

The Coniopterygidae (Neuroptera, Planipennia). A check-list of the species of the world, descriptions of new species and other new data

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Received 28 January 1988, revised 3 July 1990

A check-list listing 423 recent and 11 fossil named species with synonymies, references to the literature, new faunistic records, taxonomic notes and the distribution of the species. The male genitalia, which are necessary for a safe identification in most genera, are not accurately described in 24 of the listed recent species.

The following 24 new species are described from various parts of the world: *Heteroconis bifurcata*, *H. curvata*, *H. madangensis*, *H. papuensis*, *H. pennyi*, *H. vietnamensis*, *Spiloconis fijiensis*, *Neoconis unicornis*, *Pampoconis angustipennis*, *Neosemidalis brevipennis*, *Coniopteryx papuensis*, *C. virgata*, *C. bilinguata*, *C. chilensis*; *C. paraensis*, *C. rafaelli*, *C. macroscapes*, *C. morobensis*, *C. peruviensis*, *C. parana*, *Incasemidalis chilensis*, *Semidalis biturberculata*, *Semidalis faulkneri* and *Semidalis xerophila*.

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1. Introduction

Since the publication of my revision of the Coniopterygidae in 1972 (Meinander 1972a) there has been a large increase in interest in the family and much new knowledge has piled up. In my revision I recognized 231 species. Since 1972 three new recent and two fossil genera, as well as 168 new recent and four fossil species, have been described. The Genus *Brucheiser* has been incorporated in the family as a separate subfamily. An additional 24 species are described in this paper. Since 1972 ten species have been synonymized: *Aleuropteryx boabdil* Rausch & Aspöck, 1978 (= *A. iberica*), *A. codinai* Navas, 1910 (= *A. loewii*), *Helicoconis cimbrica* Ohm, 1965 (= *H. hirtinervis*), *H. austriaca* Ohm in Aspöck & Aspöck, 1964 (= *H. pseudolutea*), *Coniopteryx buettikeri* Meinander, 1979 (= *C. ressl*), *C. hamicerus* Murphy & Lee, 1971 (= *C. falciger*), *C. unguicornis* Meinander, 1972 (= *C. prehensilis*), *C. clavata* Monserrat, 1976 (= *C. drammonti*), *Semidalis limbalis* Fraser, 1955 (= *S. mascarenica*), *S. uncinata* Tjeder, 1957 (= *S. meridionalis*).

The present numbers are thus 423 recent and 11 fossil species.

Of the species recognized in 1972, 34 were species which could not be accurately identified and described. Most of them were described on the basis of females and a safe identification in most genera is based on the male genitalia. Of these 34 species, the identity of twelve species has been solved:

- Aleuropteryx codinai* (= *A. loewii*)
- Heteroconis dahli* (male genitalia described)
- Heteroconis terminalis* (female genitalia described)
- Coniocompsa silvestriana* (male genitalia described)
- Helicoconis hirtinervis* (= *H. cimbrica*)
- Coniopteryx biroi* (male genitalia described)
- Coniopteryx caffer* (male genitalia described)

- Coniopteryx falciger* (= *C. hamicerus*)
- Hemisemidalis longipennis* (male genitalia described)
- Semidalis absurdiceps* (male genitalia described)
- Semidalis limbalis* (= *S. mascarenica*)
- Semidalis scotti* (male genitalia described)

The following species remain insufficiently described or unidentified: *Coniocompsa japonica*, *Helicoconis interna*, *H. laufferina*, *H. aptera*, *Spieloconis nebulosa*, *Neoconis garleppi*, *N. pistrix*, *Neosemidalis fulvinervosa*, *N. immaculata*, *Coniopteryx albostrigata*, *C. angustipennis*, *C. biroi*, *C. diptera*, *C. fuscicornis*, *C. haitiensis*, *C. javana*, *C. obscura*, *C. phaeoptera*, *C. ralumensis*, *C. sudanica*, *Semidalis brincki* and *S. nivosa*.

Coniopteryx nigeriana is a species described since 1972 based on female material and thus the number of species of which there is no accurate description of the male genitalia, or where this is sufficient, of the female genitalia, is now 23.

It is remarkable that in spite of the great number of new species which have been described since 1972, no major change in the systematics presented in Meinander 1972a has been suggested, except for the incorporation of the family Bracheiseridae. The three new recent genera which have been described, viz. *Bidesmia*, *Stangesemidalis* and *Thecosemidalis*, are all monotypic. Except for these three species all other new species have easily been associated with the described genera and subgenera.

Here all species are listed together with a short note on their distribution. All pertinent references not included in Meinander 1972a are listed, and if the species was included in Meinander 1972a, a reference to it is also given. For some species new taxonomic and faunistic data are given.

The terminology used here is the same as in Meinander 1972a.

2. Material

The material investigated was obtained from the following institutions and private collections:

- | | | | |
|-----------|---|--------|---|
| ALB | - Provincial Museum of Alberta, 102nd Avenue, Edmonton, Alberta, Canada T5N0M6. | MZH | - Universitetes Zoologiska Museum, N. Järnvägsgatan 13, SF-00100 Helsingfors, Finland. |
| Bet Dagan | - The Volcani Center, Institute of Plant Protection, P.O. Box 6, Bet Dagan 50-200, Isreal | ML | - Zoological Institute, Academy of Sciences, Universitetskaya nab. 1, Leningrad 199164, U.S.S.R. |
| BMNH | - British Museum (Natural History), Cromwell Road, London, SW7 5BD, England. | Moscow | - Palaeontological Institute, Academy of Sciences, Leninsky prospect, 33, Moscow V-78, U.S.S.R. |
| Cairo | - Ministry of Agriculture, Dokki, Cairo, Egypt. | Natal | - Natal Museum, Loop Street, Pietermaritzburg, 3200, South Africa. |
| CAS | - California Academy of Sciences, Golden Gate Park, San Francisco, California 94118, U.S.A. | OHIO | - Department of Entomology, Ohio State University, U.S.A. |
| FLA | - Florida Department of Agriculture & Consumer services. Division of Plant Industry, P.O. Box 1269, Gainesville Florida 32602, U.S.A. | QUE | - Queensland Museum, Gregory Terrace, Fortitude Valley, Qld, 4006, Australia. |
| HMB | - Zoologisches Museum, Museum für Naturkunde der Humboldt Universität zu Berlin, Invalidenstrasse 43, DDR-104 Berlin, East Germany. | SD | - Natural History Museum, P.O. Box 1390, San Diego, California 92119, U.S.A. |
| INPA | - Instituto Nacional de Pesquisas da Amazonia, Manaus, 69000, Brazil | UCA | - Division of Entomology and Parasitology, University of California, Berkeley, California 94720, U.S.A. |
| Lienhard | - Dr. Charles Lienhard, Muséum d'Histoire Naturelle, Case postale 434, CH-1211 Genève 6, Switzerland. | UCR | - Department of Entomology, College of Natural and Agricultural Sciences, University of California, Riverside, California 92521, U.S.A. |
| | | USNM | - Department of Entomology, United States National Museum, Washington D.C. 20560, U.S.A. |

3. Fossil genera

Several of the fossil genera are difficult or impossible to fit into the recognized tribes and the fossil genera are therefore listed here before the recent species. The fossil species assigned to a recent genus (*Coniopteryx enderleini*, *C. timidus*, *Hemisemidalis sharovi* and *Semidalis copalina*) are listed in the proper genera after the recent species.

Genus *Archiconiocompsa* Enderlein, 1910

Archiconiocompsa prisca Enderlein, 1910

Archiconiocompsa prisca: Meinander 1972a:34; Meinander 1979b:20 (systematics).

Fossil from East Prussian amber (Oligocene).

Genus *Archiconiopteryx* Enderlein, 1909

Archiconiopteryx liasina (Handlirsch, 1906)

Archiconiopteryx liasina: Meinander 1972a:34; Meinander 1979b:20 (systematics). Fore wing from upper European Lias.

Genus *Archiconis* Enderlein, 1930

Archiconis electrica Enderlein, 1930

Archiconis electrica: Meinander 1972a:34; Meinander 1979b:20 (systematics).

Fossil from East Prussian amber (Oligocene).

Genus *Glaesoconis* Meinander, 1975

Glaesoconis Meinander 1975b:54. Type by original designation: *Glaesoconis cretica* Meinander, 1975.

Glaesoconis cretica Meinander 1975

Glaesoconis cretica Meinander 1975b:56, f. 3–4 (description).

Fossil from Cretaceous amber of Siberia.

Glaesoconis fadiacra Whalley, 1980

Glaesoconis fadiacra Whalley 1980:158, f. 3 (description).

Fossil from Cretaceous amber of Lebanon.

Genus *Heminipheta* Enderlein, 1930

Heminipheta fritschi Enderlein, 1930

Heminipheta fritschi: Meinander 1972a:35.

Fossil from East Prussian amber (Oligocene).

Genus *Juraconiopteryx* Meinander, 1975

Juraconiopteryx Meinander 1975b:53. Type by original designation: *Juraconiopteryx zherichini* Meinander, 1975.

Juraconiopteryx zherichini Meinander, 1975

Juraconiopteryx zherichini Meinander 1975b:54, f. 1–2 (description); Meinander 1979b:20 (systematics).

Fossil from Jurassic of Kazakhstan.

4. Recent genera

Subfamily ALEUROPTERYGINAE

Tribe ALEUROPTERYGINI

Genus *Aleuropteryx* Löw, 1885

Aleuropteryx: Johnson 1980c (revision of N American species); Oswald & Meinander 1988 (proposed designation of type species).

Aleuropteryx arceuthobii Meinander, 1975

Aleuropteryx arceuthobii Meinander 1975a:28, f.1 (description); Johnson 1980c:270, f. 2 (revision, faunistic record); Meinander 1986:39 (list).

New record: U.S. A., Cal. S.L.O.Co. Cuesta Ridge Bot. Area. Sargent Cypress Grove, 1980-05-16, 1♂, J. D. Pinto (UCR).

The present specimen is the second specimen recorded. There are some small differences in the genitalia, of which the most important is that in this specimen the paired dorsal apophyses of the process of the ninth sternite are missing.

Distribution: USA: Texas, Colorado and California.

Aleuropteryx arizonica Johnson, 1980

Aleuropteryx arizonica Johnson 1980c:272, f. 3 (description).

Distribution: USA: Arizona.

Aleuropteryx cupressi Meinander, 1974

Aleuropteryx cupressi Meinander 1974c:218, f. 1 (description); Johnson 1980c:274, f. 4 (revision); Meinander 1986:39 (list).

New record: U.S.A. Cal. San Bern.Co. 1 mi S.Lake Arrowhead, 1964-08-01, 1♀, E. Schlinger (UCR).

Distribution: USA: California.

Aleuropteryx dragonica Johnson, 1980

Aleuropteryx dragonica Johnson 1980c:275, f. 5 (description).

Distribution: USA: Arizona.

Aleuropteryx felix Meinander, 1977

Aleuropteryx felix Meinander 1977:81, f.1A-E (description).

Distribution: Yemen.

Aleuropteryx iberica Monserrat, 1977

Aleuropteryx boabdil Rausch & Aspöck 1978:9, f.1 (description).

Aleuropteryx iberica: Monserrat 1977:366, f. 1-13 (description); Monserrat 1978d:67 (faunistic record); Aspöck et al. 1980:141, Abb. 242-244, 253 (monograph); Monserrat 1980b:191 (faunistic record); Monserrat 1982c:81 (faunistic record); Monserrat 1984a:28 (faunistic record); Monserrat 1984b:146 (synonymy); Monserrat 1984e:105 (faunistic record); Monserrat 1984f:42 (faunistic record); Monserrat 1984g:174 (faunistic record); Monserrat 1985b:130 (faunistic note); Monserrat 1985d:88 (faunistic note); Monserrat 1985g:75 (faunistic note); Diaz-Aranda et al. 1986a:1125 (biology); Diaz-Aranda et al. 1986b:1142 (faunistic record); Marín & Monserrat 1987:350 (ecology); Monserrat 1987:142 (faunistic record); Monserrat & Diaz-Aranda 1987:182 (faunistic record); Diaz-Aranda & Monserrat 1988a:120 (faunistic note); Diaz-Aranda & Monserrat 1988b:226 (faunistic note); Diaz-Aranda & Monserrat 1988c:223 (faunistic record); Monserrat & Diaz-Aranda 1988b:92 (faunistic record).

Distribution: Spain, Morocco.

Aleuropteryx juniperi Ohm, 1968

Aleuropteryx juniperi: Meinander 1972a:40; Flint 1974:703 (faunistic record); Henry 1974:659 (faunistic record); Meinander 1975a:30 (faunistic record); Henry 1976:195, f. 1-4 (biology, larva, distribution); Barnard 1978:167,

f.3 (list) Monserrat 1978c:182 (faunistic record); Monserrat 1978d:67 (faunistic record); Stimmel 1979:227 (biology); Aspöck et al. 1980:141, Abb. 232–238 (monograph); Monserrat & Reviejo 1980:359 (faunistic record); Monserrat 1980:57 (faunistic record); Hölzel et al.: 1980:4 (synonymy); Johnson 1980c:277, f. 6 (revision); Wheeler 1980:51 (biology); Wheeler 1981:173 (faunistic record); Monserrat 1982c:81 (faunistic record); Monserrat 1984a:28 (faunistic record); Monserrat 1984b:146 (synonymy); Monserrat 1984d:161 (faunistic record); Monserrat 1984e:105 (faunistic record); Monserrat 1984f:42 (faunistic record); Monserrat 1984g:174 (faunistic record); Monserrat 1985d:88 (faunistic record); Diaz-Aranda et al. 1986a:1125 (table); Diaz-Aranda et al. 1986b:1142 (faunistic record); Gepp 1986:139 (larva); Meinander 1986:39 (list); Popov 1986:168 (faunistic record); Greve 1987:13 (reference); Diaz-Aranda & Monserrat 1988a:120 (faunistic note); Diaz-Aranda & Monserrat 1988b:226 (faunistic note); Diaz-Aranda & Monserrat 1988c:223 (faunistic record); Monserrat & Diaz-Aranda 1988b:92 (faunistic record).

New records: Portugal, E of Coimbra Bei Piores 1979-09-20, 1♂ C. Lienhard (coll. Lienhard); U.S.S.R.: Kazakh SSR, Karatau Range, Aktas, 1971-05-28, 1♂ V. V. Zerichin (Moscow).

Distribution: British Isles, France, GFR, Austria, Portugal, Spain, Italy, Greece, Bulgaria, Tunisia, USSR: Kasachstan, USA: Pennsylvania, Virginia.

Aleuropteryx knowltoni Johnson 1980

Aleuropteryx knowltoni Johnson 1980c:278, f. 7 (description).

Distribution: USA: Utah.

Aleuropteryx loewii Klapalek, 1894

Aleuropteryx aequalis: Navas 1917:88 (faunistic record); Navas 1920:43 (faunistic record).

Aleuropteryx codinai: Navas 1910:49, f.4 (description); Navas 1921a:152 (faunistic record); Navas 1921b:65 (faunistic record); Navas 1924c:128, f. 85 (key); Navas 1927c:99 (faunistic record); Meinander 1972a:39; Aspöck et al. 1980:140, Abb. 252; Monserrat 1984b:150 (synonymy).

Aleuropteryx loewii: Meinander 1972a:42; Navas 1914d:41 (faunistic record); Navas 1917:88 (faunistic record); Navas 1921b:65 (faunistic record); Navas 1924c:128, f. 84 (key); Aubert 1958:10 (distribution); Kleinstaub 1972a:43 (faunistic record); Kleinstaub 1972b:68 (faunistic record); Ohm 1973b:303 (distribution); Hölzel 1973:489 (faunistic record); Kleinstaub 1974:147

(list); Plewka 1974:228 (faunistic record); Gepp 1975a:267 (biology) Gepp 1977:175 (faunistic record, ecology); Zakharenko 1977:65 (biology); Zeleny 1977:130 (list); Monserrat 1978c:180 (faunistic record); Ujhelyi 1978:287 (faunistic note); Monserrat 1978d:67 (faunistic record); Eglin 1979:495 (faunistic record) Monserrat 1979:416 (faunistic record); Zakharenko 1979:366 (faunistic record); Aspöck et al. 1980:140, Abb. 223, 239–241, 251 (monograph); Hölzel et al. 1980:4 (synonymy); Monserrat 1980b:190 (faunistic record); Zakharenko 1980:93 (faunistic record); Gepp 1981:195 (faunistic record); Monserrat 1982c:81, mapa 6 (faunistic record); Zakharenko 1982:21 (faunistic note); Popov 1983:62 (faunistic record); Monserrat 1984a:26 (faunistic note); Monserrat 1984b:146 (synonymy); Monserrat 1984d:160 (faunistic record); Monserrat 1984e:104 (faunistic record); Monserrat 1984f:41 (faunistic record); Monserrat 1985b:128 (faunistic record); Monserrat 1985d:88 (faunistic record); Monserrat 1985e:97 (list); Diaz-Aranda et al. 1986a:1125 (biogeography); Diaz-Aranda et al. 1986b:1141 (faunistic record); Gepp 1986:139 (larva); Popov 1986:167 (faunistic record); Greve 1987:13 (reference); Monserrat 1987:141 (faunistic record); Monserrat & Diaz-Aranda 1987:182 (faunistic record). Diaz-Aranda & Monserrat 1988a:120 (faunistic note); Diaz-Aranda & Monserrat 1988b:225 (faunistic note); Diaz-Aranda & Monserrat 1988c:223 (faunistic record); Monserrat & Diaz-Aranda 1988b:92 (faunistic record).

(?) *Aleuropteryx loewii*: Navas 1919:202 (faunistic record); Navas 1921b:65 (faunistic record).

Aleuropteryx pr. loewii: Morgan 1980:119 (= *A. loewii* according to Monserrat, personal communication) (faunistic record).

Distribution: Europe, Turkey.

Aleuropteryx longipennis Meinander, 1974

Aleuropteryx longipennis Meinander 1974c:218, f. 2 (description); Johnson 1980c:280, f. 8 (revision, faunistic record); Meinander 1986:39 (list).

Distribution: USA: New Mexico and California, Mexico.

Aleuropteryx maculipennis Meinander, 1972

Aleuropteryx maculipennis Meinander 1972a:45; Meinander 1974c:219 (faunistic note); Johnson 1980c:281, f. 9 (revision, faunistic records); Meinander 1986:39 (list). *Aleuropteryx unicolor*: Meinander 1974c:222 f. 5 E–G and the records from Riverside.

New records: U.S.A.: Ariz. Pinal Co. 7 mi W Superior 2500 ft 1980-08-16 1♂ Simmondsia (UCR); N. M., Choney Cn,

1977-06-18, 1♂, L. Packard (FLA); Ca. Riverside Co. S. Palm desert (P. L. Boyd desert res. center) 1963-1980 10♂♂ 23♀♀ (UC), 2♂♂ 4♀♀ (MZH); Menifee valley (Willson's end) 1980-07-1...20, 1♂ 1♀ K. Cooper (SD); 6 mi S Valle Vilsta Sec 9 T.6s.; R.1E 2300-2400 ft 1977-06-24, J. Pinto & S. Frommer (UCR).

Distribution: USA: Arizona and California

***Aleuropteryx megacornis* Johnson, 1980**

Aleuropteryx megacornis Johnson 1980c:284, f. 10 (description).

Distribution: USA: Arizona.

***Aleuropteryx punctata* Meinander, 1974**

Aleuropteryx punctata Meinander 1974c:220, f. 3 (description); Johnson 1980c:286, f. 11 (revision, faunistic records); Meinander 1986:39 (list).

New records: Mexico Baja Calif. sur. 47 rd km E Rcho S. J. Castro, Vizcaino Pen ca 27°28'N, 114°08'W 1980-03-25, 1♂, E.M. Fischer (SD); Sinaloa 39.5 mi NE of Mazatlan, Hwy 40 1 mi S of LaCapilla de Taxte 1982-06-03, 1♂, D. K. Faulkner (SD).

Distribution: USA: Arizona, New Mexico; Mexico.

***Aleuropteryx remane* Rausch, Aspöck & Ohm, 1978**

Aleuropteryx remane Rausch et al. 1978:45, f.1 (description); Aspöck et al. 1980:141, (monograph); Abb. 245-247, 254; Monserrat 1984e:113 (list); Monserrat 1985d:81 (list); Monserrat 1987:141 (faunistic record).

Distribution: Spain.

***Aleuropteryx simillima* Meinander, 1972**

Aleuropteryx simillima Meinander 1972a:46; Meinander 1974c:220, f. 4 (description of female); Penny 1977:28 (list); Johnson 1980c:287, f. 12 (revision, faunistic records); Wheeler 1980:51 (biology); Meinander 1986:39 (list).

New record: USA: Texas, Harris Co., Houston, 1978-11-27...30, 15 exx, A. G. Wheeler, Jr. ex *Juniperus pfitzertiana* feeding on *Carulaspis minima* (coll. Henry & MZH); Mexico

Sinaloa 5.2 mi NE of Hwy 15 on D4 to Cosala 1982-07-01, 2♂♂ D. K. Faulkner (SD).

Distribution: USA: Texas, Arizona; Mexico.

***Aleuropteryx umbrata* Zeleny, 1964**

Aleuropteryx umbrata: Meinander 1972:47; Aspöck et al. 1980:142, Abb. 248-250, 255 (monograph); Popov 1983:62 (faunistic record); Popov 1986:168 (faunistic record); Hölzel 1987:135 (faunistic record).

New record: Israel, Ilanot, 1985-09-18, 1♂ 1♀ on *Laurus nobilis* (Bet Dagan).

Distribution: Southeast Europe, Asia minor and Israel.

***Aleuropteryx unicolor* Meinander 1972**

Aleuropteryx unicolor Meinander 1972a:48; Meinander 1974c:221, f. 5 A-D (description of female, faunistic note); Johnson 1980c:290, f. 13 (revision, faunistic records); Meinander 1986:39 (list).

(non) *Aleuropteryx unicolor* Meinander 1974c:222 f. 5 E-G (= *A. maculipennis*).

Distribution: USA: Arizona and California, Mexico.

***Aleuropteryx vulgaris* Meinander 1972**

Aleuropteryx vulgaris Meinander 1972a:51; Meinander 1974c:222 (faunistic note); Johnson 1980c:291 f. 14 (revision, faunistic records); Meinander 1986:39 (list).

Distribution: Southwestern USA.

***Aleuropteryx werneri* Johnson, 1980**

Aleuropteryx werneri Johnson 1980c:294, f. 1, 15 (description).

Distribution: USA: New Mexico.

***Aleuropteryx arabica* Meinander, 1977**

Aleuropteryx arabica Meinander 1977:83, f. 2A-E (description); Meinander 1979a:334 (faunistic note).

Distribution: Arabia.

***Aleuropteryx furcocubitalis* Aspöck & Aspöck, 1968**

Aleuropteryx furcocubitalis: Meinander 1972a:51; Meinander 1972b:128 (faunistic note); Aspöck & Aspöck 1973:257, f. 9 (description, faunistic records).

Distribution: Mongolia.

***Aleuropteryx longiscapes* Meinander, 1965**

Aleuropteryx longiscapes Meinander 1972a:53; Monserrat 1979c:81 (faunistic note); Aspöck et al. 1980:378 (list).

Distribution: Canary Islands.

***Aleuropteryx maculata* Meinander, 1963**

Aleuropteryx maculata: Meinander 1972a:54; Monserrat 1984a:26, f. 1–6 (description of female, faunistic note); Monserrat 1985b:128 (faunistic note); Monserrat 1985g:75 (faunistic record); Diaz-Aranda et al. 1986a:1125 (biogeography); Diaz-Aranda et al. 1986b:1141 (faunistic record); Monserrat & Diaz-Aranda 1987:182 (faunistic record); Diaz-Aranda & Monserrat 1988b:225 (faunistic note).

Distribution: Spain, Morocco.

