

*This contribution is published
to honor Dr. Amnon Freidberg,
a scientist, a colleague and a friend,
on the occasion of his 75th birthday.*

New species of Lonchaeidae (Diptera: Schizophora) from Madagascar

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ABSTRACT

Six new species of Lonchaeidae in two genera are described from the island of Madagascar: *Dasiops kaplani* n. sp., *Dasiops penicila* n. sp., *Silba andasibe* n. sp., *Silba longigonite* n. sp., *Silba macrogonite* n. sp. and *Silba setigonite* n. sp. One species new to Madagascar—*Silba virescens* Macquart, 1851—is recorded, and previous records from the islands are re-evaluated. The known fauna now numbers 12 species in three genera. A key is provided to all the *Lonchaeidae* species presently known from the island. The presence of further undescribed species of *Lonchaea* Fallén, 1820 and *Dasiops* Rondani, 1856 is noted.

KEYWORDS: Diptera, Schizophora, Lonchaeidae, lance flies, Afrotropical, checklist, identification key, new species, taxonomy.

INTRODUCTION

The Lonchaeidae of Madagascar have not been extensively studied. The earliest record of the family on the island which I have been able to locate is that of a specimen of *Silba* Macquart, 1851 in the collections of the Museum für Naturkunde, Berlin, captured on the island by Dr Friederichs in 1916 (referred to later in this paper). The first literature record is that of McAlpine (1960) who recorded the presence of *Dasiops stuckenbergi* McAlpine, 1960 and subsequently (McAlpine 1964) described three new species, *Silba candidala* McAlpine, 1964, *Silba eximia* McAlpine, 1964 and *Silba unguifera* McAlpine, 1964 from localities in Madagascar.

In the *Catalogue of the Diptera of the Afrotropical Region* McAlpine (1980) lists three genera and six species of Lonchaeidae from Madagascar adding *Lamprolonchaea smaragdi* (Walker, 1859) and *Silba apodesma* McAlpine, 1960 to the species included in his previous publications. Irwin *et al.* (2003) provide a table of the number of Diptera from Madagascar listing three genera and only five species

of Lonchaeidae, two of which they considered to be endemic. As this is just a numerical table and no species names are given it is not possible to identify which species they considered to be present or endemic.

MATERIALS AND METHODS

This study is not a comprehensive review of the Lonchaeidae of Madagascar but is based mainly on the study of specimens collected by Amnon Freidberg and Fini Kaplan on two expeditions to Madagascar in 1991 and 2007, this material is kept in the Steinhardt Museum of Natural History, Tel Aviv University, Israel (SMNHTAU). Additional specimens were also obtained from the Museum für Naturkunde, Berlin (MNB), the Royal Museum for Central Africa, Tervuren, Belgium (RMCA) and the Royal Belgian Institute of Natural Sciences, Brussels (RBINS).

All the specimens are in the form of micro-pinned adults with dissected genitalia retained in a microvial attached to the mounting pin below the specimen. Terminology of adult structures and terminalia follows MacGowan & Rotheray (in press).

TAXONOMY

New species

Genus *Dasiops* Rondani, 1856

Dasiops kaplani n. sp.

(Figs 1–4)

LSID: urn:lsid:zoobank.org:act:A134E31D-9703-4DEB-BF21-6184C2C4DDF0.

Etymology: The species is named after Fini Kaplan, who was one of the collectors of the type material.

Differential diagnosis: In the key to South African *Dasiops* species, which is the only relevant key to the genus in this region, the only species with dark fringed calypteres, partly yellow tarsomeres and uniformly pale wings keys to “species indet.” (McAlpine 1960: 334). Given the poor knowledge of this genus in the Afrotropics *D. kaplani* is likely to represent a further species in this group.

Description: Male. Head: Eyes bare. Frons $0.5\times$ width of eye, shining blue-black with small depressions at base of each setula. Frontal and interfrontal setulae relatively long, $0.75\times$ length of inner vertical seta (orbital setae missing). Lunule, when seen from above, parafacials and face densely silver pollinose. Antennae entirely black, postpedicel length to depth ratio 1:0.9. Arista bare, yellow basally. Anterior genal setulae in single row along mouth margin, lying slightly dorsal to these two setae, anterior stronger than posterior.

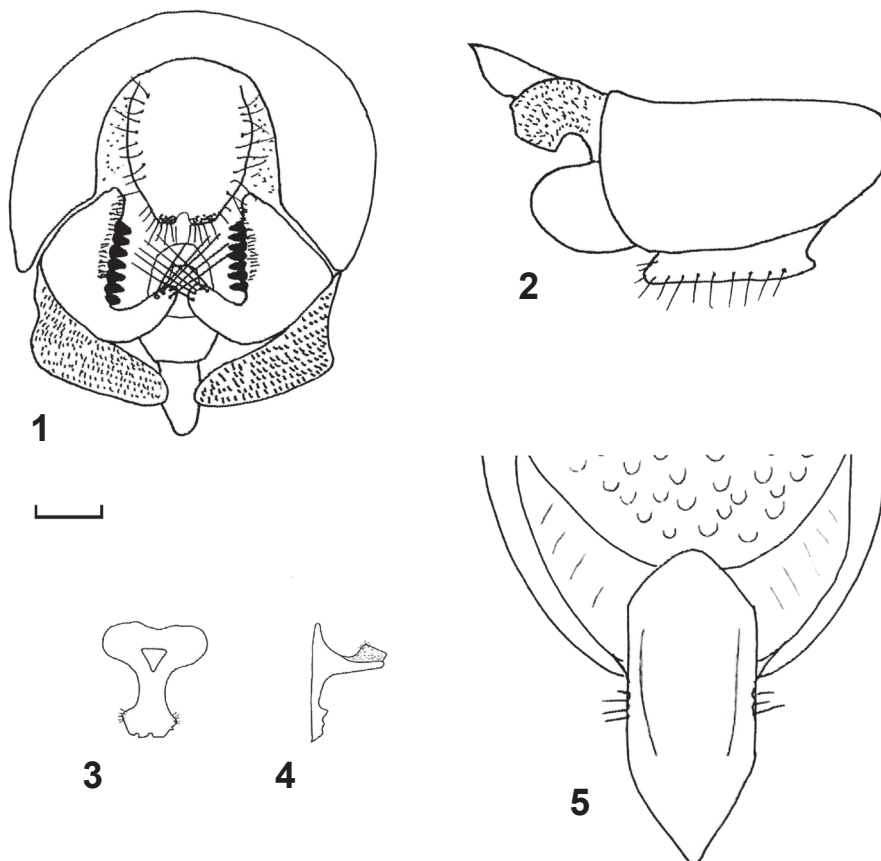
Thorax: Scutum sub-shining black, covered with setulae as long as outer vertical seta; one poststigmatal seta; one seta on both proepimeron and proepisternum. Anepisternum with three anterior and four posterior setae. Katepisternum with one seta located near dorsal margin, numerous other long setulae situated on anterior part of the sclerite including a lateral line of three immediately anterior to the seta.

Scutellum, bare apart from the four marginal setae. Legs black, fore leg with basal tarsomere yellow, mid and hind legs with basal and second tarsomeres yellow. Fore basal tarsomere shortened, shorter than combined length of apical tarsomeres. Calypteres grey with a dark margin and fringe. Wings clear with yellow veins, wing length 2.8 mm.

