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GEIR E. E. SØLI

Mycetophilidae from Chile (Diptera, Nematocera)

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(With 8 text-figures)

Through the good offices of Dr. P. H. Arnaud, Jr. of the Entomology Department of the California Academy of Sciences, besides other material which will be treated in future publications, we received six hundred and four specimens of Chilean Mycetophilidae which are the subject of this paper.

Slightly more than two hundred species have been found in the Chilean center of endemism and dispersal. This center was considered by the late Dr. M. Aczél as a distinct Region. As the insect fauna becomes better known, this knowledge will help to decide if such a step is valid. As insects form the bulk of the fauna in the proposed Region, all work pertaining to them is of interest.

Eighty-three species were determined and, of these, eight are described as new. Interesting facts were noticed, chiefly that the Chilean Mycetophilid fauna is quite restricted. Except for the finding of *Paramacrocera anomala* Freeman, 1951 and *Macrocera flavithorax* Freeman, 1951 in the Colombia highlands and Mexico respectively, suggesting the possibility of a greater intrusion of this fauna along the Andean and Mexican highlands, no other species are reported in this collection ranging beyond this center. There is also a specimen of *Macrocera funerea* Freeman, 1951 with anomalous antenna. A better understanding of this fauna can be made by comparing Freeman's (1951) basic work together with our paper on the Argentinian fungus gnats (Lane, 1956) with the species here reported.

The great majority of specimens was collected by Drs. E. S. Ross and A. E. Michelbacher and we have, for the sake of briefness, not mentioned them in our distribution records and cited only those few other collectors, who also contributed material.

Types have been returned to the Entomological Department of the California Academy of Sciences and registry numbers, when mentioned, are those of the "Departamento de Parasitologia e Higiene Rural da Faculdade de Higiene e Saúde Pública da Universidade de S. Paulo, Brazil".

We take pleasure in thanking Dr. P. H. Arnaud, Jr., Drs. E. S. Ross and A. E. Michelbacher, who collected the material here studied, and also Miss Jean Taylor, Mr. W. de Almeida Siqueira and Mr. E. B. Ferraz for helping us.

All drawings were made with the aid of a camera lucida by Mr. E. B. Ferraz.

Australosymmerus bivittatus Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 9.
1956, Lane, 10th. Int. Cong. ent., 1 : 143.

Chile, Osorno Prov., 10 km. E. of Puyehue, 24.I.1951, one male; 20 km. E. of Puyehue, two males and one female, 26.I.1951.

Keroplatinae

Only the genera *Macrocera*, *Paramacrocera* and *Isoneuromyia* are represented in this collection. The absence of species belonging to *Keroplatus*, *Dolichodactyla* and *Platyura* is, in all probability, seasonal.

Macrocera antennata Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 15.

Chile, Angol, XII.1950, five males and four females; El Abanico, XII.1950, two males; 50 km. E. of San Carlos, XII.1950, two females; Osorno Prov., Valley Forest 18 km. W. of Purranque, one female I.1951.

Macrocera chilena n. sp.

(Fig. 1)

Male. — Length of body 5 mm.; wing 6 mm.; antenna 11 mm.

Head: Mouth parts yellowish. Palpus brown, the four segments nearly subequal. Clypeus yellow with long shaggy hairs. Antenna with yellow scape and torus, the scape much larger than torus; flagellum a little more than twice the length of whole body; first two segments subequal, yellowish, III the same size but brown; other segments longer to VI, remaining ones quite longer and more slender. Whole antenna with stout setae. Occiput brown with two deep grooves which unite posteriorly at each side of ocelli.

Thorax: Pronotum yellowish. Mesonotum divided into three large dark brown longitudinal marks which are separated by the yellow color extending to the sides; dorsocentrals along the yellow dividing stripes; acrostichals absent; setae on sides of prescutellar region, stout. Scutellum dark brown with eight

marginal setae. Postnotum brown in the middle, the sides yellowish. Pleura brown with two longitudinal bands, one from the pronotum to legs and the other from wing bases to before the mid coxa.

Wing: (Fig. 1) Hyaline with a single transverse band on base of apical third. No macrotrichia. Halter yellow. Legs: Fore coxa yellow the mid and hind ones dark brown. Femora and tibiae brown. Tibial spurs 1-2-2. Abdomen dark brown, segments VI and VII blackish. Genitalia: Basistyles stouter and longer than the dististyle. Dististyle three-fourths the length of basistyle, stout and ending in two black stout teeth, one of them shorter.

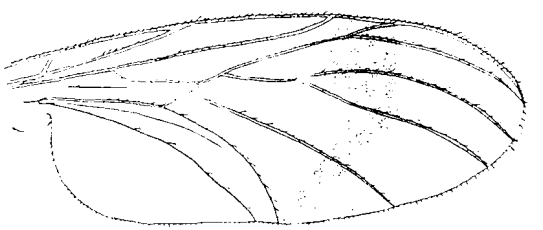

Fig. 1. *Macrocera chilena* n. sp., wing.

Type. — Holotype male. Sent to the Department of Entomology of the California Academy of Sciences.

Type locality. — Chile, Prov. Llanquihue, Los Muermos, forest, 19.I.1951 (Ross & Michelbacher col.).

Note. — *M. chilena* differs from *fumidapex*, the only other species with a single band across the wing on apical third, by the three marks on mesonotum, the dark brown mid and hind coxae and the dark brown scutellum.

Macrocera flavescens Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 15.

Chile, Prov. Osorno, 50 km. E. of Puyehue, I.1951, one male.

Macrocera flavithorax Freeman

1951, *Macrocera* Freeman, Dipt. Pat. & S. Chile, 3 : 16.

A male. Although the dorsocentral and acrostichal setae are practically absent on mesonotum, the macrotrichia absent on anal and the abdomen only darkened posteriorly, I still believe that it belongs to this species even though the distribution is extended to such a northern point.

