewings black, veins well marked with yellow spots, cells with irregularly shaped yellow markings; mesonotum black with yellow mark on each side of middle and near anterior margin; pronotum black, bullae dark yellow; crown mostly yellow with black marking on each side of middle; eyes dark brown; face dark yellow with black and ivory markings; clypeus with short, black transverse stripes on each lateral margin, coalesced medially, eight large ivory spots scattered medially and basally; clypellus light brown, apical margin black; lora yellow with curved black stripe; genae black with inner border yellow. Head short, broad, narrower than pronotum, anterior margin broadly rounded; crown broad, wider than long, wider than width of eyes, depressed on each side of middle, lateral margins nearly parallel; eyes large, elongate ovoid; clypeus long, broad, lateral margins broadly convex; clypellus broad, narrower than clypeus, lateral margins parallel.

Male genitalia. Pygofer in lateral view small, triangulate, glabrous, caudodorsal process moderately long, narrow, tapered apically, caudoventral process moderately long, asymmetrically bifurcate apically (Fig. 71); segment X with long, narrow ventral process (Fig. 71); aedeagus short, narrow, tubular, in dorsal view tapered to sharp apex, gonopore medial on ventral margin, subapical, ventral process absent (Figs 72, 73); style long, longer than aedeagus, apophysis very slender, without secondary processes (Figs 74, 75); dorsal connective long, narrow (Figs 72, 73); connective small, anterior arms broad,

membrane and middle ridge present, stem small, digitate (Fig. 76); subgenital plate short, very broad in apical 4/5, glabrous (Fig. 77).

Etymology. The name of the species (a noun in apposition) is descriptive for the small size of the features described and illustrated.

Remarks. The combination of the following features will separate *D. minatura* sp.nov. from all other species: **s**mall features, asymmetrical, bifurcate, caudoventral pygofer process, lack of subapical, ventral aedeagal process (atypical in the genus) and glabrous, slender stylar apophysis.

Docalidia minima sp.nov. (Figs 78–84, 145)

Type material. Holotype ♂: PERU: MD [Madre de Dios], Z.R. [Zona Reservada], Tambopata, 290 mm., 14.iii.87, P. Lozada (UNMSM).

Description. Length. Male 8.50 mm, female unknown.

External morphology. Moderately large, species. General color reddish brown with mesonotum and pronotum mostly black; forewings uniformly reddish brown; mesonotum black with few, deep yellow spots; pronotum black with bullae deep yellow, anterior margin deep yellow; head deep yellow, tinged with dark brown spots on eyes and crown; face black with anterior margin deep yellow, clypellus with deep yellow stripe medially. Head short, broad, narrower than pronotum, anterior margin broadly rounded; crown broad, slightly wider than long, wider than width of eyes, slightly produced anteriorly, lateral margins nearly parallel; eyes large, semiglobular; clypeus long, broad, slightly broader anteriorly, lateral margins broadly convex; clypellus broad, narrower than clypeus, apex flared.

Male genitalia. Pygofer in lateral view triangulate, glabrous, caudodorsal margin moderately long, with apical digitate process, caudoventral process short, arising as base of caudodorsal process (Fig. 78); segment X with ventral process, truncate apically (Fig. 78); aedeagus in lateral view long, narrow, broadly sinuate in lateral view, with small dentate flange below base of medial process, in ventral view slightly inflated along middle with large opening subbasally in ventral view, moderately long, near medial process (Figs 79, 80); style robust, slightly longer than aedeagus, large triangulate lobe in distal 1/3 small, lateral lobe subapically, in dorsal view, inner lateral margin of lobe with dense, narrow band of microsetae, tuft of setae apically (Figs 81, 82); dorsal connective short, narrow (Fig. 79); connective T-shaped, lateral arms narrow, stem large, elongate (Fig. 83); subgenital plate long, very broad, outer lateral margin broadly convex, few short microsetae apically (Fig. 84).

Etymology. The name of the species is descriptive for the small aedeagal flange adorned with few lateral teeth.

Remarks. From *D. pedalis* sp.nov. to which it is similar in style, aedeagus and subgenital plate, *D. minima* sp.nov. can be distinguished by the much narrower, tubular, sinuate aedeagus with submedial ventral process (absent in *D. pedalis*), presence of subapical lobe on the style and more robust stem on the connective.

***Docalidia pakitzaensis* sp.nov.** (Figs 85–91, 146)

Type material. Holotype ♂: PERU: MD [Madre de Dios, P.V. Pakitza, Zona Reservada Manu, 24.vi.1988, P. Lozada (UNMSM).

Description. Length. Male 8.85 mm, female unknown.

External morphology. Moderately large, robust species. General color dark brown to black; forewings dark brown, large pale, brown spot along middle of costa; mesonotum black; pronotum dark brown, narrow dark yellow band anteriorly; crown light brown; eyes dark brown; face black with light brown markings; clypeus black with light row of short transverse stripes on lateral margin, few yellow spots medially, clypellus dark yellow with black stripe on each side of middle; lorae and genae black.

Head short, broad, narrower than pronotum, anterior margin broadly rounded; crown broad, about as wide as width of eyes, slightly produced anteriorly, depressed medially, lateral margins nearly parallel; eyes large, elongate ovoid; clypeus long, broad, lateral margins broadly convex; clypellus broad, narrower than clypeus, lateral margins parallel to flared apex.

Male genitalia. Pygofer in lateral view large, glabrous, caudodorsal process moderately long, segmented subapically, caudoventral process small, digitate (Fig. 85); segment X with moderately long, triangulate ventral process (Fig. 85); aedeagus long, in dorsal view shaft constricted medially and in distal 1/3, sinuate in lateral view, with long, near middle ventral process (Figs 86, 87); style long, longer than aedeagus, broad, in dorsal view apophysis slightly inflated in approximate distal 1/5 with row of short, compacted setae in distal 1/5 on inner lateral margin to apex, continuing basad to near half of length of inflated lobe, small lobe apically (Figs 88, 89); dorsal connective short, strap-shaped (Fig. 86); connective large, T-shaped, lateral arms broad, stem broad basally with two small anterio-lateral lobes, narrowed distally (Fig. 90); subgenital plate long, very large, glabrous (Fig. 91).

Etymology. The name of the species is after the Pakitza locality in which several other new coelidiine species have been found.

Remarks. This species is very similar to *D. maldonadoi* sp.nov. in the pygofer and style and can be separated by the much more robust aedeagus with the medial ventral spine (absent in *D. maldonadoi*), by the very broad arms of the connective and by the larger subgenital plate.

***Docalidia parabistyla* sp.nov.** (Figs 92–98, 147)

Type material. Holotype ♂: PERU: MD [Madre de Dios]; Z.R. [Zona Reservada], Tambopata, 290 m., 21.ii.87, P. Lozada (UNMSM).

Description. Length. Male 7.50 mm, female unknown.

External morphology. General color dark brown to black with numerous, small yellow markings; forewings dark brown to black, veins with small, yellow spots, cells with small, irregularly shaped, dark yellow markings; mesonotum black with few small yellow spots; pronotum black with numerous small yellow spots; head tannish; face black

with yellow markings; clypeus black with row of short, transverse, yellow stripes on each side of lateral margins; clypellus tannish with 2 short, longitudinal black stripes; genae and lorae tannish. Head short, broad, narrower than pronotum, anterior margin broadly rounded; crown short, broad, slightly narrower than width of eyes, produced slightly anteriorly, lateral margins nearly parallel, slightly depressed on each side of middle; eyes large, elongate ovoid; clypeus long, broad, lateral margins broadly convex; clypellus broad, narrower than clypeus, lateral margins nearly parallel.

Male genitalia. Pygofer in lateral view small, glabrous, caudodorsal process long, narrow; caudoventral process very long, triangulate apically (Fig. 92); segment X with long, narrow, ventral process (Fig. 92); aedeagus in dorsal and lateral views moderately long, inflated basally, shaft very narrow, tubular, with long medial process on ventral margin (Figs 93, 94); style very long, longer than aedeagus, apophysis narrow in lateral view, broad in dorsal view, slightly constricted along middle with very long process near middle (Figs 95, 96); dorsal connective moderately long, narrow (Fig. 93); connective T-shaped, arms horizontal, narrow, with membrane or medial ridge, stem long, digitate (Fig. 97); subgenital plate long, very broad medially, long, microsetae along inner lateral margin (Fig. 98).

Etymology. The species name is descriptive for the very long process on the style giving an appearance of two styles and the near relationship to *Docalidia bistyla* Nielson, 1979.

Remarks. From *D. bistyla* to which it is most closely related, *D. parabistyla* sp.nov. can be separated by the much narrower aedeagal shaft, presence of segment X ventral process and by the presence of ventral aedeagal process (the two lateral features absent in *D. bistyla*).

***Docalidia parainsolita* sp.nov.** (Figs 99–105, 148)

Type material. Holotype ♂: PERU: PA [Pasco], Oxapampa, Villa America, 7.x.1987, P. Hocking (UNMSM).

Description. Length. Male 6.50 mm, female unknown.

External morphology. Small, robust species. General color light brown to black; forewings light to dark brown, veins with light brown spots, narrow, broken, transverse, light brown band medially, large light brown marking near middle of costa; mesonotum black with broad, transverse light brown band medially; pronotum black, bullae light brown; crown yellow; eyes dark brown; clypeus black, light brown anteriorly; clypellus light brown in anterior half, black stripe on each side of middle, black apically. Head short, broad, narrower than pronotum, anterior margin broadly rounded; crown broad, slightly produced anteriorly, slightly longer than wide, slightly narrower than width of eyes, lateral margins slightly convergent basally, depressed on each side of middle; eyes large, semiglobular; clypeus long, broad, lateral margins evenly and broadly convex; clypellus broad, much narrower than clypeus, lateral margins parallel.

Male genitalia. Pygofer in lateral view large, caudoventral process very long, narrow, broadly curved ventrally, evaginate subapically on ventral margin, caudoventral

process very short, lobe-like, two short setae between base of processes (Fig. 99); segment X long, very broad (Fig. 99); aedeagus short, narrow tubular with short, subapical process on ventral margin (Figs 100, 101); style very long, nearly twice as long as aedeagus, slightly robust, elongate/triangular in distal 1/5, distinct process subapically (Figs 102, 103); dorsal connective moderately long, narrow (Figs 100, 101); connective with narrow, horizontal arms, without membrane or medial ridge, stem small, apex inflated (Fig. 104); subgenital plate long, very broad in distal 3/5, glabrous (Fig. 105).

Etymology. The species name is descriptive for the unusual genitalia features and close relationship to *Docalidia insolita* Nielson, 1979.

Remarks. From *D. insolita* to which it is similar in pygofer and subgenital plate features, *D. parainsolita* sp.nov. can be distinguished by the configuration of the apical 1/5 of the style which is elongate/triangulate with one short, subapical lateral spine (one long, curved spine and row of teeth in *D. insolita*).

***Docalidia pedalis* sp.nov.** (Figs 106–112, 149)

Type material. Holotype ♂: PERU: PA [Pasco], Qbde., Castilla, 345 m., 10°10′S 75°15′W, 11.vi.87, P./ Lozada (*Docalidia* sp. *pusilla* ?), P. W. Lozada, 1987 (UNMSM).

Description. Length. Male 8.00 mm, female unknown.

External morphology. Moderately large, robust species. General color light brown; forewings light brown, mesonotum, pronotum, crown light brown with few, small, dark brown markings; eyes dark brown; face dark brown to black; clypeus with base of antennal sockets black; clypellus, genae and lorae brown. Head short, broad, narrower than pronotum, anterior margin broadly rounded; crown broad, nearly as wide as width of eyes, slightly longer than wide, lateral margins nearly parallel, depressed on each side of middle, slightly produced anteriorly; eyes large, semiglobular; clypeus long, broad, lateral margins broadly convex, clypellus broad, narrower that clypeus.

Male genitalia. Pygofer in lateral view narrowly triangulate, glabrous; caudodorsal process short; caudoventral process small, lobe-like (Fig. 106); segment X with triangulate, ventral lobe (Fig. 106); aedeagus long, in dorsal view shaft broad in basal 1/4, tapered in distal 3/4, in lateral view with long medial flange on ventral margin, foot-shaped in distal 1/4, ventral subapical process absent (Figs 107, 108); style long, robust, in dorsal view apophysis with triangulate lobe in apical 1/3, inner lateral margin of lobe with long row of short microsetae, in lateral view row of setae very dense in basal half (Figs 109, 110); dorsal connective short, narrow (Figs 107, 108); connective T-shaped, lateral arms broad, horizontal, without membrane and medial ridge, stem short, digitate (Fig. 111); subgenital plate short, broad, with numerous long fine microsetae (Fig. 112).

Etymology. The name of the species is descriptive for the aedeagus which is foot-shaped in apical one fourth.

Remarks. Several species have a foot-shaped aedeagus. From them, *D. pedalis* sp.nov. can be separated by the large, setose subgenital plate and elongate pygofer.

***Docalidia reticulata* sp.nov.** (Figs 113–119, 150)

Type material. Holotype ♂: PERU: MD [Madre de Dios], Pakitza, Zona Reservada Manu, 22.ix.1988, 450 m., Malaise trap, H. Blancas (UNMSM).