Male terminalia: Surstylus with a uniform row of seven small rounded prensisetae, apical portion relatively long and narrow with six long apical setae, pregonite entirely covered in fine setulae. Phallus as in Figs 3, 4.

Holotype: ♂ **Madagascar:** Rt. 2, 20 km E Antananarivo [18°52'S 47°40'E], 3.iv.1991, A. Freidberg & F. Kaplan (SMNH-TAU).

Paratype: **Madagascar:** 1♂ (headless) with same data as holotype.



Figs 1–5: New species of *Dasiops*: (1–4) *D. kaplani* n. sp.: (1) epandrium and associated structures, posterior view; (2) same, lateral view; (3) phallus, ventral view; (4) phallus, lateral view; (5) *D. pencila* n. sp., dorsal view of aculeus. Scale 0.1 mm.

Dasiops pencila n. sp.

(Fig. 5)

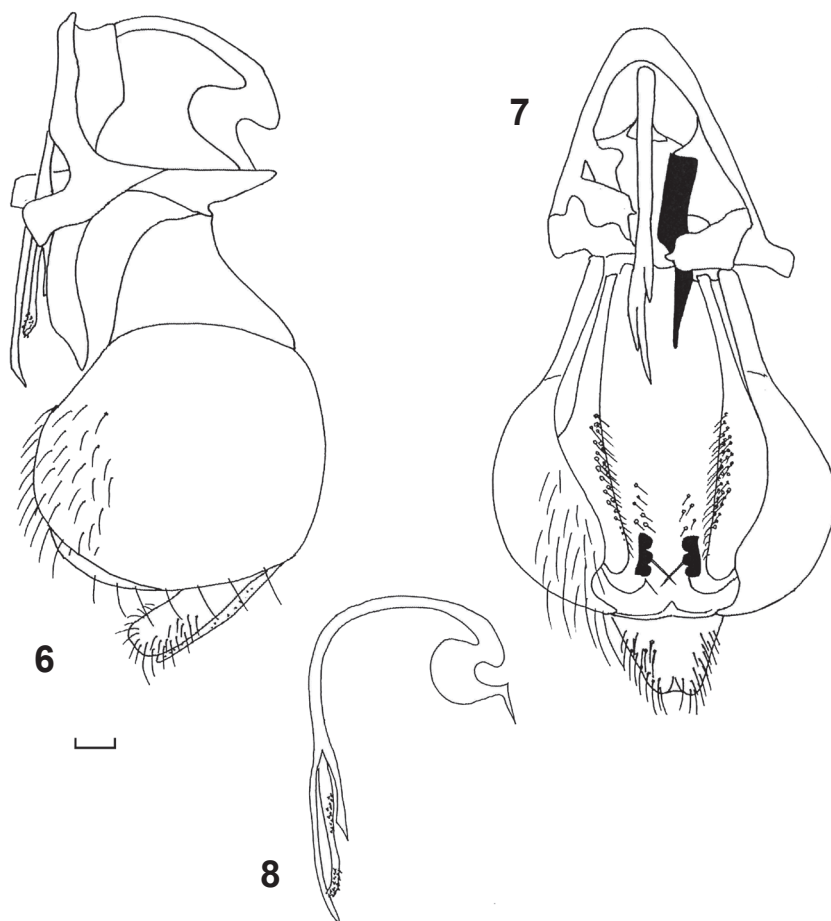
LSID: urn:lsid:zoobank.org:act:B0EB9617-1DAF-4A62-8B29-AA87E42ABFEB.**Etymology:** The specific name refers to the pencil-like shape of the apical segment of the female aculeus.**Differential diagnosis:** In the key to South African *Dasiops* species (McAlpine 1960) the only species with a combination of white fringed calypteres, partly yellow tarsomeres and lunule lacking pock-like depressions are *D. rugicavus* McAlpine, 1960 and *D. concavifrons* McAlpine, 1960. Both of these species have hairy or pubescent eyes and their aculeus, although broad, does not have an apical segment with straight sides and an acute apex and both are easily distinguished from *D. pencila*.**Description: Female. Head:** Eyes bare. Frons shining blue-black, frons to eye width ratio 1:1, frontal and interfrontal setulae 0.5× as long as orbital setae, a few small pock marks at base of interfrontal setulae, shallow lateral depression present on frons just anterior to ocellar plate. Lunule, ground colour slightly brown, flat apart from slight medial depression between antennal bases. Antennae black, post-pedicel length to depth ratio 1:0.7. Arista microscopically pubescent, yellow basally. Anterior genal setulae in a row of three along mouth margin, posterior to these a single strong seta twice as long and strong as the other genal setulae.**Thorax:** Scutum sub-shining blue black, covered with rather sparse pilosity 0.5× as long as the orbital seta. Anepisternum with two anterior setae and three posterior setae, one post-stigmatal seta. Katepisternum with one seta located near dorsal margin. Scutellum, bare apart from four marginal setae. Proepimeron and proepisternum each with one seta. Calypteres white with a white fringe. Wings clear, veins yellow, wing length 2.5 mm. Legs black, all basal and second tarsomeres yellow.**Female terminalia:** Aculeus broad, 0.5× width of the base of tergite five, smoothly rounded apically. Apical segment parallel sided, embedded in aculeus base, acutely angled at apex, with three short lateral setulae, apical segment length to width ratio 2.75:1, parallel sided with acute 60° apex.**Male.** Unknown.**Holotype:** ♀ **Madagascar:** Rt. 2, 20 km E of Antananarivo [18°52'S 47°40'E], 3.iv.1991, A. Freidberg & F. Kaplan (SMNH-TAU).Genus *Silba* Macquart, 1851*Silba andasibe* n. sp.

(Figs 6–8)

LSID: urn:lsid:zoobank.org:act:C8ADA2ED-1C3F-400A-B3A1-B508EF62B6D5.**Etymology:** The specific epithet relates to the capture site of the holotype and is a noun in apposition.

Differential diagnosis: The epandrium with an obvious 9th tergite is apparently unique amongst the described species of *Silba*. This tergite is evident in *Lonchaea* species in the *Lonchaea polyhamata* McAlpine, 1964 species-group (MacGowan 2018) and all known *Fulgenta* species and may well represent a primitive condition within the family. The row of three closely situated rounded prenisetae, the asymmetrical pregonites with the left being very long and chitinised and the unique phallus serve to distinguish this species from other *Silba* species.

Description: Male. Head: Eyes bare. Frons sub-shining black, frontal and interfrontal setulae very short, approximately 0.15× length of orbital seta. Lunule, base colour black, when viewed from above covered with moderately dense silver pollinosity,



Figs 6–8: *Silba andasibe* n. sp.: (6) epandrium and associated structures, lateral view; (7) same, ventral view; (8) phallus, lateral view. Scale 0.1 mm.

this extending onto parafacials and face. Anterior genal setulae in a single row along mouth margin, none of these particularly strong. Antennae black, postpedicel orange at extreme medial base, length to depth ratio 2.5:1. Arista plumose, ratio of plumosity at maximum extent to depth of postpedicel 1:1.