Mexico, Manzanitla, Pine forest, 1.XII.1943 (E. S. Ross coll.).

Macrocera funerea Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 14.
1953, Freeman, Rev. Chile. ent., 3 : 25.

A single anomalous male. This specimen has an anomaly in the antenna. The first flagellar segment on the left (stirrup) side is normal, while on the other side it is longer due to a protuberant bulb-shaped excrescence on the internal portion. The covering of both segments is the same and formed by short pile.

Chile, Prov. Llanquihue, Los Muermos, forest, 20.I.1951.

Macrocera inaequalis Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 16.

Chile, El Abanico, Prov. of Bio-Bio, XII.1950 one female; 20 km. N. of Concon, Prov. Valparaiso, XI.1950, one male.

Paramacrocera anomala Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 18.

A single male is known. We have an additional one. The male genitalia has short, thick dististyles which end in two stout claws of about the same size.

Colombia, 9 km. W. of Cali, Valley, 1630 m. alt., 20.III.1955 (E. I. Schlinger & E. S. Ross coll.).

Isoneuromyia lutea Freeman

1951, *Platyura (Isoneuromyia)* Freeman, Dipt. Pat. & S. Chile, 3 : 22.

Two females. The head is blackish brown and vein M_2 although weaker at base is quite distinct in one specimen, in the other it is detached. Otherwise conforms with diagnosis.

Chile, Prov. Nuble, 40 km. E. of San Carlos, 23.XII.1950; Prov. Llanquihue, Los Muermos, 20.I.1955.

Sciophilinae

In the tribe Mycomyiini the genera *Mycomyia* and *Echinopodium* are well represented by species and also a number of individuals. Of the Sciophilini only a few specimens of *Allocotocera* and *Aphelomera* were represented and all other genera were absent in the collection. Of the tribe Gnoristini all genera were well represented except *Coelosia*, *Dziedzickia* and *Thoracotropis*.

Mycomyia chilensis (Blanchard)

1852, *Sciophila chilensis* Blanchard, *in* Gay, Hist. Fis. Polit. Chile, Zool., 7 : 347.
1865, Philippi, Verh. Zool.-Bot. Ges. Wien, 15 : 624.
1891, Lynch-Arribalzaga, Bol. Ac. Nac. Cien. Córdoba, 12 : 421.
1900, Hunter, Trans. Am. ent. Soc., 26 : 275.
1909, Johannsen, Gen. Ins., Fasc. 93 : 38.
1946, Stuardo, Cat. Dipt. Chile, 56.
1951, *Mycomyia* Freeman, Dipt. Pat. & S. Chile, 3 : 31-32.
1959, Coher, Ent. Am., (n. s.), 38 : 92.

Chile, Prov. Nuble, 50 km. E. of San Carlos, 26.XII.1950, five males and three females; 40 km. E. of San Carlos, 23.XII.1950, two males and three females; Prov. Llanquihue, Los Muermos, forest, 19.I.1951, three males and one female; Valdivia, 30 km. South, 13.I.1951, two males; Bio-Bio Prov., El Abanico, 30.XII.1950, one male; Osorno Prov., 30 km. E. of Puyehue, 25.I.1951, two females; 12 km. W. of Puerto Varas, 16.I.1951, one female; Malleco, 15 km. N. of Perquenco, 6.I.1951, one female; Chile, no other locality or date given, two females (E. P. Reed col.).

Mycomyia cylindrica Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 41.
1959, Coher, Ent. Am., (n. s.) 38 : 96.

Chile, Prov. Osorno, 30 km. E. of Puyehue, 26.I.1951, one female; Prov. Nuble, 40 km. E. of San Carlos, 23.XII.1950, one female; Prov. Llanquihue, Los Muermos, forest, 20.I.1951, one male.

Mycomyia divisus Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 45.
1959, Coher, Ent. Am., (n. s.) 38 : 98.

Chile, Prov. Nuble, 40 km. E. of San Carlos, 23.XII.1950, four males and five females; 50 km. E. of San Carlos, 26.XII.1950, five females; Bio-Bio Prov., El Abanico, 30.XII.1950, two males and two females; 20 km. E. of Temuco, 8.I.1951, one female; Prov. Llanquihue, Los Muermos, forest, 19.I.1951, one female; Osorno Prov., 20 km. E. of Puyehue, 26.I.1951, one male; Angol, 31.XII.1950, one male.

Mycomyia forcipata Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 42.
1959, Coher, Ent. Am., (n. s.) 38 : 96.

Three females tentatively determined as this species. Chile, Prov. Nuble, 40 km. E. of San Carlos, 23.XII.1951, two females; 50 km. E. of San Carlos, 26.XII.1950, one female.

Mycomyia fuscicornis Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 31, 36.
1959, Coher, Ent. Am., (n. s.) 38 : 94

Chile, Prov. Llanquihue, Los Muermos, forest, 19.I.1951, a single male.

Mycomyia ochracea Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 31.
1959, Coher, Ent. Am., (n. s.) 38 : 92.

Chile, Prov. Nuble, 50 km. E. of San Carlos, 26.XII.1950 two males; Prov. Bio-Bio, El Abanico, 30.XII.1950 two males; 15 km. NE. of Pucon, 12.I.1951, one male.

Mycomyia setifera Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 31, 45.
1959. Coher, Ent. Am., (n. s.) 38 : 98.

Chile, Prov. Osorno, 10 km. E. of Puyehue, 24.I.1951, one male; 12 km. W. of Puerto Varas, 16.I.1951, one male.

Mycomyia taurus Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 31, 44.
1959. Coher, Ent. Am., (n. s.) 38 : 97.

Chile, Bio-Bio Prov., El Abanico, 30.XII.1950, a male and a female.

Note. — We have also two females of *Mycomyia* which were tentatively determined as *M. ansata* Freeman, 1951 and *M. bifida* Freeman, 1951. Males would be needed for a precise determination.