***Aleuropteryx minuta* Meinander, 1965**

Aleuropteryx minuta: Meinander 1972a:55; Monserrat 1985b:128, f. 1–5, map 1 (description of female, faunistic note); Monserrat 1985g:75 (faunistic record); Monserrat 1987:141 (faunistic record).

Distribution: Spain, Morocco.

***Aleuropteryx resslı* Rausch, Aspöck & Ohm, 1978**

Aleuropteryx resslı Rausch et al. 1978:47, f. 2 (description).

Distribution: Iran.

***Aleuropteryx vartianorum* Aspöck & Aspöck, 1967**

Aleuropteryx vartianorum: Meinander 1972a:57; Meinander 1979a:334 (faunistic note).

Distribution: Saudi Arabia, Pakistan.

***Aleuropteryx wawrikae* Rausch & Aspöck, 1978**

Aleuropteryx wawrikae Rausch & Aspöck 1978:12, f.12 (description); Monserrat 1985g:75 (faunistic record).

A. wawrikae is much possible conspecific with *A. felix*.

Distribution: Morocco.

***Aleuropteryx argentata* Tjeder, 1957**

Aleuropteryx argentata: Meinander, 1972a:58; Meinander 1975d:81, f. 1 (description of female, faunistic note); Meinander 1983a:480 (faunistic note).

Distribution: South Africa, Namibia.

***Aleuropteryx capensis* Meinander, 1983**

Aleuropteryx capensis Meinander 1983a:480, f. 1–4 (description).

Distribution: South Africa.

***Aleuropteryx* sp.**

Aleuropteryx spec. Janetschek 1957:148 (a small brachypterous specimen).

Distribution: Spain: Sierra Nevada.

Genus *Heteroconis* Enderlein, 1905

Drepanoconis Tjeder 1973a:204. Type by original designation: *Heteroconis (Drepanoconis) amoena* Tjeder, 1973.

***Heteroconis candida* Tjeder, 1973**

Heteroconis candida Tjeder 1973a: 201, f. 44–49 (description); New 1986:129 (list); New in litt d (key).

Distribution: New Guinea.

***Heteroconis enarotadiensis* New, in litt.**

Heteroconis enarotadiensis New in litt. d, f. 64–70 (description).

Distribution: New Guinea.

***Heteroconis flavicornuta* Tjeder, 1973**

Heteroconis flavicornuta Tjeder 1973a:188, f. 2–11 (description); New 1986:129 (list); New in litt. d (key).

Distribution: New Guinea.

***Heteroconis iriana* Tjeder, 1973**

Heteroconis iriana Tjeder 1973:194, f. 19–32 (description); New 1986:129 (list); New in litt d (key).

Distribution: New Guinea.

***Heteroconis kaindiensis* New in litt.**

Heteroconis kaindiensis New in litt. d, f. 56–63 (description).

Distribution: New Guinea.

***Heteroconis maculata* Meinander, 1969**

Heteroconis maculata: Meinander 1972a:64.

Distribution: Australia, Queensland.

***Heteroconis ornata* Enderlein, 1905**

Heteroconis ornata: Meinander 1972a:65.

New record: Australia, Queensland, Mt. Coot-tha Park (14 km W Brisbane airport) 1987-04-07 1♂ 1♀ (CAS).

Distribution: Australia: Queensland and New South Wales.

***Heteroconis pulchra* Meinander, 1972**

Heteroconis pulchra Meinander 1972a:68.

New records: Australia, Queensland: Bunya Mts. 1926-12-01, 1♀ (QUE); Mt Glorious, 1929-10-06, 1♂ (QUE).

Distribution: Australia: Queensland.

***Heteroconis toxopei* Tjeder, 1973**

Heteroconis toxopei Tjeder 1973a:191, f. 12–18 (description); New 1986:129 (list); New in litt d (key).

Distribution: New Guinea.

***Heteroconis wilhelmensis* New in litt.**

Heteroconis wilhelmensis New in litt. d, f.49–55 (description).

Distribution: New Guinea.

***Heteroconis fumipennis* Tjeder, 1973**

Heteroconis fumipennis Tjeder 1973a:198, f. 33–43 (description); New 1986:129 (list); New in litt d. (key).

Distribution: New Guinea.

***Heteroconis nigripennis* Meinander, 1969**

Heteroconis nigripennis: Meinander 1972a:70; Smithers 1984:63 (faunistic record).

Distribution: Australia.

***Heteroconis pepa* Monserrat, 1982**

Heteroconis pepa Monserrat 1982a:17, f. 15–23 (description).

Distribution: Indonesia.

***Heteroconis rieki* Meinander, 1972**

Heteroconis rieki Meinander 1972a:71.

Distribution: Australia: South Australia and Queensland.

***Heteroconis serripyga* Meinander, 1972**

Heteroconis serripyga Meinander 1972a:72.

Distribution: Australia: Western Australia.

***Heteroconis smithersi* Meinander, 1969**

Heteroconis smithersi: Meinander 1972a:74.

Distribution: Australia: Queensland and Victoria.

***Heteroconis subanalis* Meinander, 1972**

Heteroconis subanalis Meinander, 1972a:75.

Distribution: Australia: Queensland.

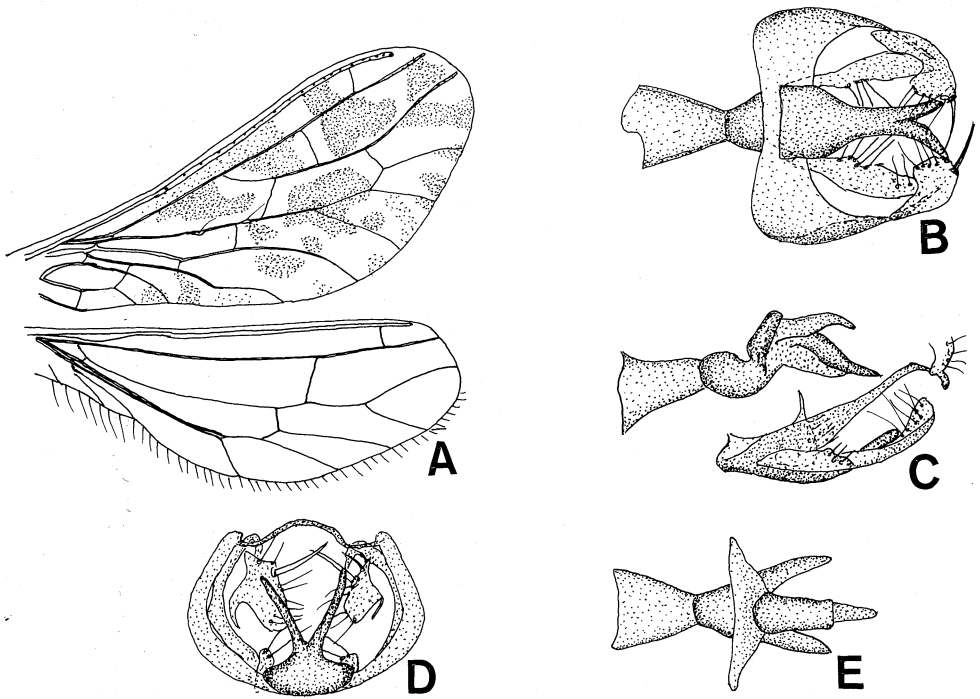


Fig. 1. Male of *Heteroconis bifurcata*: A. Wings; B. Internal genitalia, ventral aspect; C. Ditto, lateral aspect; D. Ditto, caudal aspect; E. Penis sclerite, dorsal aspect.

***Heteroconis allisoni* New, 1988**

Heteroconis allisoni New 1988:4, f. 10–17, 20–27 (description); New in litt. d (key).
Heteroconis ?allisoni; New in litt. d (faunistic record).
Distribution: Papua New Guinea: Wau.

***Heteroconis amoena* Tjeder, 1973**

Heteroconis (Drepanoconis) amoena Tjeder 1973a:204, f. 50–64 (description); New 1986:129 (list); New in litt. d (key).
Distribution: New Guinea.

***Heteroconis argylensis* New, 1987**

Heteroconis argylensis New 1987:1, f. 1–8.
Distribution: NW Australia.

***Heteroconis axeli* New, 1988**

Heteroconis axeli: New & Sudarman 1988:416, f. 4–11 (description).
Distribution: Indonesia, Krakatau.

***Heteroconis bifurcata* sp.n.**

Figs. 1A–E
Heteroconis bifurcata: New in litt. d (key).
 Type: ♂ holotype; Papua New Guinea, Madang Prov.; CAS.
 Specimen examined: Papua New Guinea, Madang Province, Sapi forest reserve, 30 km W Madang, 5°12' S 145° 30'E, 1987-02-19, ♂ holotype, Norman D. Penny (CAS).

Diagnosis

No corniform structure between male antennae. In fore wing the basal cross-vein Rs-M is distal of

both median thickenings, cross-vein M-Cu₁ between both median thickenings. Antennal segments 1–10, 13–14 and 18 light, segments 11–12 15–17 black. Ventral process of ninth sternite apically terminating in two long apophyses. Penis caudally with a dorsal apophysis.

Description

Male

Head yellowish brown. No corniform structure between antennae. Height of eye 0.22 mm, about half the height of the head. Antennae 18-segmented, 0.8 mm. Scape about three times as long as broad, pedicel slightly longer than broad, flagellar segments broader than long. Scape, pedicel and segments 3–10, 13–14 and 18 pale yellowish, segments 11–12 and 15–17 blackish brown. Palpi blackish brown.

Thorax greyish yellow with greyish brown shoulder spots. Legs light greyish brown.

Wings, Fig. 1 A. Membrane of fore wing hyaline with greyish brown markings as indicated. In fore wing the basal cross-vein Rs-M is distal to both median thickenings, while the cross-vein M-Cu is situated between the median thickenings. Cu₁ sinuous. Marginal fringes of hind wing fairly long. Membrane of hind wing light greyish brown, hyaline along the longitudinal veins. Length of fore wing 1.7 mm, of hind wing 1.5 mm.

Genitalia, Figs. 1B–E. Ninth sternite laterally narrow. Ventral process caudally broadly bifurcate into spine-like branches. Hypandrium simple, laterally with a long dorsally continuing flap which may be connected to the stylus. Stylus broad, with about ten long hairs, one of which is a broad and long spine. Penis with a dorsal apical projection.

Female unknown.

H. bifurcata can be recognized from the lack of the corniform structure between the male antennae and the colour of the antennal segments.

Heteroconis curvata Meinander, sp.n.

Figs. 2A–I

Heteroconis curvata: New in litt. d, f. 39–40 (description, key).

Type: ♂ holotype; Papua New Guinea, Madang Prov.; CAS.

Specimens examined: Papua New Guinea, Madang Province, Nagada Harbor 8 km N Madang, 5° 09'S, 145° 48'E, 1987-02-08, ♂ holotype, 2♀♀, N. D. Penny (CAS); Nobonob Hill 7 km NW Madang, 5° 10'S, 145° 45'E, 1987-02-13...14, 1♂ 2♀♀ (MZH); 1987-02-09, 3♂♂ (CAS); Tapo Creek 26 km SW Madang 5° 24'S 145° 38'E, 1987-02-15, 1♂ N. D. Penny (CAS).

Diagnosis

In fore wing the basal cross-vein Rs-M is distal to both median thickenings, cross-vein M-Cu₁ between both median thickenings. Antennal segments 1–4, 12 and 18 light, 5–11, 13–17 dark. Ventral process of ninth sternite not forked. Penis dorsally with a short dilatated apophysis.

Description

Head yellow with dark brown sutures. Corniform structure between male antennae light greyish brown, about as long as scape. Height of eyes of male about 0.15 mm, about one third of the height of the head. Antennae 18-segmented, 0.6–0.7 mm. Scape, pedicel and antennal segments 3–4, 12 and 18 light pale yellowish, segments 5–8 and 10–11 ventrally dark, dorsally light and segments 9, 13–17 blackish brown. Scape about two and a half times as long as distally broad, scape about as long as broad, flagellar segments distinctly broader than long. Palpi dark greyish brown.

Thorax light brown with darker shoulder spots. Legs fairly light.

Wings, Fig. 2A. Membrane of fore wing hyaline with greyish brown markings as indicated. In fore wing the basal cross-vein Rs-M is distal to both median thickenings, while the cross-vein M-Cu is between the median thickenings. Media is sinuous and the two median radial cells are unusually broad. Cu₂ is not sinuous. Membrane of hind wing light greyish brown, hyaline along veins. Marginal fringes of hind wing fairly long. Length of fore wing 1.6–2.0 mm, of hind wing 1.5–1.8 mm.

Male genitalia, Figs. 2B–G. Ninth sternite fairly

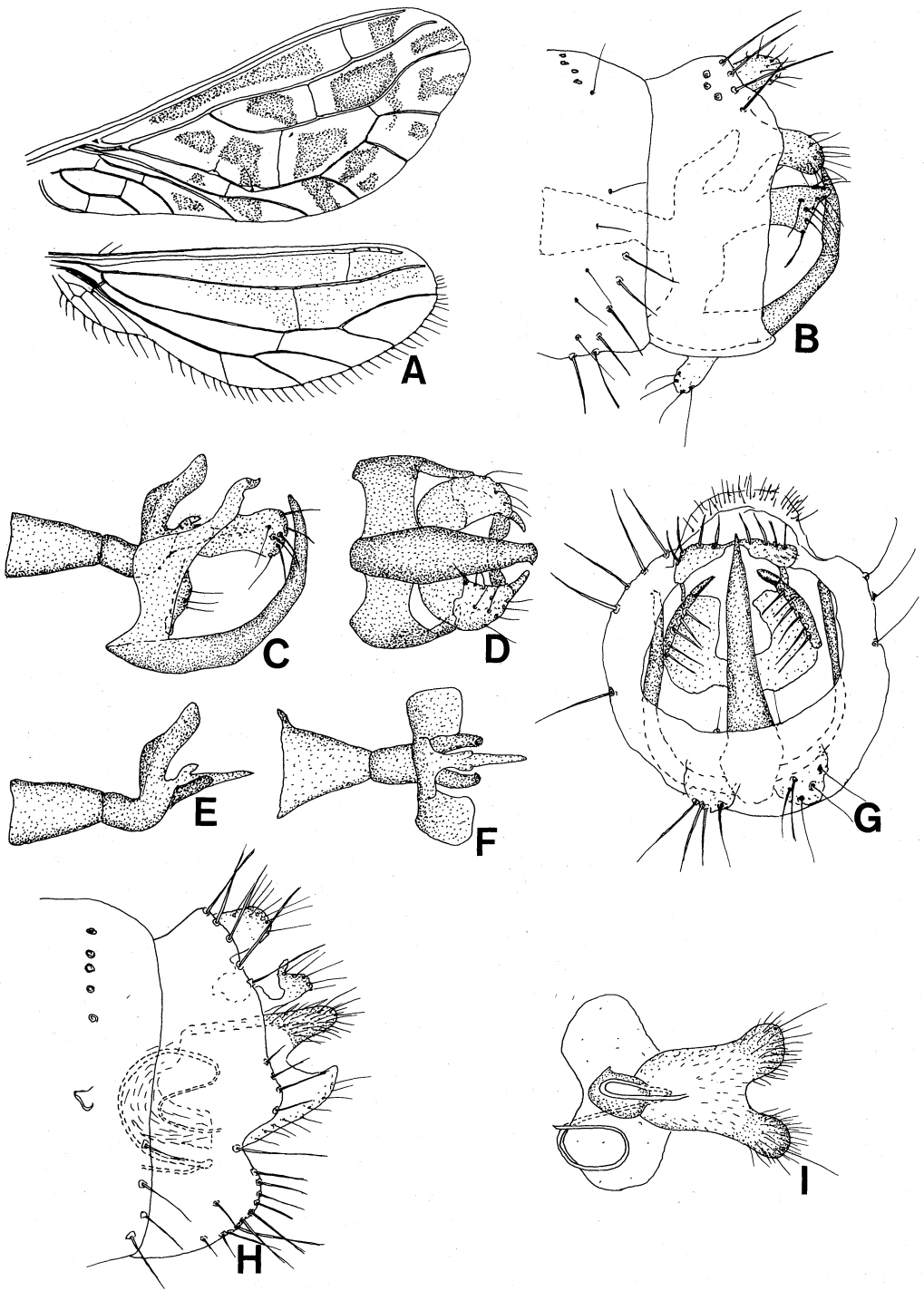


Fig. 2. *Heteroconis curvata*: A. Wings; B. Male terminalia, lateral aspect; C. Male internal genitalia, lateral aspect; D. Ditto, ventral aspect; E. Penis sclerite, lateral aspect; F. Ditto, dorsal aspect; G. Male terminalia, caudal aspect; H. Female terminalia, lateral aspect; I. Female internal genitalia, ventral aspect.

broad, ending dorsally in a clavate structure. Ventral process thick, rather regularly curved upwards, tip acute. Hypandrium and styli seem to be fused, stylus distally with about six inwards directed long hairs. Penis with two accessory lateral apicad projections and apically dorsally with a short bifurcate knob.

Female genitalia, Figs. 2H–I. Gonapophyses laterales fused into a single plate with an apical shallow broadly rounded incision.

H. curvata can be separated from all other species of *Heteroconis* by the sinuous media and the broad radial cells.

Heteroconis dahli Enderlein, 1906

Heteroconis dahli: Meinander 1972a:76; New 1986:129 (list); New 1988:4, f. 1–9 (description of male and female, faunistic record). New in litt. d (key).

Distribution: Bismarck Archipelago and Papua New Guinea: Wau.

Heteroconis enderleini Meinander, 1972

Heteroconis enderleini Meinander 1972a:77.

New record: Australia, N.S.W., Loftus 15 km SSW Sydney Airport, 1987-04-03, 1♂, N. D. Penny (CAS), 1♀ (MZH).

Distribution: Australia: New South Wales.

Heteroconis fenestrata New, in litt.

Heteroconis fenestrata New in litt. d, f. 80–88 (description).

Distribution: New Guinea.

Heteroconis gagnei New, 1988

Heteroconis gagnei New 1988:6, f. 18–19, 28–36 (description); New in litt. d (key).

Distribution: Papua New Guinea, Wau.

Heteroconis javanica Monserrat, 1982

Heteroconis javanica Monserrat 1982a:14, f. 10–14 (description).

Distribution: Indonesia.

Heteroconis kaitensis New, in litt.

Heteroconis kaitensis New in litt. d, f. 24–32 (description).

Distribution: New Guinea.

Heteroconis madangensis Meinander, sp.n.

Figs. 3A–D, 4A–D

Heteroconis madangensis: New in litt. d, f. 33–38 (key, description).

Type: ♂ holotype; Papua New Guinea, Madang; CAS.

Specimen examined: Papua New Guinea, Madang Province, Gogol River (12 km SW Madang), 50°20'S 145°42'E, 1987-02-25, ♂ holotype, N. D. Penny (CAS); New Guinea, Finschhafen, 1944-05-16, 1♀, E. S. Ross (CAS); "Dutch New Guinea" Maffin Bay, 1944-06-19, 1♀, (CAS).

Diagnosis

Distal cross-vein Rs-M distal of both median thickenings, cross-vein M-Cu₁ between both median thickenings. No corniform structure between male antennae. Antennal segments 1–8, 17–18 light, segments 9–16 black. Ventral process of ninth sternite very broad and short. Tenth sternite forming a dilated hook-like structure.

Description

Head capsule light ochreous brown. Height of male head 0.4, of eye 0.15 mm. In male no corniform structure between antennae. The antennal sockets are ventrally connected, forming a median tongue on frons. Antenna 18-segmented. Scape three times as long as broad, pedicel about one and a half times as long as broad, flagellar segments about as long as broad. Scape, pedicel and segments 3–8, 17–18 light, segments 9–16 blackish brown. Length of antenna 0.8 mm. Palpi dark blackish brown.

Thorax greyish yellow with greyish brown shoulder spots. Legs light greyish brown.

Fore wing with membrane hyaline with light greyish brown markings. Basal cross-vein Rs-M distal of both median thickenings, cross-vein M-Cu₁ between median thickenings. Cu₂ sinuous. Length of fore wing 1.8–2.0 mm, of hind wing 1.7–1.6 mm.

Male genitalia, Figs. 3A–D. Subanal plate sclerotized. Ninth sternite cephally rather broad, ta-

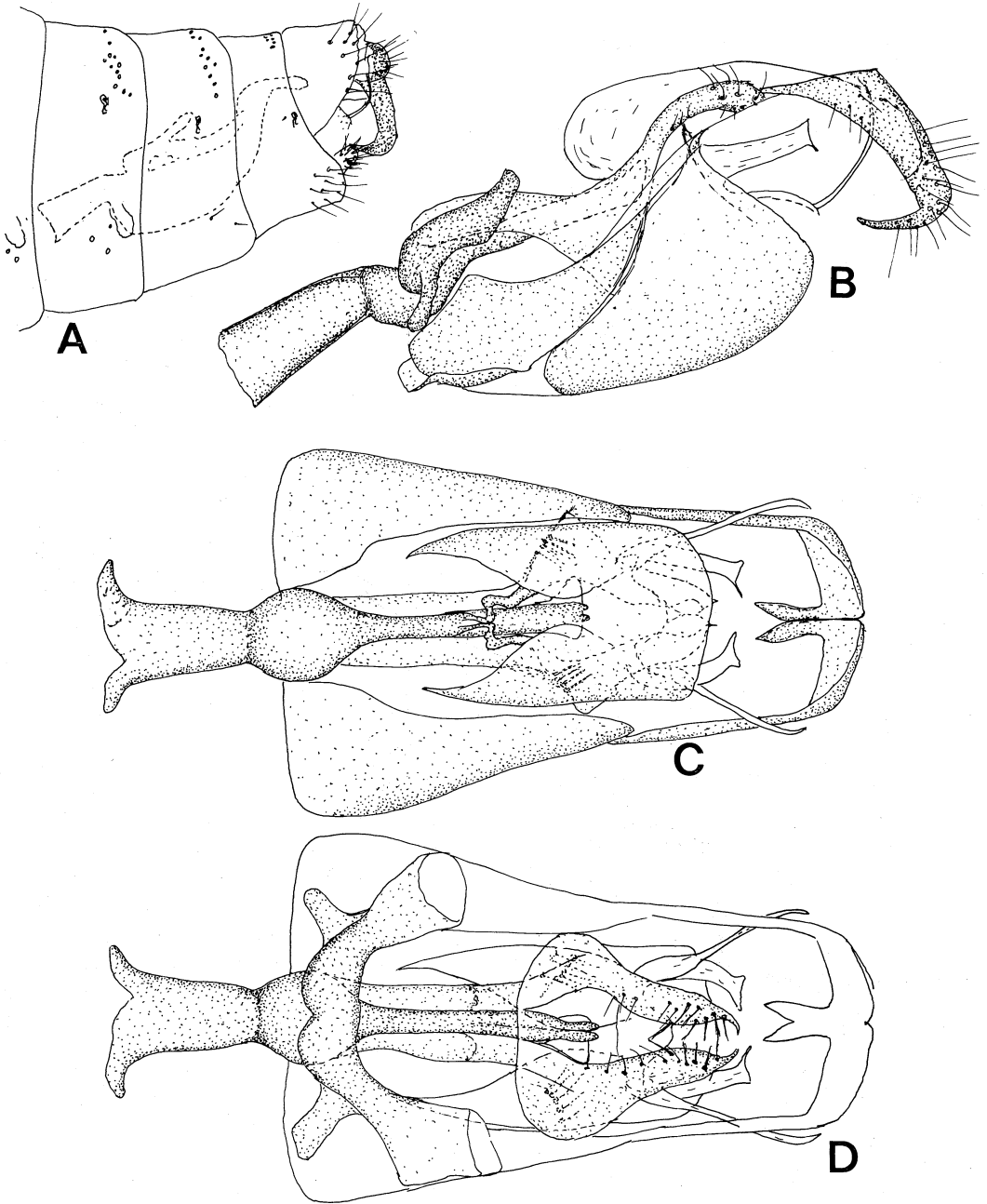


Fig. 3. *Heteroconis madangensis*, male terminalia: A. Terminal abdominal segments, lateral aspect; B. Internal genitalia, lateral aspect; C. Ditto, ventral aspect; D. Ditto, dorsal aspect.

pering smoothly caudad. Ventral process forming a broad cupulate bowl beneath the complicated internal hypandrial sclerites. The ventral process is cephally broadly incised. Styli apparently sepa-

rate from the hypandrial sclerites and form a fused caudal structure which ends in an inwards curved dilated hook. The dorsal wings of penis with a basal downwards directed apophysis.