Thorax: Scutum shining blue-black. Anepisternum with three anterior and three posterior setae. Katepisternum with two setae located near dorsal margin, anterior only slightly shorter and weaker than posterior. Scutellum, on margin between lateral and apical setae, with five multiserial setulae on right, two on left, two very short setulae between apical setae. Calypteres pale, with golden margin and fringe. Wings slightly fumose anteriorly, veins brownish, wing length 4.5 mm. All femora and tibiae dark brown, contrasting with the dark setulae and setae (this may be age related fading) tarsomeres entirely black.

Male terminalia: Epandrium with 9th and 10th tergites not completely fused, 9th tergite a rounded lobe, thin and lightly sclerotized, attached to anterior surface of 10th tergite, 10th tergite spherical, bearing numerous rather short setulae on ventral margins. Cerci relatively small, bearing numerous short setulae. Surstyli contained within shell of epandrium, with a multiple row of short setulae along ventral margin. Inner surface of surstylus with almost fused row of three rounded prenisetae situated below base of cerci, strong inwardly pointing seta arising from near base of prenisetae, loose row of setulae lying anterior to them. Left pregonite greatly enlarged and sclerotized, forming long, black pointed projection, right pregonite insignificant. Postgonites large and sclerotized. Phallus large open U-shaped, simple basally, on apical third with two long, slender processes, one longer than apex of phallus, other shorter, apex of phallus ribbon-like with numerous small setulae on shaft and especially at apex.

Holotype: ♂ **Madagascar:** Andasibe, Analamazaotra forest, 18°56'S 48°24'E, 950 m, 31.x–4.xi.2007, L. Friedman (SMNHNTAU).

Paratype: **Madagascar:** 1♂ with the same data as the holotype.

Silba longigonite n. sp.

(Figs 9–13)

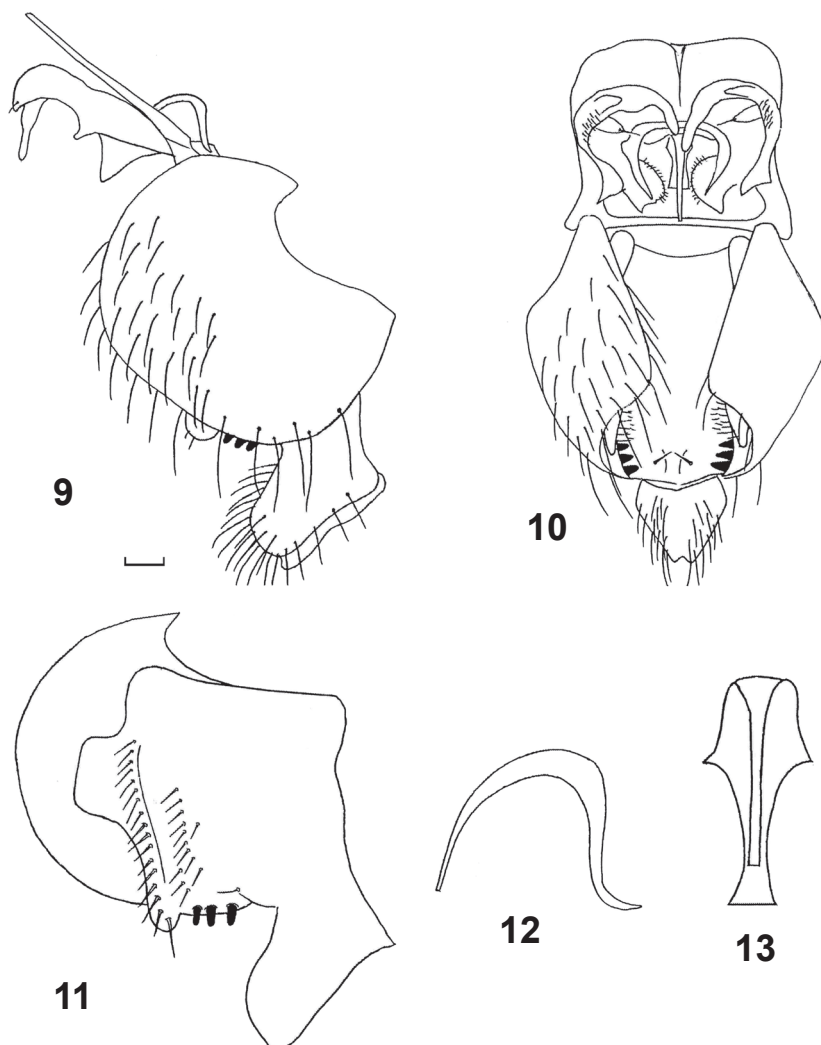
LSID: urn:lsid:zoobank.org:act:20143B64-A464-4F4E-ACBF-09C60723B481.

Etymology: The species name relates to the long pregonites.

Differential diagnosis: On external characters this is a rather standard *Silba* species apart from the brownish legs; it is unclear whether or not this is just a feature of ageing. The main specific characters are in the structure of the male terminalia, in particular in only having three distinct prenisetae on the posterior margin of each surstylus and a very small, simple phallus.

Description: Male. *Head:* Eyes bare. Frons sub-shining black, frontal and interfrontal setulae very short, less than 0.1× length of orbital setae, a few longer setulae on anterior margin. Orbital plates shining, bare apart from orbital seta. Lunule,

ground colour dark, when seen from above lunule, parafacials and face lightly silver pollinose. Anterior genal setulae in a single row of six along mouth margin, stronger basally but these not noticeably stronger than other setulae on genae. Antennae black; postpedicel slightly orange at extreme medial base, length to depth ratio 2.6:1. Arista plumose, ratio of plumosity at maximum extent to depth of postpedicel 1:1.



Figs 9–13: *Silba longigonite* n. sp.: (9) epanthrium and associated structures, lateral view; (10) same, ventral view; (11) surstylus, inner surface; (12) phallus, lateral view; (13) phallus, anterior view. Scale 0.1 mm.

Thorax: Scutum shining blue-black. Anepisternum with four anterior setae (one of these on right side is rather weak) and three rather long, curving posterior setae. Katepisternum with two setae located near dorsal margin, anterior only slightly shorter and weaker than posterior. Scutellum, on margin between lateral and apical setae, with three setulae on each side, two between apical setae. Calypteres entirely pale, with a uniform pale fringe. Wings clear, veins brownish, wing length 4.0 mm. Legs brown, contrasting with black setulae, tarsomeres appearing darker due to density of setulae.

Male terminalia: Epandrium in lateral view rather circular, slightly wider than high, with numerous setulae on posterior and ventral surfaces. Cerci small, 0.3× height of epandrium, not sclerotized, bearing numerous rather stiff setulae, these thicker and shorter on ventral surface. Surstylus contained within shell of epandrium, inner surface with three well-spaced prenisetae along posterior margin, a single row of relatively long setulae along ventral margin with a slightly multiserial row lying just anterior to these, a pair of stiff setulae situated centrally below base of cerci. Pregonites long and finger like, directed posteriorly at apex, setulose basally with a small lateral process on outer surface. Postgonites large with setulose margins. Phallus simple U-shaped.

Holotype: ♂ **Madagascar**: Andasibe, Analamazaotra forest, 18°56'S 48°24'E, 950 m, 31.x–4.xi.2007, L. Friedman (SMNH-TAU).

Silba macrogonite n. sp.