Description. Length. Male 6.80 mm, female unknown.

External morphology. Small, robust species. General color light yellow to dark brown; forewings dark brown with broad, transverse light yellow bands, one anteriorly below apex of mesonotum, one crossing apex of clavus, veins marked with very small, light yellow spots; mesonotum dark brown with few small yellow markings; pronotum black, mostly covered with light yellow bullae; crown light brown, anterior and posterior margins with dark brown markings; eyes dark brown; clypeus dark brown to black with row of short transverse stripes on each side of lateral margins, coalesced medially, few small, scattered yellow spots; clypellus light brown; lorae and genae yellow with dark brown markings. Head short, broad, narrower than pronotum, anterior margin broadly rounded; crown short, broad, about as wide as width of eyes, slightly produced anteriorly, lateral margins slightly convergent basally, depressed on each side of middle; eyes large, semiglobular; clypeus long, broad, lateral margins broadly convex; clypellus broad, narrower than clypeus, margins parallel.

Male genitalia. Pygofer in lateral view small, subquadrate, glabrous, caudodorsal process short, slightly broad, dark, longitudinal reticulations medially; caudoventral process absent (Fig. 113); segment X with moderately long, narrow ventral process (Fig. 113); aedeagus short, in lateral view shaft very broad in basal 2/3, narrowed abruptly and curved in apical 1/3, moderately long, near medial ventral process, in dorsal view shaft narrow, tubular, flange near middle on ventral margin, apex recurved, gonopore medial, exiting laterally (Figs 114, 115); style about as long as aedeagus, apophysis narrow in basal 3/4, very broad, cleaver-shaped lobe in apical 1/4, reticulated markings on lobe (Figs 116, 117); dorsal connective short, narrow in lateral view, base broad in dorsal view (Figs 114, 115), in dorsal view, broad basally (Fig. 115); connective with broad, horizontal arms, membrane and medial ridge absent, stem small, pendulate (Fig. 118); subgenital plate long, moderately broad, glabrous (Fig. 119).

Etymology. The species name is descriptive for the reticulated apical lobe of the style.

Remarks. From *D. spatulata* Nielson, 1979 to which it is nearest to in shape of the style, *D. reticulata* sp.nov. can be distinguished by the much narrower caudodorsal process, absence of the caudoventral pygofer process and presence of reticulations on the pygofer caudodorsal process and apical stylar lobe.

***Docalidia setosa* sp.nov.** (Figs 120–126, 151)

Type material. Holotype ♂: PERU: PA [Pasco]; Qbda., Castilla, 345 m., 10°10′S 75°15′W, 13.vi.87, P. Lozada (UNMSM).

Description. Length. Male 8.85 mm, female unknown.

External morphology. Large, robust species. General color light brown to black; forewings uniformly light brown; mesonotum black; pronotum dark brown; crown light

brown with dark markings; eyes light brown; face light to dark brown; clypeus dark brown with few small yellow spots; clypellus dark brown; lorae and genae light brown. Head short, wide, narrower than pronotum; anterior margin broadly rounded; crown short, broad, about as wide as width of eyes, slightly produced anteriorly, lateral margins nearly parallel, depressed on each side of middle; eyes large, semiglobular; clypeus long, broad, lateral margins broadly convex; clypellus broad, narrower than clypeus, lateral margins nearly parallel.

Male genitalia. Male pygofer in lateral view large, glabrous, caudodorsal process moderately long, narrow, caudoventral process small, lobe-like (Fig. 120); segment X with short, narrow ventral process (Fig. 120); aedeagus very long, in lateral view shaft narrow, tubular, tapered to apex with long medial process on ventral margin, in dorsal view shaft inflated subbasally (Figs 121, 122); style long, robust, apical 1/5 large, profusely setaceous, apex pointed in dorsal view (Figs 123, 124) dorsal connective moderately long, narrow (Figs 121, 122); connective T-shaped, lateral arms narrow, horizontal, apices curved anteriorly, membrane and medial ridge absent, stem small, semiovate with narrow basal process on each side (Fig. 125); subgenital plate long, very broad, glabrous (Fig. 126).

Etymology. The name of the species is descriptive for the large, profusely setose apex of the style.

Remarks. Three species of *Docalidia* (*D. spendlovei* Nielson, 1979; *D. zahniseri* Nielson, 2011; *D. parvitatis* Nielson, 2011) have a similar style (large, setaceous apex) to *D. setosa* sp.nov. From them, *D. setosa* sp.nov. can be distinguished by the much narrower aedeagal shaft and far more dense microsetae on the style.

***Docalidia trulla* sp.nov.** (Figs 127–133, 152)

Type material. Holotype ♂: PERU: MD [Madre de Dios], Z. R. [Zona Reservada], Tambopata, 290 m., 21.ii.87, P. Lozada (UNMSM).

Description. Length. Male 8.50 mm, female unknown.

External morphology. General color brown to black with numerous small, yellow markings. Forewing dark brown to black, veins with small yellow spots, cells with small, irregularly shaped, yellow markings; mesonotum black with very few small spots; pronotum black with numerous small, yellow bullae; crown ivory with few light brown markings; eyes dark brown; face light yellow with dark brown to black markings; clypeus with row of short, transverse black stripes on lateral margins, fused medially, few small, yellow spots; clypellus with suffused brown markings medially; lorae and genae with few, small black markings. Head short, broad, narrower than pronotum, broadly rounded anteriorly; crown broad, slightly narrower than eyes, produced anteriorly about 1/4 entire length beyond anterior margin of eyes, lateral margins convergent basally; eyes large, elongate ovoid; clypeus long, broadly convex; clypellus broad, narrower than clypeus, lateral margins slightly convex.

Male genitalia. Pygofer in lateral view moderately large, subquadrate, glabrous, caudodorsal process long, narrow, caudoventral process small, lobe-like (Fig. 127);

segment X with narrow ventral process (Fig. 127); aedeagus long, narrow, tubular, broadly curved in lateral view, ventral subapical process absent (Figs 128, 129); style extremely long, robust with narrow row of dense microsetae on lateral margin in distal 1/7, apex scoop-shaped (Figs 130, 131); dorsal connective short, narrow (Fig. 128); connective large, T-shaped, lateral arms narrow, without membrane and medial ridge, stem large, T-shaped (Fig. 132); subgenital plate very long, nearly broad throughout, glabrous (Fig. 133).

Etymology. The name of the species (a noun in apposition) is descriptive for the scoop-shaped apex of the style.

Remarks. From a group of *Docalidia* species having a robust style, much longer than aedeagus (*D. cornicula* Nielson, 2011; *D. gigantea* Nielson, 2011; *D. longula* Nielson, 2011; *D. rondoniensis* Nielson, 2011), *D. trulla* sp.nov. can be separated by the very narrow, tubular aedeagus in dorsal and lateral views and absence of the ventral subapical process.

New records for Peru

Docalidia dentatula (Metcalf, 1964)

Material examined. MD [Madre de Dios], Z. R. [Zona Reservada], Tambopata (UNMSM).

Distribution. Bolivia (Nielson 1979, 2011). Peru (new record).

Docalidia zanolae Nielson, 1986

Material examined. UC [Ucalyali], Pucallpa (UNMSM).

Distribution. Brazil (Nielson 1986, 2011). Peru (new record).

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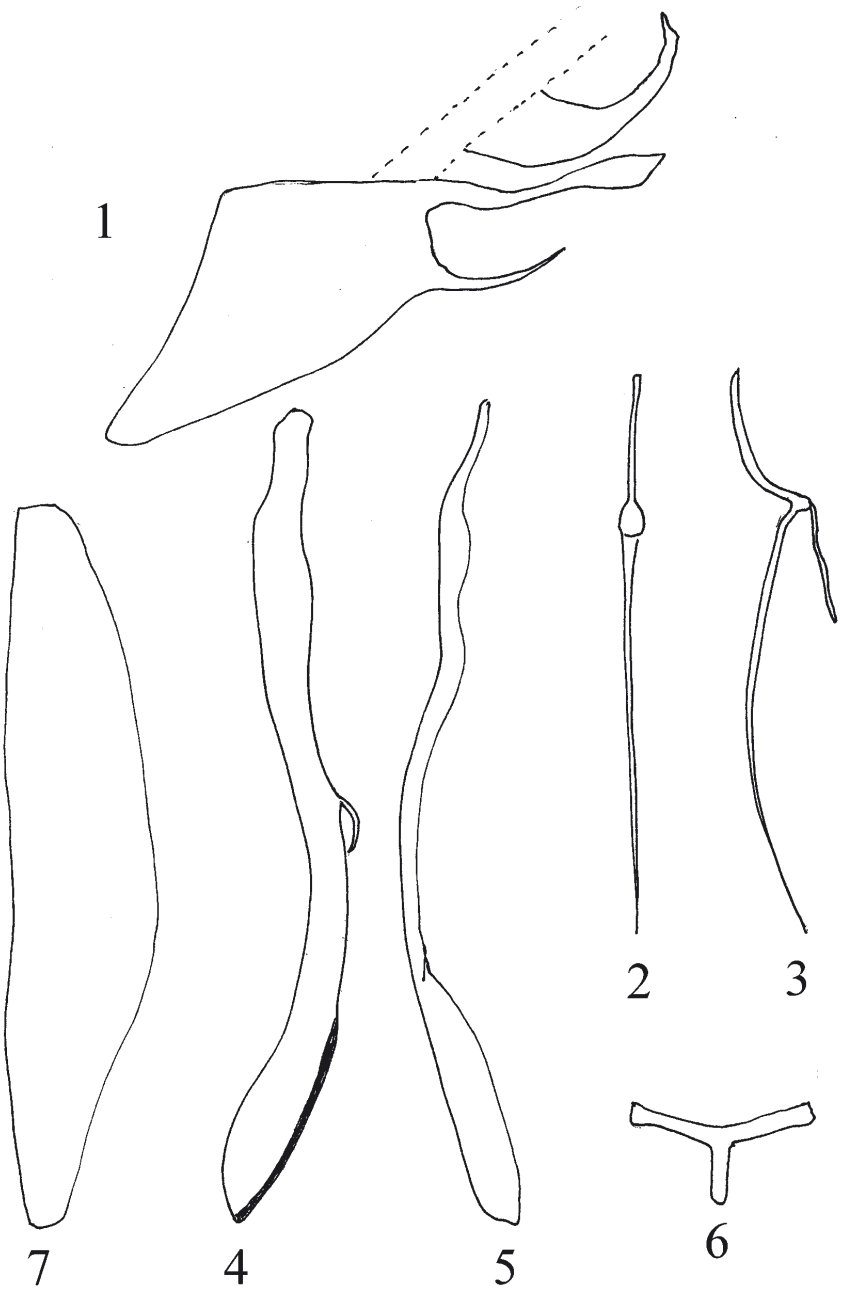
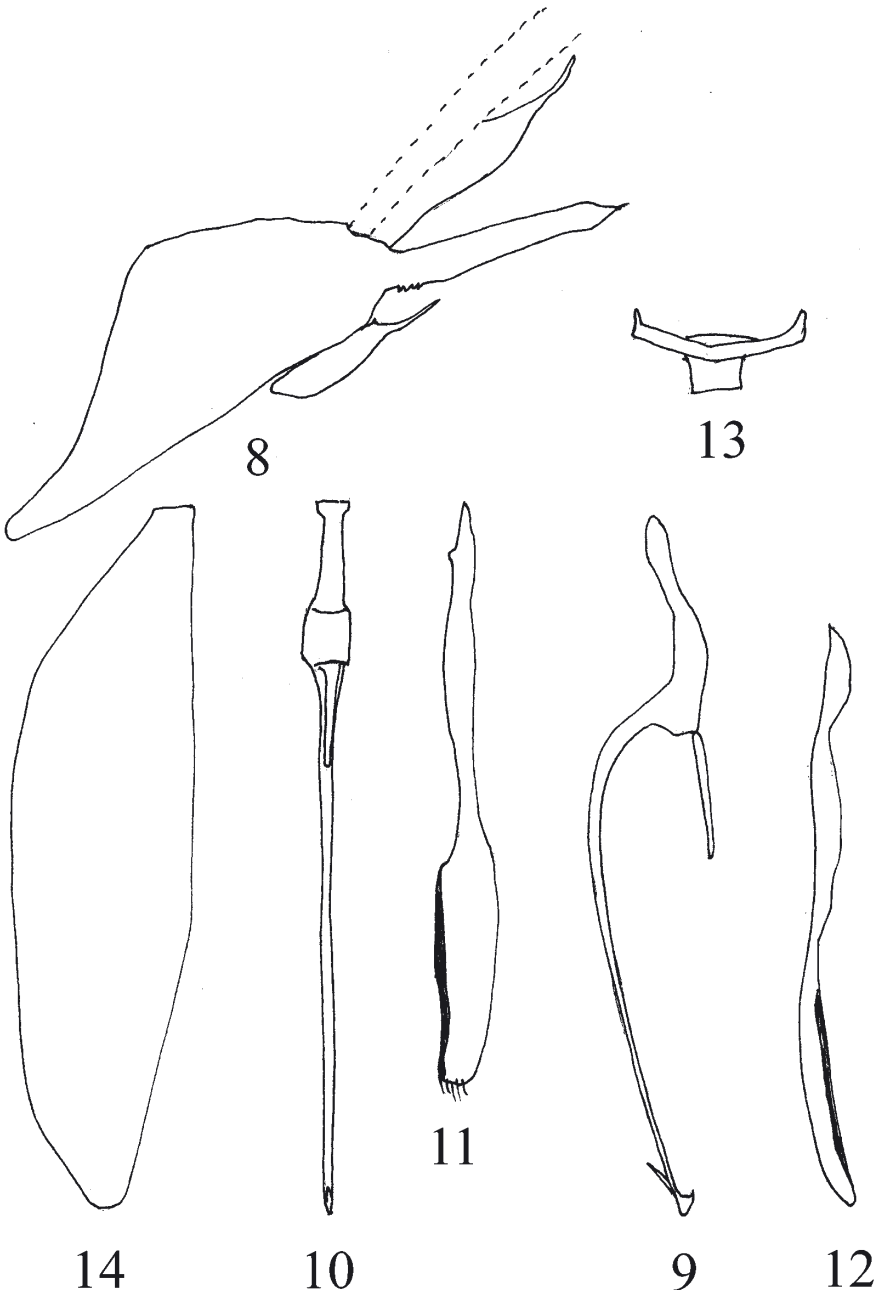
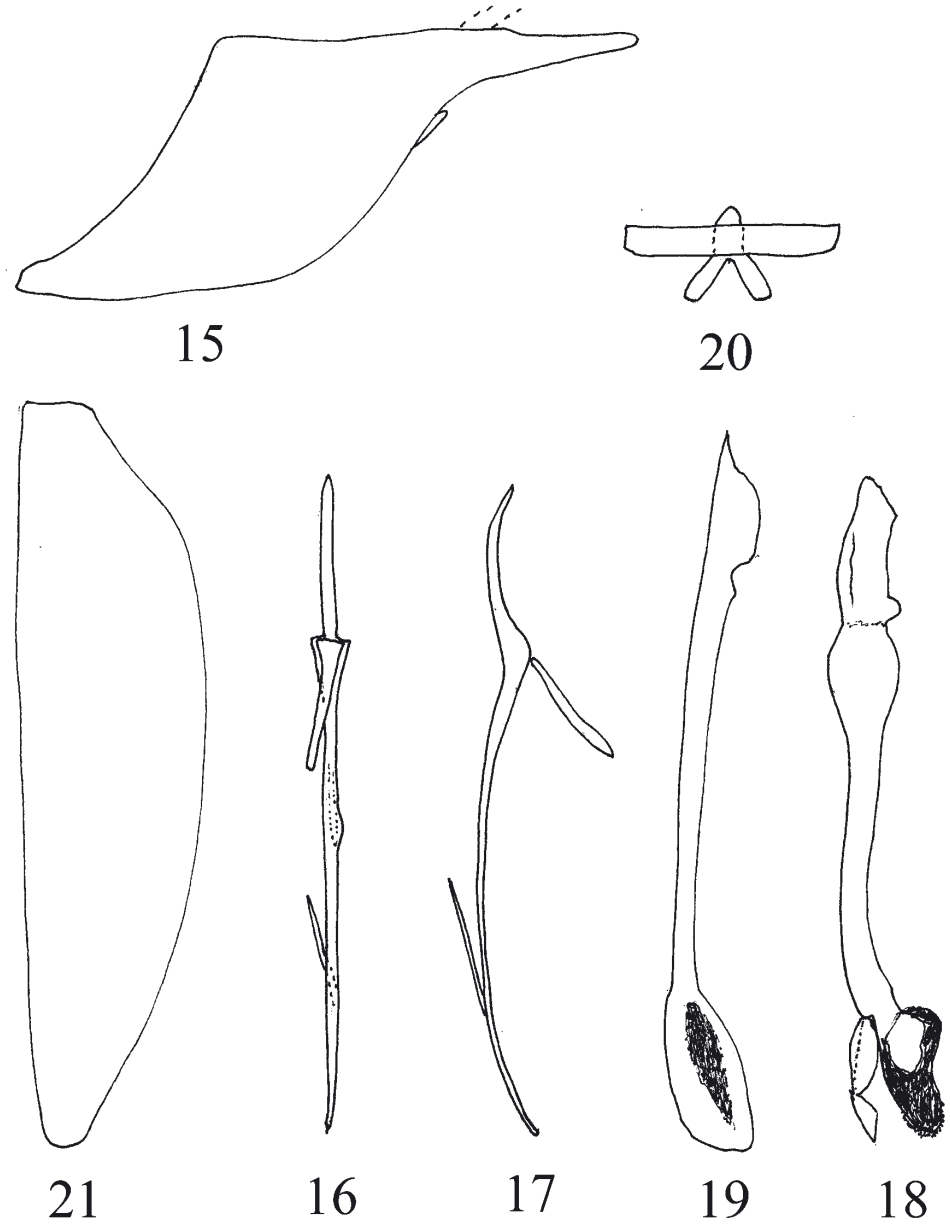