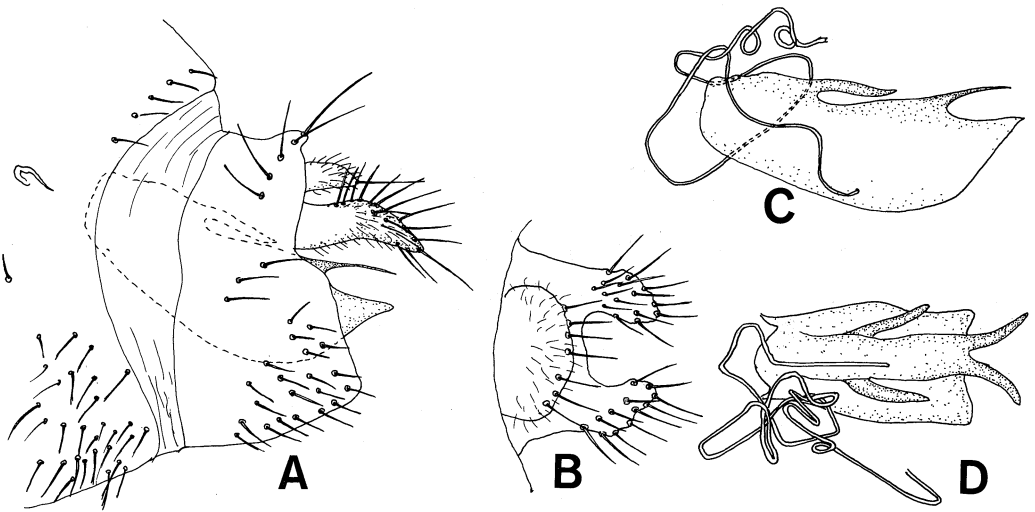


Fig. 4. *Heteroconis madangensis*, female genitalia: A. Terminal abdominal segments, lateral aspect; B. Ditto, dorsal aspect; C. Internal genitalia, lateral aspect; D. Ditto, dorsal aspect.

Female genitalia, Figs. 4A–D. Gonapophyses lateralis fused to a single tubulate structure, dorsally with two pairs of backwards directed narrow apophyses.

Heteroconis nigricornis Meinander, 1969

Heteroconis nigricornis: Meinander 1972a:79.

Distribution: Australia: Queensland.

Heteroconis papuensis Meinander, sp.n.

Figs. 5A–F

Heteroconis papuensis: New in litt. d (key).

Type: ♂ holotype; Papua New Guinea, Wau; USNM.

Specimen examined: Papua New Guinea, Morobe district, Wau 1200 mtrs, 1976-12-08...14 at black light, ♂ holotype, G. F. Hevel & R. D. Dietz (USNM).

Diagnosis

In fore wing basal cross-vein Rs-M is distal to both median thickening, cross-vein M-Cu₁ between both thickenings. Antennal segments 1–11, 13–18 dark, segment 12 light. Ventral process of ninth sternite apically with some teeth. Styli serrate.

Description

Male

Head brown (Fig. 4A). Corniform structure between male antennae about as long as scape+pedicel. There is in frontal view a narrowing slightly distally of the middle. The tip is curved inwards and bears some long hairs. Height of eye 0.23 mm. Antenna 18-segmented. Scape about 2.5 times as long as broad, pedicel about 1.5 times as long as broad, flagellar segments as long as broad. Segments 1–5 brown, 6–11 dark brown, 12 light, 13, 15, 17 blackish and 14, 16 and 18 dark brown. Length of antenna 1.0 mm.

Thorax dark brown, legs greyish brown.

Wings, Fig. 5B. Membrane of fore wing hyaline with greyish brown markings as indicated. In fore wing the basal cross-vein Rs-M is distal to both median thickenings, while the cross-vein M-Cu₁ is between the median thickenings. Cu₂ sinuous. The wing markings and venation resemble much those of *H. dahli*, differing mainly in the two separate markings distally of the cross-vein-like Sc₂ between Sc₁ and Sc₁+R₁. Marginal fringes of hind wing fairly long. Length of fore wing 2.1 mm, of hind wing 1.7 mm. Membrane of hind wing greyish, hyaline along Sc₂ and the distal cross-veins as well as between M₃₊₄ and Cu₁. **Genitalia**, Figs. 5C–F. Ninth sternite broad. Ventral process apically ending in three spines. Hypandrium simple. Stylus terminally fringed.

Female unknown.

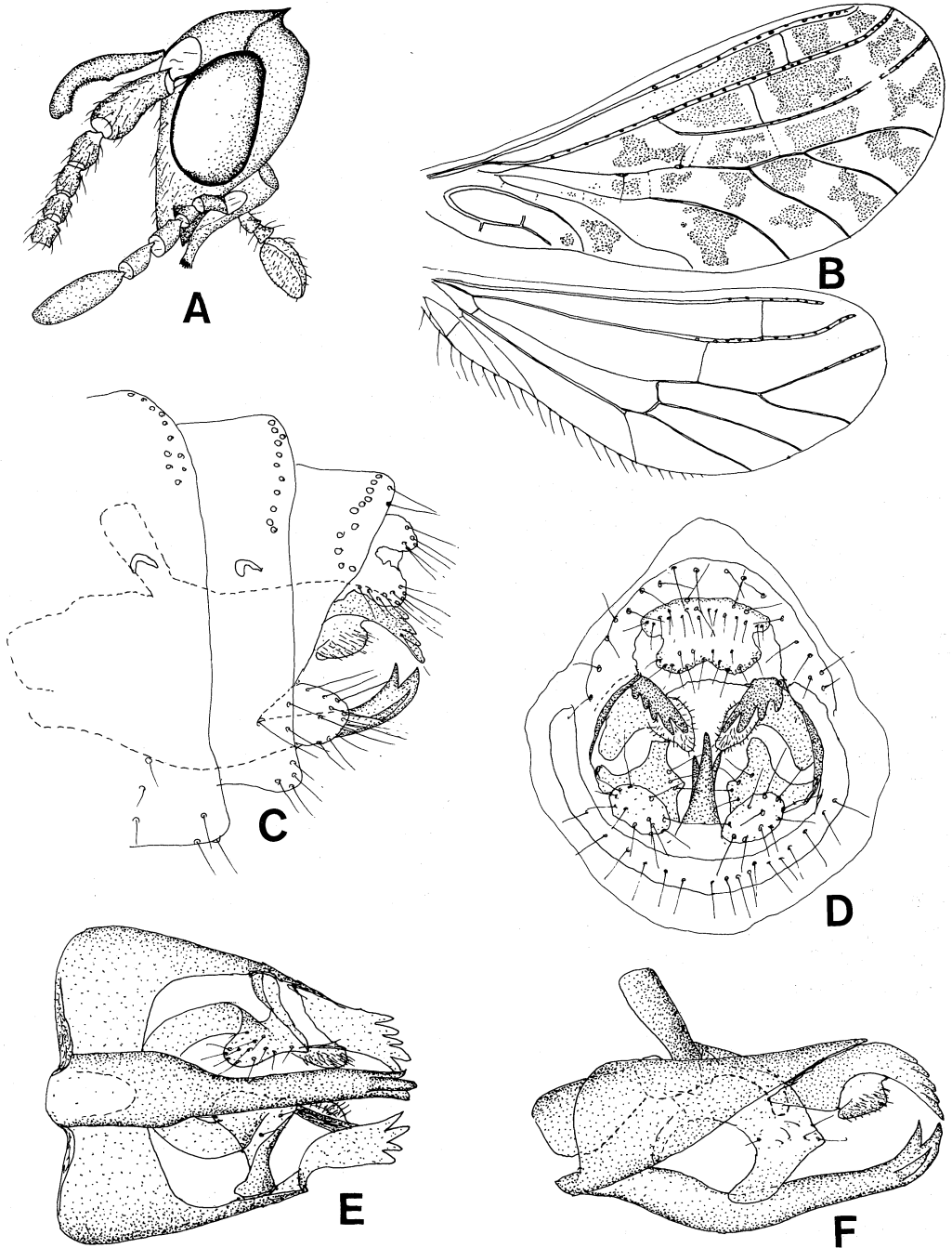


Fig. 5. Male of *Heteroconis papuensis*: A. Head, lateral aspect; B. Wings; C. Terminal abdominal segments, lateral aspect; D. Ditto, caudal aspect; E. Internal genitalia, ventral aspect; F. Ditto, lateral aspect.

***Heteroconis pennyi* Meinander, sp. n.**

Figs. 6A–C

Heteroconis pennyi: New in litt. d (key).

Type: ♀ holotype; Papua New Guinea, Madang Prov.; CAS.

Specimen examined: Papua New Guinea, Madang Province, Sapi forest reserve 30 km W Madang, 5°12'S 145°35'E. 1987-04-14, ♀ holotype, N. D. Penny (CAS).

Diagnosis

In fore wing cross-vein Rs-M distal to both median thickenings, cross-vein M-Cu₁ between both median thickenings. Antennal segments 1–7, 18 light, 8–17 black.

Description**Female**

Head greyish brown. Antenna 18-segmented, 0.95 mm. Scape about three times, pedicel about two times, as long as broad, flagellar segments broader than long. Scape, pedicel, segments 3–7 and 18 whitish, segments 8–17 blackish brown.

Thorax light with light greyish shoulder spots.

Wings, Fig. 5A. Membrane of fore wing hyaline with light greyish brown markings as indicated. In fore wing the basal cross-vein Rs-M is distal to both median thickenings, while the cross-vein M-Cu has between the median thickenings. Cu₂ sinuous. Hind wing almost hyaline. Maginal fringes rather long. Length of fore wing 2.0 mm, of hind wing 1.6 mm.

Genitalia, Figs. 6B–C. Gonapophyses laterales fused to a plate, which in dorsal view is fungus-like with a stipe which is broadest medially. Terminally on eighth tergite a transverse slightly sclerotized area thickly covered by spines.

Male unknown.

The species can be recognized from the genitalia.

***Heteroconis pioraensis* New, in litt.**

Heteroconis (Drepanoconis) pioraensis New in litt., fig. 91–100 (description).

Distribution: New Guinea.

***Heteroconis planifrontalis* Meinander, 1969**

Heteroconis planifrontalis: Meinander 1972a:81.

Distribution: Australia: Northern Territory.

***Heteroconis spinosa* New, in litt.**

Heteroconis spinosa New in litt. d, f. 1–8 (description).

Distribution: New Guinea.

***Heteroconis striata* New, in litt.**

Heteroconis striata New in litt. d, f. 71–79 (description).

Distribution: New Guinea.

***Heteroconis umbrata* New, in litt.**

Heteroconis umbrata New in litt. d, f. 9–23 (description).

Distribution: New Guinea.

***Heteroconis varia* Enderlein, 1906**

Heteroconis varia: Meinander 1972a:81

New record: Australia N.S.W. N of Woodburn 1980-04-20, 1♂ G. F. Hevel & J. A. Portin (USNM).

Distribution: Australia Queensland and New South Wales.

***Heteroconis wauensis* New, 1988**

Heteroconis wauensis: New 1988:8, figs. 37–43 (description); New in litt. d (key).

Distribution: Papua New Guinea.

***Heteroconis nigripalpis* Meinander, 1972**

Heteroconis nigripalpis Meinander 1972a:83.

Distribution: Formosa.

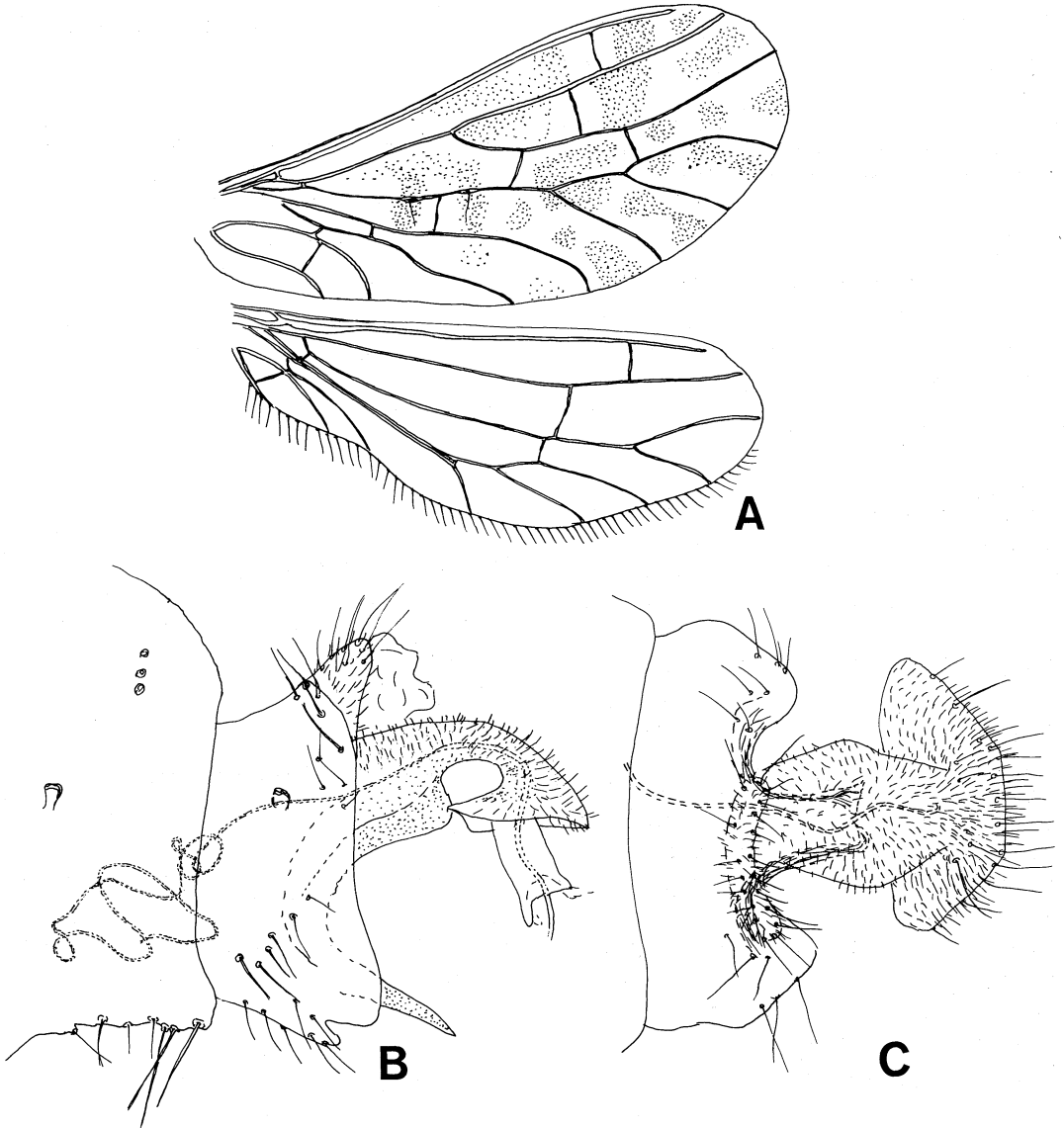


Fig. 6. Female of *Heteroconis pennyi*: A. Wings; B. terminal segments, lateral aspect; C. Ditto, ventral aspect.

***Heteroconis angustipennis* Monserrat, 1982**

Heteroconis angustipennis Monserrat 1982a:22, f. 27–29 (description).

Distribution: Indonesia.

***Heteroconis cornuta* Monserrat, 1982**

Heteroconis cornuta Monserrat 1982a:20, f. 24–26 (description).

Distribution: Indonesia.

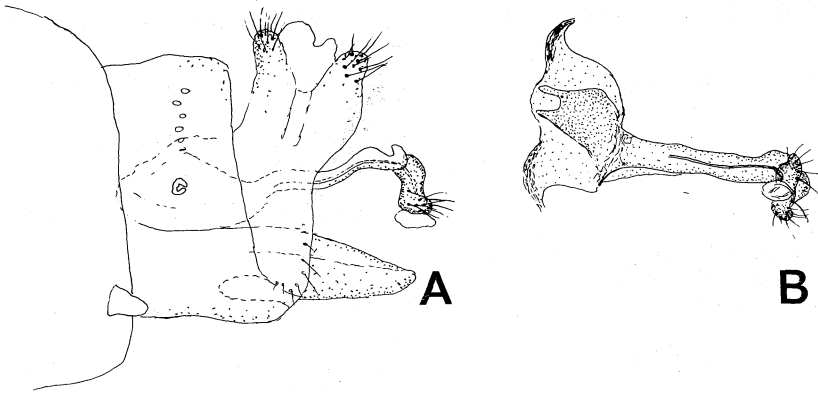


Fig. 7. Female genitalia of *Heteroconis vietnamensis*: A. Lateral view; B. internal genitalia in ventral view.

Heteroconis fusca Meinander, 1972

Heteroconis fusca Meinander 1972a:85.

New records: Malaysia Sabah 1 km S. Kudasang 11 1530 m, 1983-08-24, 1♂ G. F. Hevel & W. E. Steiner (USNM); Kinanbalu National Park Headquarters area el 1560 m, 1983-09-09, 1♂, G. F. Hevel & W. E. Steiner (USNM); 10 km SW Sandakan 1983-08-16, 1♂, G. F. Hevel & W. E. Steiner (USNM).

Distribution: Malaysia: Kuala Lumpur and Sabah.

Heteroconis interrupta (Banks, 1937)

Heteroconis interrupta: Meinander 1972a:87.

Distribution: The Philippines.

Heteroconis picticornis (Banks, 1937)

Heteroconis picticornis: Meinander 1972a:88.

Distribution: South China and introduced into the U.S.A.

Heteroconis terminalis (Banks, 1937)

Heteroconis terminalis: Meinander 1972a:90; Ghosh & Sen 1977:278 (list); Ghosh 1983:81 (faunistic record).

Distribution: India.

Heteroconis vietnamensis Meinander, sp. n.

Figs. 7A–B

Type: ♀ holotype; Vietnam, DaNang; FLA.

Specimen examined: Vietnam, DaNang, 1970-01-05, ♀ holotype, T. H. Dickens (FLA).

Diagnosis

In fore wing the basal cross-veins Rs-M and M-Cu are between both median thickenings. Antennal segments 1–7 white, 8–18 blackish brown.

Description

Head light greyish yellow with dark brown genae and blackish mandibulae. Height of head about 0.5 mm, of eye 0.2 mm. Antennae 18-segmented, about 1.0 mm. Scape three times as long as distally broad, about 0.2 mm. Pedicel about twice as long as broad. Flagellar segments slightly longer than broad. Antennal segments 1–7 white, segments 8–18 blackish brown. Palpi dark greyish brown. *Thorax* ochreous brown with greyish brown shoulder spots. Legs greyish brown.

Wings with membrane slightly shaded by brownish grey. In fore wing the basal cross-veins Rs-M and M-Cu strike M between the median thickenings. Cu₂ sinuous. Length of fore wing 2.6 mm, of hind wing 2.3 mm.

Female genitalia, Figs. 7A–B.

***Heteroconis aethiopica* Monserrat, 1989**

Heteroconis aethiopica Monserrat 1989:161, f. 7–12 (description).

Distribution: Equatorial Guinea.

***Heteroconis africana* Monserrat & Diaz-Aranda, 1988**

Heteroconis africana Monserrat & Diaz-Aranda 1988a:495, f. 1–5 (description); Monserrat 1989:159, f. 1–6 (description of male genitalia, faunistic record).

Distribution: Equatorial Guinea.

***Heteroconis* sp. 1**

Heteroconis sp. 1. Meinander 1972a:85

Distribution: Formosa.

***Heteroconis* sp. 2.**

Heteroconis sp. Monserrat 1982a:24.

Distribution: Indonesia.

***Heteroconis* sp. 3.**

Heteroconis sp. A: New 1990a:5, f. 11–12 (faunistic record).

Distribution: East Malaysia, Sabah.

***Heteroconis* sp. 4.**

Heteroconis sp. B: New 1990a:5, f. 13–14 (faunistic record).

Distribution: East Malaysia, Sabah.

***Heteroconis* sp. 5**

Heteroconis sp. A: New in litt. d, f. 41–44 (description of female).

Distribution: New Guinea.

***Heteroconis* sp. 6.**

Heteroconis sp. B: New in litt. d, f. 45–48 (description of female).

Distribution: New Guinea.

Tribe CONIOCOMP SINI**Genus *Coniocompsa* Enderlein, 1905*****Coniocompsa fimbriata* Tjeder, 1957**

Coniocompsa fimbriata: Meinander 1972a:92: Ohm & Hölzel 1982:163 (faunistic record).

Distribution: The Cape Verde Islands.

***Coniocompsa furcata* Banks, 1937**

Coniocompsa furcata: Meinander 1972a:94.

New records: Taiwan Taipeh, 1961-03-03, 1♂, E. I. Schlinger (UCA); Hong Kong, Sha Tin 1961-02-25, 1♂, E. I. Schlinger (UCA).

Distribution: China: Hong Kong and Formosa.

***Coniocompsa indica* Withycombe, 1925**

Coniocompsa indica: Meinander 1972a:96; Ghosh & Sen 1977:278 (faunistic record); Meinander 1982a:49 (faunistic record).

Distribution: India, Sri Lanka.

***Coniocompsa japonica* Enderlein, 1907**

Coniocompsa japonica: Meinander 1972a:96.

Coniopteryx maculorus (nomen nudum): Nakahara 1914:457.

New record: Japan, Taiku, 1933-03-17, 1♀, S. Issiki (USNM).

Distribution: Japan.

***Coniocompsa meinanderi* Monserrat, 1982**

Coniocompsa meinanderi Monserrat 1982a:12, f. 5–9 (description); New & Sudarman 1988:415, f. 2–3 (faunistic record).

New records: Malaysia Sabah 1 km S Kundasang el. 1530 m, 1983-08-24, 1♀ G. F. Hevel & W. E. Steiner (SNM); 1983-08-1983, 1♂ (USNM), 1♀ (MZH); Kinabalu National Park Headquarters area el. 1560 m, 1983-09-09, 1♂, G. F. Hevel & W. E. Steiner (USNM).

Monserrat mentions the number of antennal segments as a character for separating *C. meinanderi*

from *C. indica*. The number of antennal segments is, however, not constant in *Coniocompsa*. In the present specimens the numbers of antennal segments are 15, 16, 16, 20.

In my specimen of which the male genitalia were investigated, there is no falcate structure like that of *C. indica* and the shape of the penis agrees with Monserrat's drawing, as do the styli.

Distribution: Malaysia, Singapore and Indonesia.

***Coniocompsa mindanaoensis* Meinander, 1972**

Coniocompsa mindanaoensis Meinander 1972a:98.

Distribution: The Philippines.

***Coniocompsa postmaculata* Yang, 1964**

Coniocompsa postmaculata: Meinander 1972a:98.

Distribution: China.

***Coniocompsa silvestriana* Enderlein, 1914**

Coniocompsa silvestriana: Meinander 1972a:99; Meinander 1975c:247, f. 1 (description, faunistic record).

Distribution: Guinea, Nigeria.

***Coniocompsa smithersi* Meinander, 1972**

Coniocompsa smithersi Meinander 1972a:99; Meinander 1983a:481 (reference); Monserrat & Diaz-Aranda 1988a:499 (faunistic record); Monserrat 1989:158 (faunistic record).