(Figs 14–17)

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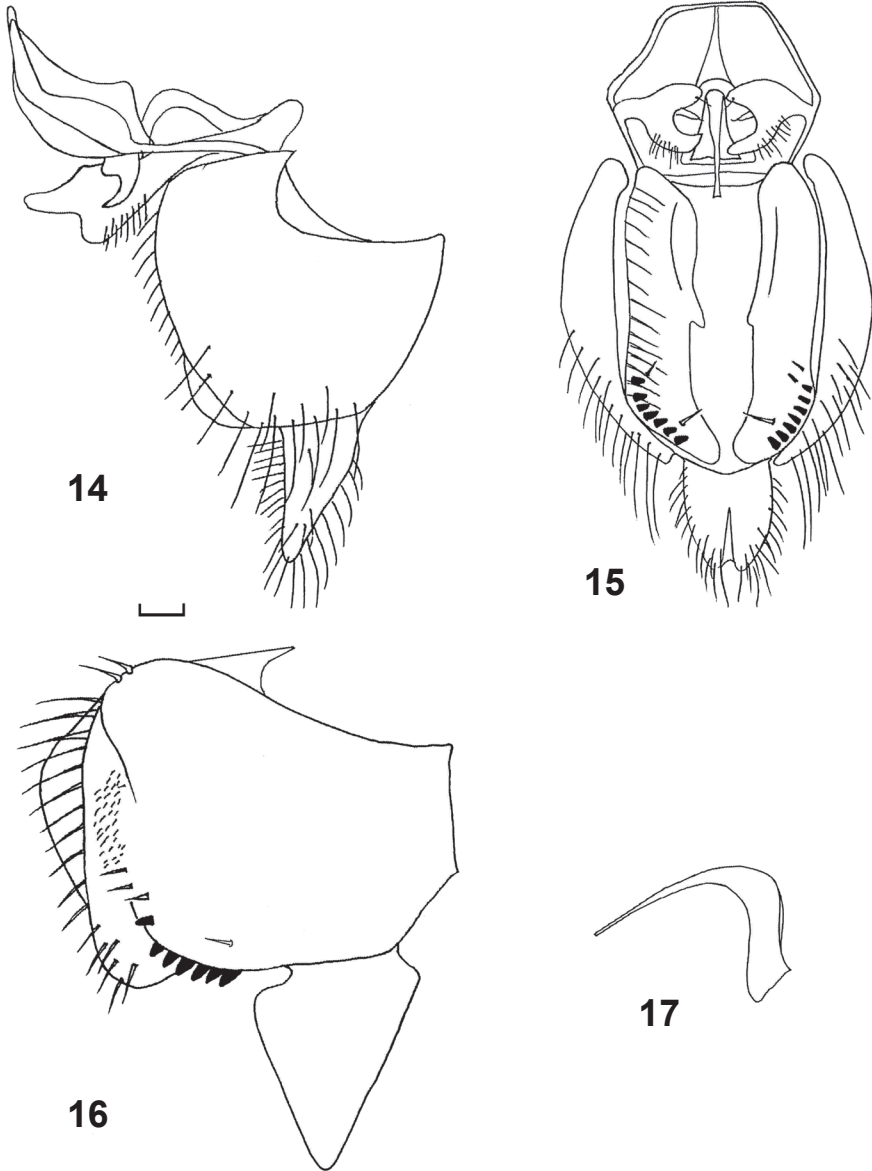
Etymology: The species name relates to the large pregonites.

Differential diagnosis: In the key provided in this paper, this species lies close to *S. candidala* with which it shares several characters. However, the combination of large, bifurcated pregonites and six to seven prenisetae on the inner surface of the surstyli serve to distinguish it from other similar species.

Description: Male. Head: Eyes bare. Frons sub-shining black, dulled by microsculpture. Frontal and interfrontal setulae 0.25× length of orbital setae. Lunule, ground colour orange-brown, viewed from above covered in a relatively dense silver pollinosity which extends onto parafacials and lateral margins of face. Antennae black; postpedicel with a small orange area at extreme medial base, length to depth ratio 3.0:1. Arista plumose, ratio of plumosity at maximum extent to depth of postpedicel 1:1. Anterior genal setulae in a single row of four along mouth margin.

Thorax: Scutum shining blue-black. Anepisternum with two anterior setae and three posterior setae. Katepisternum with two setae located near dorsal margin, anterior slightly shorter and weaker than posterior. Scutellum, on margin between lateral and apical setae, with three setulae on left, four on right, two between api-

cal setae. Calypteres entirely white with a uniform white fringe. Wings clear, veins brownish, wing length 4.2 mm. Legs entirely black.



Figs 14–17: *Silba macrogonite* n. sp.: (14) epandrium and associated structures, lateral view; (15) same, ventral view; (16) surstylus, inner surface; (17) phallus, lateral view. Scale 0.1 mm.

Male terminalia: Epandrium in lateral view almost as wide as high, with numerous setulae on posterior and ventral surfaces. Cerci relatively large, approx. $0.6\times$ height of epandrium, rather pointed posteriorly, bearing numerous setulae on ventral and apical surfaces. Surstylus extending slightly beyond shell of epandrium as rounded posterior ventral process, inner surface with row of six closely set prenisetae along posterior margin. A single preniseta and several strong setae situated ventral to these, row of short setulae along medial part of ventral margin, posteroventral lobe bearing a few stiff setae. A pair of stiff setulae situated centrally below base of cerci. Pregonites greatly enlarged at apex to form two distinct lobes of almost equal size, posterior lobe setulose. Phallus very simple open U-shaped.

Holotype: ♂ **Madagascar:** 35 km E Ranomafana, $21^{\circ}20'S$ $47^{\circ}43'E$, 500 m, 28.x.2007, A. Freidberg (SMNHATAU).

Silba setigonite n. sp.

(Figs 18–21)

LSID: urn:lsid:zoobank.org:act:173170CE-C023-454D-8FD4-74E48FC67EF8.

Etymology: The species name reflects the coat of setulae on the pregonites.