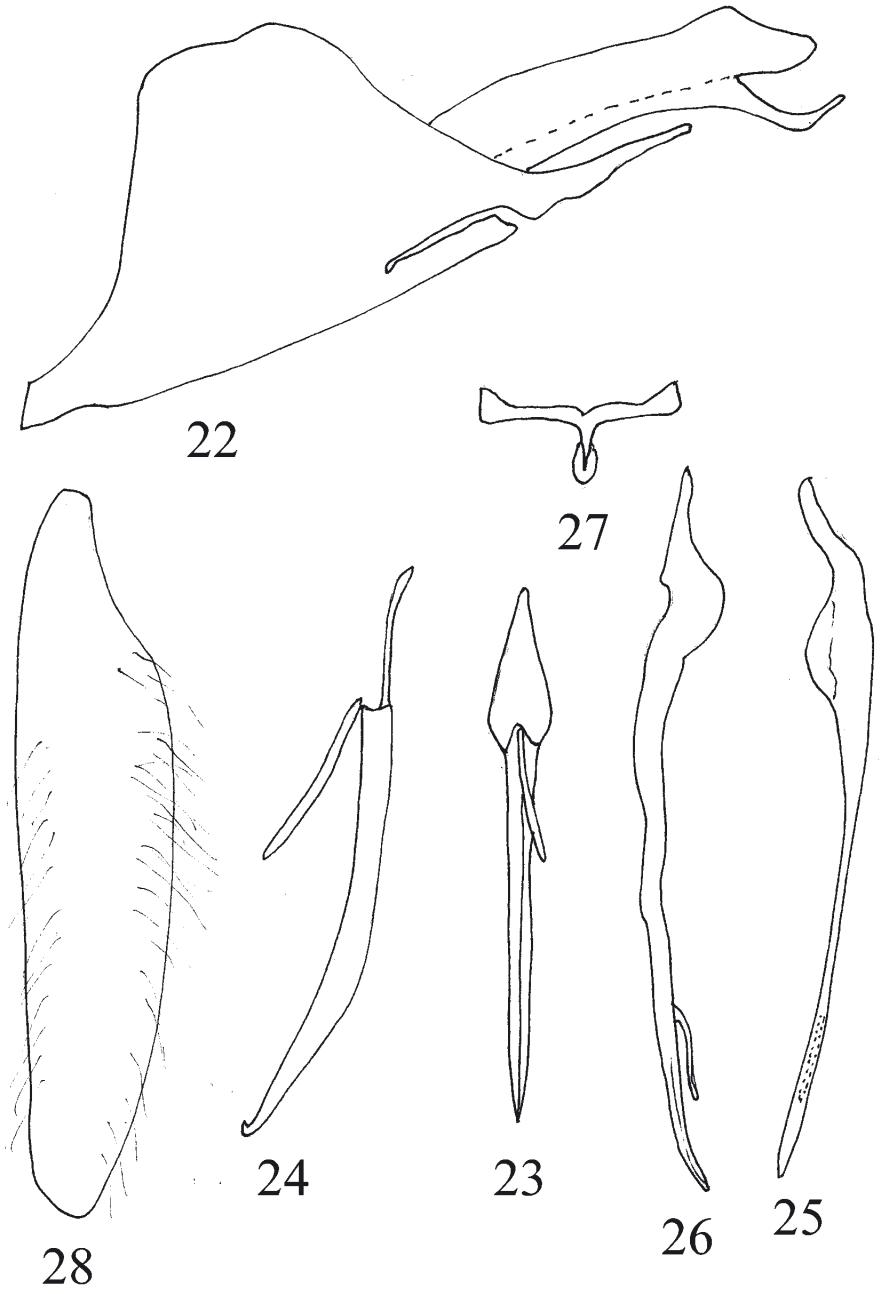
Figs 1–7. *Docalidia acucifera* sp.nov. 1 – male pygofer, lateral view; 2 – aedeagus and dorsal connective, dorsal view; 3 – aedeagus and dorsal connective, lateral view; 4 – style, dorsal view; 5 – style, lateral view; 6 – connective, dorsal view; 7 – subgenital plate, ventral view.



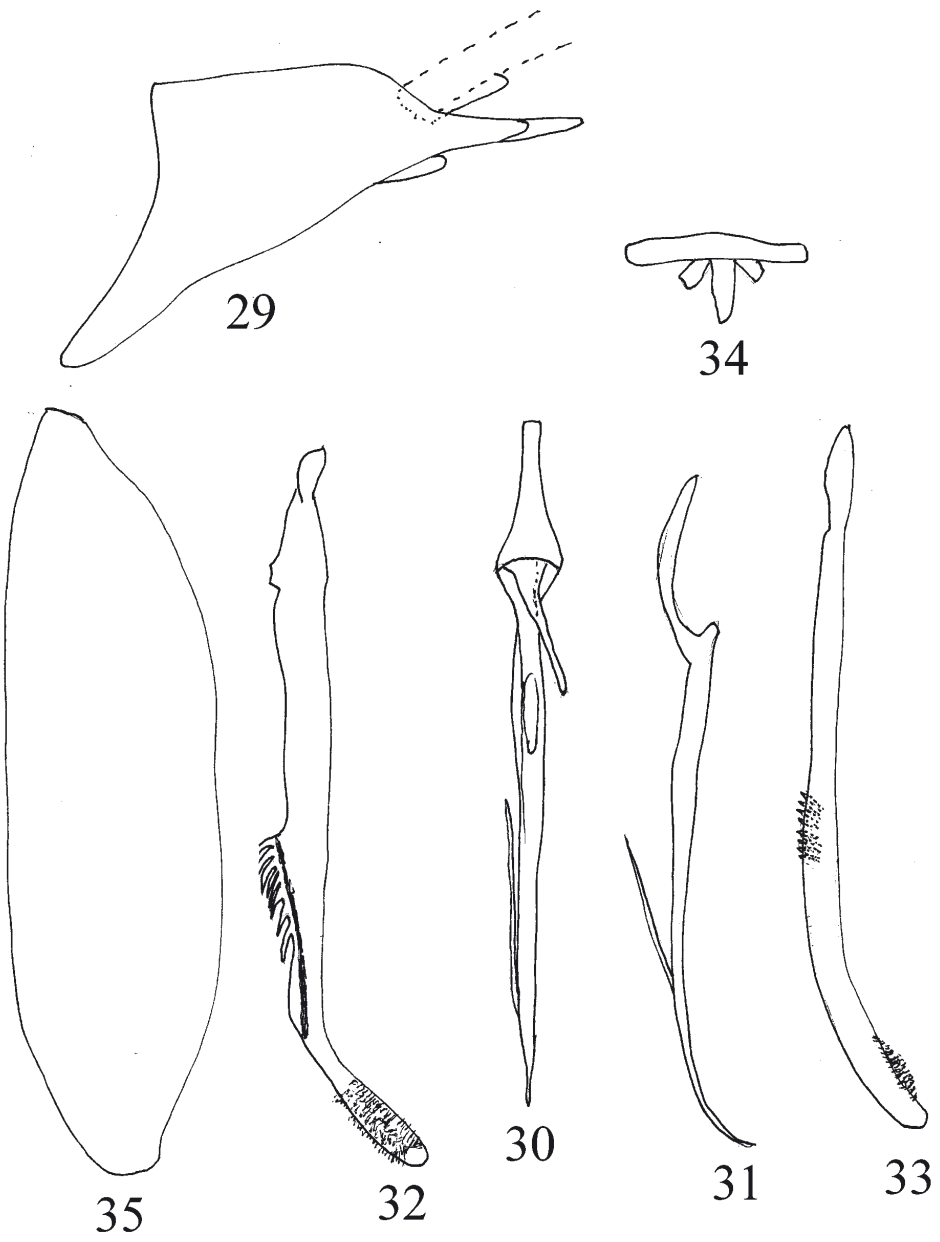
Figs 8–14. *Docalidia basispinosa* sp.nov. 8 – male pygofer, lateral view; 9 – aedeagus and dorsal connective, dorsal view; 10 – aedeagus and dorsal connective, lateral view; 11 – style, dorsal view; 12 – style, lateral view; 13 – connective, dorsal view; 14 – subgenital plate, ventral view.