Distribution: Equatorial Guinea, East and South Africa.

***Coniocompsa traceyae* New, 1990**

Coniocompsa traceyae: New 1990a:2, f. 1–5 (description).

Distribution: East Malaysia, Sabah.

***Coniocompsa vesiculigera* Enderlein 1905**

Coniocompsa vesiculigera: Meinander 1972a:102; van der Weele 1909:86 (list).

Distribution: Malaysia.

***Coniocompsa zimmermani* Kimmins, 1953**

Coniocompsa zimmermani: Meinander 1972a:102.

Distribution: Hawaii.

***Coniocompsa* sp.**

Coniocompsa sp. Meinander 1977:83 (female genitalia, faunistic note).

Distribution: Yemen.

Tribe FONTENELLEINI

Genus *Bidesmia* Johnson, 1976

Bidesmia Johnson 1976:192. Type by original designation: *Bidesmia morrisoni* Johnson, 1976; Meinander 1979b:17 (phylogeny).

***Bidesmia morrisoni* Johnson, 1976**

Bidesmia morrisoni Johnson 1976:193 (description); Meinander 1986:40 (list).

Distribution: U.S.A.: New Mexico.

Genus *Cryptosceneae* Enderlein, 1914

***Cryptosceneae antennalis* Meinander, 1972**

Cryptosceneae antennalis Meinander 1972a:106.

Distribution: Australia: Queensland.

***Cryptosceneae australiensis* (Enderlein, 1906)**

Cryptosceneae australiensis: Meinander 1972a:108; Wise 1963:53 (faunistic record); Wise 1972:269 (faunistic record); Meinander 1973:23 (type found); Meinander 1979:21 (distribution); Wise 1983a:255 (faunistic record); Wise 1983b:263 (faunistic record).

Distribution: Eastern Australia, New Zealand and Kermadec Island.

***Cryptosceneae evansorum* Smithers, 1984**

Cryptosceneae sp. 1. Meinander 1972a:105.

Cryptosceneae evansorum Smithers 1984:62 (description); New in litt. b (faunistic record).

Distribution: Western Australia.

***Cryptoscenea novaeguineensis* Meinander, 1972**

Cryptoscenea novaeguineensis Meinander 1972a:109; New 1986:129 (list).

Distribution: New Guinea.

***Cryptoscenea obscurior* Meinander, 1972**

Cryptoscenea obscurior Meinander 1972a:110; Lambkin & New 1989:19 (faunistic record).

Distribution: Australia: New South Wales and Queensland, Pacific Ocean: Lord Howe Island.

***Cryptoscenea* sp. 1**

Cryptoscenea sp. Monserrat 1982a:11 (faunistic record).

Distribution: Indonesia: Bali.

***Cryptoscenea* sp. 2**

Cryptoscenea sp. Monserrat & Diaz-Aranda 1988a:494 (faunistic record, biogeography).

Distribution: Equatorial Guinea.

Genus *Paraconis* Meinander, 1972***Paraconis borneoensis* Meinander 1972**

Paraconis borneoensis Meinander 1972a:114; New 1990a:4, f. 6–10 (faunistic record).

Distribution: Borneo.

Genus *Helicoconis* Enderlein, 1905**(?) *Helicoconis interna* (Navas, 1912)**

Helicoconis interna: Meinander 1972a:116; Navas 1924c:126, 82 (key).

Distribution: Spain.

(?) *Helicoconis laufferina* Navas, 1913

Helicoconis laufferina: Meinander 1972a:116; Navas 1924c:127, f. 83 (key); Monserrat 1984f:47 (list).

Distribution: Spain.

***Helicoconis aptera* Messner, 1965**

Helicoconis aptera: Meinander 1972a:116; Joost 1973:146 (list); Rausch et al. 1978:28, f. 3 (female genitalia, taxonomy); Aspöck et al. 1980:143 (taxonomy).

New record: U.S.S.R.: Turkmen SSR, Repetek, on *Haloxylon persicum*, 1972-04-28, 1♀, V.G. Kaplin (Moscow).

Distribution: Bulgaria Turkey, U.S.S.R.: Turkmenistan.

Subgenus *Helicoconis* Enderlein, 1905***Helicoconis (Helicoconis) californica* Meinander, 1972**

Helicoconis (Helicoconis) californica Meinander 1972a:119. *Helicoconis californica* Meinander 1986:39 (list).

Distribution: U.S.A.: California.

***Helicoconis (Helicoconis) eglini* Ohm, 1965**

Helicoconis (Helicoconis) eglini: Meinander 1972a:121. *Helicoconis eglini*: Hölzel 1973:500 (faunistic note); Aspöck et al. 1980:145, Abb. 262. (monograph); Eglin-Dederding 1980:310 (faunistic record, biology); Hölzel et al. 1980:4 (list); Gepp 1981:196 (faunistic record); Eglin-Dederding 1984:55 (ecology); Gepp 1986:139 (larva).

Distribution: Switzerland and Austria.

***Helicoconis (Helicoconis) hirtinervis* Tjeder, 1960**

Helicoconis (Helicoconis) cimbrica: Meinander 1972a:120. *Helicoconis cimbrica*: Rausch et al. 1978 (nomenclature); Tjeder 1972:21 (list).

Helicoconis hirtinervis: Meinander 1972a:117; Tjeder 1972:21 (list); Eglin 1979:495 (faunistic record); Schmidt Nielsen in litt. f. 1–16 (synonymy, ecology, description of larva); Aspöck et al. 1980:144, Abb. 225, 260,261 (monograph); Hölzel et al. 1980 (list); Eglin-Dederding 1980:310 (faunistic record and biology); Devetak 1984a:57 (faunistic record); Eglin-Dederding 1984:57 (ecology); Gepp 1986:139 (list).

Distribution: Denmark, Western Germany, Switzerland, Italy, Yugoslavia and Turkey.

***Helicoconis (Helicoconis) lutea* (Wallengren, 1871)**

Aleuropteryx lutea: Dzierdziewicz 1907a:111 (faunistic record); Puschinig 1922:73 (list); Kloet & Hincks 1964:100 (list).

Conicpteryx lutea: Petersen 1906:44 (description).

Helicoconis (Helicoconis) lutea: Meinander 1972a:121; Aspöck & Aspöck 1973:257 (faunistic record); Meinander 1974c:222, f. 6 (brachypterous specimens, faunistic record).

Helicoconis lutea: Esben-Petersen 1921:42 (faunistic record); Navas 1927d:27 (faunistic record); Kleinstember 1972a:44 (faunistic note); Kleinstember 1972b:68 (faunistic note); Meinander 1972c:96 (faunistic record); Tjeder 1972:21 (list); Hölzel 1973:500 (faunistic record); Ohm 1973b:301 (distribution); Gepp 1974b:38 (ecology); Greve 1974:19 (description of larva and pupa); Gepp 1974d:15 (faunistic record); Kleinstember 1974:147 (list); Gepp 1975a:267 (biology); Gepp 1975b:178 (faunistic record); Greve 1976:6 (faunistic record); Gepp 1977:176 (ecology, faunistic record); Zeleny 1977:130 (list); Barnard 1978:167, f. 4 (list); Lammes 1978:47 (faunistic record); Gepp 1979:495 (faunistic record); Aspöck et al. 1980:143 (monograph); Eglin-Dederding 1980:309 (biology, faunistic record); Hölzel et al. 1980:4 (list); Gepp 1981:195 (faunistic record); Eyre 1983:118 (reference); Popov 1983:62 (faunistic record); Devetak 1984a:57 (faunistic record); Devetak 1984b:69 (list); Lammes 1984:56 (faunistic record); Eglin 1985:98 (faunistic record); Gepp 1986:139 (larva); Meinander 1986:39 (list); Popov 1986:168 (faunistic record); Greve et al. 1987:59 (faunistic record); Monserrat & Hölzel 1987:138, f. 9–11 (figs. of larva); Dobosz 1989:77 (faunistic record).

(?)*Helicoconis lutea*: Meinander 1972b:128 (faunistic note).

Distribution: Northern and Central Europe, Yugoslavia, Bulgaria, U.S.S.R, Siberia.

***Helicoconis (Helicoconis) premnata* Rausch, Aspöck & Aspöck, 1981**

Helicoconis premnata Rausch et al. 1981:10, f.3 (description).

Distribution: India: Himalaya.

***Helicoconis (Helicoconis) senganca* Rausch, Aspöck & Aspöck, 1978**

Helicoconis senganca Rausch et al. 1978:25, f. 1–2 (description).

Distribution: Turkey.

***Helicoconis (Helicoconis) similis* Meinander, 1972**

Helicoconis (Helicoconis) similis Meinander 1972a:124; Meinander 1974c:223 (faunistic record); Meinander 1975a:30 (faunistic record).

Helicoconis similis: Meinander 1986:39 (list).

Distribution: Western North America.

***Helicoconis (Helicoconis) tjederi* Rausch, Aspöck & Aspöck, 1981**

Helicoconis tjederi Rausch et al. 1981:8, f. 1–2 (description).

Distribution: India: Himalaya.

***Helicoconis (Helicoconis) walshi* (Banks, 1906)**

Helicoconis (Helicoconis) walshi: Meinander 1972a:125; Throne 1972:126, f. 15 (faunistic record); Meinander 1974c:223 (faunistic record); Lawson & McCafferty 1984:130 (faunistic record).

Helicoconis walshi: Meinander 1986:39 (list).

Distribution: U.S.A.: Maine, Wisconsin, California.

Subgenus *Ohmopteryx* Kis, 1970***Helicoconis (Ohmopteryx) pseudolutea* Ohm, 1965**

Helicoconis (Ohmopteryx) austriaca: Meinander 1972:127.

Helicoconis (Ohmopteryx) pseudolutea: Meinander 1972a:127; Popov 1977:10 (faunistic record); Monserrat 1978c:182 (faunistic record); Monserrat 1978d:68 (faunistic record); Ujhelyi 1978:287 (faunistic record); Monserrat 1980:57 (faunistic record); Monserrat 1980b:191 (faunistic record); Popov 1983:62 (faunistic record).

Helicoconis pseudolutea: Zeleny 1977:130 (list); Eglin 1979:495 (faunistic record); Monserrat 1979:416 (faunistic record, biology); Aspöck et al 1980:145 (monograph); Eglin-Dederding 1980:311 (biology, faunistic record); Hölzel et al. 1980:4 (list); Monserrat 1982c:82 (faunistic record); Devetak 1984a:57 (faunistic record); Monserrat 1984a:28 (faunistic record); Monserrat 1984d:160 (faunistic record); Monserrat 1984e:105 (faunistic record); Monserrat 1984f:42 (faunistic record); Monserrat 1984g:175 (faunistic

record); Monserrat 1985b:130 (faunistic record); Monserrat 1985d:89 (faunistic record); Monserrat 1985g:75 (faunistic record); Diaz-Aranda et al. 1986a:1125 (biogeography); Diaz-Aranda 1986b:1142 (faunistic record); Gepp 1986:139 (list); Popov 1986:168 (faunistic record); Marín & Monserrat 1987:350 (ecology); Monserrat 1987:142 (faunistic record); Monserrat & Diaz-Aranda 1987:182 (faunistic record); Monserrat & Hölzel 1987:135 (faunistic record); Diaz-Aranda & Monserrat 1988a:120 (faunistic note); Diaz-Aranda & Monserrat 1988b:226 (faunistic note); Diaz-Aranda & Monserrat 1988c:223 (faunistic record); Monserrat & Diaz-Aranda 1988b:93 (faunistic record); Pantaleoni 1988:635 (list).

New record: Tunisia, zwischen Gafsa und Gabes von *Olea europea*, 1973-03-02, 1♂, G. Lienhard (coll. Lienhard).

Distribution: Central and south Europe, Morocco, Tunisia, Turkey, U.S.S.R.: Caucasus, Iraq, Iran.

Subgenus *Fontenellea* Carpentier & Lestage, 1928

Helicoconis (Fontenellea) algerica Meinander, 1976

Helicoconis (Fontenellea) algerica Meinander 1976:85, f. 1 (description).

Distribution: Algeria.

Helicoconis (Fontenellea) hispanica Ohm, 1965

Helicoconis (Fontenellea) hispanica: Meinander 1972a:129. *Helicoconis hispanica*: Aspöck et al. 1980:147, Abb. 265–267 (monograph); Monserrat 1984e:106 (faunistic record); Monserrat 1984f:42 (faunistic record); Monserrat 1985b:131 (faunistic record); Monserrat 1987:142 (faunistic record); Diaz-Aranda & Monserrat 1988c:224 (faunistic record).

Distribution: Spain and Morocco.

Helicoconis (Fontenellea) iberica Ohm, 1965

Helicoconis (Fontenellea) iberica: Meinander 1972a:130; Meinander 1977:84 (faunistic record). *Helicoconis iberica*: Aspöck et al. 1980:146, Abb. 268 (monograph); Diaz-Aranda & Monserrat 1988c:224 (faunistic record).

Distribution: Spain, Yemen.

Helicoconis (Fontenellea) kaszabi Aspöck & Aspöck, 1968

Helicoconis (Fontenellea) kaszabi: Meinander 1972a:131; Meinander 1972b:128 (faunistic record).

Helicoconis (Parahelicoconis) kaszabi: Aspöck & Aspöck 1973:257, f. 8 (description, faunistic record).

Distribution: Mongolia.

Helicoconis (Fontenellea) maroccana (Carpentier & Lestage, 1928)

Helicoconis (Fontenellea) maroccana: Meinander 1972a:131.

Fontenella maroccana: Janetschek 1957:149 (list).

Distribution: Morocco.

Helicoconis (Fontenellea) panticosa Ohm, 1965

Helicoconis (Fontenellea) panticosa: Meinander 1972a:133. *Helicoconis panticosa*: Monserrat 1979:416 (faunistic record); Aspöck et al. 1980:146, Abb. 269 (monograph); Monserrat 1984a:28 (faunistic record); Monserrat 1984d:161 (faunistic record); Monserrat 1984e:105 (faunistic record); Monserrat 1984f:47 (list); Monserrat 1985d:88 (faunistic note).

Distribution: Spain, Turkey.

Helicoconis (Fontenellea) salti Kimmmins, 1950

Helicoconis (Fontenellea) salti: Meinander 1972a:133.

Helicoconis salti: Janetschek 1957:149 (list).

Distribution: Uganda.

Helicoconis (Fontenellea) serrata Meinander, 1979

Helicoconis (Fontenellea) serrata: Meinander 1979a:334, f. 1 (description).

Distribution: Saudi Arabia.

Helicoconis (Fontenellea) transsylvanica Kis, 1965

Helicoconis (Helicoconis) transsylvanica: Meinander 1972a:134; Aspöck et al. 1980:146, Abb. 270 (monograph).

Distribution: Roumania.

Subgenus *Capoconis* Meinander, 1972

Helicoconis (*Capoconis*) *bazi* Monserrat & Diaz-Aranda 1988

Helicoconis (*Capoconis*) *bazi* Monserrat & Diaz-Aranda 1988a:498, f. 6–11 (description); Monserrat 1989:163 (faunistic record).

Distribution: Equatorial Guinea.

Helicoconis (*Capoconis*) *capensis* Enderlein, 1914

Helicoconis (*Capoconis*) *capensis*: Meinander 1972a:135; Meinander 1979b:17 (phylogeny); Meinander 1983a:481 (faunistic record).

Helicoconis capensis: Mansell 1986:47 (larva).

New records: S. Africa TVL Pretoria Garden of Union Buildings, 25°45'S 28°12'E, 1980-11-16, 1♂, M. W. Mansell (Natal); Pretoria Queenswood, 25°45'S 28°12'E, 1980-10-14, 1♀, M. W. Mansell (Natal); Entabeni Forest res. Soutpansberg 23°00'S 30°16'E, 1980-11-03...07, 1♀ (Natal).

Distribution: Southern Africa.

Genus *Spiloconis* Enderlein, 1907

Spiloconis cerata (Hagen, 1858)

Coniopteryx cerata: Sala de Castellarnau 1946:123 (faunistic record).

Spiloconis cerata: Meinander 1972a:139; Ghosh & Sen 1977:278 (list); Ghosh 1983:81 (list).

Distribution: Sri Lanka.

Spiloconis fijiensis Meinander, sp.n.

Figs. 8A–F

Type: ♂ holotype; Fiji; CAS.

Specimens examined: Fiji, Sigatoka mangrove & adjacent forest, 1987-02-01, ♂ holotype, 1♀ N. D. Penny (CAS); Labaea, 1922-09, 1♀, R. Veitch (BMNH).

Description

Head brown with black eyes. Height of eye of male 0.27 mm, of female 0.24, about half the height of head. Scape of both sexes about 0.2 mm,

pedicel about 0.1 mm, both about three times as long as broad. Antenna 26-segmented, light greyish yellow. Flagellar segments about as long as broad. Palpi greyish brown.

Wings, Fig. 8A. Membrane hyaline, in fore wing with dark markings on cross-veins and the fork of the media and with lighter markings on the tips of the longitudinal veins as indicated. In fore wing cross-vein-like part of Sc₂ is basally of radial cross-vein. Distal cross-vein Rs-M strikes Rs on branch R₄₊₅. In hind wing of the type there is a distal cross-vein R₄₊₅-M₁₊₂. Length of fore wing ♂ 2.7 mm, ♀ 2.9–3.0 mm, of hind wing ♂ 2.3 mm, ♀ 2.5–2.6 mm.

Male genitalia, Figs. 8B–F. Ninth sternite modified into a simple arch which dorsally continues backward ending in a hairy knob. Separate clavate styli present laterally of penis. Penis forming a dorsally open tube with a long anterior incision. Parameres simple rods. Distally of eighth sternite a median ventral small wart-like hairy knob and dorsally of eighth sternite laterally a pair of equal structures.

Female genitalia resemble those of *S. sexguttata*.

Spiloconis maculata (Enderlein, 1906)

Spiloconis maculata: Meinander 1972a:140; Meinander 1973:23 (type found).

New record: Australia, Queensland, Mt. Coot-tha Park 14 km W Brisbane airport, 1987-02-04, 1♂, N. D. Penny (CAS).

Distribution: Eastern Australia.

Spiloconis nebulosa Fraser, 1957

Spiloconis nebulosa: Meinander 1972a:142; Meinander 1983:481 (distribution).

Distribution: Réunion.

Spiloconis notata (Navas, 1926)

Spiloconis notata: Meinander 1972a:142.

New record: Philippines Mindanao, Baclayan Mt Apo, 1650 m, 1965-11-13...15, 1♂, D. Davis (USNM).

Distribution: The Philippines.

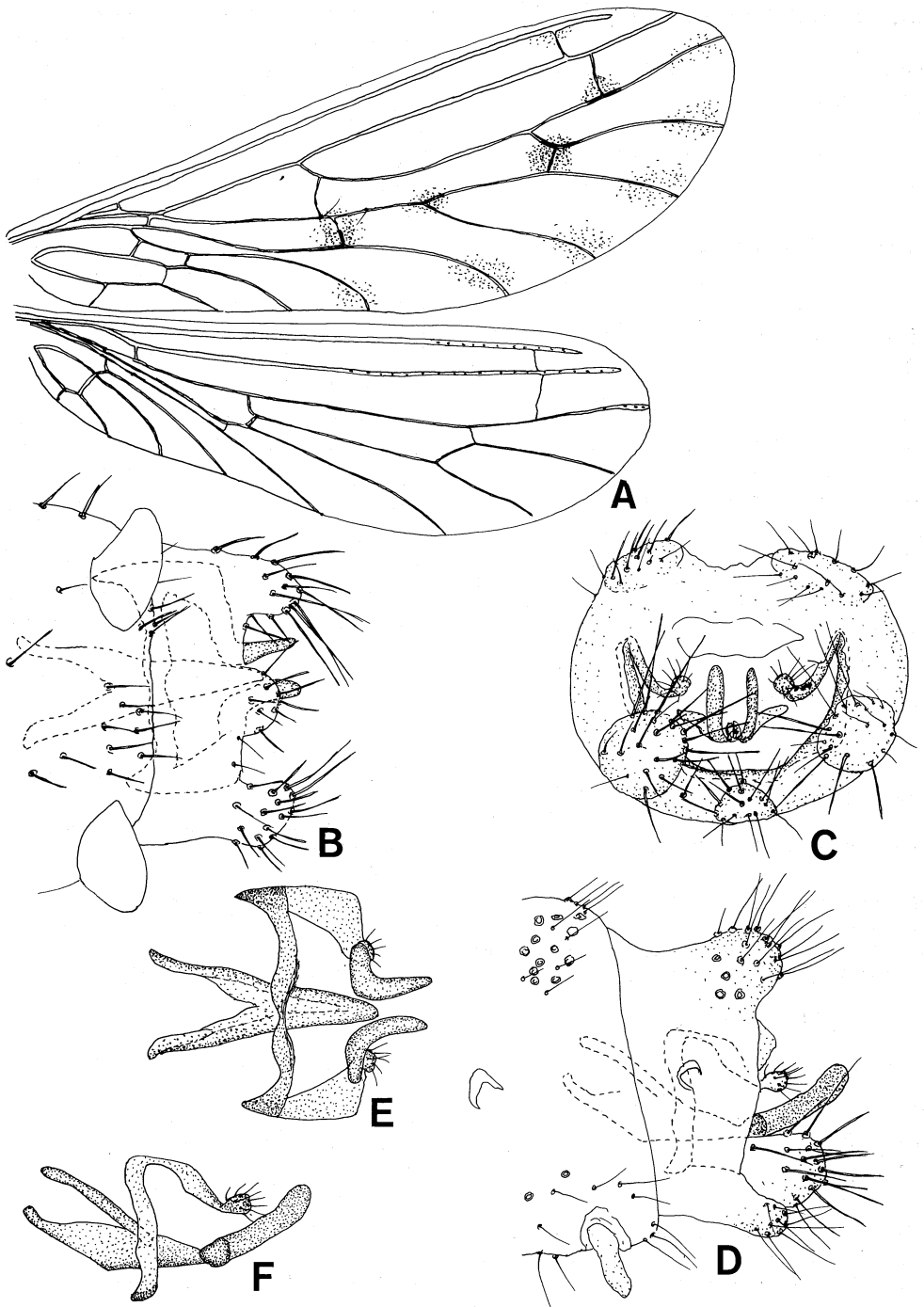


Fig. 8. Male of *Spiloconis fijiensis*: A. Wings; B. Terminal segments, ventral aspect; C. Ditto, caudal aspect; D. Ditto, lateral aspect; E. Internal genitalia, ventral aspect; F. Ditto, lateral aspect.

***Spiloconis sexguttata* Enderlein, 1907**

Spiloconis sexguttata: Meinander 1972a:144; Monserrat 1982a:10, f. 1-4 (figures male genitalia, faunistic record).

Distribution: Japan, China, Formosa, Thailand.

Genus *Vartiana* Aspöck & Aspöck, 1965***Vartiana necopinata* Aspöck & Aspöck, 1965**

Vartiana necopinata: Meinander 1972a:148.

Distribution: Turkey and Lebanon.

Genus *Neoconis* Enderlein, 1929***Neoconis amazonica* Meinander, 1983**

Neoconis amazonica Meinander 1983b:180, f. 1A-E (description); Meinander 1980:35, 39, f. 2 (map).

Distribution: Brazil.

***Neoconis bifurcata* Meinander, 1974**

Neoconis bifurcata Meinander 1974c:223, f. 7 (description); Meinander 1979b:19 (systematics); Meinander & Penny 1982:186 (list); Meinander 1986:35, 39, f. 2 (map).

Distribution: U.S.A.: Arizona.

***Neoconis bispina* Meinander, 1972**

Neoconis bispina Meinander 1972a:150; Penny 1977:29 (list); Meinander 1979b:19 (systematics); Meinander & Penny 1982:186 (list); Meinander 1986:35, 39, f. 2 (map).

Distribution: Virgin Islands.