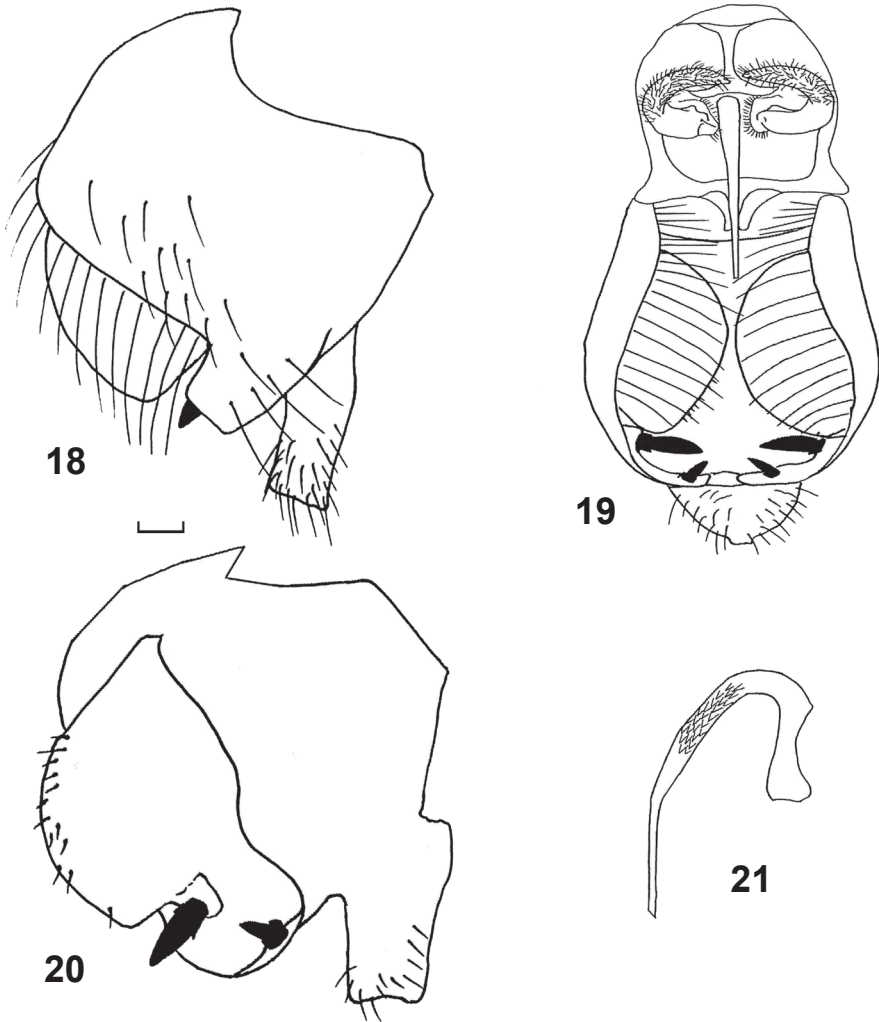
Differential diagnosis: The unusual features of the epandrium and surstyli along with the large ventrally directed prenisetae make this an easily identifiable species distinct from any previously described *Silba* species.

Description: Male. *Head:* Eyes bare. Frons sub-shining black, dulled by microsculpture, frontal and interfrontal setulae very short, at most $0.2\times$ length of orbital seta, longer on anterior margin above lunule. Lunule with brownish ground colour, when seen from above moderately silver pollinose as are parafacials and face. Anterior genal setulae in a single row of 7–8 along mouth margin, decreasing in length anteriorly. Antennae, postpedicel black apart from a small orange area at extreme medial base, length to depth ratio 2.8:1. Arista plumose, ratio of plumosity at maximum extent to depth of postpedicel 1.1:1.

Thorax: Scutum shining blue-black contrasting with the rather matt grey-black scutellar dorsum. Anepisternum with four anterior setae and four posterior setae, remainder of sclerite covered in rather sparse, long setulae. Katepisternum with two setae located near dorsal margin, anterior being slightly shorter and weaker than posterior. Scutellum, on margin between lateral and apical setae, with three setulae on each side, none between apical setae. Calypteres pale, with a pale margin and fringe. Wings clear, veins brownish, wing length 4.0 mm. All femora and tibiae dark brown, contrasting with dark setulae and setae, tarsomeres dark.

Male terminalia: In lateral view epandrium of unusual shape, with moderately large rectangular process posteriorly behind which one of strong prenisetae projects, a row of very long setulae present along posterior and ventral margins. Cerci relatively small, slightly rectangular in shape, bearing numerous short setulae. Surstyli extending beyond shell of epandrium posteroventrally as large semicircular lobe. Inner surface of surstyli with two prenisetae, a smaller, medially directed

posterior prensiseta located just below base of cerci. A much larger ventral prensiseta directed ventrally, extending beyond outer margin of surstylus, otherwise inner surface with only a few small setulae near ventral margin. Pregonite, moderately large, simple processes, pointed at apex, covered in numerous short setulae. Postgonite, relatively small with short marginal fringe of setulae. Phallus relatively simple, slightly angular, J-shaped tube without ornamentation apart from area of small scales medially.



Figs 18–21: *Silba setigonite* n. sp.: (18) epandrium and associated structures, lateral view; (19) same, ventral view; (20) surstylus, inner surface; (21) phallus, lateral view. Scale 0.1 mm.

Holotype: ♂ **Madagascar:** Mandraka, Rt. 2, 75 km E Antananarivo [18°57'S 47°54'E], 16.iv.1991, A. Freidberg & F. Kaplan (SMNHHTAU).

Paratypes: Madagascar: 1♂ Ambohitra, Joffreville, 800 m, 9–12.iv.1991, A. Freidberg & F. Kaplan (SMNHHTAU); 1♂ Nosy, Tanikely, 6.iv.1991, A. Freidberg & F. Kaplan (SMNHHTAU); 1♂ Andasibe, Hotel Feon'nyala, 5.xi.2007, L. Freidman (SMNHHTAU); 1♂ Tananarivo [=Antananarivo], no date, S.V. Friederichs (MNB). Note: The specimen in the Museum für Naturkunde, Berlin has no further data on the label but according to Enderlein (1920) Dr Friederichs was in Madagascar in 1916 and this is considered the likely date of collection.

Species not previously recorded from Madagascar

Genus *Silba* Macquart, 1851
Silba virescens Macquart, 1851

(Figs 22, 23)

This is a widely distributed in the Afrotropical Region species; it is possible that it could have been introduced to Madagascar by human activity. Male terminalia as in Figs 22, 23.

Material examined: Madagascar: 1♂ Fort Dauphin (Tôlanaro), 18–23.iv.1991, A. Freidberg & F. Kaplan; 1♂ 30 km W Sambava, 13.iv.1991, A. Freidberg & F. Kaplan (all SMNHHTAU).

Genus *Dasiops* Rondani, 1856

Further species of *Dasiops* are included within the material collected by Freidberg and Kaplan, but at this stage it has not been possible to determine their status due to insufficient keys and a lack of comparative material.

Genus *Lonchaea* Fallén, 1820

No male specimens of the genus *Lonchaea* were found in the specimens examined and thus, due to the difficulties in determining females, no described species can be confirmed from the island. There are, however, three female specimens of two species which belong to this genus.