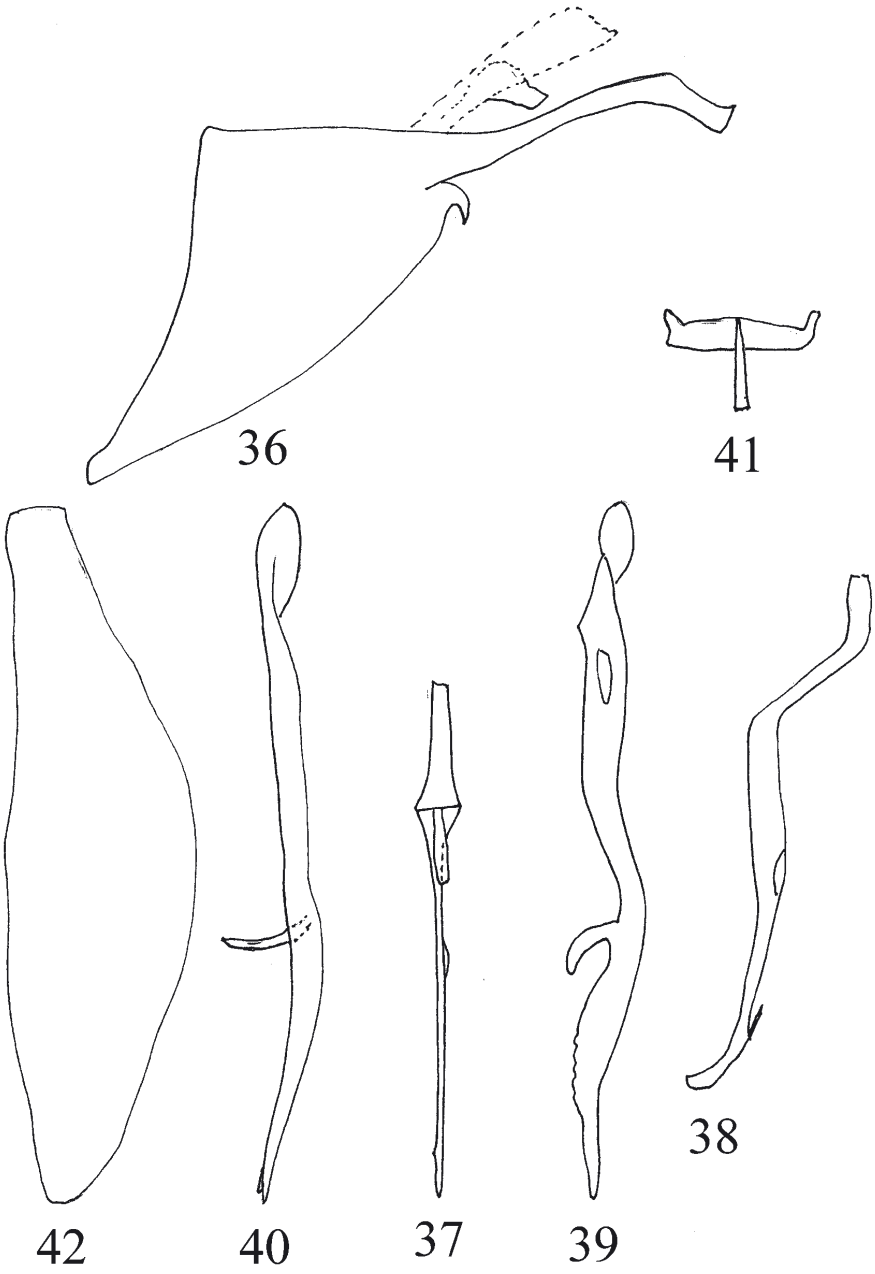
Figs 15–21. *Docalidia bilobata* sp.nov. 15 – male pygofer, lateral view; 16 – aedeagus and dorsal connective, dorsal view; 17 – aedeagus and dorsal connective, lateral view; 18 – style, dorsal view; 19 – style, lateral view; 20 – connective, dorsal view; 21 – subgenital plate, ventral view.



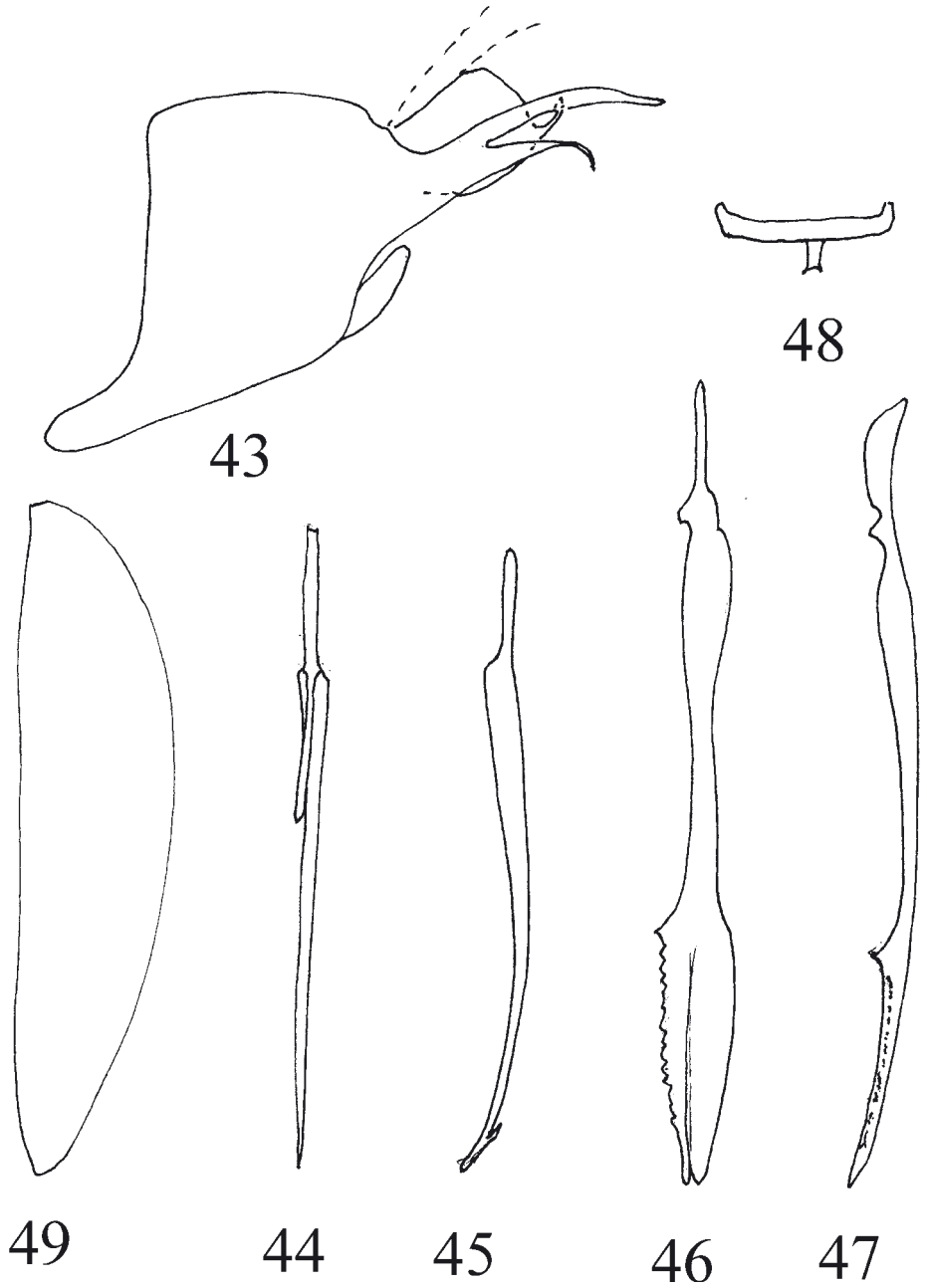
Figs 22–28. *Docalidia collaris* sp.nov. 22 – male pygofer, lateral view; 23 – aedeagus and dorsal connective, dorsal view; 24 – aedeagus and dorsal connective, lateral view; 25 – style dorsal view; 26 – style, lateral view; 27 – connective, dorsal view; 28 – subgenital plate, ventral view.



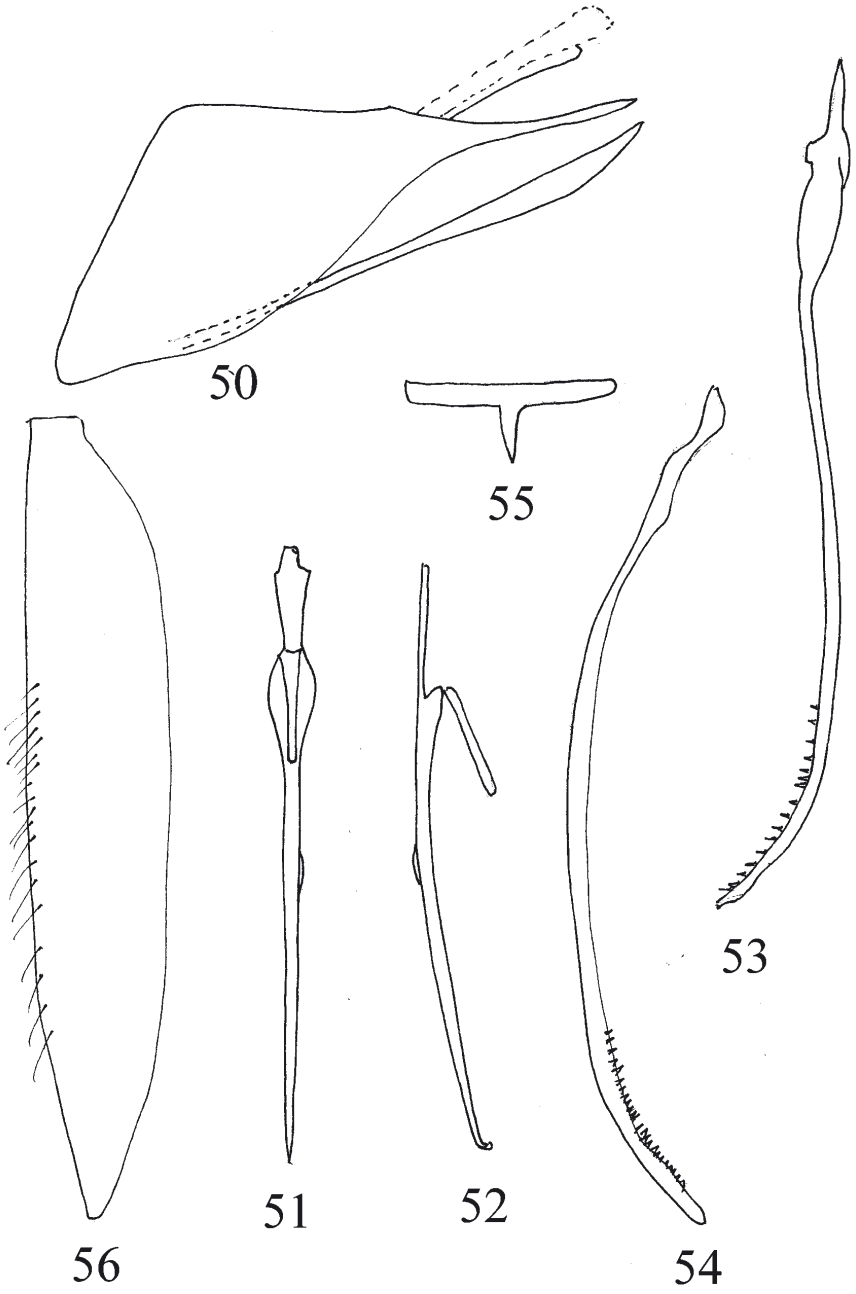
Figs 29–35. *Docalidia crassitudinis* sp.nov. 29 – male pygofer, lateral view; 30 – aedeagus and dorsal connective, dorsal view; 31 – aedeagus and dorsal connective, lateral view; 32 – style, dorsal view; 33 – style, lateral view; 34 – connective, dorsal view; 35 – subgenital plate, ventral view.