***Neoconis brasiliensis* Meinander, 1980**

Neoconis brasiliensis Meinander 1980:130, f. 1A-E (description); Meinander & Penny 1982:187, f. 2 (description); Meinander 1986:35, 39, f. 2 (map).

New record: Brasil, Para, Oriximinã, Rio Trobetes, Ig.Gairota, 1982-11-17...25, 1♂, J. Vidal (MZH).

Distribution: Brazil.

***Neoconis cubana* (Banks, 1938)**

Neoconis cubana: Meinander 1972a:152; Meinander 1979b:19 (systematics); Meinander & Penny 1982:186 (list); Meinander 1986:35, 39, f. 2 (list).

New record: Dominican Republic, Prov. La Vega, 6 km NW Canstanzan, 1986-05-31, 1♂, L. A. Stange (FLA).

Distribution: Cuba and the Dominican Republic.

***Neoconis dentata* Meinander, 1972**

Neoconis dentata Meinander 1972a:153; Penny 1977:29 (list); Meinander 1979b:18 (systematics); Meinander & Penny 1982:186 (list); Meinander 1986:35, 39, f. 2 (map).

Distribution: Central America.

***Neoconis garleppi* (Enderlein, 1906)**

Neoconis garleppi: Meinander 1972a:154; Meinander 1973:23 (type found); Meinander 1979b:19 (systematics); Meinander & Penny 1982:186 (list); Meinander 1986:35, 39, f. 2 (map).

Distribution: Peru.

***Neoconis gelesae* Monserrat, 1981**

Neoconis gelesae Monserrat 1981a:155, f. 1-7 (description); Meinander 1983b:181 (faunistic record); Meinander 1986:35, 39, f. 2 (map).

New record: Bolivia, Santa Cruz, Taruma 50 km E Santa Cruz de la Sierra, 10-VII-1973 1♂ C. Porter, L. Stange, E. Demarest (FLA); Brasil, Para, Oriximinã, Rio Trombetes, Lago Alcoa Minerero, 1982-10-15, 1♂ 1♀, J.A.Rafael (INPA).

Distribution: Bolivia, Brazil, Paraguay.

***Neoconis inexpectata* Meinander, 1972**

Neoconis inexpectata Meinander 1972a:155; Meinander 1979b:19 (systematics); Meinander & Penny 1982:188, f. 3 (key, faunistic record); Monserrat 1985a:211 (faunistic record); Meinander 1986:35, 39, f. 2 (map).

Distribution: U.S.A.: Arizona and Mexico.

***Neoconis insulana* (Meinander, 1974)**

Neoconis insulana: Meinander 1979:19 (systematics); Meinander & Penny 1982:186 (list); Meinander

1983b:181 (faunistic record); Meinander 1986:35, 39, f. 2 (map).

Pampoconis insulana Meinander 1974d:98, f. 1 (description).

Distribution: Jamaica.

Neoconis marginata Meinander, 1972

Neoconis marginata Meinander 1972a:156; Meinander 1974c:223, f. 8. (description of female, faunistic record); Penny 1977:29 (list); Meinander 1979b:19 (systematics); Meinander & Penny 1982:186 (list); Meinander 1986:35, 39, f. 2 (map).

New records: U.S.A. Ca. Riverside Co. 8♂♂ 8♀♀ (SD), 41♂♂ 17♀♀ (UCR), 3♂♂ 3♀♀ (MZH); Mexico Jalisco 5.5 mi E. of Tocolotan on Hwy 80, 1982-07-13, 1♂ D. K. Faulkner (SD).

Distribution: Southwestern U.S.A. and northern Mexico.

Neoconis pistrix (Enderlein, 1906)

Neoconispistrix: Meinander 1972a:157; Meinander 1973:24 (type found); Penny 1977:29 (list); Meinander 1979b:19 (systematics); Meinander & Penny 1982:186 (list); Meinander 1986:35, 39, f. 2 (map).

Distribution: Peru.

Neoconis presai Monserrat, 1983

Neoconis presai Monserrat 1983a:138, f. 1–5 (description); Meinander 1983b:181 (faunistic record); Meinander 1986:35, 39, f. 2 (map).

Distribution: Venezuela and Brazil.

Neoconis tubifera Meinander, 1980

Neoconis tubifera Meinander 1980:131, f. 2A–F (description); Meinander & Penny 1982:188, f. 4 (key); Meinander 1986:35, 39, f. 2 (map).

New record: Brasil, Para Oriximinã Rio Trombetas, Ig. Gairota, 1982-11-17...25, 1♂, J. Vidal (MZH).

Distribution: Brazil.

Neoconis unam Monserrat, 1985

Neoconis unam Monserrat 1985:211, f. 1–6 (description); Meinander 1986:35, 39, f. 2 (map).

Distribution: Mexico.

Neoconis unicornis Meinander, sp.n.

Figs. 9A–E

Type: ♂ holotype; Colombia; USNM.

Specimen examined: Colombia, Ant. Queb. Espadera 7 km E Medellin, 1984-03-06, ♂ holotype, C. M. & O. S. Flint Jr (USNM).

Diagnosis

Fore wing with distinct markings in cells along the margin. Hypandrium ventrally with a long slender apophysis.

Description

Head dark ochreous brown. Eyes large, height 0.3 mm. Antenna blackish, 30-segmented. Flagellar segments slightly broader than long.

Wings, Fig. 9A. Fore wing rather broad. Membrane of fore wing with a slight greyish tinge and with distinct greyish brown markings in the cells along the hind margin, one on Sc₂, one distally in the basal radial cell and one in the middle of the distal cell between M and Cu. Length of fore wing 3.6 mm, of hind wing 3.1 mm.

Male genitalia, Figs. 9B–E. Apically on the ninth segment three pairs of stout spines, the ventral of which is curved inwards and situated on the edge of the sclerite, the middle and dorsal ones are fairly straight inwards directed, situated slightly anterior of the edge of the sclerite in the most posterior row of ordinary spines. Ventrally is an unpaired slightly sinuous long slender process at the base of which there is a pair of long bristles. Penis tubulous for most its distance. Parameres simple, thickening apicad. Styli simple.

Neoconis sp.

Neoconis sp. Monserrat 1985a:214 (faunistic record).

Distribution: Mexico.

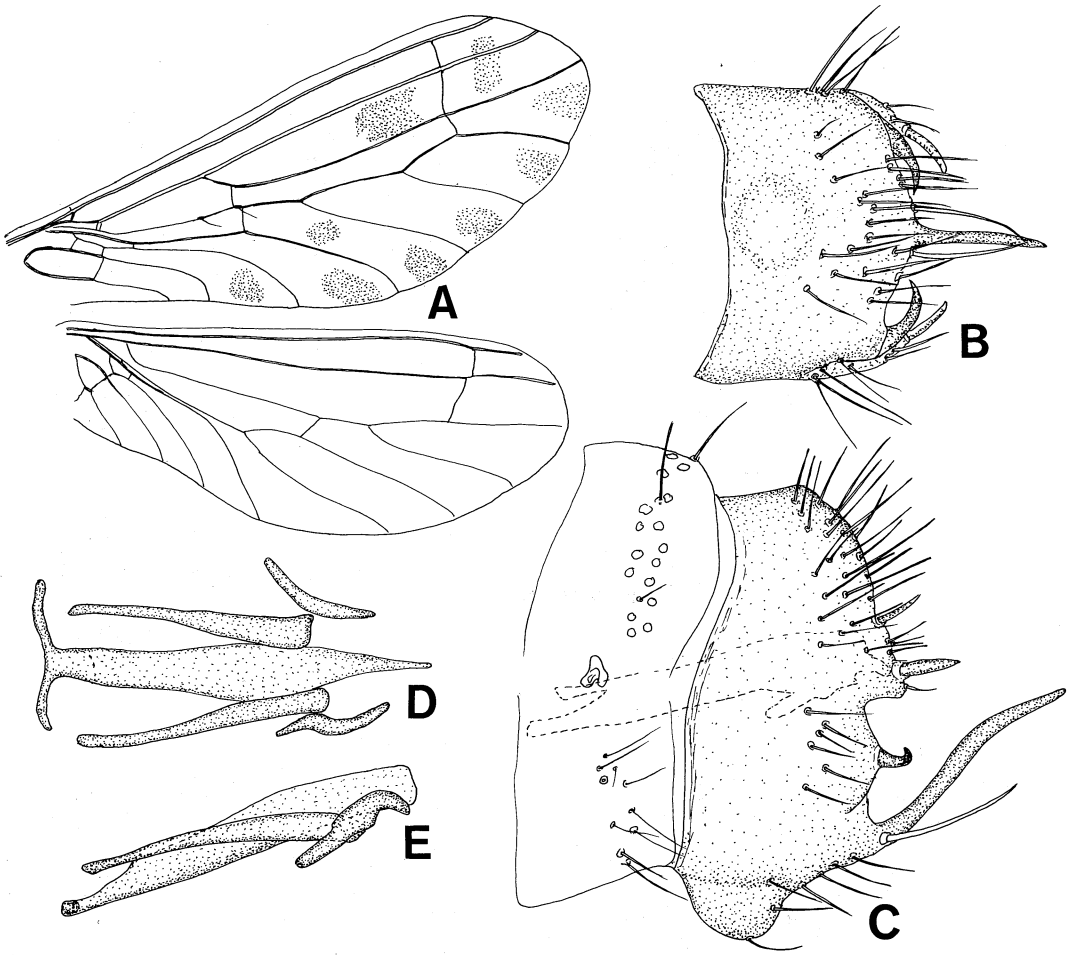


Fig. 9. Male of *Neoconis unicornis*: A. Wings; B. Terminal abdominal segments, ventral aspect; C. Ditto, lateral aspect; D. Internal genitalia, ventral aspect; E. Ditto, lateral aspect.

Genus *Pampoconis* Meinander, 1972

Pampoconis angustipennis Meinander, sp. n.

Figs. 10A–E

Type: ♂ holotype; Chile, Chillán; CAS.

Specimen examined: Chile, Cill n Las Trancas 1200 m, 1983-12-17...20, ♂ holotype, L. Peña (CAS).

Diagnosis

Membrane of fore wing unicolorous. On ectoproct four single and a pair of spines. Hypandrium

with a pair of knobs. Penis caudally with small teeth.

Description

Holotype just hatched and thus colours not developed.

Head with large unsclerotized area including the antennal sockets and extending in a long tongue to clypeus, dorsally with two slightly sclerotized bands from vertex. Eye small, height 0.12, less than a third of the height of the head. Antenna 25-segmented, 2.1 mm. Median flagellar segments more than two times as long as broad.

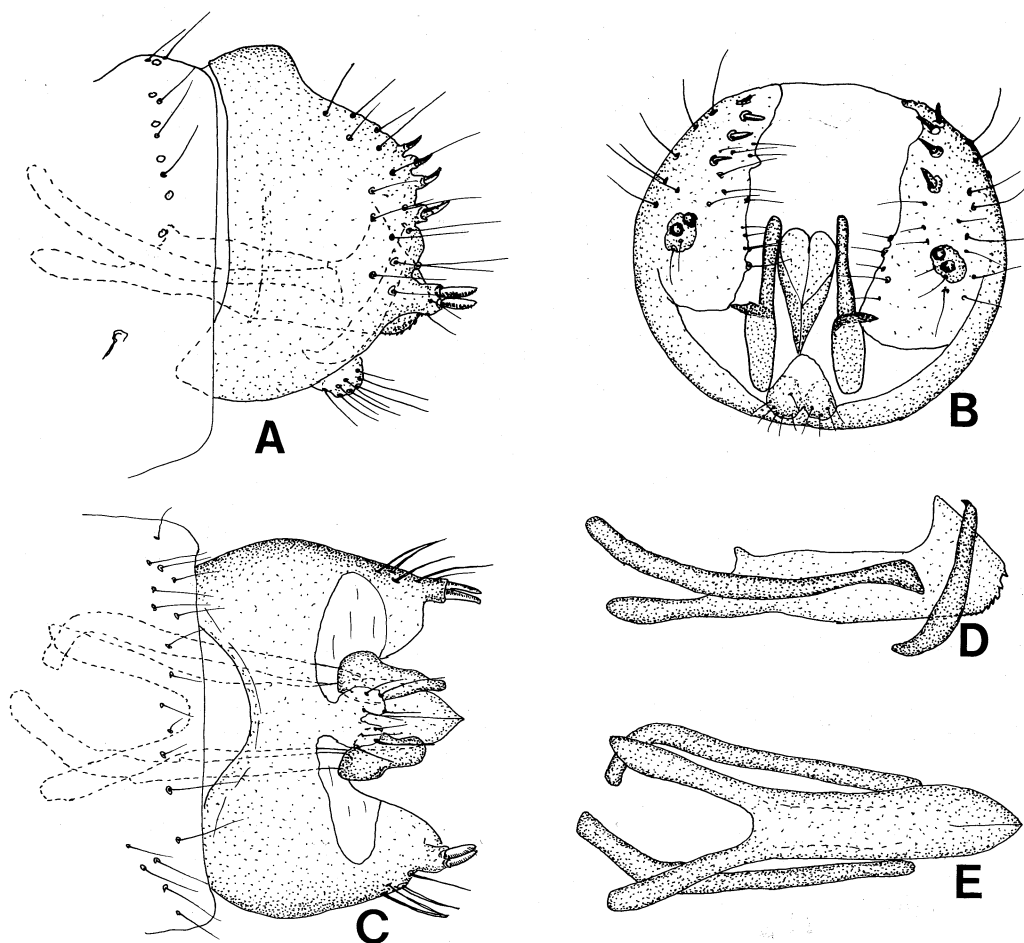


Fig. 10. Male of *Pamponis angustipennis*. A. Terminal segments, lateral aspect; B. Ditto, caudal aspect; C. Ditto, ventral aspect; D. Internal genitalia, lateral aspect; E. Ditto, ventral aspect.

Fore wing resemble that of *P. latipennis* but has neither median thickenings nor stiff hairs on media. Fore wing is distinctly narrower than that of *P. latipennis*: length 3.75 mm, largest width 1.2 mm. Hind wing with a distinct distal cross-vein M-Cu. Length 3.1 mm, largest width 1.3 mm. *Genitalia*, Figs. 10A–E. Ninth segment and ectoprocts fused. On the ectoproct four separate thick short spines and ventrally a projection with a pairs of equal spines. Prominent free styli. Distally of ninth segment ventrally a small sclerite, a hypandrium with lateral hairy knobs. Penis with a pair of anteriorly free rods, caudally finely dentate. Parameres simple rods.

Pamponis dentifera Meinander, 1973

Pamponis dentifera Meinander 1973:324, f. 1 (description); Penny 1977:29 (list); Meinander 1983b:181 (faunistic record); Meinander 1986:36, 39, f. 3 (map).

Distribution: Chile and Argentine.

Pamponis latipennis Meinander, 1972

Pamponis latipennis Meinander 1972a:159; Adams 1973a:250, f. 2f (morphology and faunistic record); Meinander 1974d:99 (faunistic record); Penny 1977:29 (list); Meinander 1986:36, 39, f. 3 (map).

Distribution: Chile, Argentine.

***Pampoconis punctipennis* Adams, 1973**

Pampoconis punctipennis Adams 1973a:250, f. 1a–e (description); Adams 1973b:324 (synonymy); Penny 1977:29 (list); Meinander 1986:36, 39, f. 2 (map).

Distribution: Chile.

***Pampoconis uncinata* Adams, 1973**

Pampoconis uncinata Adams 1973a:251, f. 2a–e (description); Adams 1973b:324 (synonymy); Meinander 1974d:99 (synonymy, faunistic record); Penny 1977:29 (list); Meinander 1983b:181 (faunistic record); Meinander 1986:36, 39, f. 2 (map).

Distribution: Chile.

Genus *Pseudoconis* Meinander, 1972***Pseudoconis maculipennis* Meinander, 1972**

Pseudoconis maculipennis Meinander 1972a:160; Meinander 1983a:488 (table).

Distribution: South Africa.

Subfamily BRUCHEISERINAE

Bruchaiseridae Navas 1927e:63; Riek 1975:118.
Bruchaiserinae: New 1989:12

Genus *Brucheiser* Navas, 1927***Brucheiser argentinus* Navas, 1927**

Brucheiser argentinus Navas 1927e:62 (description); Riek 1975:117, f. 9–21 (redescription of male).

Brucheiser arentinus: Riek 1975: f. 15–21, nomen nudum.

Distribution: Argentina.

***Brucheiser penai* Riek, 1975**

Brucheiser penai Riek 1975:118, f. 1–8 (description).

Distribution: Chile.

Subfamily CONIOPTERYGINAE**Tribe CONIOPTERYGINI****Genus *Neosemidalis* Enderlein, 1930****Subgenus *Leucosemidalis* Meinander, 1972*****Neosemidalis* (*Leucosemidalis*) *acuta* Meinander, 1972**

Neosemidalis (*Leucosemidalis*) *acuta* Meinander 1972a:165; New 1990b:11 (biogeography).

Distribution: Eastern Australia.

***Neosemidalis* (*Leucosemidalis*) *farinosa* (Enderlein, 1906)**

Neosemidalis (*Leucosemidalis*) *farinosa*: Meinander 1972a:166.

Distribution: Eastern Australia and Tasmania.

***Neosemidalis* (*Leucosemidalis*) *fulvinervosa* (Esben-Petersen, 1918)**

Neosemidalis (*Leucosemidalis*) *fulvinervosa*: Meinander 1972a:168.

Distribution: Northwestern Australia.

***Neosemidalis* (*Leucosemidalis*) *furcifera* Meinander, 1972**

Neosemidalis (*Leucosemidalis*) *furcifera* Meinander 1972a:169.

Distribution: Eastern Australia.

***Neosemidalis* (*Leucosemidalis*) *terraereginae* Meinander, 1972**

Neosemidalis (*Leucosemidalis*) *terraereginae* Meinander 1972a:169.

Distribution: Australia, Queensland.

***Neosemidalis (Leucosemidalis) trivialis* Meinander, 1972**

Neosemidalis (Leucosemidalis) trivialis Meinander 1972a:171.

Distribution: Northern Australia and Queensland.

Subgenus *Neosemidalis* Enderlein, 1930***Neosemidalis (Neosemidalis) anguliceps* Meinander, 1972**

Neosemidalis (Neosemidalis) anguliceps Meinander 1972a:173.

Distribution: Australia, New South Wales.

***Neosemidalis (Neosemidalis) antennalis* New, 1988**

Neosemidalis (Neosemidalis) antennalis New 1988:10, f. 44–53 (description).

Distribution: Papua New Guinea.

***Neosemidalis (Neosemidalis) brevipennis* Meinander, sp.n.**

Figs. 11A–G

Type: ♂ holotype; Papua New Guinea, Morobe distr.; USNM.

Specimen examined: Papua New Guinea Morobe distr. McAdam Nat. Park 8 mi NW Wau 850 mtrs, 1976–12–13, ♂ holotype, G. F. Hevel & R. E. Dietz (USNM).

Diagnosis

Pedicel and the four basal flagellar segments with long dorsal flaps. Styli straight and not sinuous. Parameres apically curved downwards and bifurcate.

Description***Male***

Head, Figs. 11A–C. Head capsule in lateral view almost round. Genae in dorsal view rounded. Vertex with a weakly sclerotized area in which there are two vertical ridges with long stiff hairs. Frons weakly sclerotized. Antenna of male 41-

segmented. Scape stout, slightly broader than long. Pedicel and the basal four flagellar segments on their outer border with long thin dorsal appendages, irregularly haired like the segments. Antennal segments 7 to about 22 normal, slightly broader than long. From segment 25 the antenna flattens and the segments are about twice as broad as long. The antenna then again tapers towards the tip, where the segments are about one and a half times as broad as long. The normal segments in the middle of the antenna have two whorls of ordinary hairs while the broad segments towards the tip have three more or less irregular whorls. No scale-like hairs but setae present on flagellar segments. *Thorax* light brown with shiny blackish brown shoulder spots.

Wings with greyish membrane. Cross-vein M-Cu₁ of hind wing striking the stem of M. Length of fore wing 3.2 mm, of hind wing 2.5 mm.

Genitalia, Figs. 11D–G. Ectoprocts slightly sclerotized, seems to be synscleritous with the ninth segment, which has a strongly sclerotized apodeme with laterally a branch continuing out in the styli. Styli straight. Parameres connected by a dorsal transverse structure and ventrally with a narrow apodeme, which in the middle has a backwards sclerotized hook. Penis unsclerotized.

This is the second species of *Neosemidalis* recorded from outside the Australian continent. The shape of the internal genitalia differs from the fairly uniform ones by the Australian species. It resembles the other species, *N. antennalis*, from New Guinea.

***Neosemidalis (Neosemidalis) detrita* (McLachlan, 1867)**

Neosemidalis (Neosemidalis) detrita Meinander 1972a:174.

Distribution: Australia.

***Neosemidalis (Neosemidalis) differens* Meinander, 1972**

Neosemidalis (Neosemidalis) differens Meinander 1972a:176.

Distribution: Australia, Queensland.

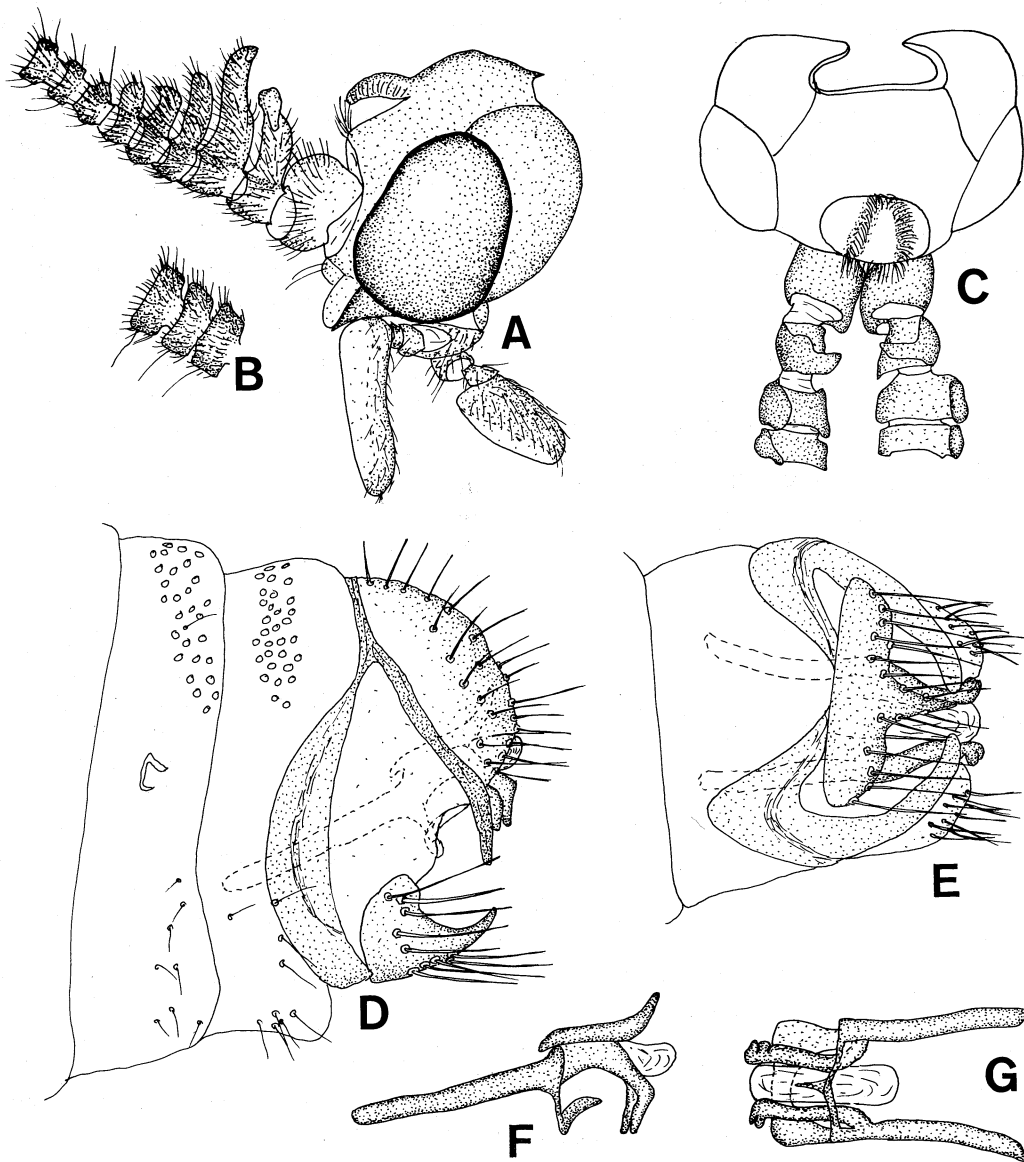


Fig. 11. Male of *Neosemidalis brevipennis*: A. Head, lateral aspect; B. Antennal segments 27-29; C. Head, dorsal aspect; D. Terminal abdominal segments, lateral aspect; E. Ditto, ventral aspect; F. Internal genitalia, lateral aspect; G. Ditto, ventral aspect.