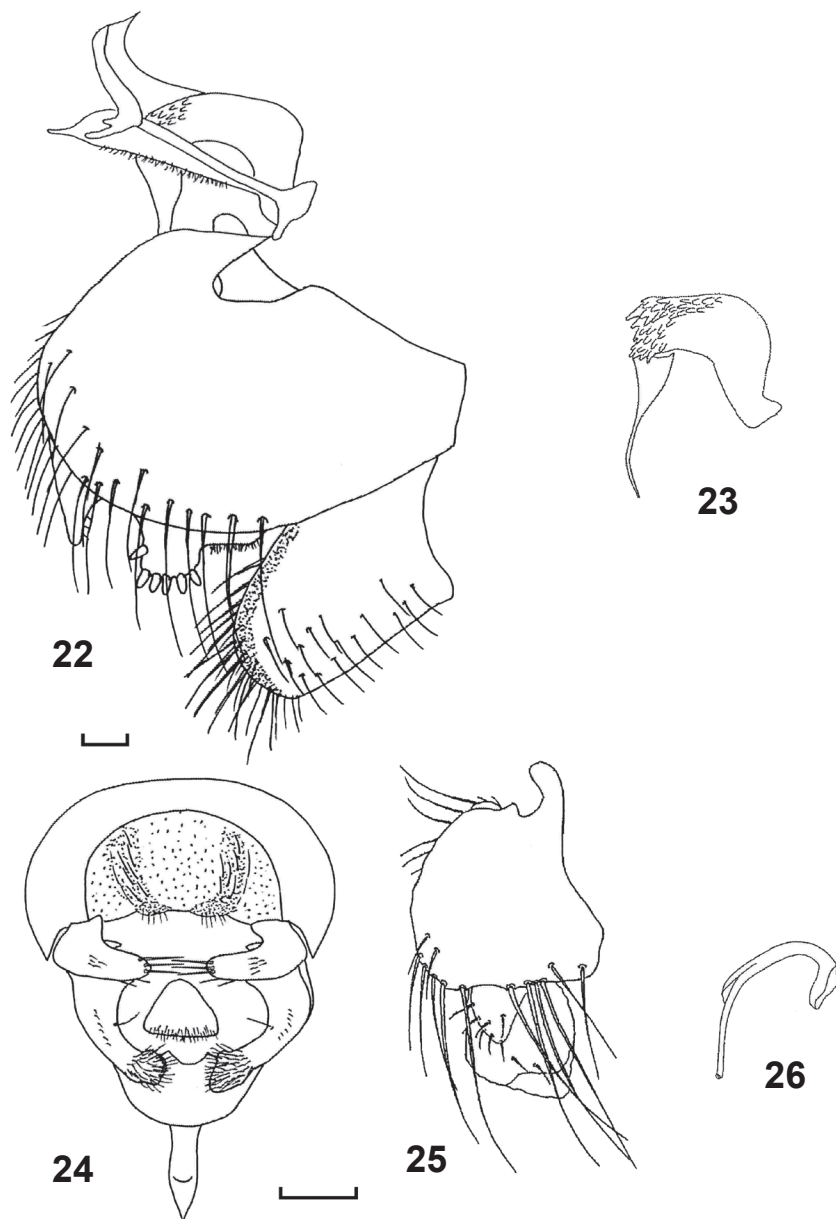
Lonchaea sp. 1

This species is relatively small with a wing length of 2.6 mm, with pale calypteres and fringes and pale basal tarsomeres. Antennal postpedicel entirely black with a small orange area at extreme medial base, length to depth ratio 1.7:1. Scutellum, on margin with one or no setulae between lateral and apical marginal setae, aculeus pencil-like with the shaft and apical segment of similar width.

Material examined: Madagascar: 1♀ 30 km W Fort Dauphin, 22.iv.1991, A. Freidberg & F. Kaplan; 1♀ Fort Dauphin, 18–23.iv.1991, A. Freidberg & F. Kaplan (all SMNHHTAU).

Lonchaea sp. 2

Lonchaea sp. 2 is slightly larger with a wing length of 3.0 mm. It also has pale calypteres and fringes and pale basal tarsomeres. Length to depth ratio of antennal postpedicel 3.0:1, postpedicel being entirely black with small orange area at ext-



Figs 22–26: New and previously recorded lonchaeid species from Madagascar: (22, 23) *Silba virescens* (Macquart, 1851): (22) epandrium and associated structures, lateral view, (23) phallus, lateral view; (24) *Dasiops stuckenbergi* McAlpine, 1960, epandrium and associated structures, posterior view; (25, 26) *Lamprolonchaea smaragdi* (Walker, 1849): (25) epandrium and associated structures, lateral view, (26) phallus, lateral view. Scales 0.1 mm.

reme medial base. Margin of scutellum with six to eight setulae situated between lateral and apical marginal setae. The aculeus is broader than in species 1, the shaft of aculeus 3× width of apical segment.

Material examined: Madagascar: 1♀ 10 km N Fort Dauphin, 18.iv.1991, A. Freidberg & F. Kaplan (SMNHTAU).

Notes on species previously recorded from Madagascar

Dasiops stuckenbergi McAlpine, 1960

(Fig. 24)

McAlpine (1960: 348) records five female paratypes from Manjakatempo Forest Station, Ankaratra Massif, captured in January 1956 by Brian Stuckenberg. McAlpine also notes that “Apparently it is widely distributed in Africa and, to my knowledge; it is the first lonchaeid to be recorded from Madagascar”. Male terminalia as in Fig. 24.

Material examined: Madagascar: 1♂ Antananarivo, 6.xi.2007, A. Freidberg; 1♂ Berenty Sisal factory, 22.x.2007, A. Freidberg (all SMNHTAU).

Lamprolonchaea smaragdi (Walker, 1849)

(Figs 25, 26)

First listed from Madagascar without location by McAlpine (1980) in the *Catalogue of the Diptera of the Afrotropical Region*. This is a species widely distributed in the Afrotropical Region and well known as a vagrant. It may originally have been imported to Madagascar by human activity. Male terminalia as in Figs 25, 26.

Material examined: Madagascar: 1♂ 50 km W Fort Dauphin, 22.iv.1991, A. Freidberg & F. Kaplan; 1♂ W Fort Dauphin, 11.iv.1991, Freidberg & Kaplan; 1♂ Isaka Forest, 23.x.2007, L. Freidberg (all SMNHTAU).

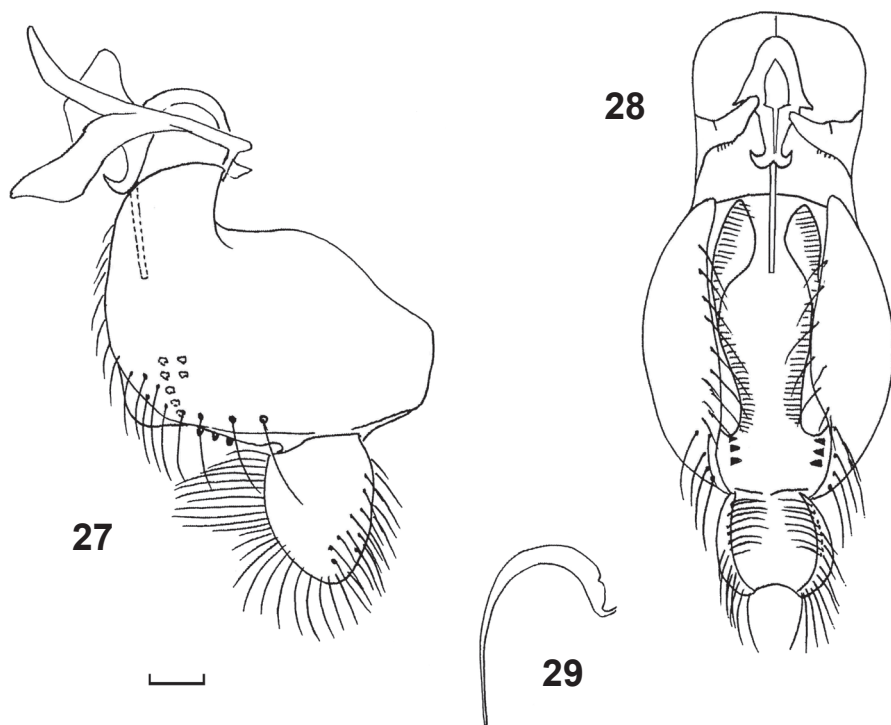
Silba apodesma McAlpine, 1960

Described by McAlpine (1960: 368) from locations in South Africa and listed as occurring in Madagascar by McAlpine (1980). At that time *S. apodesma* was the only known member of the *Silba admirabilis* species-group known from the Afrotropical Region. In the recent review of the species-group MacGowan (2015) described *S. spiculata* from several localities in Madagascar. It is very likely that the previous *S. apodesma* records from Madagascar actually relate to the rather similar *S. spiculata* and as a result *S. apodesma* is removed from the Madagascar checklist.