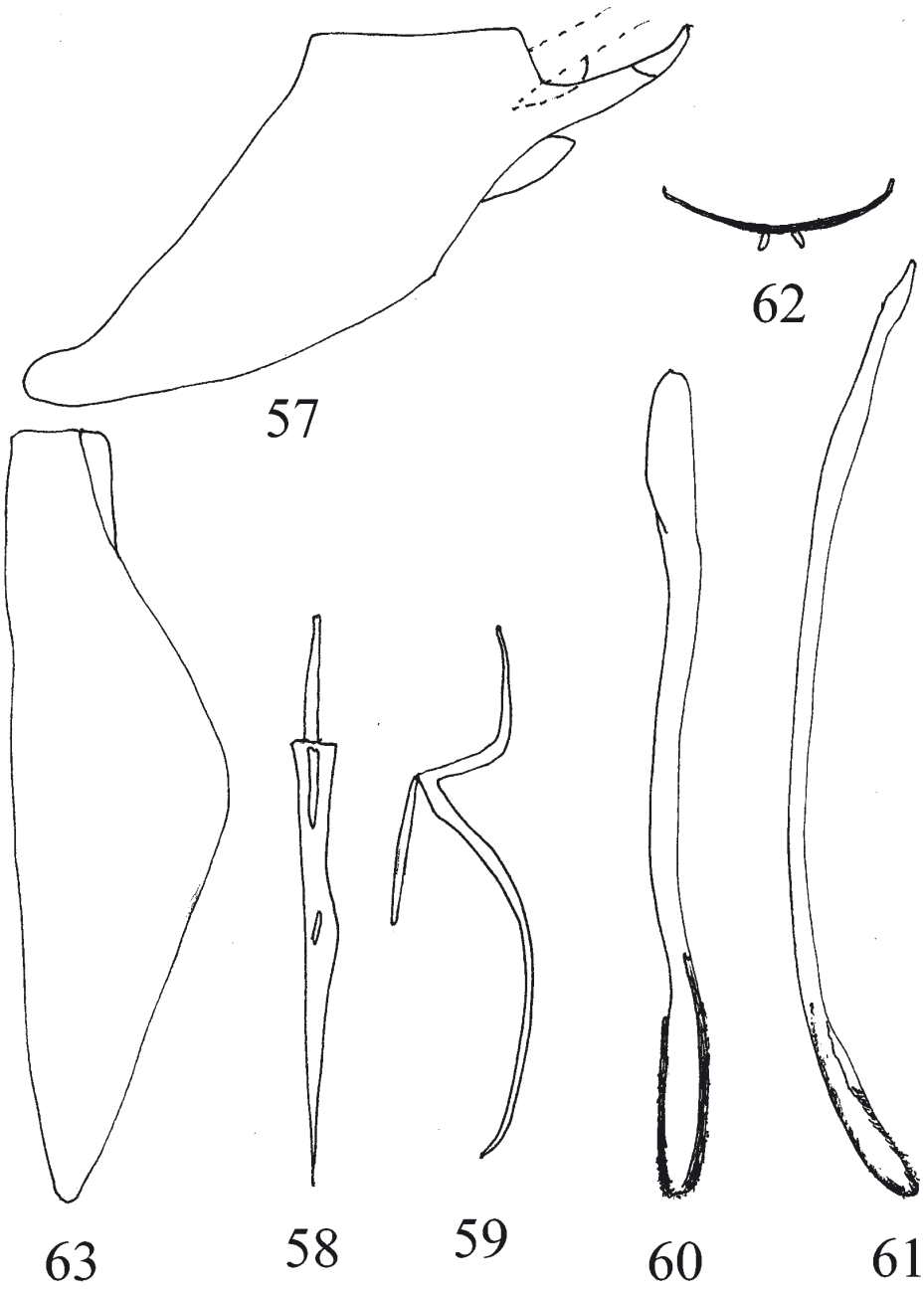
Figs 36–42. *Docalidia hama* sp.nov. 36 – male pygofer, lateral view: 37 – aedeagus and dorsal connective, dorsal view; 38 – aedeagus and dorsal connective, lateral view; 39 – style, dorsal view; 40 – style, lateral view; 41 – connective, dorsal view; 42 – subgenital plate, ventral view.



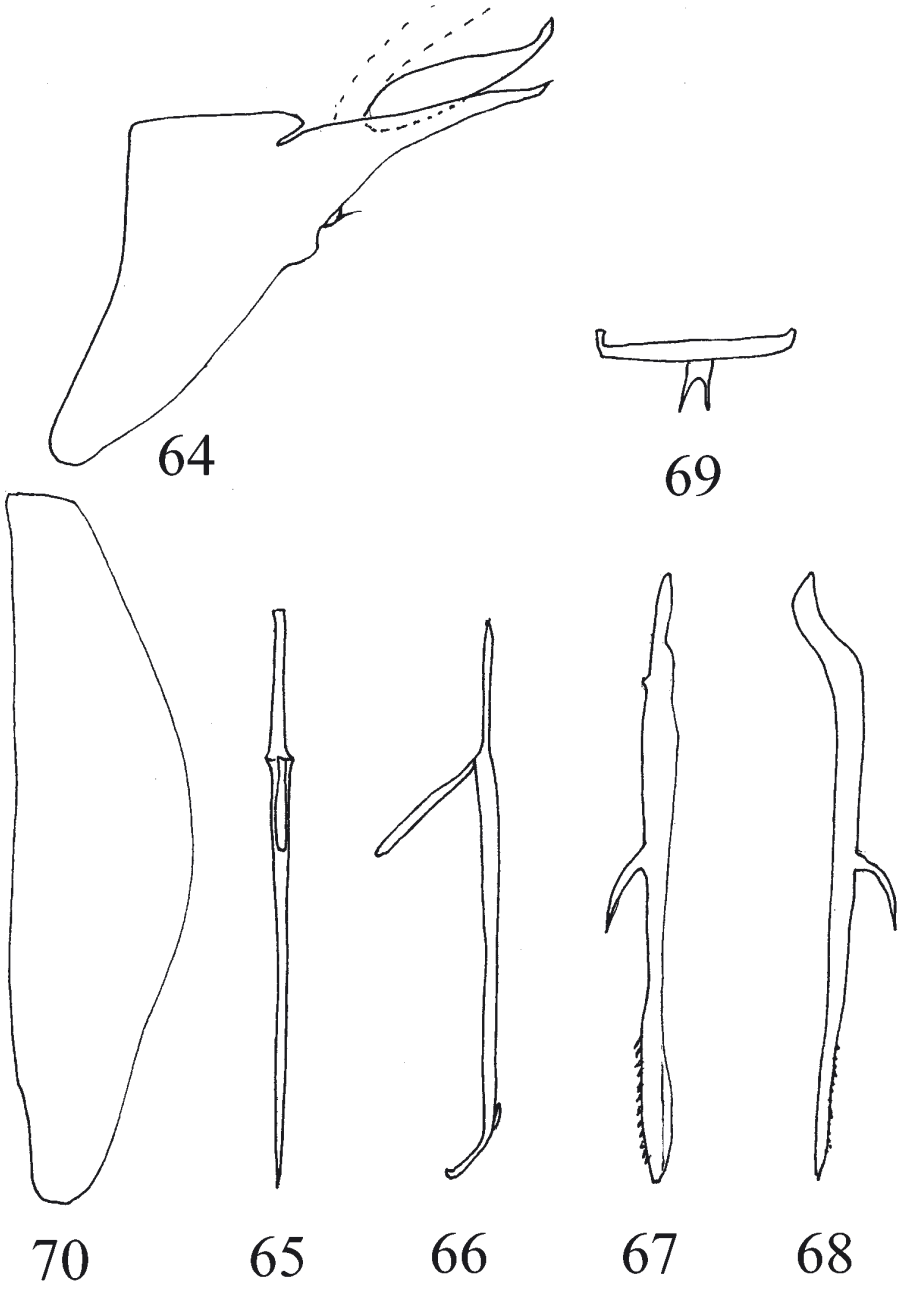
Figs 43–49. *Docalidia iuncta* sp.nov. 43 – male pygofer, lateral view; 44 – aedeagus and dorsal connective, dorsal view; 45 – aedeagus and dorsal connective, lateral view; 46 – style, dorsal view; 47 – style, lateral view; 48 – connective, dorsal view; 49 – subgenital plate, ventral view.



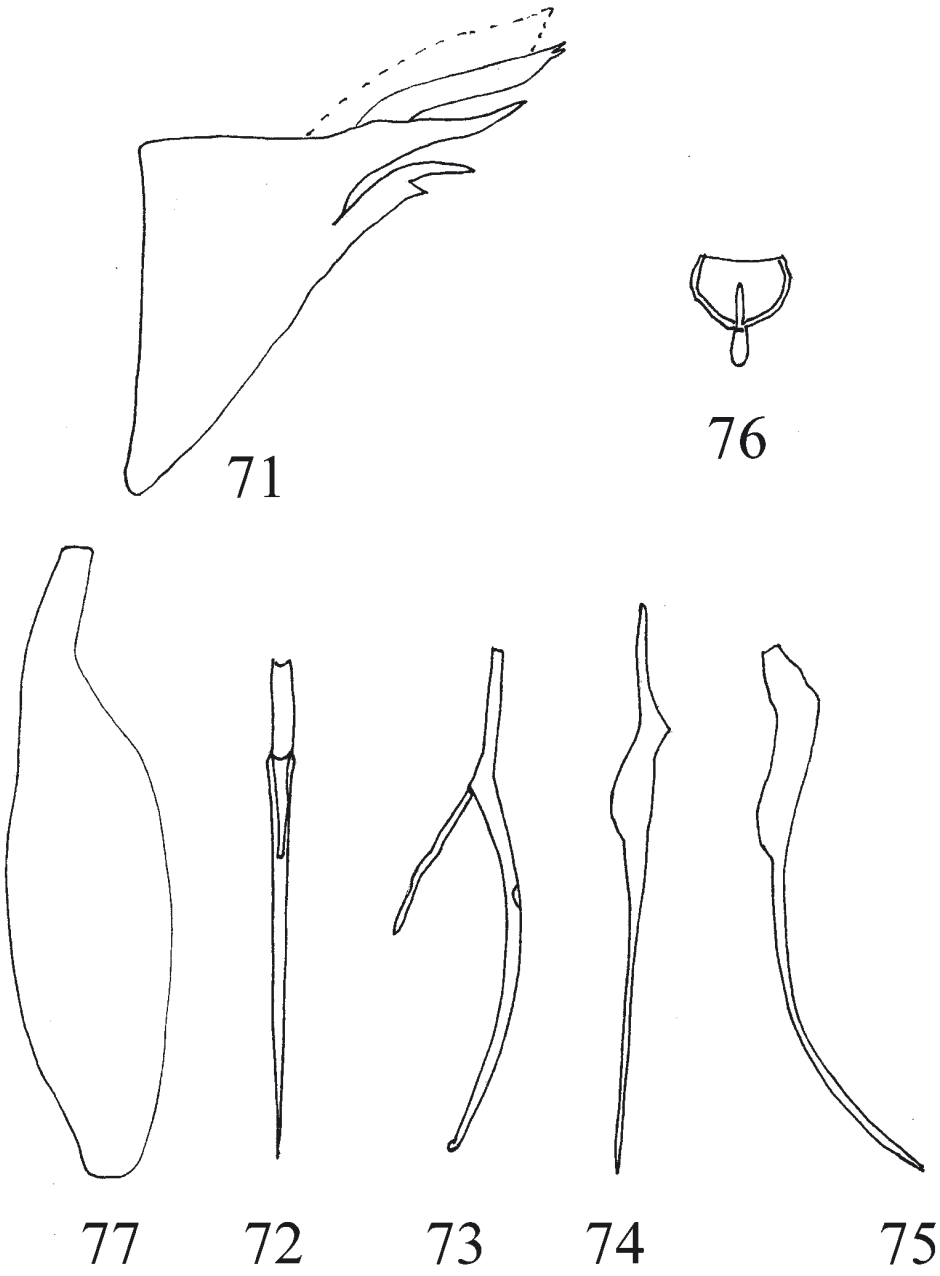
Figs 50–56. *Docalidia lineolaris* sp.nov. 50 – male pygofer, lateral view; 51 – aedeagus and dorsal connective, dorsal view; 52 – aedeagus and dorsal connective, lateral view; 53 – style, dorsal view; 54 – style, lateral view; 55 – connective dorsal view; 56 – subgenital plate, ventral view.