Echinopodium digitalis Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 47.
1959. Coher, Ent. Am., (n. s.) 38 : 139.

Chile, Prov. Llanquihue, Los Muermos, forest, 19.I.1951, a single male.

Echinopodium flagellatum Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 48.
1959. Coher, Ent. Am., (n. s.) 38 : 128.

Chile, Prov. Osorno, 10 and 30 km. E. of Puyehue, 24 and 25.I.1951, two males.

Echinopodium nigricoxa Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 46.
1959. Coher, Ent. Am., (n. s.) 38 : 128.

Chile, Prov. Osorno, 30 km. W. of Purranque, 16.I.1951, one male, and 30 km. E. of Puyehue, 26.I.1951, one male.

Note. — It is interesting to note that no females of this genus were found in this collection.

Allocotocera flavicoxa Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 52.

Chile, Prov. de Osorno, 10 km. E. of Puyehue, 24.I.1951, one male.

Aphelomera cristata Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 60.

Chile, Prov. Nuble, 40 and 50 km. E. of San Carlos, 26.XII.1950, a male and a female.

Synapha fumipennis Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 69.

Chile, 15 km. NE. of Pucon, 12.I.1951, a single male.

Synapha funerea Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 68.

Chile, 40 km. E. of San Carlos, 23.XII.1951, fourteen males and two females.

Synapha michelbacheri n. sp.

(Fig. 2)

Male. — Length of body 2.8 mm.; wing 2.5 mm.

Head: Mouth parts brown. Palpus yellow. Clypeus black with strong setae. Antenna with blackish scape and torus; flagellar segment blackish, I about twice as long as broad, II to XII decreasing gradually in length to about as broad as wide, XIII one and a half times, and last segment two and a half times as long as broad and ending in a blunt point. Occiput blackish, pruinose.

Thorax black. Mesonotum with prescutellar setae very long and in a row of six. Scutellum with four long marginal setae. Pleura bare, only the pleurotergite with long setae.

Wing hyaline. *Sc* with short macrotrichia on basal half as on *R*, radial sector and both forks except the stem of *M* which is nude. Halter yellow. Legs yellow except hind femur which is brownish on apical third. Mid tibia thickened beyond base where it is darker and has a sensory organ over about one-third its length; with 4 external, 2 internal and a row of about six very short ventral setae. Hind tibia with 10 dorsal and 6 external short setae. Abdomen shining black, narrowly whitish on posterior margin of segments. Genitalia: (Fig. 2) Basistyle with lobe elongate, more than twice as long as wide. Dististyle a single subtriangular lobe with an internal blunt mesial protuberance. Other structures as in figure. Ninth tergite in two rounded lobes.

Type. — Holotype male. Returned to the Department of Entomology, California Academy of Sciences.

Type locality. — *Chile, Prov. Nuble, 40 km. E. of San* Carlos, 23.XII.1950, (Ross & Michelbacher col.).

Note. — This species is near *S. flavipalpis* Freeman, 1951 but the length of flagellar segments, larger sensory organ on mid tibia and structures in the dististyle of male genitalia, separate it from the above species and others of this genus. We take pleasure in naming it for Dr. A. E. Michelbacher, one of its collectors.

Austrosynapha forcipata Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 71.

Two males and two females. The females are not determined with certainty. Chile, Prov. Llanquihue, Los Muermos, forest, I.1951, one male; Prov. Nuble, 40 km. E. of San Carlos, XII.1950, one male and two females.

Austrosynapha lamellata Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 73.

Chile, Prov. Llanquihue, Los Muermos, forest, I.1951, three males.

Austrosynapha reducta Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 70.

Chile, 50 km. E. of San Carlos, XII.1950, two specimens.

Austrosynapha rossi n. sp.

(Fig. 3)

Male. — Length of wing 3.5 mm.

Head: Mouth parts and palpus yellowish. Clypeus black with a few slender hairs. Antenna with yellow torus; flagellar segment I narrowly yellow at base, about three times as long as broad and nearly equal in length to segment II; rest of flagellum blackish. Occiput blackish.

Thorax: Pronotum yellowish. Mesonotum brown, acrostichal and dorsocentral setae in lines. Scutellum yellow with two marginal setae. Postnotum with yellow base, apex brownish. Pleura yellow. Wing hyaline. C_1 ending in C, C_2 ending in R_1. Lower fork a little before the upper one. Legs yellowish. Tibial spurs long 1-2-2. Combs present on fore and mid tibiae but absent on the hind one. Claws average on all legs. Genitalia (Fig. 3): Basistyle thick. Dististyle slender and as long as basistyle, the apex drawn out into a point. Ninth tergite in two separate lobes. Other structures as in the figure.

Types. — Holotype male. Returned to the Entomological Department of the California Academy of Sciences.

Type locality. — Chile, Osorno Prov., 20 km. E. of Puyehue, 26.I.1951 (Ross & Michelbacher col.).

Note. — The peculiar structures of the male genitalia besides other characters separate this species from all others. We take pleasure in dedicating such an interesting species to one of the collectors, Mr. E. S. Ross.