Silba candidala McAlpine, 1964

(Figs 27–29)

Originally described, but not illustrated, by McAlpine (1964) on the basis of the holotype male (Navana-Antongil, Maroantsetra, 20–25.iii. 1958, B. Stuckenberg (Museum National Histoire Naturelle, Paris) and the allotype female and 1 male paratype (both from Antongonivirsira, viii.1950, J. Vadon (RMCA)).



Figs 27–29: *Silba candidala* McAlpine, 1964: (27) epandrium and associated structures, lateral view, prenisetae on inner surface shown as open circles; (28) same, ventral view; (29) phallus, lateral view. Scale 0.1 mm.

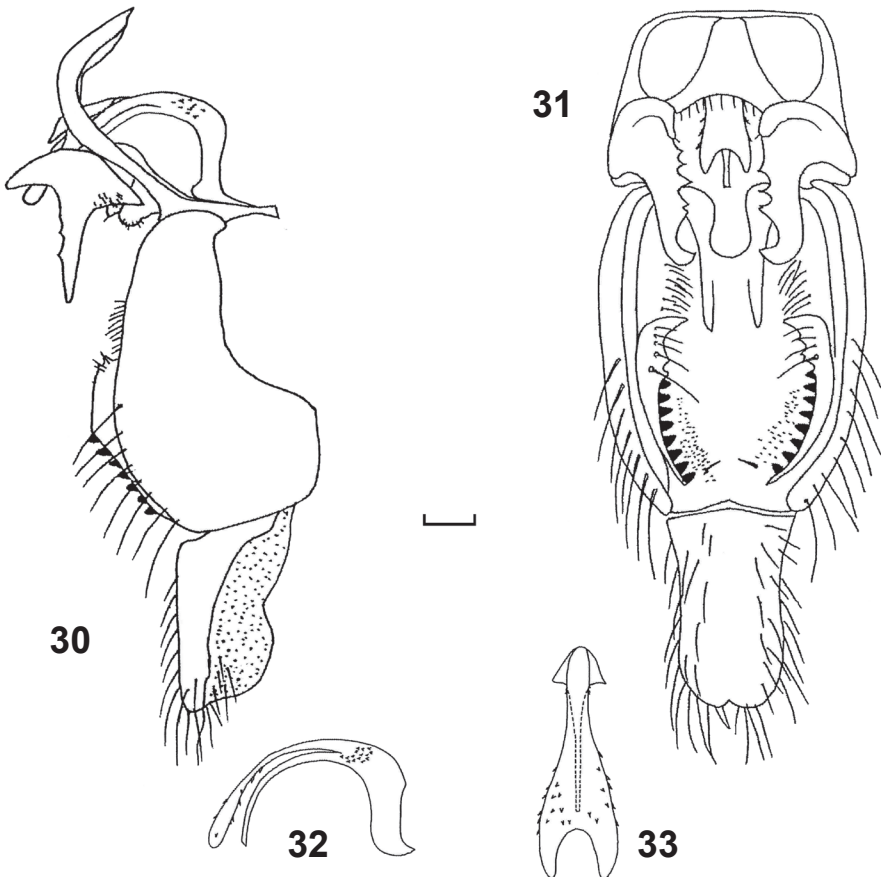
Description (summarized after McAlpine (1964: 705) and updated): *Antennae*: postpedicel slightly paler brownish basally, extending well beyond oral margin; approx. $3.0\times$ as long as wide. Arista pale yellow on basal sixth; otherwise shining black; extremely long-plumose, plumosity at its widest $1.6\times$ depth of postpedicel. Scutellum uniformly greyish dusted; margin with five to six setulae between lateral and apical setae, two between apical setae. Anepisternum with three anterodorsal and four posterior bristles. Calypteres, margins and fringes snow white. Wings remarkably white, even to naked eye; apical fifth or sixth appearing somewhat smoky from some angles; veins white.

Male terminalia (Figs 27–29): In lateral view surstylus projecting as a rounded lobe beyond posteroventral angle of epandrium; inner surface with 11–12 prenisetae that become smaller, more widely separated and scattered anteriorly; inner surface striated. Phallus simple, non-segmented, C-shaped tube. Pregonites large, finely spiculate on basal half or more. Postgonites extremely small, phallic guide in form of two anteroventrally curved spines, each of which larger than apical portion of phallus.

Silba eximia McAlpine, 1964

This is a very unusual lonchaeid; in describing the holotype McAlpine (1964: 706) states that “at first glance this unusual specimen might be interpreted as being teneral or otherwise abnormal. However, close inspection affirms that it is extremely well formed in every way; the entire integument appears perfectly tanned and hardened. If normal, the pale colour of the legs, pleura, and halteres is uniquely different from any other species in this family”.

This species is still only known from the female holotype captured at Ambohitaniely, Ankaizobe district, 1600 m, 6.i.1958. Until further material including attributed males are obtained the status of this species must remain somewhat uncertain.

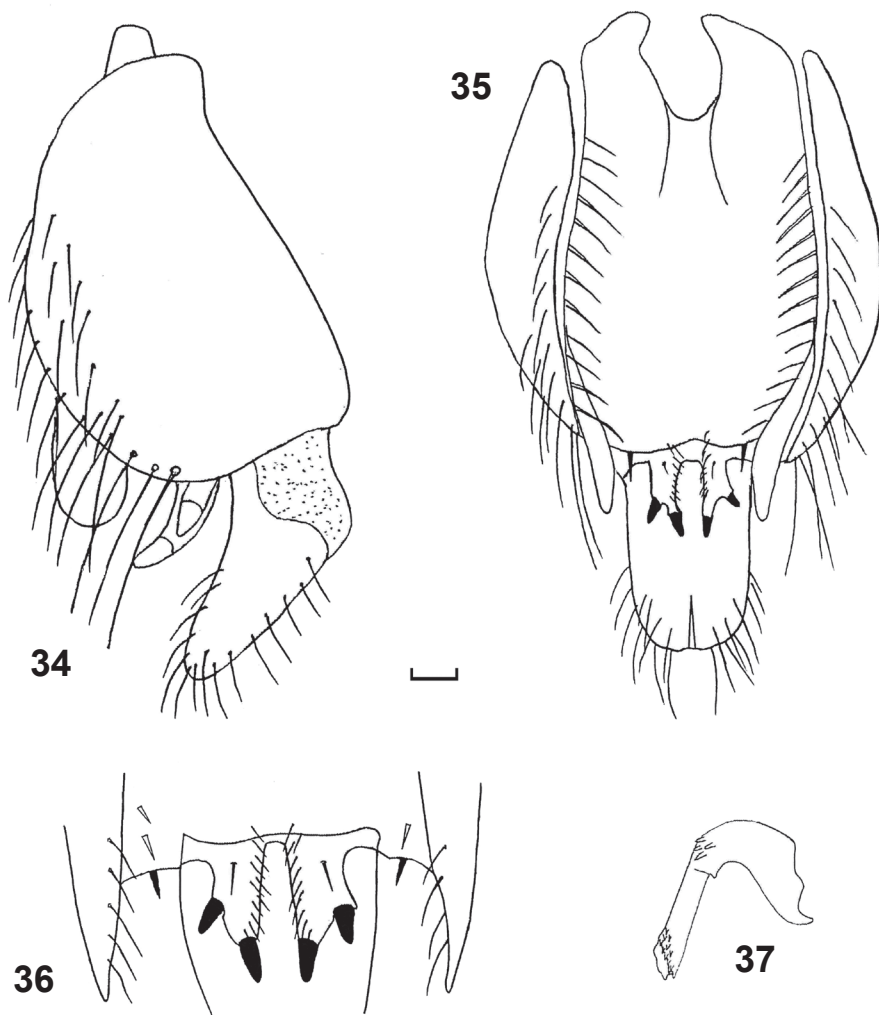


Figs 30–33: *Silba spiculata* MacGowan, 2015: (30) epandrium and associated structures, lateral view; (31) same, ventral view; (32) phallus, lateral view; (33) phallus, ventral view (all after MacGowan 2015). Scale 0.1 mm.