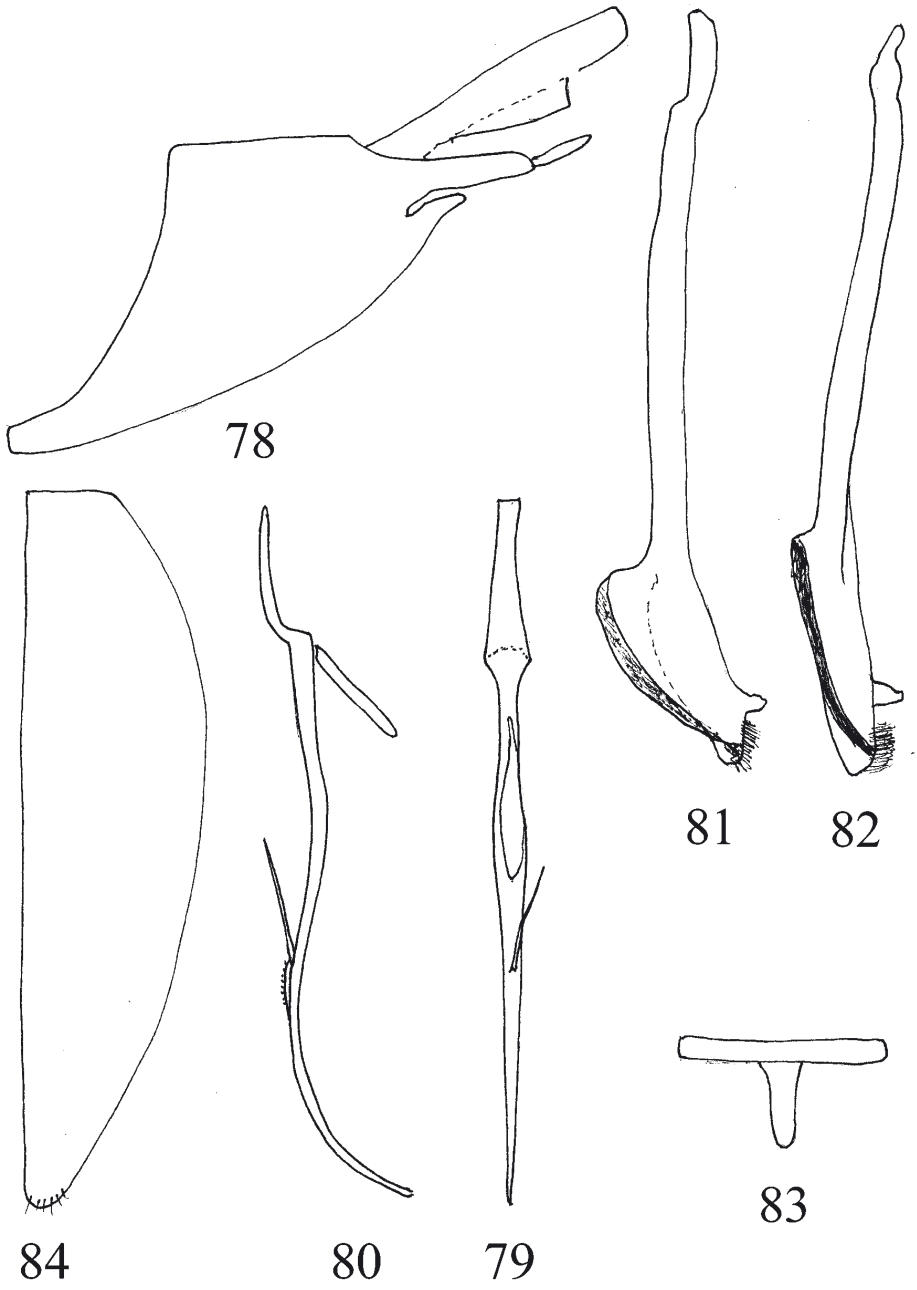
Figs 57–63. *Docalidia maldonadoi* sp.nov. 57 – male pygofer, lateral view; 58 – aedeagus and dorsal connective, dorsal view; 59 – aedeagus and dorsal connective, lateral view; 60 – style, dorsal view; 61 – style, lateral view; 62 – connective, dorsal view; 63 – subgenital plate, ventral view.



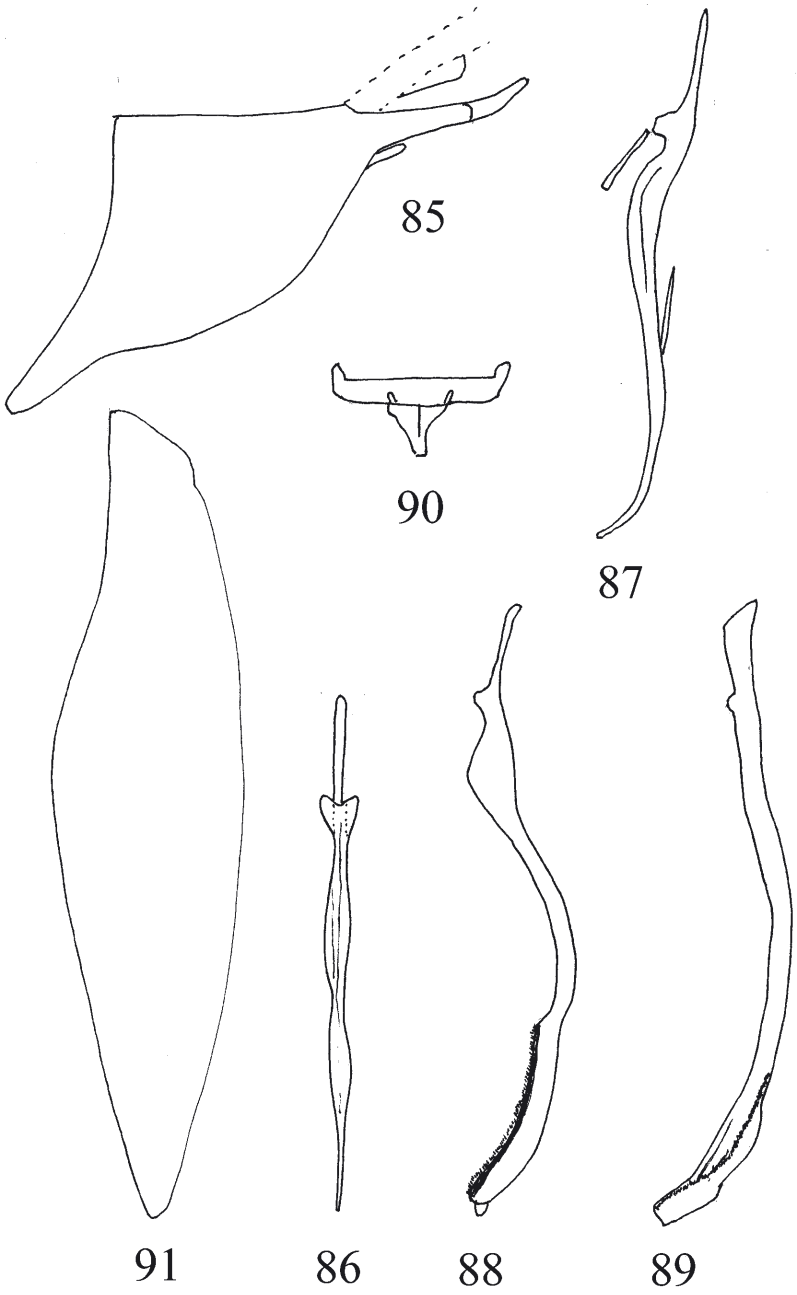
Figs 64–70. *Docalidia mediospinata* sp.nov. 64 – male pygofer, lateral view; 65 – aedeagus and dorsal connective, dorsal view; 66 – aedeagus and dorsal connective, lateral view; 67 – style, dorsal view; 68 – style, lateral view; 69 – connective, dorsal view; 70 – subgenital plate, ventral view.



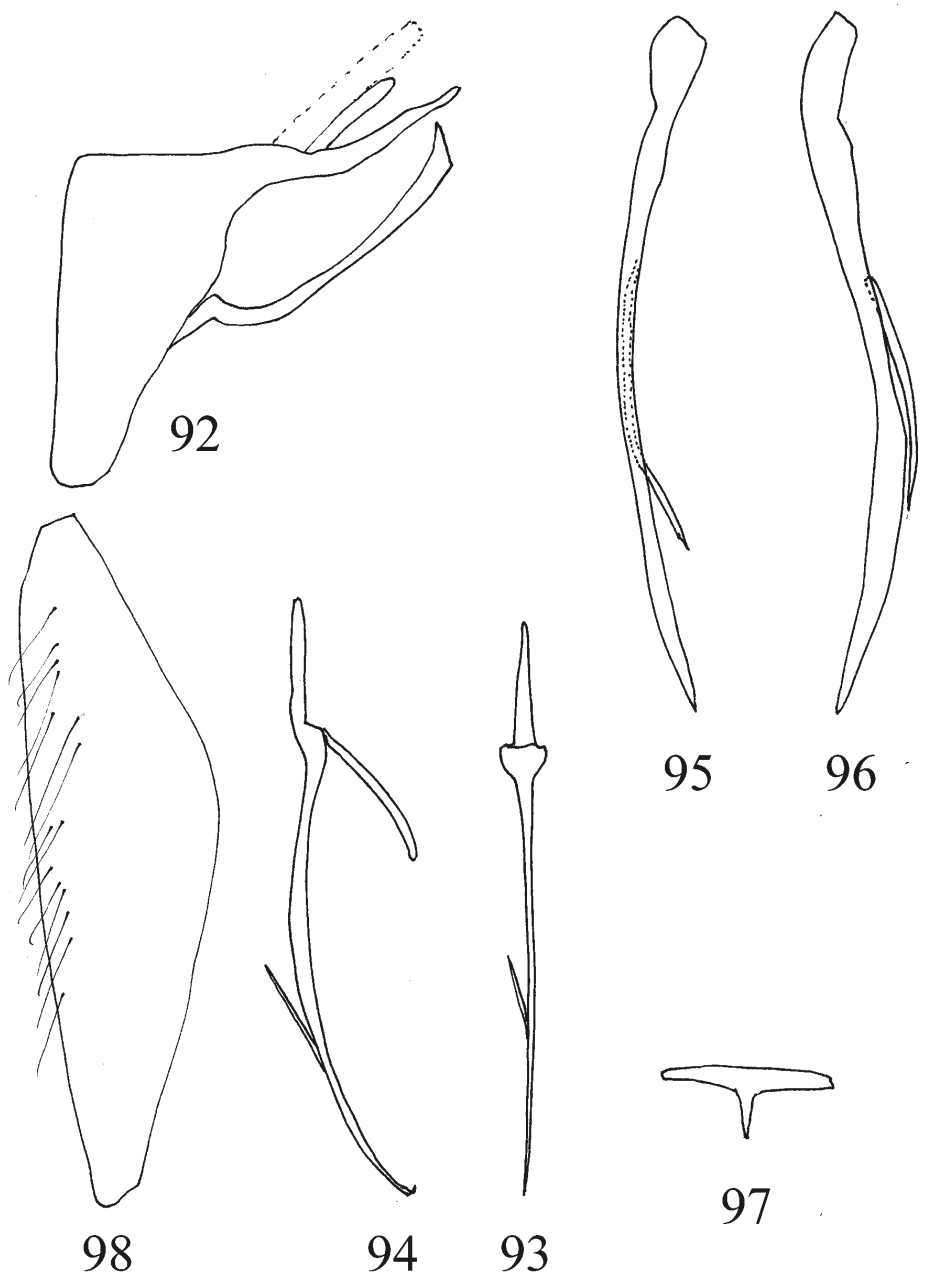
Figs 71–77. *Docalidia minatura* sp.nov. 71 – male pygofer, lateral view; 72 – aedeagus and dorsal connective, dorsal view; 73 – aedeagus and dorsal connective, lateral view; 74 – style, dorsal view; 75 – style, lateral view; 76 – connective, dorsal view; 77 – subgenital plate, ventral view.



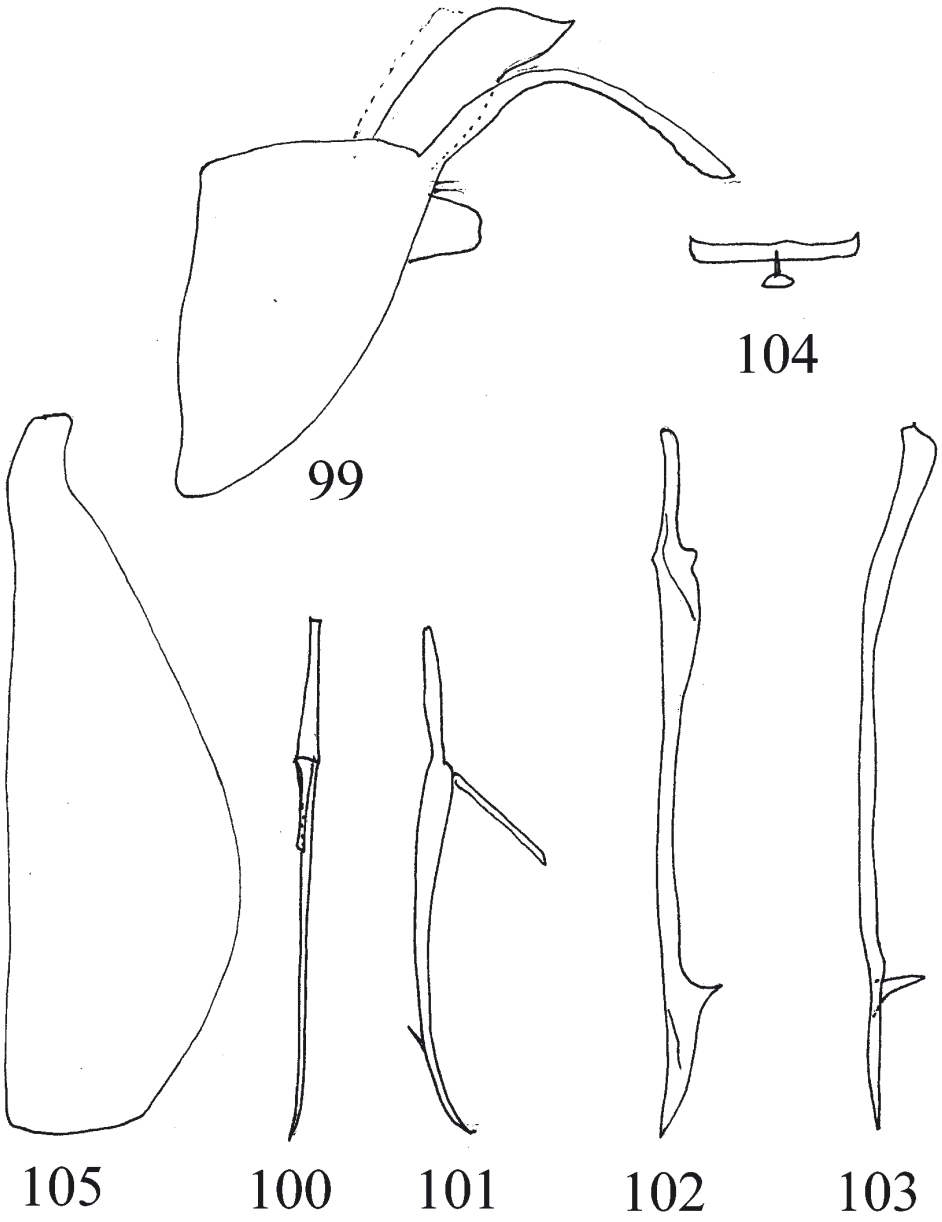
Figs 78–84. *Docalidia minima* sp.nov. 78 – male pygofer, lateral view; 79 – aedeagus and dorsal connective, dorsal view; 80 – aedeagus and dorsal connective, lateral view; 81 – style, dorsal view; 82 – style, lateral view; 83 – connective, dorsal view; 84 – subgenital plate, ventral view.