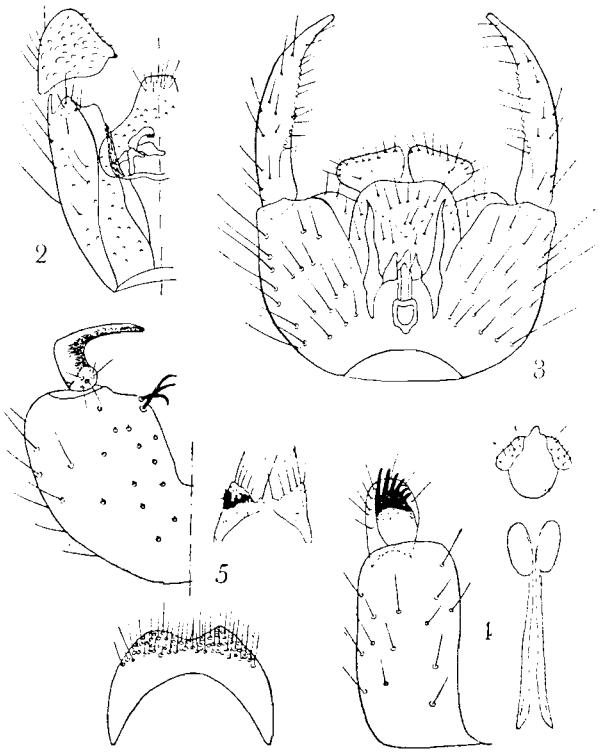

Fig. 2. *Synapha michelbacheri* n. sp., male genitalia; only one side showing. — Fig. 3. *Austrosynapha rossi* n. sp., male genitalia in dorso-ventral view. — Fig. 4. *Leielia arnaudi* n. sp., male genitalia; on left, one side of basistyles and dististyles showing; on right, mesosome and 9th? tergite. — Fig. 5. *Tetragoncura andina* n. sp., male genitalia; on left, onde side of basistyles and dististyles showing; on right 9th and 10th? sternites.

Austrosynapha spinifera Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 73.

Chile, Prov. Nuble, 40 km. E. of San Carlos, 23.XII.1951, a single male.

Austrosynapha truncata Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 73.

Chile, 50 km. E. of San Carlos, four males, 40 km. E. of San Carlos, one male, XII.1950; Bio-Bio Prov., El Abanico, XII.1950, one male.

Austrosynapha unguiculata Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 71.

Chile, Prov. Llanquihue, Los Muermos, forest, 19.I.1951, ten males and a single female.

Paraleia nubilipennis (Walker)

1836. *Leia* Walker, Trans. Lins. Soc. London, 17 : 334.
1909. Johannsen, Gen. Ins., 93 : 79.
1946. Stuardo, Cat. Dipt. Chile, 58.
1951. *Paraleia* Freeman, Dipt. Pat. & S. Chile, 3 : 75.
1953. Freeman, Rev. Chil. ent., 3 : 26.
1956. Lane, 10th. Int. Cong. ent., 1 : 153.

Chile, Osorno Prov., 20 and 30 km. E. of Puyehue, 25 and 29.I.1951, five males and thirteen females; W. of Angol, 3.I.1951, three females; 12 km. W. of Puerto Varas, 10.I.1951, one male.

Leia dichroma Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 78.

Chile, no other locality or date (E. P. Reed coll.), 1 ♀.

Leiella arnaudi n. sp.

(Fig. 4)

Male. — Length of wing 3.2 mm.

Head: Mouth parts large, expanded at apex, yellow. Palpus yellow, two-thirds the length of head. Clypeus elongate, yellowish brown, with short, sparse, yellow hairs. Antenna with scape, torus and base of first flagellar segment yellow, the rest dark brown; antenna one and a half times the length of mesonotum. Occiput blackish, covered with yellowish hairs.

Thorax: Pronotum yellow. Mesonotum yellowish with three indefinite blackish stripes, the lateral ones blackish, the mesial one brown. Scutellum blackish brown in the middle, yellowish on the sides and bearing four stout marginal setae. Postnotum and pleura blackish brown. Pleurotergite with about fifteen stout setae in a bunch.

Wing smoky, apical third blackish. *Sc* reaching *C*, Sc_2 absent. Upper veins of both forks free. *An* not reaching margin but distinctly beyond base of lower fork. Halter yellow. Legs yellow, hind femur blackish on apical fifth. Mid tibia with 4 d., 4 subdorsal, 3 external, 2 ventral and 0 internal very stout and strong black setae. Hind tibia with 7 dorsal and 5 stout black subdorsal setae. External setae shorter than the internals which are very long. Tibial spurs yellow 1-2-2.

Genitalia: (Fig. 4) Basistyle stout, long. Dististyle in two lobes, one of them strongly sclerotized and ending in six teeth, the other rounded. Mesosome as in the figure.

Type. — Male. Returned to the Department of Entomology of the California Academy of Sciences.

Type locality. — Chile, Osorno Prov., 10 km. E. of Puyehue, 24.I.1951 (Ross & Michelbacher col.).

Note. — The only species which is near *L. arnaudi* here described is *L. catharinensis* Lane, 1954, but the coloration of occiput, thorax, hind femur and abdomen as also the number of hind tibial setae and characters found in the male genitalia separate it from this species and all others of this genus in the Neotropics. This species is dedicated to Dr. P. H. Arnaud Jr. of the California Academy of Sciences.

Procycloneura furcata Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 80.
1956. Lane, 10th. Int. Cong. ent., 1 : 153.

Argentina, Tucumán, Quebr. Cainzo, XII.1950 (R. Golbach col.), an additional male of this already reported species.

Procycloneura similis Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 81.

Chile, Prov. Osorno, 30 km. E. of Puyehue, 26.I.1951, a male and a female.

Tetragoneura galea Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 84

A single male of this very interesting species. The dististyle is quite sclerotized on its dorsal margin and very large. Chile, Osorno Prov., 30 km. E. of Puyehue, 26.I.1951.

Tetragoneura andina n. sp.

(Fig. 5)

Male. — Length of body 2 mm.; wing 2.5 mm.

Head: Mouth parts short and yellowish. Palpus very long, about the length of head height. Clypeus dull blackish with a few setae. Antenna with scape, torus and basal segments I and II yellow, the rest blackish grey. Occiput black, covered with long golden hairs.

Thorax black. Scutellum with four long marginal setae, the externals less than half the length of the internals. Wing hyaline. *Sc* ending free. *R* present and forming a narrow cell which is about one and a half times as long as broad. All veins with macrotrichia except *Sc*. Stem of *M* a little more than half the length of fork. Fork of *Cu* beyond level of base of stem of *M*. Halter yellow. Legs: Coxae yellow. Femora yellow but darkened ventrally at base. Tibia yellow. Mid tibia without sensory organ. Three small black d., 2 e., 4 minute i. and 0 v. setae. Hind tibia with about 10 d. and 5 e. setae. Abdomen shining black with whitish hairs.