Neosemidalis (Neosemidalis) globiceps Meinander, 1972

Neosemidalis (Neosemidalis) globiceps Meinander 1972a:177.

Distribution: Australia, Victoria.

Neosemidalis (Neosemidalis) kayi Meinander, 1972

Neosemidalis (Neosemidalis) kayi Meinander 1972a: 178.

Distribution: Australia, Queensland and Victoria.

***Neosemidalis (Neosemidalis) longiscapa*
Meinander, 1972**

Neosemidalis (Neosemidalis) longiscapa Meinander
1972a:179.

Distribution: Australia, ACT.

***Neosemidalis (Neosemidalis) monstruosa*
Meinander, 1972**

Neosemidalis (Neosemidalis) monstruosa Meinander
1972a:180.

Distribution: Australia.

***Neosemidalis (Neosemidalis) nervalis* Meinander, 1972**

Neosemidalis (Neosemidalis) nervalis Meinander
1972a:181.

Distribution: Australia.

***Neosemidalis (Neosemidalis) scapularis* Meinander, 1972**

Neosemidalis (Neosemidalis) scapularis Meinander
1972a:181.

Distribution: Australia.

***Neosemidalis (Neosemidalis) serricornis*
Meinander, 1972.**

Neosemidalis (Neosemidalis) serricornis Meinander
1972a:183.

Distribution: Australia.

Genus *Stangesemidalis* Gonzales Olazo, 1984

Stangesemidalis Gonzales Olazo 1984b:60. Type by original designation: *Stangesemidalis subandina* Gonzales Olazo, 1984.

The genus *Stangesemidalis* belongs to the tribe Coniopterygini and seems to be a sister group to the Australian genus *Neosemidalis*. The wing

venation is identical and the genitalia are similar. The ventral margin of the ectoproct is strengthened by an apodeme which continues ventrally into the stylus. The ectoprocts of *Neosemidalis* are caudally often produced into an acute spine, in the present species the ectoprocts also have a caudal projection, which, however, is not sclerotised. As in *Neosemidalis*, the hypandrium is a distinct separate sclerite. The parameres are stout rods. Here is no unpaired structure dorsally of the parameres as in *Neosemidalis*.

***Stangesemidalis subandina* Gonzales Olazo, 1984**

Figs. 12A–E

Stangesemidalis subandina Gonzales Olazo 1984b:60, f. 1–4 (description).

New record: Argentina, Catamarca Belen, 1240 m, 1969-10-31, 22♂♂ 13♀♀ L. A. Stange (FLA); 5♂♂ 1♀ L. A. Stange (MZH).

Distribution: NW Argentina.

Genus *Nimboa* Navas, 1915***Nimboa guttulata* Navas, 1915**

Nimboa guttulata: Meinander 1972a:185.

Distribution: Kenya.

***Nimboa immaculata* Withycombe, 1925**

Nimboa immaculata: Meinander 1972a:185.

Distribution: India.

***Nimboa basipunctata* Withycombe, 1925**

Nimboa basipunctata: Meinander 1972a:186.

Distribution: India.

***Nimboa capensis* Tjeder, 1957**

Nimboa capensis: Meinander 1972a:186; Meinander 1983:489 (table).

Distribution: South Africa and Zimbabwe.

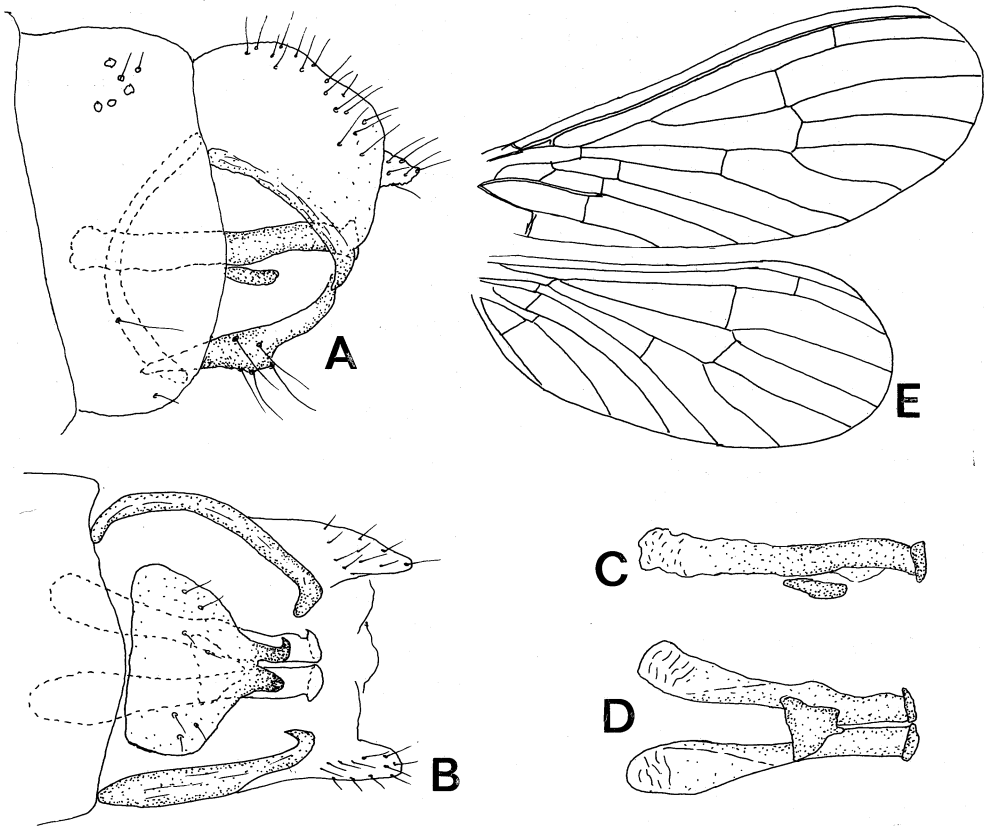


Fig. 12. *Stangesemidalis subandina*: A. male terminalia in lateral view; B. ditto in ventral view; C. internal genitalia in lateral view; D. ditto in ventral view; E. wings.

Nimboa natalensis Tjeder, 1957

Nimboa natalensis: Meinander 1972a:188; Meinander 1983a:482 (faunistic record).

Distribution: South Africa.

Nimboa transvaalensis Meinander, 1975

Nimboa transvaalensis Meinander 1975d:82, f.2 (description); Meinander 1983:489 (table).

New record: S.Africa TVL Entabeni Forest Res. Soutpansberg 23°00'S 30°16'E, 1980-11-03...07, 3♂♂ 3♀♀ (Natal).

Distribution: South Africa.

Nimboa adelae Monserrat, 1985

Nimboa adelae Monserrat 1985b:137, f. 22–28 (description); Monserrat 1987:144 (faunistic record).

Distribution: Spain.

Nimboa asadeva Rausch & Aspöck, 1978

Nimboa asadeva Rausch & Aspöck 1978:13, f. 1 (description).

Distribution: Turkey.

***Nimboa espanoli* Ohm, 1973**

Nimboa sp. 1. Meinander 1972a:189.

Nimboa espanoli Ohm 1973:237, f. 3–5 (description); Meinander 1975c:248 (faunistic record); Aspöck et al. 1980:157, Abb. 228, 314–316 (monograph); Monserrat 1985d:90 (faunistic record); Monserrat 1987:143 (faunistic record); Marín & Monserrat 1987:350 (ecology); Diaz-Aranda & Monserrat 1988c:224 (faunistic record).

New record: Canary Ids, La Palma, San Juan, 1986-08-16...22, 1♂ Ashmole (Edinburgh Univ.), 1♂ (MZH); Nigeria, Inst. Agr. Res. 5 mi NW Mokwa, 1978-02-04, 1♂, D & M Davis (USNM).

Distribution: Spain, Canary Ids, Morocco and Nigeria.

***Nimboa kasyi* Rausch & Aspöck, 1978**

Nimboa kasyi Rausch & Aspöck 1978:13, f. 2 (description).

Distribution: Turkey.

***Nimboa macroptera* Aspöck & Aspöck, 1965**

Nimboa macroptera: Meinander 1972a:189.

Distribution: Afghanistan.

***Nimboa marroquina* Monserrat, 1985**

Nimboa marroquina Monserrat 1985g:76, f. 1–10 (description).

Distribution: Morocco.

***Nimboa resslii* Aspöck & Aspöck, 1965**

Nimboa resslii: Meinander 1972a:190.

Distribution: Lebanon, Turkey.

***Nimboa vartianorum* Aspöck & Aspöck, 1965**

Nimboa vartianorum: Meinander 1972a:190; Meinander, 1976:86 (faunistic record); Meinander 1979a:335 (faunistic record).

Distribution: Egypt, Sudan, Lebanon, Saudi Arabia.

***Nimboa albizziae* Kimmins, 1952**

Nimboa albizziae: Meinander 1972a:191; Verdcourt 1978:152 (faunistic record); Meinander 1983:482 (faunistic record).

Distribution: Kenya, Zimbabwe, South Africa.

***Nimboa pauliani* Kimmins, 1960**

Nimboa pauliani: Meinander 1972a:192; Meinander 1976:86, f. 2 (male genitalia, faunistic record); Meinander 1983a:498 (table).

Distribution: Madagascar, Seychelles.

***Nimboa* sp. 1**

Nimboa spec. Ohm 1973:243; unbestimmbares Weibchen Aspöck et al. 1980:157.

Distribution: Yugoslavia.

***Nimboa* sp. 2**

Nimboa sp. Meinander 1977:84.

Distribution: Yemen.

***Nimboa* sp. 3**

Nimboa sp. Aspöck et al. 1980:157, Abb. 317–318.

Distribution: Greece: Rhodos.

***Nimboa* sp. 4**

Nimboa sp. Meinander 1983a:482 (faunistic note).

Distribution: South Africa, Transvaal.

Genus *Coniopteryx* Curtis, 1834

Based on the male genitalia, the genus is divided into six subgenera. In the large subgenera certain species groups have been recognized; they are reviewed in Meinander 1981. Here are first listed the species for which the male genitalia have not been described, and which thus at the present stage cannot be assigned to a subgenus.

***Coniopteryx albostriata* Tjeder, 1957**

Coniopteryx albostriata: Meinander 1972a:195; Costa Lima 1943:79 (morphology); Meinander 1981:106 (list); Meinander 1983:493 (listed).

Distribution: South Africa, Cape Province.

***Coniopteryx angustipennis* Enderlein, 1906**

Coniopteryx angustipennis: Meinander 1972a:195; Costa Lima 1943:79, f. 51 (wings); Penny 1977:28 (list); Meinander 1981:106 (list); Meinander 1986:41 (list).

Distribution: Paraguay and Argentina.

***Coniopteryx diptera* Meinander, 1971**

Coniopteryx diptera: Meinander 1972a:196; Meinander 1972b:130 (keyed, faunistic record); Meinander 1981:106 (list), 107 (faunistic record).

Coniopteryx (Aspoeckiana) diptera: Aspöck & Aspöck 1973:255 (reference).

Distribution: Mongolia.

***Coniopteryx fuscicornis* (Navas, 1915)**

Coniopteryx fuscicornis: Meinander 1972a:197; Esben-Petersen 1928:449 (list); Meinander 1981:106 (list).

Distribution: Kenya.

***Coniopteryx haitiensis* Smith, 1931**

Coniopteryx haitiensis: Meinander 1972a:198; Penny 1977:28 (list); Meinander 1981:106 (list); Meinander 1986:41 (list).

Distribution: Haiti.

***Coniopteryx javana* Enderlein, 1907**

Coniopteryx javana: Meinander 1972a:198; van der Weele 1909:86 (list); Handschin 1935:707 (faunistic record); Meinander 1981:106 (list).

Distribution: Java.

***Coniopteryx nigeriana* Meinander, 1975**

Coniopteryx (Xeroconiopteryx) nigeriana: Meinander 1975c:249, f. 3 (description of female); Meinander 1981:106 (list).

Distribution: Nigeria.

***Coniopteryx obscura* Navas, 1934**

Coniopteryx obscura: Meinander 1972a:198; Penny 1977:28 (list); Meinander 1981:106 (list); Monserrat 1984b:148 (list); Meinander 1986:41 (list).

Coniopteryx mexicana nomen nudum nec Meinander, 1974: Monserrat 1985f:240 (type (!) deposition).

Distribution: Mexico

***Coniopteryx phaeoptera* (Enderlein, 1906)**

Coniopteryx phaeoptera Meinander 1972a:199; Penny 1977:28 (synonymy); Meinander 1981:106 (list).

Coniopteryx (Scotoconiopteryx) phaeoptera Meinander 1986:40 (list).

Distribution: Peru.

***Coniopteryx ralumensis* Enderlein, 1906**

Coniopteryx ralumensis: Meinander 1972a:199; Meinander 1981:106 (list); New 1986:129 (list).

Distribution: Bismarck Archipelago.

***Coniopteryx sudanica* Meinander, 1965**

Coniopteryx sudanica: Meinander 1972a:200; Meinander 1981:106 (list).

Distribution: Sudan.

***Coniopteryx* sp.**

Coniopteryx sp.: Monserrat & Diaz-Aranda 1988a:501 (faunistic record).

Distribution: Equatorial Guinea.

***Coniopteryx enderleini* Meunier, 1910**

Coniopteryx enderleini: Meinander 1972a:34; Meinander 1975b:53 (list); Meinander 1981:106 (list).

Fossil species from copal in Togo.

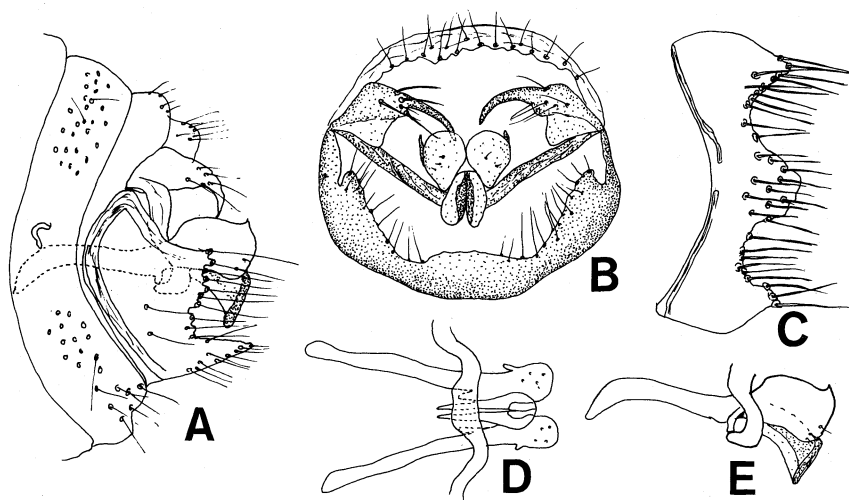
***Coniopteryx timidus* (Hagen, 1856)**

Coniortes timidus Meinander 1972a:35.

Coniopteryx timidus: Meinander 1975b:53 (list); Meinander 1981:106 (list).

Fossil species from East Prussian amber.

Fig. 13. Male of *Coniopteryx papuensis*: Terminal abdominal segments, lateral aspect; B. Ditto, caudal aspect; C. Hypandrium, ventral aspect; D. Internal genitalia, ventral aspect; E. Ditto, lateral aspect.



Subgenus *Xeroconiopteryx* Meinander, 1972

***Coniopteryx (Xeroconiopteryx) maculithorax* Enderlein, 1906**

Coniopteryx (Xeroconiopteryx) maculithorax: Meinander 1972a:205; Esben-Petersen 1918:34 (faunistic record); Meinander 1981:104 (list).

Distribution: Eastern Australia.

***Coniopteryx (Xeroconiopteryx) occidentalis* Meinander, 1972**

Coniopteryx (Xeroconiopteryx) occidentalis Meinander 1972a:206; Meinander 1981:104 (list).

Distribution: Asutralia.

***Coniopteryx (Xeroconiopteryx) orientalis* Meinander, 1972**

Coniopteryx (Xeroconiopteryx) orientalis Meinander 1972a:208; Meinander 1981:104 (list).

Distribution: Eastern Australia.

***Coniopteryx (Xeroconiopteryx) pambertoni* Kimmins, 1953**

Coniopteryx (Xeroconiopteryx) pambertoni: Meinander 1972a:209; Meinander 1981:104 (list).

Distribution: Hawaii.

***Coniopteryx (Xeroconiopteryx) tillyardi* Meinander, 1972**

Coniopteryx (Xeroconiopteryx) tillyardi Meinander 1972a:208; Meinander 1981:104 (list).

Distribution: Eastern Australia.

***Coniopteryx (Xeroconiopteryx) laticornis* Meinander, 1972**

Coniopteryx (Xeroconiopteryx) laticornis Meinander 1972a:210; Meinander 1981:104 (list).

Distribution: Southeast Australia.

***Coniopteryx (Xeroconiopteryx) papuensis* Meinander, sp.n.**

Figs. 13A–E

Type: ♂ holotype; Papua New Guinea, Morobe distr.; USNM.

Specimen examined: Papua New Guinea, Morobe district, Wau 1200 mtrs, 1976-12-08-14, ♂ holotype (USNM).

Diagnosis

Belongs to *C. (X.) laticornis* group. Gonarcus clavate, ending in long inwards curved slender spines. Gonarcus dorsally discleritous and the two lateral sclerites are widely separated. Processus terminalis of hypandrium prominent, no median apical incision.

Description

Head ochreous brown. Frons and palpi normal. Antenna about 30-segmented, light brown. On apex of pedicel and flagellar segments a thick border of long scale-like hairs. Basal flagellar segments about three times as broad as long. Ordinary hairs in two whorls. Setae present on flagellar segments.

Thorax ochreous brown with blackish shoulder spots. Membrane of both wings light greyish. Length of fore wing 2.0 mm, of hind wing 1.7 mm. *Male genitalia*, Figs. 13A–E. Hypandrium in lateral view about twice as high as broad. Apodeme along anterior margin ventrally shortly broken, continues dorsally almost to processus laterales. Processus terminalis prominent, no apical incision. Gonarcus clavate, ending in a long slender inwards curved spine. Parameres apically with a small dorsal hook. Penis sclerotized, two rather flat parallel sclerites.

***Coniopteryx (Xeroconiopteryx) squamifera* Meinander, 1972**

Coniopteryx (Xeroconiopteryx) squamifera Meinander 1972a:215; Meinander 1981:104 (list).

Distribution: Western Australia.

***Coniopteryx (Xeroconiopteryx) canadensis* Meinander, 1972**

Coniopteryx (Xeroconiopteryx) canadensis Meinander 1972a:211; Throne 1972:126, f. 12 (faunistic record) Meinander 1981:104 (list); Meinander 1986:40 (list).

New record: Alaska Matanuske Glacier Park Resort, Glenn Highway A-102, 1978-07-30, 3♂♂, P. H. Arnaud (CAS), 1♂ (MZH).

Distribution: Northern parts of North America.

***Coniopteryx (Xeroconiopteryx) diversicornis* Meinander, 1972**

Coniopteryx (Xeroconiopteryx) diversicornis Meinander 1972a:213; Meinander 1974c:225 (faunistic record); Meinander 1975a:30 (faunistic record); Penny 1977:28 (list); Meinander 1981:104 (list), 107 (faunistic record); Stange 1981:2 (key); Meinander 1986:40 (list).

New records: U.S.A., Cal. Riverside Co. 2♂♂ 1♀ (SD), 20♂♂ 1♀ (UCR); San Diego Co. 1♂ 2♀♀ (SD); Mexico Baja California Sur: San Ignacio, 1980-03-23, 2♂♂ 2♀♀, E. Fischer & J. Pinto (UCR); Baja California Norte, 20 km E. El Rosario, 1981-04-05, 1♂, E. A. Fisher (UCR); Durango, 20.4 mi NE of El Salto Hwy 40, 1982-07-21, 1♂ 1♀ (SD).

Distribution: Southern North America.

***Coniopteryx (Xeroconiopteryx) meinanderi* Johnson, 1980**

Coniopteryx meinanderi Johnson 1980:186, f. 4A–E (description).

Coniopteryx (Xeroconiopteryx) meinanderi Meinander 1981:104 (list); Meinander 1986:40 (list).

New records: U.S.A.: Cal. Riverside Co. S. Palm desert (P. L. Boyd desert res. center), 1963–1980, 4♂♂ (UCR), 1♂ (MZH); Mexico Sinaloa, 54 mi S. Culiacan, 540 ft, 1969-04-23, 1♂, M. E. Irwin (UCR).

Distribution: Southwestern U.S.A. and Mexico: Sinaloa.

***Coniopteryx (Xeroconiopteryx) texana* Meinander, 1972**

Coniopteryx (Xeroconiopteryx) texana Meinander 1972a:214; Meinander 1974c:225 (faunistic record); Meinander 1981:104 (list), 107 (faunistic record); Meinander 1986:40 (list).

New records: U.S.A.: Cal. Riverside Co. S. Palm Desert (P. L. Boyd desert res. center), 1965–1980, 10♂♂ 2♀♀ (UCR); Mexico Baja California Norte, 42.1 mi NNW Catavina, 1981-03-15, 1♂, F. Andrews & D. Faulkner (SD); 20 km E El Rosario, 1981-04-05, 2♂♂, E. M. Fisher (UCR).

Distribution: U.S.A.: Texas, Arizona and California, Mexico: Baja California Norte.

***Coniopteryx (Xeroconiopteryx) namibica* Tjeder, 1987**

Coniopteryx (Xeroconiopteryx) namibica: Tjeder 1987:275, f. 1–4 (description).

Distribution: Namibia.

***Coniopteryx (Xeroconiopteryx) aegyptiaca* Withycombe, 1924**

Coniopteryx (Xeroconiopteryx) aegyptiaca: Meinander, 1972a:216; Meinander 1981:104 (list).

Distribution: North Africa.

***Coniopteryx (Xeroconiopteryx) balkhashica*
Zakharenko, 1988**

Coniopteryx (Xeroconiopteryx) balkhashica: Zakharenko 1988:1249, f. 1. (description).

Distribution: USSR: Kazakhstan.

***Coniopteryx (Xeroconiopteryx) dentifera*
Meinander, 1983**

Coniopteryx (Xeroconiopteryx) dentifera Meinander 1981:104 (list); Meinander 1983a:482, f. 5–9 (description).

Distribution: South Africa.

***Coniopteryx (Xeroconiopteryx) kerzhneri*
Meinander, 1971**

Coniopteryx (Aspoeckiana) kerzhneri: Aspöck & Aspöck 1973:253 (reference).