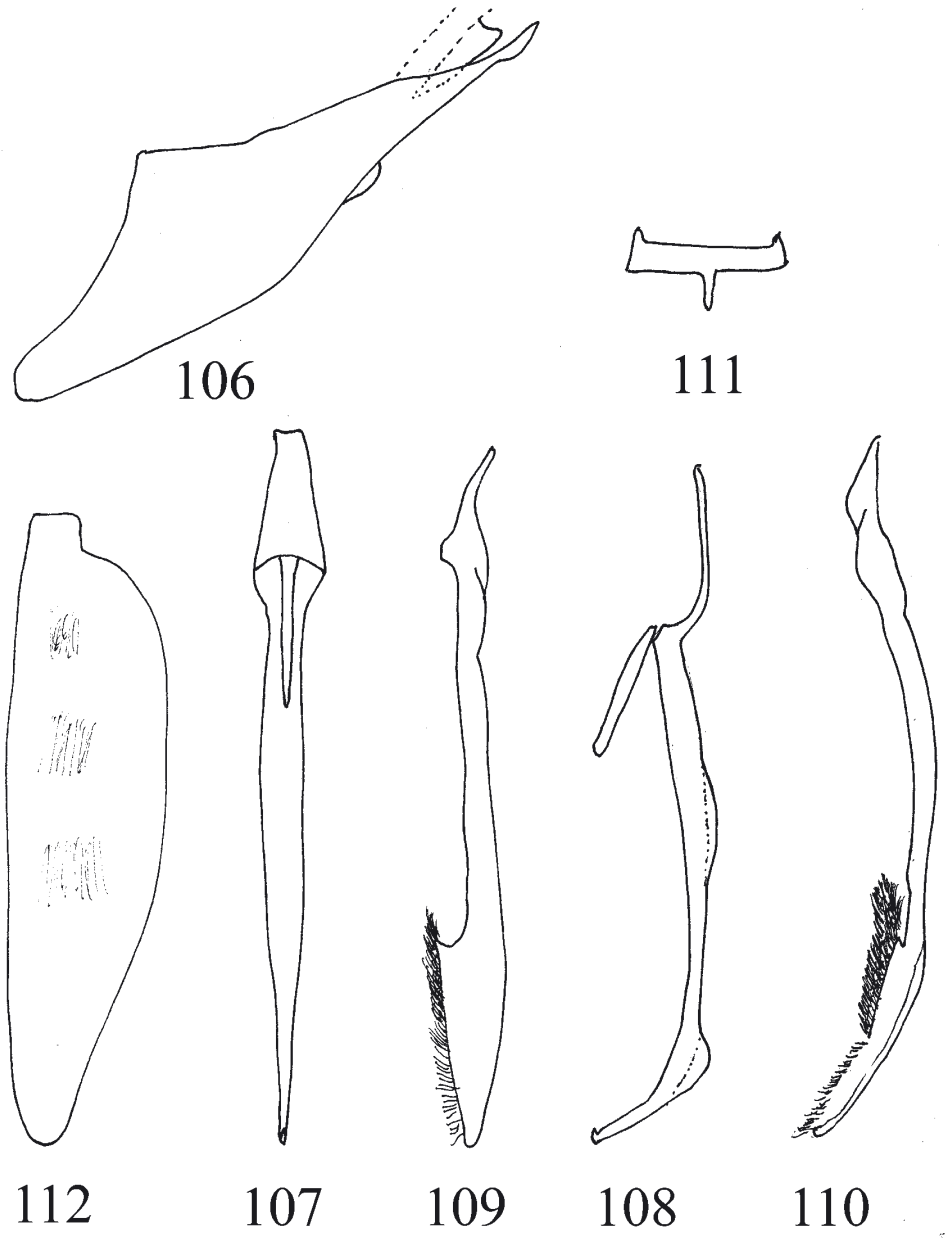
Figs 85–91. *Docalidia pakitzaensis* sp.nov. 85 – male pygofer, lateral view; 86 – aedeagus and dorsal connective, dorsal view; 87 – aedeagus and dorsal connective, lateral view; 88 – style, dorsal view; 89 – style, lateral view; 90 – connective, dorsal view; 91 – subgenital plate, ventral view.



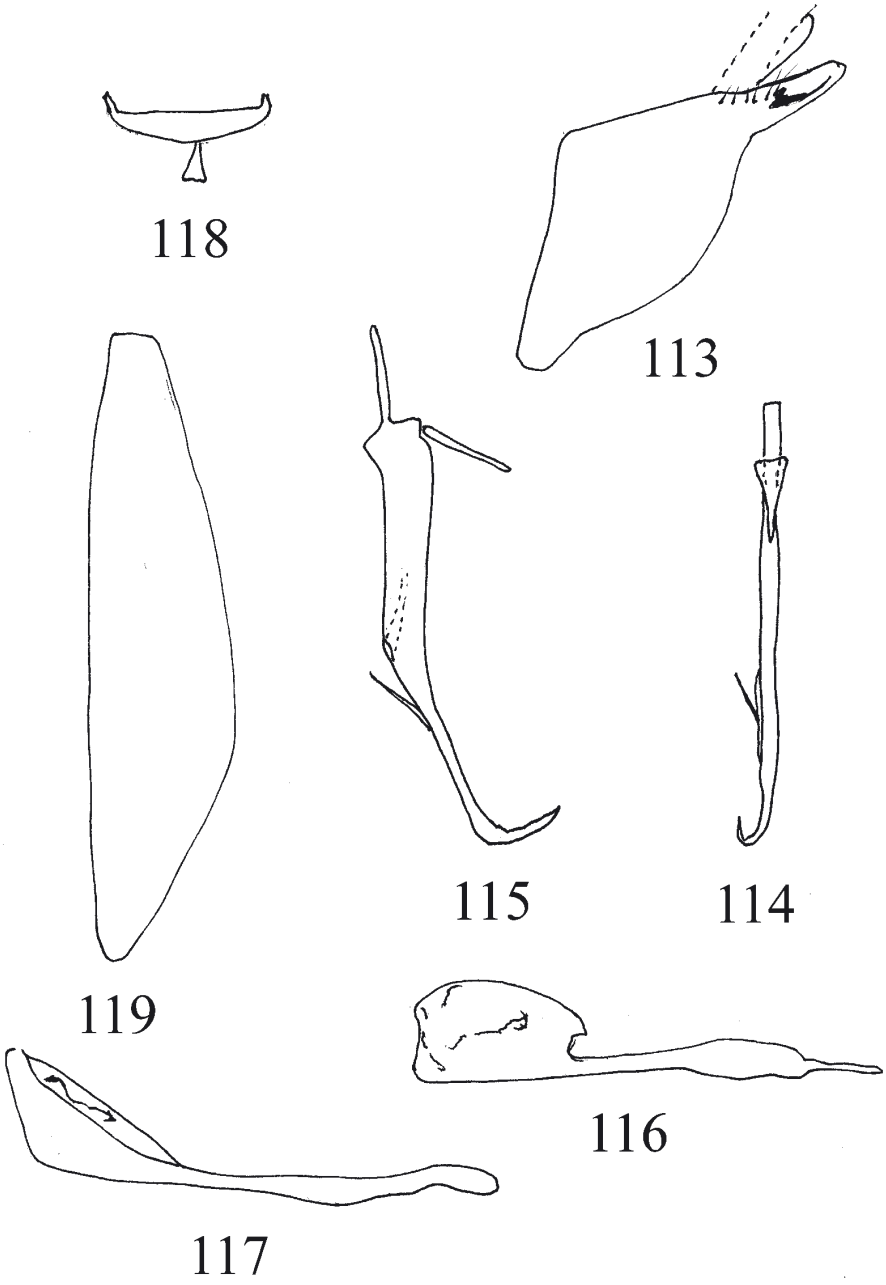
Figs 92–98. *Docalidia parabistyla* sp.nov. 92 – male pygofer, lateral view; 93 – aedeagus and dorsal connective, dorsal view; 94 – aedeagus and dorsal connective, lateral view; 95 – style, dorsal view; 96 – style, lateral view; 97 – connective, dorsal view; 98 – subgenital plate, ventral view.



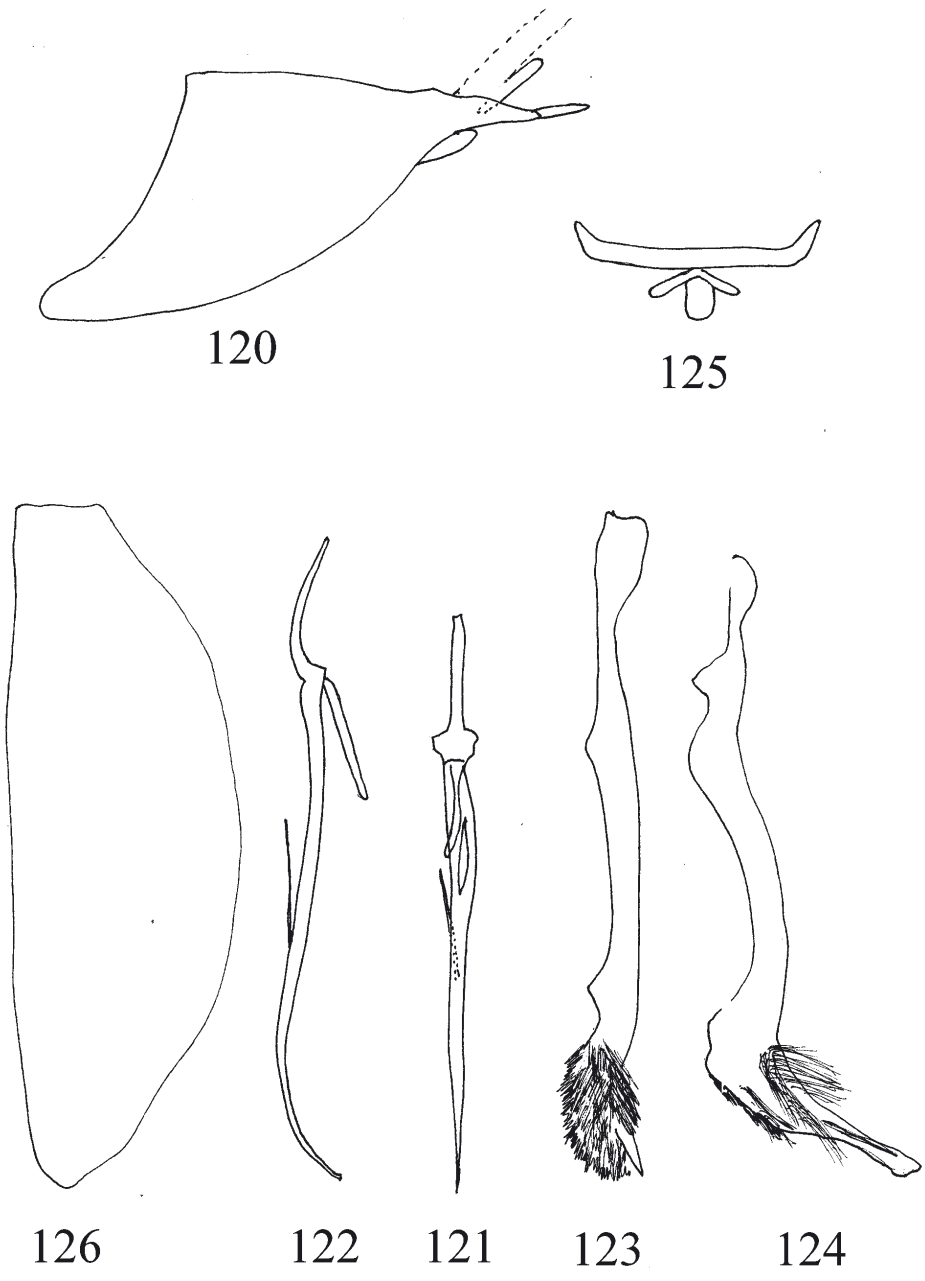
Figs 99–105. *Docalidia parainsolita* sp.nov. 99 – male pygofer, lateral view; 100 – aedeagus and dorsal connective, dorsal view; 101 – aedeagus and dorsal connective, lateral view; 102 – style, dorsal view; 103 – style, lateral view; 104 – connective, dorsal view; 105 – subgenital plate, ventral view.