Genitalia: (Fig. 5) Basistyles united at base, apex internally bearing three stout blackish spines. Dististyle curved, ending in a point, broadened at base and strongly sclerotized.

Types. — Holotype male; paratypes four males. Holotype and one paratype returned to the Entomological Department of the California Academy of Sciences. Two paratypes registered in our collection under ns. 14.770 and 14.780.

Type locality. — Chile, Prov. Nuble, 40 km. E. of San Carlos, 23.XII.1950, holotype and two paratypes; 50 km. E. of San Carlos 26.XII.1950, one paratype, 40 km. E. of San Carlos, one paratype (Ross & Michelbacher col.).

Note. — In our key this species would be placed near *T. aruensis* Lane, 1952 and *T. simplex* Edwards, 1932. In Freeman's key (1951) it would be placed in dichotomies 5 or 6. The characters of male genitalia and leg markings at once separate it. As can be seen, in the male genitalia, the strong spines on basistyle, the very short and pointed dististyle and mesosomal structures are quite distinct.

Tetragoneura pectinata Freeman

1951. *Tetragoneura* Freeman. Dipt. Pat. & S. Chile. 3 : 88.

Chile, Prov. Llanquihue, Los Muermos, forest, 19.I.1951, one male.

Tetragoneura simillima Freeman, 1953

1951. *Tetragoneura similis* Freeman. Dipt. Pat. & S. Chile. 3 : 86.
1953. *Tetragoneura simillima* Freeman (n. n.). Rev. Chil. ent., 3 : 39.

Chile, Osorno Prov., 20 and 30 km. E. of Puyehue, 26.I.1951, a male and a female; 40 km. E. of San Carlos, 30.XII.1950, two males.

Tetragoneura simplicipes Freeman

1951. Freeman. Dipt. Pat. & S. Chile. 3 : 87.

Chile, Osorno Prov., 20 km. E. of Puyehue, 26.I.1951, two males and a female.

Tetragoneura sinuata Freeman

1951. Freeman. Dipt. Pat. & S. Chile. 3 : 83.
1956. Lane. 10th. Int. Cong. ent. 1 : 153.

Chile, Osorno Prov., 30 km. E. of Puyehue, 24 and 25.I.1952, two males and a female.

Tetragoneura tibialis Freeman

1951. Freeman. Dipt. Pat. & S. Chile. 3 : 86.

A single female with the coxae only darkened at base is here tentatively determined as this species.

Chile, Bio-Bio Prov., El Abanico, 31.XII.1950.

Mycetophilinae

This is the best represented subfamily in this center of endemism and dispersal. The majority of specimens belong to it. The genus *Mycetophila* is not only the largest but most numerous. The genera *Phronia* and *Trichonta* were, surprisingly, absent.

Exechia bifida Freeman

1951. Freeman. Dipt. Pat. & S. Chile. 3 : 90.

As can be seen by the description, the female has differences which we ascribe to sexual dimorphism. The specimen here described is selected as the allotype of this species.

Allotype female. — Similar to the male but markings on the underside of hind femur absent, the abdomen is dark brown and narrowly blackish on the posterior margin of segments. Cerci are yellowish brown.

Type. — Allotype female, registered in our collection under n. 14708.

Type locality. — Chile, Prov. Llanquihue, Los Muermos, forest, 19.I.1951.

Exechia funerea Freeman

1951. Freeman. Dipt. Pat. & S. Chile. 3 : 91.

Chile, Prov. Nuble, 40 km. E. of San Carlos, 23.XII.1950 one male, and 50 km. E. of San Carlos, 26.XII.1950, three males.

Rhymosia cinerea Freeman

1951. Freeman. Dipt. Pat. & S. Chile. 3 : 91.

Chile, Prov. Nuble, 40 km. E. of San Carlos, 23.XII.1950, two females.

Allodia araucaniensis n. sp.

(Fig. 6)

Male. — Length of body 3 mm.; wing 2.2 mm.

Head: Mouth parts and palpus yellow. Clypeus brown. Antenna with scape, torus yellow; segment I yellow, except at apex, segment II to the penultimate one with yellow basal rings, the rest brown including last segment. Occiput brown with golden hair. Thorax yellow. Scutellum with two long marginal setae. Wing hyaline, posterior fork quite behind the anterior one and before base of stem of anterior fork. Stem of anterior fork short and about one and a half times the length of *r-m*. Halter yellow.

Legs yellow. Mid tibia with 3 dorsal, a row of about 10 external, 2 internal and 0 ventral setae. Hind tibia with 3 dorsal and 7 external setae, the setae short. Abdomen with first four segments largely pale, V to VII blackish brown. Genitalia yellow (Fig. 6). Basistyle elongate and more than twice as long as wide. Dististyle with complex lobes as in the figure. Mesosome as in the figure.

Female. — Similar to the male but of yet a lighter color, the abdomen brown with definite apical bands on segment, larger on VI. Cerci slender, two jointed, yellow.

Types. — Holotype male; allotype female; paratypes thirteen males and ten females. Holotype, allotype and sixteen paratypes to be returned to the California Academy of Sciences. The remaining paratypes in our collection, registered under ns. 14.681 and 14.690.

Type locality. — Chile, Prov. Nuble, 40 km. E. of San Carlos, 23.XII.1950, holotype, allotype, eight males and nine female paratypes; 50 km. E. of San Carlos, three males and two females; Bio-Bio Prov., El Abanico, 30.XII.1950, the remaining paratypes (Ross & Michelbacher col.).