Coniopteryx (Xeroconiopteryx) kerzhneri: Meinander 1972a:217; Meinander 1972b:131, f. 1 (female genitalia, faunistic records); Meinander 1976:87 (faunistic record); Meinander 1981:104 (list), 107 (faunistic record); Monserrat 1982d:57, f. 1–6 (description, faunistic record); Monserrat 1985b:134 (faunistic record); Monserrat 1985d:89 (faunistic record); Monserrat 1987:143 (faunistic record); Zakharenko 1988:1249 (faunistic records).

Distribution: Spain, North Africa, USSR: Kazakhstan, Uzbek SSR., Mongolia.

***Coniopteryx (Xeroconiopteryx) ketiae* Monserrat, 1985**

Coniopteryx (Xeroconiopteryx) ketiae Monserrat 1985b:134, f. 15–21 (description).

Distribution: Spain.

***Coniopteryx (Xeroconiopteryx) manka* Aspöck & Aspöck, 1965**

Coniopteryx (Xeroconiopteryx) manka: Meinander 1972a:218; Meinander 1981:104 (list).

Distribution: Iraq

***Coniopteryx (Xeroconiopteryx) obtusa*
Withycombe, 1925**

Coniopteryx (Xeroconiopteryx) obtusa: Meinander 1972a:219; Ghosh & Sen 1977:279 (list); Meinander 1981:104 (list).

Distribution: India.

***Coniopteryx (Xeroconiopteryx) orba* Rausch & Aspöck, 1978**

Coniopteryx (Xeroconiopteryx?) orba Rausch & Aspöck 1978b:102, f. 3 (description).

Coniopteryx (Xeroconiopteryx) orba: Meinander 1981:104 (list).

Distribution: Iraq.

***Coniopteryx (Xeroconiopteryx) ressli* Rausch & Aspöck, 1978**

Coniopteryx (Xeroconiopteryx) buettikeri Meinander 1979a:335, f. 2–3 (description).

Coniopteryx (Xeroconiopteryx) ressli Rausch & Aspöck 1978b:100, f. 1 (description) Meinander 1981:104 (list).

Distribution: Saudi Arabia, Iran.

***Coniopteryx (Xeroconiopteryx) venustula*
Rausch & Aspöck, 1978**

Coniopteryx (Xeroconiopteryx) venustula Rausch & Aspöck 1978b:100, f. 2 (description); Meinander 1981:104 (list); Meinander 1982a:51, f. 2 (male genitalia, faunistic record).

Distribution: Iran, Sri Lanka.

***Coniopteryx (Xeroconiopteryx) wittmeri* Meinander, 1979**

Coniopteryx (Xeroconiopteryx) wittmeri Meinander 1979a:340, f. 6 (description); Meinander 1981:104 (list).

Distribution: Saudi Arabia.

***Coniopteryx (Xeroconiopteryx) accrana* Meinander, 1975**

Coniopteryx (Xeroconiopteryx) accrana Meinander 1975c:247, f. 2 (description); Meinander 1981:104 (list).

Distribution: Ghana.

***Coniopteryx (Xeroconiopteryx) aequatoriana* Monserrat, 1989**

Coniopteryx (Xeroconiopteryx) aequatoriana Monserrat 1989:167, f. 22–27 (description).

Distribution: Equatorial Guinea.

***Coniopteryx (Xeroconiopteryx) atlantica* Ohm, 1983**

Coniopteryx (Xeroconiopteryx) atlantica: Meinander 1972a:219; Meinander 1981:104 (list); Monserrat 1985b:131, f. 6–14, map 1 (male genitalia, faunistic record); Monserrat 1987:143 (faunistic record).

Distribution: Spain, NW Africa.

***Coniopteryx (Xeroconiopteryx) atlasensis* Meinander, 1963**

Coniopteryx (Xeroconiopteryx) atlasensis: Meinander 1972a:22; Gepp 1974b:102 (faunistic record); Monserrat 1976c:249, map 1 (distribution); Monserrat 1977a (taxonomy, ecology, distribution); Aspöck et al. 1980:154, Abb. 306–308 (monograph); Monserrat 1980b:192 (faunistic record); Meinander 1981:104 (list); Monserrat 1982c:83 (faunistic record); Monserrat 1984a:32 (faunistic record); Monserrat 1984b:147 (faunistic record); Monserrat 1984e:107 (faunistic record); Monserrat 1984g:176 (faunistic record); Monserrat 1985d:89 (faunistic record); Monserrat 1985g:76 (faunistic record); Diaz-Aranda 1986b:1143 (faunistic record); Monserrat 1987:145 (faunistic note); Monserrat & Diaz-Aranda 1987:183 (faunistic record); Diaz-Aranda & Monserrat 1988a:121 (faunistic note); Diaz-Aranda & Monserrat 1988c:224 (faunistic record); Monserrat & Diaz-Aranda 1988b:93 (faunistic record); Zakharenko 1988:1249 (faunistic record).

Distribution: The Mediterranean area, USSR: Tadshikistan, Kazakhstan, Aserbeidshan. Iran and Afghanistan.

***Coniopteryx (Xeroconiopteryx) deserta* Meinander, 1979**

Coniopteryx (Xeroconiopteryx) deserta Meinander 1979a:337, f. 4 (description); Meinander 1981:104 (list).

Distribution: Saudi Arabia.

***Coniopteryx (Xeroconiopteryx) latistylus* Meinander, 1982**

Coniopteryx (Xeroconiopteryx) latistylus Meinander 1982a:49, f. 1 (description).

Distribution: Sri Lanka.

***Coniopteryx (Xeroconiopteryx) loipetsederi* Aspöck, 1963**

Coniopteryx (Aspoeckiana) loipetsederi: Kis 1976:131 (faunistic record); Popov 1977:9 (faunistic record).

Coniopteryx (Xeroconiopteryx) loipetsederi: Meinander 1972a:223; Zeleny 1971b:154 (faunistic record); Monserrat 1977:142 (taxonomy, ecology); Monserrat 1978d:66 (faunistic record); Aspöck et al. 1980:155, Abb. 271, 275 (monograph); Monserrat 1980b:192 (faunistic record); Meinander 1981:104 (list), 107 (faunistic record); Monserrat 1982c:83 (faunistic record); Monserrat 1984a:32 (faunistic record); Monserrat 1984e:107 (faunistic record); Monserrat 1984f:43 (faunistic record); Monserrat 1985b:131 (faunistic record); Monserrat 1985d:89 (faunistic record); Monserrat 1987:143 (faunistic record); Diaz-Aranda & Monserrat 1988a:121 (faunistic note); Diaz-Aranda & Monserrat 1988b:227 (faunistic note); Diaz-Aranda & Monserrat 1988c:224 (faunistic record); Monserrat & Diaz-Aranda 1988b:93 (faunistic record).

Distribution: South Europe, Algeria.

***Coniopteryx (Xeroconiopteryx) mongolica* Meinander, 1969**

Coniopteryx (Aspoeckiana) mongolica: Aspöck & Aspöck 1973:253 (reference).

Coniopteryx (Xeroconiopteryx) mongolica: Meinander 1972a:224; Meinander 1972b:133, f. 3 (female genitalia, faunistic record) Meinander 1981:104 (list), 107 (faunistic record); Zakharenko 1988:1249 (faunistic records).

Distribution: Mongolia; USSR: Kazakhstan.

***Coniopteryx (Xeroconiopteryx) mucrogonarcuata* Meinander, 1979**

Coniopteryx (Xeroconiopteryx) mucrogonarcuata Meinander 1979a:338, f. 5 (description); Meinander 1981:104 (list).

Distribution: Saudi Arabia.

***Coniopteryx (Xeroconiopteryx) perisi* Monserrat, 1976**

Coniopteryx (Xeroconiopteryx) perisi Monserrat 1976:97, f. 1–10 (description); Aspöck et al. 1980:155, Abb 309 (monograph); Meinander 1981:104 (list); Monserrat 1982c:83 (faunistic record); Monserrat 1984a:32 (faunistic record); Monserrat 1985d:90 (faunistic record).

Distribution: Spain and Morocco.

***Coniopteryx (Xeroconiopteryx) pinkeri* Aspöck & Aspöck, 1965**

Coniopteryx (Xeroconiopteryx) pinkeri: Meinander 1972a:221; Monserrat & Reviejo 1978:366 (faunistic record, biology); Aspöck et al. 1980:378 (list); Meinander 1981:104 (list).

Distribution: Canary Islands.

***Coniopteryx (Xeroconiopteryx) latigonarcuata* Meinander, 1972**

Coniopteryx (Xeroconiopteryx) latigonarcuata Meinander 1972b:131 (description); Meinander 1981:104 (list).

Distribution: Mongolia.

***Coniopteryx (Xeroconiopteryx) rostrogonarcuata* Aspöck & Aspöck, 1968**

Coniopteryx (Aspoeckiana) rostrogonarcuata: Aspöck & Aspöck 1973:250, f. 1–3 (description, faunistic record).
Coniopteryx (Xeroconiopteryx) rostrogonarcuata: Meinander 1972a:225; Meinander 1972b:134 (faunistic record); Meinander 1981:104 (list).

Distribution: Mongolia.

***Coniopteryx (Xeroconiopteryx) unguigonarcuata* Aspöck & Aspöck, 1968**

Coniopteryx (Aspoeckiana) unguigonarcuata: Aspöck & Aspöck 1973:252, f. 4–6 (description, faunistic record).
Coniopteryx (Xeroconiopteryx) unguigonarcuata: Meinander 1972a:226; Meinander 1972b:134, f. 4 (female genitalia, faunistic record); Meinander 1981:104 (list), 107 (faunistic record); Zakharenko 1988:1249 (faunistic note).

Distribution: Mongolia; USSR: Kazakhstan.

***Coniopteryx (Xeroconiopteryx) bicuspis* Tjeder, 1957**

Coniopteryx (Xeroconiopteryx) bicuspis: Meinander 1972a:227; Meinander 1975d:83 (faunistic record); Meinander 1977:84 (synonymy of female); Meinander 1981:104 (list); Meinander 1983a:484 (faunistic record).
non *Coniopteryx bicuspis*: females Tjeder 1957:126, figs. 65BD; Meinander 1972a:228; Meinander 1975d:83 (= *C. tenuicornis* Tjeder).

Distribution: Southern Africa.

***Coniopteryx (Xeroconiopteryx) brothersi* Meinander, 1983**

Coniopteryx (Xeroconiopteryx) brothersi Meinander 1983a:484, f. 10–16 (description); Meinander 1981:104 (list).

Distribution: S. Africa.

***Coniopteryx (Xeroconiopteryx) frontalis* Meinander, 1983**

Coniopteryx (Xeroconiopteryx) frontalis Meinander 1983a:483, f. 17–25 (description); Meinander 1981:104 (list).

Distribution: S. Africa.

***Coniopteryx (Xeroconiopteryx) latilobis* Meinander, 1975**

Coniopteryx (Xeroconiopteryx) latilobis Meinander 1975d:83, f. 3 (description); Meinander 1981:104 (list); Meinander 1983a:498 (list).

Distribution: S. Africa.

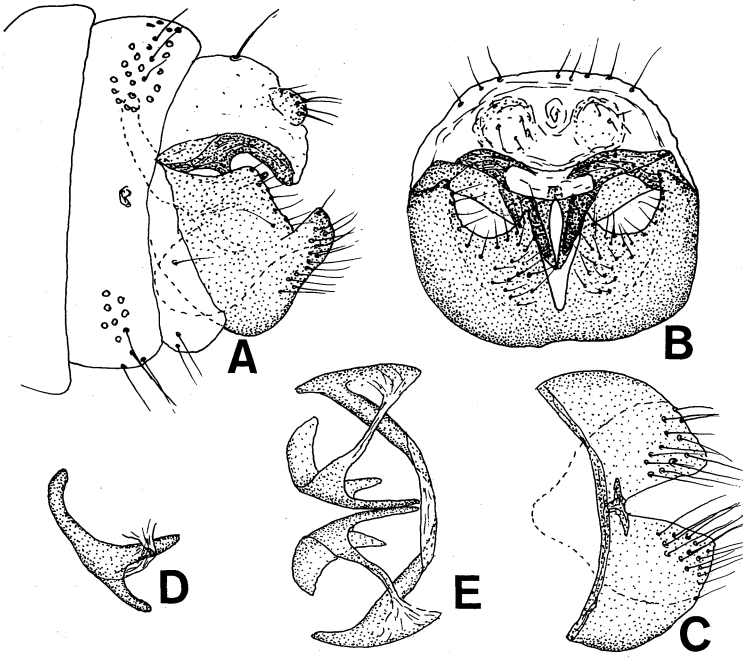


Fig. 14. Male of *Coniopteryx virgina*: Terminal abdominal segments, lateral aspect; B. Ditto, caudal aspect; C. Hypandrium, ventral aspect; D. Internal genitalia, lateral aspect; E. Internal genitalia and gonarcus, ventral aspect.

***Coniopteryx (Xeroconiopteryx) spatulifera*
Meinander, 1983**

Coniopteryx (Xeroconiopteryx) spatulifera Meinander 1983a:488, f. 26–33 (description); Meinander 1981:104 (list).

Distribution: S. Africa.

***Coniopteryx (Xeroconiopteryx) squamata*
Meinander, 1983**

Coniopteryx (Xeroconiopteryx) squamata Meinander 1983a:490, f. 34–40 (description); Meinander 1981:104 (list).

Distribution: S. Africa.

***Coniopteryx (Xeroconiopteryx) stuckenbergi*
Tjeder, 1957**

Coniopteryx (Xeroconiopteryx) stuckenbergi: Meinander 1972a:228; Meinander 1976:87, f. 3 (taxonomy, faunistic record); Meinander 1981:104 (list); Meinander 1983a:486 (faunistic record); Monserrat 1989:166 (faunistic record).

Distribution: Equatorial Guinea and S. Africa.

***Coniopteryx (Xeroconiopteryx) zulu* Tjeder,
1957**

Coniopteryx (Xeroconiopteryx) zulu: Meinander 1972a:230; Meinander 1981:104 (list); Meinander 1983a:498 (table).

Distribution: S. Africa.

***Coniopteryx (Xeroconiopteryx) crassicornis*
Esben-Petersen, 1928**

Coniopteryx (Xeroconiopteryx) crassicornis: Meinander 1972a:229; Meinander 1981:104 (list).

(?) *Coniopteryx (Xeroconiopteryx) crassicornis*: Monserrat 1989:169, f. 21 (faunistic record).

Distribution: Ethiopia and ?Equatorial Guinea.

***Coniopteryx (Xeroconiopteryx) virgina* Meinander,
sp.n.
Figs. 14A–E**

Coniopteryx (Coniopteryx) virginum Meinander 1986:41 (list) (nomen nudum).

Type; ♂ holotype; Virgin Islands; USNM.

Specimens examined: Virgin Islands, St. John Ram Head Point, 1980-06-17, ♂ holotype (USNM), 9♀♀ (OHIO); St.

John Little Lameshur Bay, 1980-06-20, ground litter in woods, 1♂ (MZH).

Diagnosis

Hyandrium broad, processus terminalis in lateral aspect prominent and rounded. Median apical incision deep and V-shaped. Gonarcus discleritous, forming a sclerotized ridge ventrally of the ectoprocts. Styli not forming a continuous band below the aedeagus.

Description

Head light greyish yellow. Frons and palpi normal. Antenna greyish yellow, 19–20-segmented. Male antenna 0.8 mm, scape slightly longer than broad, pedicel about as long as broad, flagellar segments slightly broader than long. Scale-like hairs present on apex of pedicel and flagellar segments. Setae present on flagellar segments. Female antenna about 0.75 mm, only slightly narrower than that of male.

Thorax light greyish yellow to light brown with brown sutures and shoulder spots. Membrane of wings with a slight greyish tinge. In hind wing no distal cross-vein R_{4+5} -M. Length of fore wing 1.4–1.55 mm, of hind wing 1.2–1.3 mm.

Male genitalia, Figs. 14A–E. Hyandrium in lateral aspect slightly higher than broad. Apodeme along anterior margin ventrally complete and at the bottom of median apical incision there is a small transverse apodeme which is connected with the anterior apodeme by a short apodeme. Processus terminalis in lateral aspect prominent and rounded. Median apical incision almost reaching the anterior margin of the hyandrium, regularly V-shaped. Gonarcus only present as a ventral apodeme of ectoproct, discleritous. Styli broad, connecting the gonarcus with the parameres, but not forming a continuous band below the aedeagus. Parameres bifurcate. Penis apparently without sclerites.

The species belongs to *Xeroconiopteryx* according to the key character that the styli are rising from the gonarcus distinctly basally of the tip. The species is, however, much different from the other species of the subgenus and cannot be assigned to any of the recognized species groups.

Subgenus *Scotoconiopteryx* Meinander, 1972

Coniopteryx (Scotoconiopteryx) amazonica Meinander, 1980

Coniopteryx (Scotoconiopteryx) amazonica Meinander 1980:134, f. 4A–E (description); Meinander 1981:104 (list); Meinander & Penny 1982:191, f. 5 (key, description); Meinander 1986:40 (list).

New record: Brasil, Amazonas, Rio Urubu, AM 010 km 246, 1981-07-12...14, 1♂, Penny, Arias, Adams (MZH).

Distribution: Brazil.

Coniopteryx (Scotoconiopteryx) ariasi Meinander, 1980

Coniopteryx (Scotoconiopteryx) ariasi Meinander 1980:135, f. 5A–E (description); Meinander 1981:104 (list); Meinander & Penny 1982:192, f. 6 (key, description); Meinander 1983b:182 (faunistic record); Meinander 1986:40 (list).

New record: Brasil, Amazonas, Reserva Ducke, 1982-01-18, 1982-09-13...18, 2♂♂ (INPA).

Distribution: Brazil.

Coniopteryx (Scotoconiopteryx) biapicata Meinander, 1983

Coniopteryx (Scotoconiopteryx) biapicata Meinander 1983b:182, f. 2A–E (description); Meinander 1986:40, f. 5 (list).

Distribution: Uruguay.

Coniopteryx (Scotoconiopteryx) bicornis Meinander, 1982

Coniopteryx (Scotoconiopteryx) bicornis Meinander 1981:104 (list); Meinander & Penny 1982:193, f. 6 (description); Meinander 1983b:182 (faunistic record); Meinander 1986:40 (list).

Distribution: Brazil.

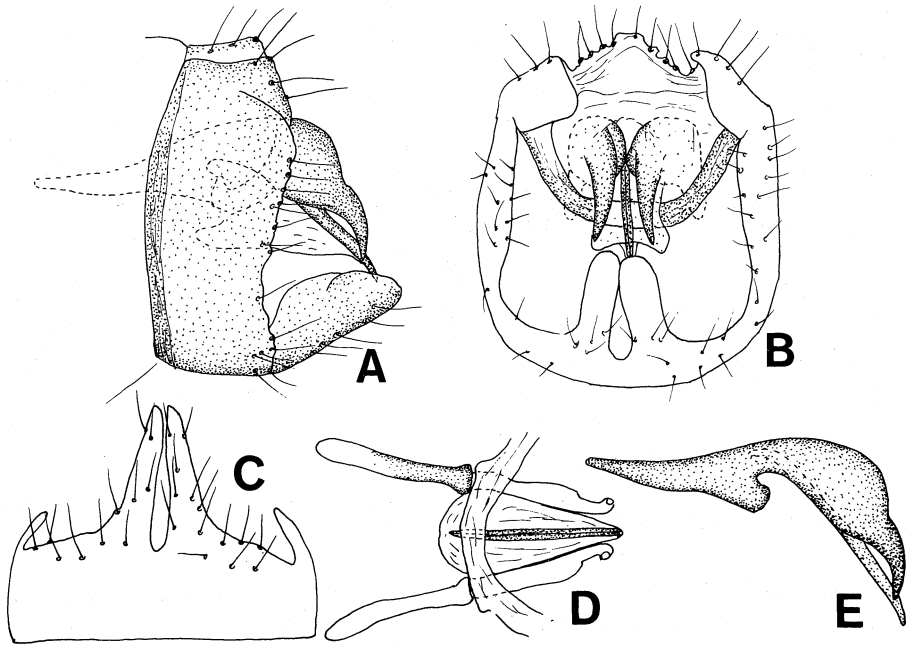


Fig. 15. Male of *Coniopteryx bilinguata*: A. Terminal abdominal segments, lateral aspect; B. Ditto, caudal aspect; C. Hypandrium, ventral aspect; D. Internal genitalia, ventral aspect; E. Ditto, lateral aspect.

Coniopteryx (Scotoconiopteryx) bilinguata
Meinander, sp.n.

Figs. 15A–E

Type: ♂ holotype; Brazil Rondonia; INPA.

Specimens examined: Brasil Rondonia, CDC 15 m, 1983-07-03...07, ♂ holotype, J.R. Arias (INPA); Para, Serra Norte Paranapebas, 1982-08...09, 1♂, P. Ready (MZH).

Diagnosis

Gonarcus discleritous, not continuing apicad of the base of stylus. Processus terminales as long as the breadth of the hypandrium and in lateral view broadly ligulate. Median apical incision deep and narrow. Styli bandlike. Parameres apically with a downwards directed clavate tip.

Description

Head capsule light greyish brown. Vertex slightly protruding. Frons normal. Eyes large and black.

Antenna 33–34-segmented, concolorous with the head. Scape and pedicel slightly broader than long, basal flagellar segments twice to three times as broad as long. Antenna tapering towards the tip, where the segments only are slightly broader than long. Flagellar segments with ordinary hairs in two whorls and apically to these a broad border of narrow scale-like hairs, which are present also on the tip of the pedicel. Setae present on flagellar segments. Palpi light greyish.

Thorax. Sclerotized parts of thorax light greyish brown with slightly darker sutures and brown shoulder spots. Legs light greyish.

Wings. Membrane of both wings light greyish. In hind wing a cross-vein R_{4+5} -M is present. Marginal fringes of hind wing basocaudally fairly long, elsewhere short. Length of fore wing 1.7–1.8 mm, of hind wing 1.4 mm.

Male genitalia, Figs. 15A–E. Hypandrium in lateral view about twice as high as broad. Apodeme along anterior margin ventrally complete, medially confluent with an apodeme along the margin

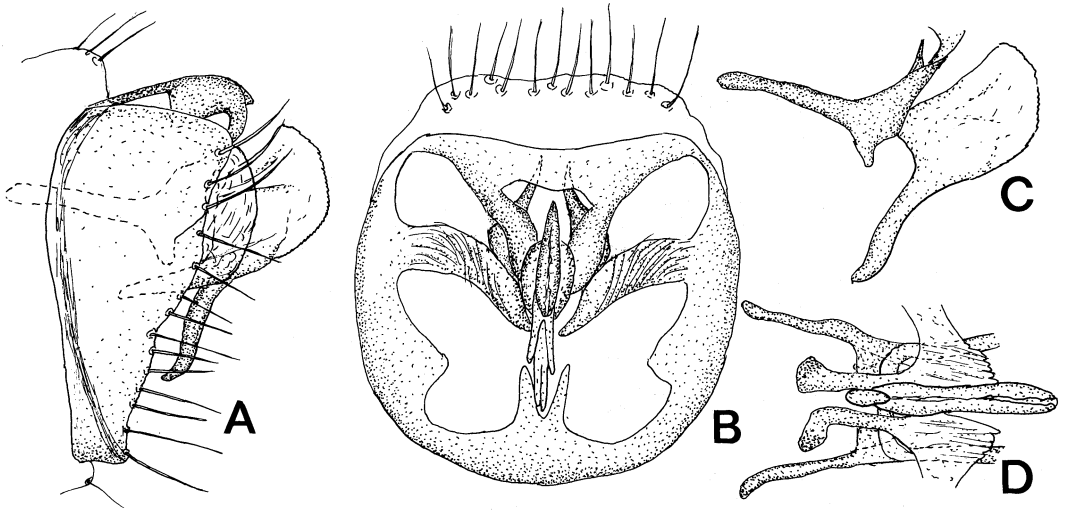


Fig. 16. Male terminalia of *Coniopteryx chilensis* A. Terminal segments in lateral aspect; B. Ditto in caudal aspect; C. Internal genitalia in lateral aspect; D. Ditto in ventral aspect.

of the bottom of the median apical incision. Processus terminalis in ventral view very long and narrow, in lateral view broadly ligulate. Median apical incision deeper than the length of the hypandrium, but very narrow, at least five times as deep as broad. Gonarcus simple, in caudal view almost square and continuing inwards from the base of stylus. Styli forming a band-like arch below the aedeagus. Parameres apically stout with a clavate downwards directed acute tip. Penis with two straight parallel long sclerites.