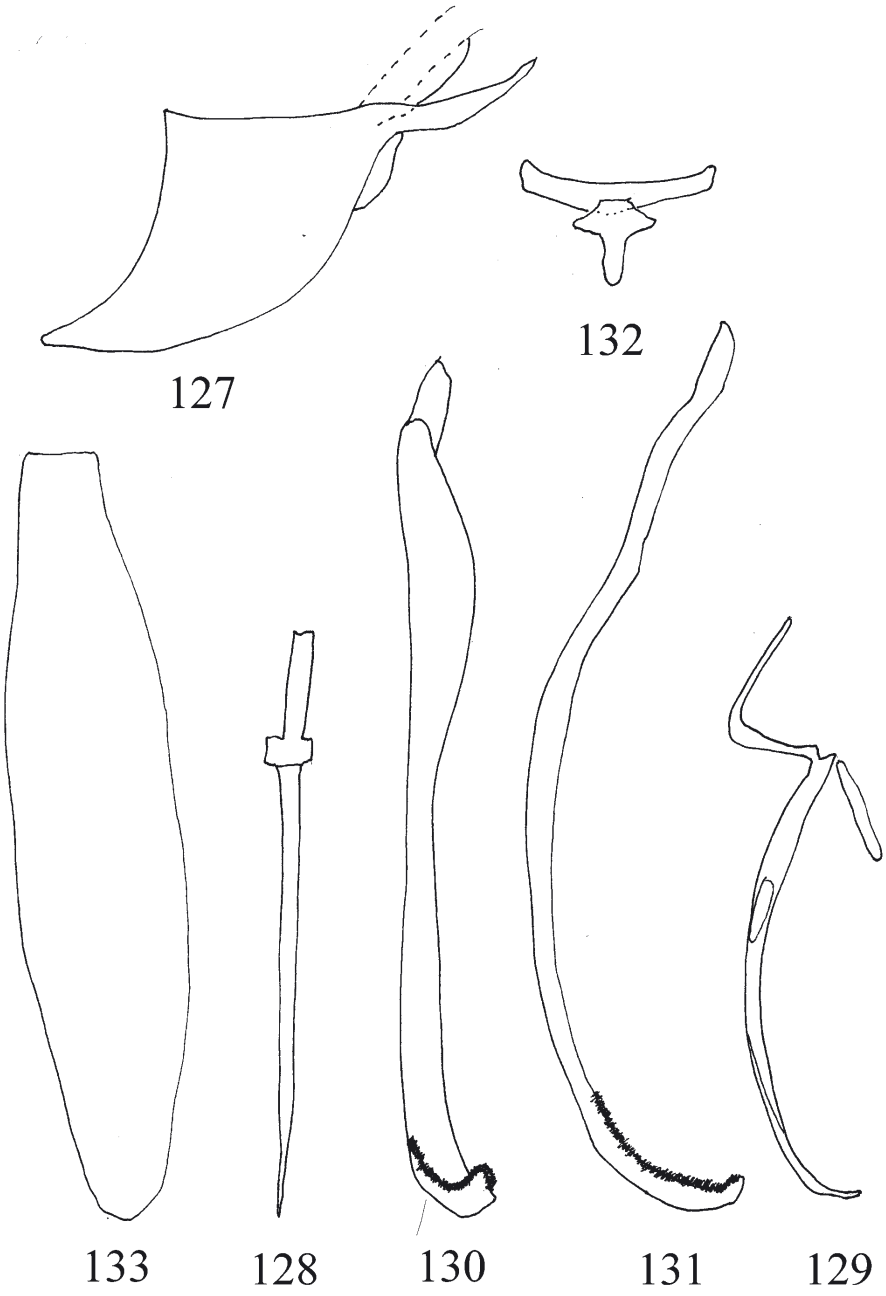
Figs 106–112. *Docalidia pedalis* sp.nov. 106 – male pygofer, lateral view; 107 – aedeagus and dorsal connective, dorsal view; 108 – aedeagus and dorsal connective, lateral view; 109 – style, dorsal view; 110 – style, lateral view; 111 – connective, dorsal view; 112 – subgenital plate, ventral view.



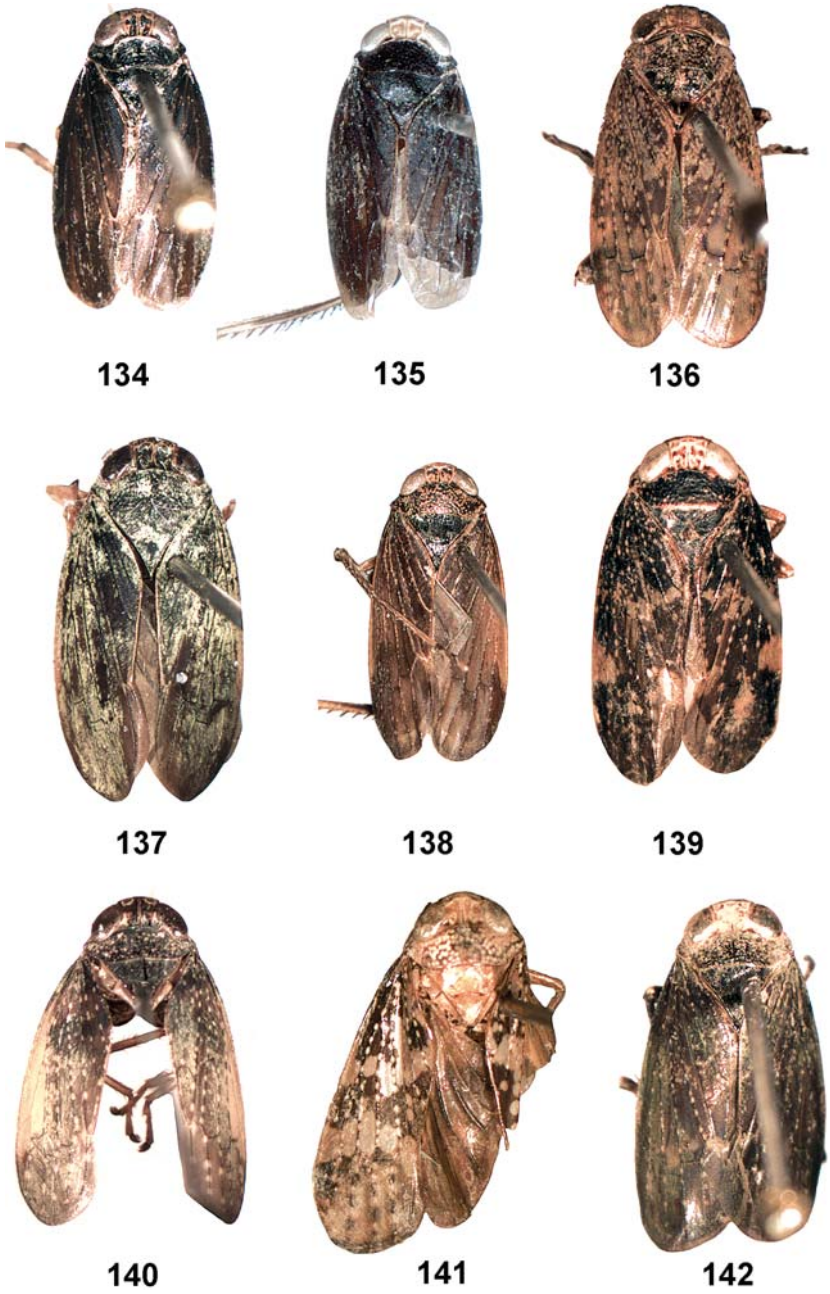
Figs 113–119. *Docalidia reticulata* sp.nov. 113 – male pygofer, lateral view; 114 – aedeagus and dorsal connective, dorsal view; 115 – aedeagus and dorsal connective, lateral view; 116 – style, dorsal view; 117 – style, lateral view; 118 – connective, dorsal view; 119 – subgenital plate, ventral view.



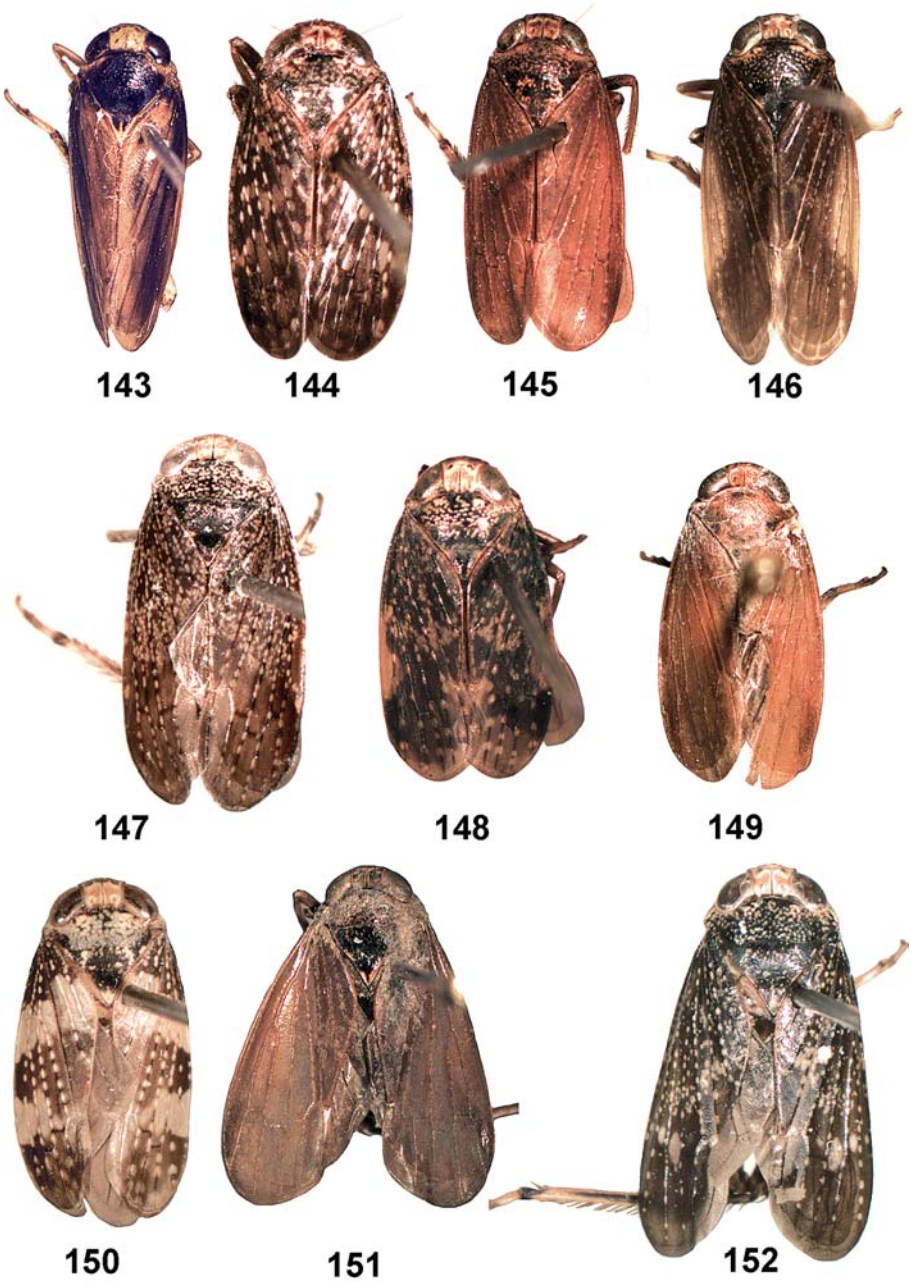
Figs 120–126. *Docalidia setosa* sp.nov. 120 – male pygofer, lateral view; 121 – aedeagus and dorsal connective, dorsal view; 122 – aedeagus and dorsal connective, lateral view; 123 – style, dorsal view; 124 – style, lateral view; 125 – connective, dorsal view; 126 – subgenital plate, ventral view.



Figs 127–133. *Docalidia trulla* sp.nov. 127 – male pygofer, lateral view; 128 – aedeagus and dorsal connective, dorsal view; 129 – aedeagus and dorsal connective, lateral view; 130 – style, dorsal view; 131 – style, lateral view; 132 – connective, dorsal view; 133 – subgenital plate, ventral view.



Figs 134–142. *Docalidia* spp., general habitus. 134 – *D. acucifera* sp.nov.; 135 – *D. basispinosa* sp.nov.; 136 – *D. bilobata* sp.nov.; 137 – *D. collaris* sp.nov.; 138 – *D. crassitudinis* sp.nov.; 139 – *D. hama* sp.nov.; 140 – *D. iuncta* sp.nov.; 141 – *D. lineolaris* sp.nov.; 142 – *D. maldonadoi* sp.nov.



Figs 143–152. *Docalidia* spp., general habitus. 143 – *D. mediospinata* sp.nov.; 144 – *D. minatura* sp.nov.; 145 – *D. minima* sp.nov.; 146 – *D. pakitzaensis* sp.nov.; 147 – *D. parabistyla* sp.nov.; 148 – *D. parainsolita* sp.nov.; 149 – *D. pedalis* sp.nov.; 150 – *D. reticulata* sp.nov.; 151 – *D. setosa* sp.nov.; 152 – *D. trulla* sp.nov.