Note. — The name of this species is given for the Araucanian tribe of indomitable Indians who inhabited Chile and were never conquered by either Inca or European. The yellow general color besides the characters found in the male genitalia separate this species from all others found in the Neotropics.

Allodia similis Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 92.
1956, Lane, 10th. Int. Cong. ent., 1 : 162.

Forty-four males and females. There is sexual dimorphism in the male abdomen which, in most cases, is broadly yellowish laterally. In the females, bands are more frequently found. Chile, Prov. Nuble, 40 km. E. of San Carlos, 23.XII.1950, forty-one specimens, 50 km. E. of San Carlos, 26.XII.1950, two females; 12 km. W. of Puerto Varas, 16.I.1951, one female.

Pleurogymnus fuscus Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 93.

Chile, Prov. Bio-Bio, El Abanico, 30.XII.1950, three specimens, two males and one female.

Mycetophila (Mycetophila) armatura Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 118.

Chile, Prov. Nuble, 40 km. E. of San Carlos, 23.XII.1950, one male.

Mycetophila (Mycetophila) bisetosa Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 108.

Chile, W. of Angol, Crest of Sierra Nahuelbuta, 3.I.1951 a female; Prov. Llanquihue, Los Muermos, forest, 20.I.1951, one male; Argentina, Terr. de Santa Cruz, Lago Argentino, IV.1953 (W. Willink coll.), one female.

Mycetophila (Mycetophila) brevifurcata Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 108.

Chile, Prov. Llanquihue, Los Muermos, forest, 19.I.1951, a male which is determined tentatively as this species.

Mycetophila (Mycetophila) brunnescens Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 118.

Chile, W. of Angol, Crest of Sierra Nahuelbuta (1200 m. alt.) 3.I.1951, two males and two females; Prov. Llanquihue, Los Muermos, forest, 19.I.1951, one male and one female; Prov. Nuble, 40 km. E. of San Carlos, 23.XII.1950, one male.

Mycetophila (Mycetophila) conjuncta Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 117.

Chile, Prov. Nuble, 40 km. E. of San Carlos, XII.1950, two males and two females; W. of Angol, I.1951, two males and four females; Sierra de Nahuelbuta, W. of Angol, 1200 m. alt., I.1951, two females; Prov. Llanquihue, Los Muermos, forest, I.1951, three females.

Mycetophila (Mycetophila) fuscescens Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 119.

Chile, Prov. Llanquihue, Los Muermos, forest, 19.I.1951, two females; Osorno Prov., 10 km. E. of Puyehue, 24.I.1951, one male and one female; W. of Angol, 3.I.1951, two females.

Mycetophila (Mycetophila) nervitacta Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 116.
1956, Lane, 10th. Int. Cong. ent., 1 : 157.

Five specimens of which two are males. The males have two differentiated stout, blunt setae on the secondary lobe of dististyle, which are not mentioned by Freeman. Chile, W. of Angol, I.1951, a male and three females; Prov. Nuble, 40 km. E. of San Carlos, XII.1950, one male.

Mycetophila (Mycetophila) picea Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 100.
1956. Lane, 10th. Int. Cong. ent., 1 : 157.

Chile, Osorno Prov., 30 km. E. of Puyehue, 26.I.1951, one male.

Mycetophila (Mycetophila) spinipes Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 116.

Chile, W. of Angol, Crest of Sierra Nahuelbuta (1200 m. alt.), 3.I.1951, a single female.

Mycetophila (Mycetophila) subcapitata Freeman

1951. *Mycetophila subfasciata* Freeman (preoc.). Dipt. Pat. & S. Chile, 3 : 120.
1953. *Mycetophila subcapitata* Freeman (n. n.). Rev. Chil. ent., 3 : 39.

Chile, Prov. Nuble, 40 km. E. of San Carlos, XII.1950, a single male.

Mycetophila (Oromyceta) araucana n. sp.

(Fig. 7)

Male. — Length of body 2.6 mm.; wing 2.2 mm.

Head: Mouth parts and palpus brown. Clypeus peculiarly grooved in the middle, brown. Antenna with brown scape and torus, base of first flagellar segment yellowish, the rest brown but darker at apex. Occiput blackish with golden hairs. Thorax yellowish. Mesonotum yellowish with three indefinite brown marks, the mesial one darker, covered with yellowish hairs. Scutellum brown with four marginal setae. Postnotum brown but darker at the margins. Pleura brown including the hypopleurite.

Wing with a diluted mesial spot which does not invade the costal cell and a diluted shading over most of the apex. Posterior fork distinctly beyond the anterior one. Upper vein free at base the lower one ending quite before wing margin, the branches short and half the length of stem. Halter yellow. Legs yellow but hind coxa slightly darker at base. Mid tibia with 4 dorsal, 2 external, 1 ventral and 3 internal setae. Hind tibia with 4 dorsal and 5 subdorsal setae. Abdomen cut in mounting. Genitalia: (Fig. 7) Basistyle with fused lobes broader than long. Dististyle in complex lobes as in the figure. Mesosome and ninth tergites as in the figure.

Type. — Holotype male. Returned to the Entomological Department of the California Academy of Sciences.

Type locality. — Chile, Prov. Nuble, 50 km. E. of San Carlos, 26.XII.1950 (Ross & Michelbacher col.).