Silba spiculata MacGowan, 2015

(Figs 30–33)

The only member of the *Silba admirabilis* McAlpine, 1956 species-group presently known from Madagascar. A full description of this species and records of capture localities are given by MacGowan (2015). The male terminalia are illustrated in Figs 30–33.



Figs 34–37: *Silba unguifera* McAlpine, 1964: (34) epandrium and associated structures, lateral view; (35) same, ventral view; (36) close up view of prenisetae at base of cerci; (37) phallus, lateral view. Scale 0.1 mm.

Silba unguifera McAlpine, 1964

(Figs 34–37)

Originally described, but not illustrated, by McAlpine (1964: 709) on the basis of the holotype male and two females collected at Antongil, Maroantsetra, 20–25.iii.1958, by B. Stuckenberg. The holotype was deposited in the Museum National d'Histoire Naturelle, Paris, but when contacted as part of the research for this paper they were not able to locate the specimen. However, based on the description of the very distinctive male genitalia by McAlpine (1964) it is possible to attribute specimens to this species.

Additional notes on the male terminalia: Posterior margin of surstylus at base of cerci with 2 large, posteriorly directed processes arising from a common, raised, setulose base. Each process with 2 very strong talon-like apical spines, outer spine approximately 0.3× size of the inner. Phallus partly bi-segmented, short and stout with spicules apically and on outer margin of basal section. The male genitalia are figured here for the first time (Figs 34–37).

Material examined: 1♂ Ambohitra, Joffreville, 800 m, 9–12.iv.1991, A. Freidberg & F. Kaplan (SMNHSTA); 1♂ Maroantsetra, ix.1959, J. Valdon; 4♂ Maroantsetra, 1962, J. Valdon (RBINS).

*Checklist of Madagascar Lonchaeidae**Dasiops* Rondani, 1856*Dasiops kaplani* n. sp.*Dasiops pencila* n. sp.*Dasiops stuckenbergi* McAlpine, 1960*Lamprolonchaea* Bezzi, 1920*Lamprolonchaea smaragdi* (Walker, 1849)*Silba* Macquart, 1851*Silba andasibe* n. sp.*Silba candidala* McAlpine, 1964*Silba longigonite* n. sp.*Silba macrogonite* n. sp.*Silba setigonite* n. sp.*Silba spiculata* MacGowan, 2015*Silba unguifera* McAlpine, 1964*Silba virescens* Macquart, 1851*Species whose status is in need of clarification**Silba eximia* McAlpine, 1964**Key to the Lonchaeidae genera and species present in Madagascar**

(A fully illustrated key to Afrotropical genera is provided in MacGowan & Rotheray (in press).)

- 1 Poststigmatal seta or setae present on anterior marginal portion of anepisternum positioned dorsal of and slightly posterior to anterior thoracic spiracle (*Dasiops*) 4

- Poststigmatal seta or setae absent 2
- 2 Lunule with setulae, body colour black 3
- Lunule without setulae, body colour metallic green/blue. Male terminalia as in Figs 25, 26 *Lamprolonchaea smaragdi*
- 3 One seta near dorsal margin of katepisternum, arista usually bare to setulose. Males: inner surface of surstyli bearing only setulae or setae..... *Lonchaea* (no males reported in this study)
- Usually two setae near dorsal margin of katepisternum, arista plumose. Males: inner surface of surstyli with obvious prenisetae (teeth) (Figs 11, 16, 20) (*Silba*)..... 6
- 4 All tarsomeres dark, calypteres dark with dark fringes. Male terminalia as in Fig. 24..... *D. stuckenbergi*
- At least basal tarsomeres pale 5
- 5 Calypteres with dark margin and fringe. Male terminalia as in Figs 1–4..... *D. kaplani*
- Calypteres and fringe entirely pale. Lunule without pock-like depressions, aculeus wide with a pencil shaped apical segment (Fig. 5). Interfrontal setulae long (only known from female)..... *D. pencila*
- 6 Humeri, pleuri, scutellum and sides of abdomen brown; legs and halteres yellowish brown..... *S. eximia*
- Body and halteres black although legs may occasionally be brownish 7
- 7 All basal tarsomeres pale. Male terminalia as in Figs 30–33 *S. spiculata*
- Basal tarsomeres dark 8
- 8 Males: surstyli protruding beyond shell of epandrium as a rounded posterior lobe bearing a marginal row of prenisetae (Figs 22, 23) *S. virescens*
- Surstyli without such a rounded posterior lobe..... 9
- 9 Inner surface of surstyli with a distinct row of 3–12 distinct prenisetae on inner surface (Figs 11, 16)..... 10
- Inner surface of surstyli without such a distinct row of prenisetae (in *S. andasibe* 3 prenisetae are on the medial margin)..... 12
- 10 Inner posterior margin of surstyli with a row of 3 prenisetae and vertical rows of setulae (Fig. 11), pregonite long and finger-like (Fig. 10)..... *S. longigonite*
- Inner surface of surstyli with a row of 6–12 prenisetae..... 11
- 11 Inner posterior margin of surstyli with a single row of 6–7 prenisetae (Fig. 16) pregonite large and bifurcated apically (Fig. 15) *S. macrogonite*
- Inner surface of surstyli with 10–12 prenisetae in a partly double row (Fig. 27), pregonite not bifurcated apically (Fig. 28)..... *S. candidala*
- 12 Prenssetae located on a posteriorly directed process at base of each cercus (Fig. 36). Phallus short and stout, with a spiculate apex (Fig. 37)..... *S. unguifera*
- Prenssetae located on inner surface of surstyli not on a process at base of cerci. Phallus long and tubular 13

- 13 A row of 3 very closely approximated rounded prensisetae on medial margin of each surstylus. Left pregonite greatly enlarged and sclerotized, forming a long, black, pointed projection (Fig. 7). Phallus U-shaped, divided into three processes apically (Fig. 8)*S. andasibe*
 – 2 large prensisetae on each surstylus, the ventral very large (Fig. 20). Pregonites setulose (Fig. 19). Phallus simple (Fig. 21).....*S. setigonite*

ACKNOWLEDGEMENTS

I thank Amnon Freidberg, Tel Aviv, and Joachim Ziegler, Berlin, for arranging the loan of material from Madagascar, and André Reimann and Phil Withers for their comments on the manuscript.

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