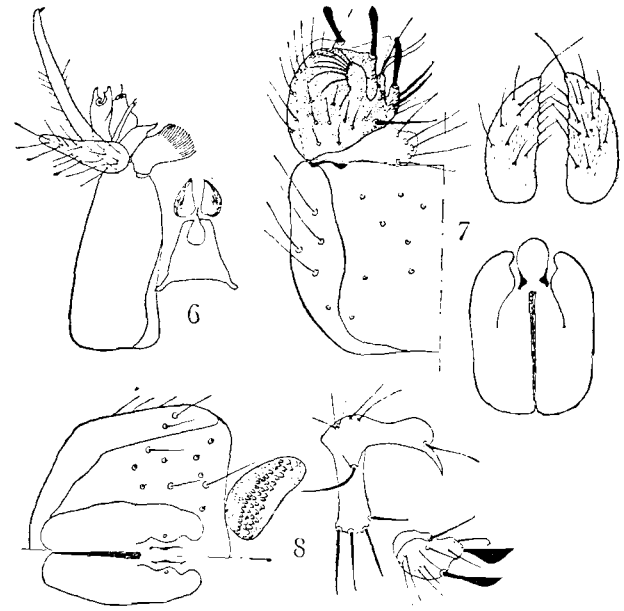

Fig. 6. *Allodia araucaniensis* n. sp., male genitalia; on left, one side of basistyles and dististyles showing; on right, mesosome. — Fig. 7. *Mycetophila (Oromyceta) araucana*, n. sp., male genitalia; on left, one side of basistyles and dististyles showing; on right, 9th tergite, below mesosome. — Fig. 8. *Mycetophila (Abmyceta) nubiensis* n. sp., male genitalia; on left, basistyle, mesosome and 9th tergite; on right, the two plates of dististyle.

Note. — We hesitated in describing this species based on a single specimen, but the only other form belonging to this subgenus and occurring in the Chilean region is *M. cornuta* Freeman, 1951, which has a clear wing and different male genitalia. Of the other Neotropical species, it is near *M.* (*O.*) *arecunae* Lane, 1955, but can be separated from it by the male genitalia.

Mycetophila (Abmyceta) canicula Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 127.
1956. Lane, 10th. Int. Cong. ent., 1 : 159.

Two males and one female. The wing marking in one male is very much faded. Chile, Bio-Bio Prov., El Abanico, 30.XII.1950 two males; 30 km. E. of Temuco, 8.I.1951 a female.

Mycetophila (Abmyceta) clarovittata Freeman, 1951

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 102.

Chile, Prov. Llanquihue, Los Muermos, forest, 19.I.1951, one male and one female; Prov. Nuble, 40 km. E. of San Carlos, 23.XII.1950, two females; Bio-Bio Prov., El Abanico, XII.1950, two females.

Mycetophila (Abmyceta) clavigera Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 125.
1956, Lane, 10th. Int. Cong. ent., 1 : 159.

Eight males and seven females. It is with some hesitation that we identify this material as belonging to this species. As we have already remarked, there is doubt whether the differences found are variation or of subspecific or even specific rank. We still feel that large series are needed for the solution of this problem.

Chile, W. of Angol, Crest of Sierra Nahuelbuta, 1200 m. alt., 3.I.1951, five males and one female; Bio-Bio Prov., El Abanico, 30.XII.1950, one male and four females; Osorno Prov., 30 km. E. of Puyehue, 25.I.1951, one female; Nuble Prov., 40 km. E. of San Carlos, 23.XII.1950, two males and six females; 50 km. E. of San Carlos, 26.XII.1950 one female; Prov. Llanquihue, Los Muermos, Forest, 19.I.1951, one male.

Mycetophila (Abmyceta) conifera Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 125.
1953, Freeman, Rev. Chil. ent., 3 : 31.

Chile, Prov. Nuble, 50 km. E. of San Carlos, 26.XII.1950, two females.

Mycetophila (Abmyceta) constricta Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 128.

Quite a common species; we have sixty-three specimens. We have noted that the differentiated setae on the male genitalia basistyle vary to a large extent as to number and shape. There may be an additional seta or one of the leaf-shaped ones may be changed into a stout seta which is the most frequent case in our series. In the wing, the mesial mark is extended to reach the lower fork. Mesonotal markings are quite distinct. Numerous specimens have a single ventral seta on mid tibia.

Chile, Nuble Prov., 40 km. E. of San Carlos, 23.XII.1950, two males; Angol, 31.XII.1950, two males and one female; W. of Angol, 3.I.1951, nineteen males and twenty-eight females; Sierra de Nahuelbuta, 3.I.1951, seven males and two females; Llanquihue Prov., Los Muermos, 19.I.1951, one female.

Mycetophila (Abmyceta) dichaeta Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 126.
1956, Lane, 10th. Int. Cong. ent., 1 : 159.

Chile, Prov. Nuble, 40 km. E. of S. Carlos, 23.XII.1950, three males and one female; 50 km. E. of S. Carlos, 26.XII.1950, one female; Prov. Bio-Bio, El Abanico, 30.XII.1950, 2 ♂ 1 ♀.

Mycetophila (Abmyceta) distincta Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 194.

A single male. There is an additional dorsal and internal seta on mid tibia. Chile, Nuble Prov., 40 km. E. of San Carlos, XII.1950.

Mycetophila (Abmyceta) flavolunata Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 122.
1953, Freeman, Rev. Chil. ent., 3 : 31.
1956, Lane, 10th. Int. Cong. ent., 1 : 159.

Chile, Prov. Bio-Bio, El Abanico, 30.XII.1950, two females; Prov. Llanquihue, Los Muermos, Forest, 19.I.1951, two males and one female.

Mycetophila (Abmyceta) flexiseta Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 105.

Chile, Prov. Nuble, 40 km. E. of San Carlos 23.XII.1950, three females and 50 km. E. of San Carlos 26.XII.1950, two females.

Mycetophila (Abmyceta) funerea Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 107.

Chile, Prov. Llanquihue, Los Muermos, forest, 19.I.1951, two males; Prov. Osorno, Puyehue, 26.I.1951, one male.

Mycetophila (Abmyceta) golbachi Lane

1956, Lane, 10th. Int. Cong. ent., 1 : 159.

Chile, W. of Angol, Sierra de Nahuelbuta (1200 m. alt.) 3.I.1951, one female; 20 km. E. of Puyehue, Osorno Prov., 26.I.1950, one female.

Mycetophila (Abmyceta) lacuna Freeman

1951, Freeman, Dipt. Pat. & S. Chile, 3 : 123.
1956, Lane, 10th. Int. Cong. ent., 1 : 162.

Three females tentatively determined as this species.

Chile, W. of Angol, Crest of Sierra Nahuelbuta, 1200 m. alt., 3.I.1951; Bio-Bio Prov. 30.XII.1950; Prov. Nuble, 40 km. E. of San Carlos, 23.XII.1950.

Mycetophila (Abmyceta) nublensis n. sp.

(Fig. 8)

Male. — Length of body 3 mm.; wing 2.8 mm.

Head: Mouth parts and palpus brown. Clypeus brown. Antenna with yellowish scape and torus, flagellum blackish. Occiput very dark brown. Thorax: Pronotum brown. Mesonotum

yellow with three large longitudinal brown marks. Scutellum yellowish brown with four marginal setae. Postnotum and pleura brown. Wing hyaline with a diluted mesial spot which does not reach the costal cell or the lower fork. Lower fork very short, much beyond the upper one, one third the length of its stem. Halter yellow. Legs yellow. Mid tibia with 0? dorsal, 2 external, 2 ventral, and 3 internal setae. Hind tibia with 6 dorsal and a row of about 13 short subdorsal setae. Abdomen apparently blackish. Genitalia: (Fig. 8) Basistyle with lobes fused, nearly quadrate. Dististyle in two short lobes. Mesosome small and as in the figure. Ninth tergite peculiar and formed by rounded, concave lobes which are granulated in the inner portion.

Type. — Holotype male. Returned to the Entomological Department of the California Academy of Sciences.

Type locality. — Chile, Prov. Nuble, 40 km. E. of San Carlos, 23.XII.1950 (Ross & Michelbacher col.).

Note. — The very peculiar male genitalia separate this species from all the others belonging to this subgenus. We have seen no species with such a peculiar ninth tergite.

Mycetophila (Abmyceta) paranotata Freeman, 1953

1951. *Mycetophila notata* Freeman, Dipt. Pat. & S. Chile, 3 : 126.
1953. *Mycetophila paranotata* Freeman, (n. n.), Rev. Chil. ent., 3 : 39.

Twenty-four specimens have been determined as this species due to the similarity of male genitalia. In our series the wing has a faint central spot and an apical shading which is also very faint. Chile, Nuble Prov., 40 km. E. of S. Carlos, 23.XII.1950, ten males and ten females; 50 km. E. of San Carlos, 26.XII.1950, one male and two females; Prov. Llanquihue, Los Muermos, forest, 20.I.1951, one male.

Mycetophila (Abmyceta) parapicalis Freeman

1951. *Mycetophila apicalis* Freeman, Dipt. Pat. & S. Chile, 3 : 124.
1953. *Mycetophila parapicalis* Freeman, (n. n.), Rev. Chil. ent., 3 : 39.

This proved to be the commonest species of this genus in the present collection. There are one hundred and twenty nine specimens of which fifty are males. Chile, Nuble Prov., 40 km. E. of San Carlos, 23.XII.1950, forty-three males and fifty-one females; 50 km. E. of San Carlos, 26.XII.1950, six males and fourteen females; Prov. Llanquihue, Los Muermos, Forest, 19.I.1951, five females and four males; Bio-Bio Prov., El Abanico, 30.XII.1950, one female; W. of Angol 3.I.1951, two males and one female; 30 km. E. of Puyehue, 20.I.1951, two females.

Mycetophila (Abmyceta) pellucida Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 103.
1956. Lane, 10th. Int. Cong. ent., 1 : 162.

Chile, Osorno Prov., 20 km. E. of Puyehue, 26.I.1951, one male.

Mycetophila (Abmyceta) sub-brunnea Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 131.

Chile, Osorno Prov., 20 km. E. of Puyehue, 26.I.1951, one female.

Mycetophila (Abmyceta) spinosa Freeman

1951. Freeman, Dipt. Pat. & S. Chile, 3 : 129.
1953. Freeman, Rev. Chil. ent., 3 : 31.
1956. Lane, 10th. Int. Cong. ent., 1 : 162.

Twenty-three specimens of which eight are males. In our series the apex of the hind femur and tibia are blackened. Chile, Nuble Prov., 40 km. E. of San Carlos, 23.XII.1950, six males and six females; 50 km. E. of San Carlos, 26.XII.1950, ten females; Bio-Bio Prov., El Abanico, 30.XII.1950, one male; 20 km. E. of Temuco, 8.I.1951, one female.

Mycetophila (Abmyceta) subfumosa Freeman

1953. Freeman, Rev. Chil. ent., 3 : 32.

Chile, W. of Angol, 3.I.1951, 1200 m. alt., one female.

Mycetophila (Abmyceta) tucumana Lane

1956. Lane, 10th. Int. Cong. ent., 1 : 168.

Chile, Prov. Nuble, 50 km. E. of S. Carlos, 26.XII.1950, two females; 20 km. E. of Temuco, 8.I.1950, one female.

Mycetophila (Abmyceta) verbifera Freeman

1951. *Mycetophila* Freeman, Dipt. Pat. & S. Chile, 3 : 130.

A single male. In the male genitalia there are some stout setae in the lobe of dististyle which can be only observed when this structure is opened up. Chile, Osorno Prov., 10 km. E. of Puyehue, 28.I.1951.

Summary

In the present paper, eighty-three species of Chilean Mycetophilidae are recorded, eight of which are new to science: *Macrocera chilena* (near *fumidapex* Freeman), *Synapha michelbacheri* (near *flavipalpis* Freeman), *Austrosynapha rossi*, *Leiella arnaudi* (near *catharinensis* Lane), *Tetragoneura andina* (near *aruensis* Lane and *simplex* Edwards), *Allodia araucaniensis*, *Mycetophila (Oromyceta) araucana* (near *cornuta* Freeman), and *Mycetophila (Abmyceta) nublensis*.

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