***Coniopteryx (Scotoconiopteryx) brasiliensis* Meinander, 1983**

Coniopteryx (Scotoconiopteryx) brasiliensis Meinander 1983b:182, f. 3A–E (description); Meinander 1986:40 (list).

Distribution: Brazil.

***Coniopteryx (Scotoconiopteryx) canopia* Meinander, 1982**

Coniopteryx (Scotoconiopteryx) canopia Meinander 1981:104 (list); Meinander & Penny 1982:194, f. 9 (description); Meinander 1986:40 (list).

New records: Brasil, Par, Serra Norte Carajs, 1982-10, 1♂ (INPA); Amazonas, Rio Urubu Am 0010 km 246, 1981-07-12...14, 1♂, Penny, Arias, Adams (MZH).

Distribution: Brazil.

***Coniopteryx (Scotoconiopteryx) chilensis* Meinander sp. n.**

Figs. 16A–D

Type: ♂ holotype; Chile, Chillán; CAS.

Specimens recorded: Chile, Chillán, 1973-12-17, 1200 m, ♂ holotype, ♂ paratype, Luis Peña (CAS), 1♂ (MZH).

Diagnosis

Gonarcus and hypandrium synscleritous. Gonarcus synscleritous, transverse. Hypandrium dorsally twice as broad as ventrally, processus intermedii long and band-like, reaching parameres, processus terminales not visible in lateral view.

Description

Male

Head yellowish grey with dark sutures, gena caudally dark greyish brown. Antenna 30–32-segmented, greyish brown. Length of antenna 2.3 mm. Scape, pedicel and basal flagellar segments about as long as broad, median flagellar segments about two and a half times as broad as long. Flagellar segments with two whorls of hairs but with no distinct setae. Distally on flagellar segments but not on scape and pedicel short scale-like hairs. Frons normal. Palpi greyish brown.

Thorax with dark shoulder spots.

Wings with membrane light greyish. In hind wing distal cross-veins R_{4+5} -M and M-Cu present. Length of fore wing 3.1 mm, of hind wing 2.6 mm.

Male genitalia, Figs. 16A–D. Hypandrium in lateral view about twice as high as dorsally broad, ventrally about half as broad as dorsally. Apodeme along anterior margin ventrally complete. Processus intermedii long and band-like, directed inwards and almost reaching the parameres. Processus terminales not visible in lateral view, rather small and acute. Median apical incision small, deeper than broad. Parameres seem to be fused to tip of stylus; dorsally and ventrally they have short preapical dentate apophyses. Hypandrium and gonarcus frontally shortly synscleritous. Gonarcus synscleritous, transverse. Styli unforked, rather blunt, seem to be distally fused to the parameres. Penial sclerite in lateral view very broad.

Female unknown.

***Coniopteryx (Scotoconiopteryx) confluens* Meinander, 1983**

Coniopteryx (Scotoconiopteryx) confluens Meinander 1983b:183, f. 4A–E (description); Meinander 1986:40 (list).

New records: Brasil, Amazonas, Bilbina, 1♂ (INPA); Pq Laranj, 1981-01-15...02-20, 2♂♂ J. Vidal, Nonato (INPA), 1♂ (MZH).

Distribution: Brazil.

***Coniopteryx (Scotoconiopteryx) cucuminicola* Meinander, 1982**

Coniopteryx (Scotoconiopteryx) cucuminicola Meinander 1981:104 (list); Meinander & Penny 1982:194, f.10 (description); Meinander 1986:40 (list).

New records: Brasil Par, Serra Norte Carajs, 1983-04-05...15, 1♂ (INPA); Tucurui, 1952-07-20...08-08, 1♂1♀, J. Vidal (INPA).

Distribution: Brazil.

***Coniopteryx (Scotoconiopteryx) cyphodera* Johnson, 1978**

Coniopteryx (Scotoconiopteryx) cyphodera Johnson 1978:163, f.2 (description); Meinander 1980:132 (list);

Meinander 1981:104 (list); Meinander 1986:40, f.5 (distribution).

Distribution: Panama.

***Coniopteryx (Scotoconiopteryx) flinti* Meinander, 1975**

Coniopteryx (Scotoconiopteryx) flinti Meinander 1975a:30, f. 2 (description); Meinander 1980:132 (list); Meinander 1981:104 (list); Meinander & Penny 1982:195, f. 11 (description, faunistic record); Meinander 1986:40, f. 5 (distribution).

New record: Colombia, Valle 6 km W Dagua, 1975-08-30, 1♂, L. Stange (FLA).

Distribution: Mexico, Colombia, Brazil.

***Coniopteryx (Scotoconiopteryx) fumata* Enderlein, 1907**

Coniopteryx (Scotoconiopteryx) fumata: Meinander 1972a:232; Meinander 1974d:100 (faunistic record); Penny 1977:28 (list); Meinander 1980:132 (list); Meinander 1981:104 (list); Meinander 1986:40, f. 5 (distribution).

New record: Dominican Republic, Prov. San Juan, 17 km N. E. Vallejuelo 1986-05-27, 1♀, R. B. Miller & L. A. Stange (FLA); Prov. Baoruco, Los Rios, Lago Enriqueillo, 1986-05-25, 1♂1♀, R. B. Miller & L. A. Stange (FLA), Prov. La Vega 6 km NW Constanza 1986-05-31, 1♂, L. A. Stange (FLA).

Distribution: Dominican Republic, Colombia, Venezuela and Brazil.

***Coniopteryx (Scotoconiopteryx) fumicolor* Meinander, 1972**

Coniopteryx (Scotoconiopteryx) fumicolor Meinander 1972a:234; Penny 1977:28 (list), Johnson 1978:163 (faunistic record); Meinander 1980:132 (list); Meinander 1981:104 (list); Meinander 1986:40, f. 5 (distribution).

New record: Venezuela Aragua 2 km N Ocumare de la Costa, 1981-03-31...04-02, 1♂ A. S. Menke & L. Hollenberg (USNM), 1♂ (MZH).

Distribution: Costa Rica, Honduras and Venezuela.

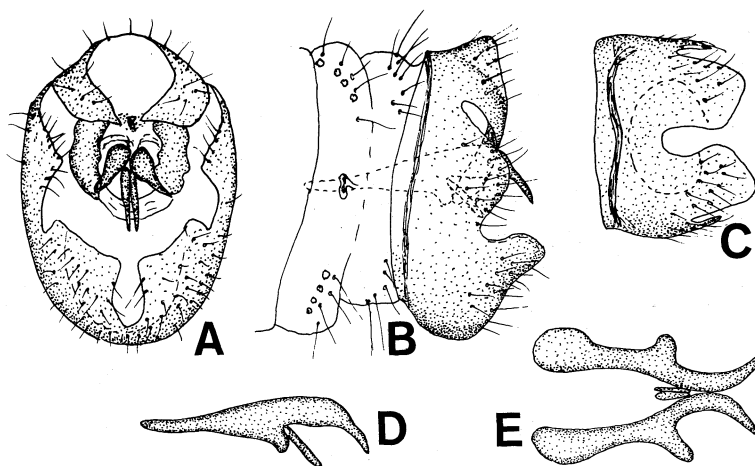


Fig. 17. Male of *Coniopteryx paraensis*: A. Terminal abdominal segments, lateral aspect; B. Ditto, caudal aspect; C. Hypandrium, ventral aspect; D. Internal genitalia, lateral aspect; E. Ditto, ventral aspect.

***Coniopteryx (Scotoconiopteryx) furcata* Meinander, 1983**

Coniopteryx (Scotoconiopteryx) furcata Meinander 1983b:184, f. 5A–E (description); Meinander 1986:40 (list).

Distribution: Brazil.

***Coniopteryx (Scotoconiopteryx) gonzalezi* Meinander, nom. n.**

Coniopteryx meinander Gonzalez Olazo 1987:11, f. 1–4 (description).
(non) *Coniopteryx meinanderi* Johnson, 1980.

The name is a homonym and is substituted by another honouring the describer of the species.

Distribution: Brazil, Sao Paulo.

***Coniopteryx (Scotoconiopteryx) indivisa* Meinander, 1980**

Coniopteryx (Scotoconiopteryx) indivisa Meinander 1980:137, f. 6A–E. (description); Meinander 1981:105 (list); Meinander & Penny 1982:195, f. 12 (description); Meinander 1986:40 (list).

Distribution: Brazil.

***Coniopteryx (Scotoconiopteryx) istmicola* Meinander, 1972**

Coniopteryx (Scotoconiopteryx) istmicola Meinander 1972a:234; Penny 1977:28 (list); Johnson 1978:163

(faunistic record); Meinander 1980:132 (list); Meinander 1981:105 (list); Meinander 1986:40, f. 5 (distribution).

Distribution: Mexico, Honduras and Panama.

***Coniopteryx (Scotoconiopteryx) panamensis* Meinander, 1974**

Coniopteryx (Scotoconiopteryx) panamensis Meinander 1974d:100, f. 2 (description); Penny 1977:28 (list); Meinander 1980:132 (list); Meinander 1981:105 (list); Meinander & Penny 1982:197, f. 13 (description, faunistic record); Meinander 1983b:184 (faunistic record); Meinander 1986:40, f. 5 (distribution).

New records: Trinidad: Simla, 1977-05-02...13, 3♂♂ 5♀♀, P. Feinsinger (FLA). Colombia, Choco km 114.6 EEI Sieto, 1983-02-17, 1♂, O. S. Flint Jr (USNM); Venezuela, Zulia, Los Angeles del Tucoco, 1981-04-15...16, 1♂, A. S. Menke & L. Hollenberg (USNM); Brasil Amazonas Reserva Ducke AM 010 km 26, 1982-09-20...25, 1♂ 1♀ (INPA).

Distribution: Panama, Colombia, Venezuela, Trinidad, Brazil.

***Coniopteryx (Scotoconiopteryx) paraensis* Meinander, sp.n.**

Figs. 17A–E

Type: ♂ holotype; Brazil, Par; INPA.

Specimen examined: Brasil, Par, Sao Geraldo, 1982-11-30...12-08, ♂ holotype, J. R. Arias (INPA).

Diagnosis

Gonarcus discleritous but the tips are connected by a diffuse band of sclerotized granules. Processus terminales of hypandrium in lateral view distinct and broadly rounded. Median apical incision narrow, as deep as half the length of hypandrium. Sclerotized parts of styli not connected, but ventral tips are connected by an unsclerotized band. Parameres stout, caudally smoothly bent outwards and downwards.

*Description**Male*

Head capsule fairly dark and slightly reddish brown. Frons and vertex normal. Eyes large and black. Antennae of holotype broken, 29 segments left, concolorous with the head. Scape and pedicel slightly longer than broad; antenna tapering towards the tip, where the segments are slightly longer than broad. Scale-like hairs on apex of pedicel and flagellar segments. Ordinary hairs on flagellar segments in two regular whorls, no distinct setae on flagellar segments. Palpi slightly lighter than the antennae.

Thorax. Sclerotized parts of thorax dark brown with blackish sutures and distinct shoulder spots. Legs almost unicolorous dark brown.

Wings. Membrane of both wings dark slightly reddish brown; in fore wing with light fasciae between R_s and M and between Cu_2 and A_1 . In hind wing no cross-vein R_s - M . Marginal fringes of hind wing basocaudally fairly long, elsewhere short. Length of fore wing 2.1 mm, of hind wing 1.7 mm.

Genitalia, Figs. 17A–E. Hypandrium in lateral view about twice as high as broad. Apodeme along anterior margin ventrally complete. Processus terminalis in ventral view blunt and broadly triangular, in lateral view broadly rounded. Median apical incision about as deep as half the length of the hypandrium, narrow and slightly broader cephally than at the mouth. Gonarcus simple, basally fused to hypandrium. Gonarcus has no distinct apodeme. Gonarcus continues slightly inwards from base of the stylus and apically the tips of gonarcus are connected by a band of sclerotized granules. Styli simple and the sclerotized part of the styli are ventrally connected by an unsclerotized band. Parameres blunt, caudally

smoothly bent outwards and downwards. Penis with two rather short straight and parallel sclerites.

***Coniopteryx (Scotoconiopteryx) pennyi* Meinander, 1980**

Coniopteryx (Scotoconiopteryx) pennyi Meinander 1980:137, f. 7A–E (description); Meinander 1981:105 (list); Meinander & Penny 1982:198, f. 14 (description, faunistic record); Meinander 1983b:185 (faunistic record); Meinander 1986:40 (list).

New records: Brasil Rondonia, Porto Velho, 1983-07-03...20, 5♂♂ 2♀♀ (INPA); Amazonas Sao Gabriel da Cachoeira, 1982–1983, 2♂♂ (INPA); Balbina 10 km Embaixo, 1983-03-16...19, CDC 25 m, 1♂ (MZH); Manaus Pq Laranj, 1981-01-15...02-20, 1♂, J. Vidal & Nonato (INPA); Manaus Reserva Ducke, 1982-08-23, 3♂♂ 2♀♀, J. A. Rafael (INPA).

Distribution: Brazil.

***Coniopteryx (Scotoconiopteryx) quadricornis* Meinander, 1982**

Coniopteryx (Scotoconiopteryx) quadricornis Meinander 1981:105 (list); Meinander & Penny 1982:199, f. 15 (description); Meinander 1983b:185 (faunistic record); Meinander 1986:40 (list).

Coniopteryx quadricornis Gonzalez Olazo 1987:12 nomen nudum (listed).

New records: Brasil Par, Conceiao do Araguaia, 1982-11-19...22, 1♂ J. R. Arias (INPA), 1♂ (MZH); Tucuruí, Rio Para Kaman, 1983-07-16...20, 1♂ (INPA); Orximin, Rio Trompetas C. Alta: Alca R. 1982-10-13, 1♂ 2♀♀, J. Vidal (INPA).

Distribution: Brazil.

***Coniopteryx (Scotoconiopteryx) rafaeli* Meinander, sp.n.**

Figs. 18A–E

Type: ♂ holotype; Brazil Amazonas; INPA.

Specimen examined: Brasil, Am. C. Univ. 1982-06-04, ♂ holotype, J. A. Rafael (INPA)

Diagnosis

Gonarcus synscleritous. Processus terminales of hypandrium in lateral view sharply triangular. Between the processus a pair of long thin spine-like processus, about as long as the processus terminalis in ventral view. Styli forming an arch

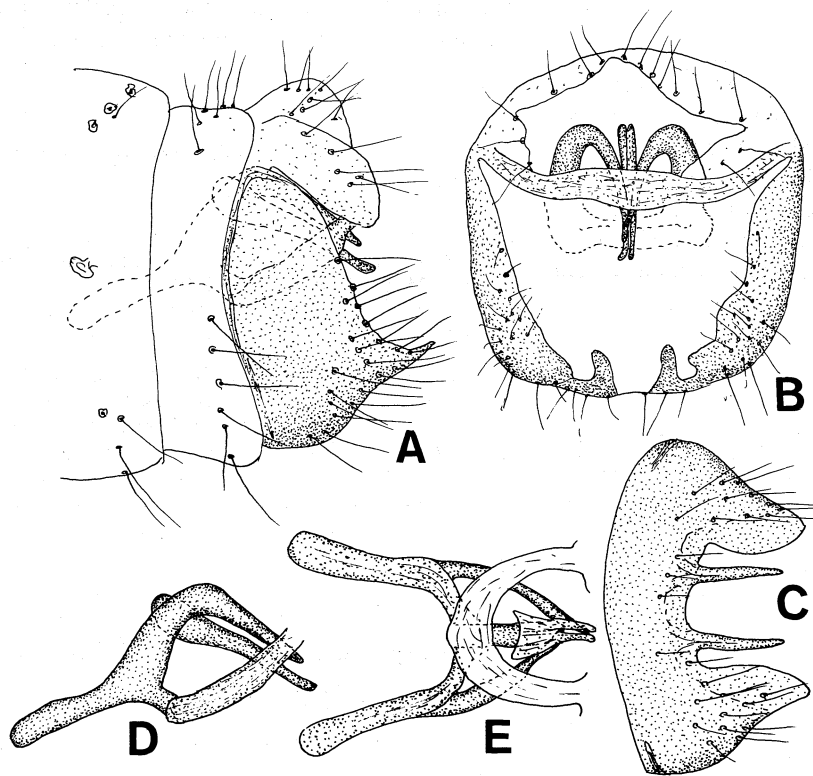


Fig. 18. Male of *Coniopteryx rafaelli*: A. Terminal abdominal segments, lateral aspect; B. Ditto, caudal aspect; C. Hypandrium, ventral aspect; D. Internal genitalia, lateral aspect; E. Ditto, ventral aspect.

below the aedeagus. The distal third of the parameres curved inwards and downwards.

Description

Male

Head capsule rather pale brown. Frons and vertex normal. Eyes large and black. Antenna 31-segmented, concolorous with the head. Scape and pedicel about as long as broad, flagellum tapering very much towards the tip, which is rather thin. Basal flagellar segments almost twice as broad as long. Scale-like hairs on apex of pedicel and flagellar segments. Ordinary hairs on flagellar segments in two regular whorls, segments with distinct setae. Palpi concolorous with the head.

Thorax. Sclerotized parts slightly greyish with darker sutures. Shoulder spots recognizable. Legs pale.

Wings. Membrane of both wings with a brownish tinge. In hind wing no cross-vein Rs-M. Marginal fringes of both wings fairly long from about the

fork of Sc. Length of fore wing 1.6 mm. of hind wing 1.4 mm.

Male genitalia, Figs. 18A–E. Hypandrium in lateral view almost twice as high as broad. Apodeme along anterior margin thin and ventrally for a long distance missing. Processus terminalis in ventral view rather blunt, inner margins smoothly curved; in lateral view sharply triangular, tip slightly curved upwards. Median apical incision about as broad as the length of the processus terminalis. In the incision there is a pair of spine-like processus, about as long as the processus terminalis. Gonarcus simple, basally fused to the hypandrium. Gonarcus has no distinct apodeme. Styli simple, forming an arch-like band below the aedeagus. Paramere rather thin, the apical third curved inwards and downwards, the tip of both parameres running very close to each other. Processus ventralis fairly long and directed inwards. Penis sclerite basally broadened, synscleritous, ending apically in two parallel rods.

***Coniopteryx (Scotoconiopteryx) rondoniensis*
Meinander, 1982**

Coniopteryx (Scotoconiopteryx) rondoniensis Meinander 1981:105 (list); Meinander & Penny 1982:200, f. 16 (description); Meinander 1986:40 (list).

Distribution: Brazil.

***Coniopteryx (Scotoconiopteryx) silvicola*
Meinander, 1982**

Coniopteryx (Scotoconiopteryx) silvicola Meinander 1981:105 (list) Meinander & Penny 1982:201, f. 17 (description); Meinander 1986:40 (list).

New record: Brasil, Par, Oriximinã, Rio Tropetas Ig: Grivota Alcoa Miner, 1982-10-12. 1♂, J. A. Rafael (INPA).

Distribution: Brazil.

***Coniopteryx (Scotoconiopteryx) sinuata* Meinander, 1983**

Coniopteryx (Scotoconiopteryx) sinuata Meinander 1983b:185, f. 6A-E (description); Meinander 1986:40 (list).

New records: Brasil Par, Sao Geralda, 2♂♂, J. R. Arias (INPA), 1♂ (MZH); Conceiao do Araguaia, 1982-11-19...22, 1♂, J. R. Arias (INPA); Rondania, Porto Velho, 1983-07, 1♂ J. Arias (INPA).

Distribution: Brazil.

***Coniopteryx (Scotoconiopteryx) torquata*
Meinander, 1980**

Coniopteryx (Scotoconiopteryx) torquata Meinander 1980:140, f. 8A-E (description); Meinander 1981:105 (list); Meinander & Penny 1982:201 (description, faunistic record); Monserrat 1983:141 (faunistic record); Meinander 1986:40 (list).

New record: Brasil, Amazonas Rio Urubu AM 010 km 246, 1981-07-12...14, 4♂♂, Penny, Arias, Adams (INPA), 1♂ (MZH).

Distribution: Venezuela, Brazil.

***Coniopteryx (Scotoconiopteryx) trispina*
Meinander, 1983**

Coniopteryx (Scotoconiopteryx) trispina Meinander 1983b:186, f.7A-E (description); Meinander 1986:40 (list).

Distribution: Brazil.

***Coniopteryx (Scotoconiopteryx) tucumana*
Navas, 1930**

Coniopteryx (Scotoconiopteryx) tucumana Meinander 1972a:235; Meinander 1974d:100 (faunistic record); Penny 1977:28 (list); Meinander 1980:132 (list); Meinander 1981:105 (list); Meinander 1983b:186 (faunistic record); Meinander 1986:40, f. 5 (distribution).

New records: Colombia, Valle near Cali, 1975-09-02, 1♂ 1♀, L. Stange (FLA); Brasil, Par, Oriximinã, R. Trombetas Alcoa: Miner M. Binaco, 1982-11, 1♂, J. Vidal (INPA); R. Trombetas, Lago, 1982-10-16, 1 J. Vidal (MZH).

Distribution: S. America.

Subgenus *Protoconiopteryx* Meinander, 1972

***Coniopteryx (Protoconiopteryx) australis*
Meinander, 1972**

Coniopteryx (Protoconiopteryx) australis Meinander 1972a:231; Meinander 1980:232 (systematics); Meinander 1981:105 (list).

Distribution: S. Australia.

Subgenus *Coniopteryx* Curtis, 1834

***Coniopteryx (Coniopteryx) ambigua*
Withycombe, 1925**

Coniopteryx (Coniopteryx) ambigua: Meinander 1972a:237; Ghosh & Sen 1977:279 (list); Meinander 1981:105 (list), 107 (faunistic record); Meinander 1982a:51, f. 3 (male genitalia, faunistic record).

New records: Ceylon Kan Dist. Kandy 1800 ft Peak View Motel, 1970-01-07...14, 1♂ 1♀, Davis & Rowe (USNM); Sri Lanka, Put distr. Pannika Villu, Wilpattu Natl. Park, 1979-02-14...15, 1♂, T. Wijesinha, S. Siriwardane, T. Gunawardane (USNM).

Distribution: India, Ceylon, Malaya and China.

***Coniopteryx (Coniopteryx) aspoecki* Kis, 1967**

Coniopteryx (Coniopteryx) aspoecki: Meinander 1972a:239; Gepp 1975a:267 (biology); Gepp 1975b:177 (faunistic record); Gepp 1977:176 (distribution, ecology); Aspöck et al. 1980:150, Abb. 288-290 (monograph); Hölzel et al. 1980:5 (list); Meinander 1981:105 (list), 107 (faunistic record); Gepp 1986:139 (larva).

Coniopteryx aspöcki: Gepp 1981:196 (faunistic records).

Distribution: Europe: Austria and Roumania, USSR: Jakutia, Mongolia.

Coniopteryx (Coniopteryx) bifida* Monserrat, 1989Coniopteryx (Coniopteryx) bifida* Monserrat 1989:178, f. 53–56 (description)*Distribution*: Equatorial Guinea.***Coniopteryx (Coniopteryx) biroi* Enderlein, 1906**
Figs. 19A–H*Coniopteryx biroi*: Meinander 1972a:196; van der Weele 1909:86 (list); Meinander 1973:25 (type specimen); Meinander 1981:106 (list); New 1986:129 (list).

New records: Papua New Guinea Madang Prov. Tapo Creek (26 km SW Madang) 5°24'S 145°38'E, 1987-02-25, 1♂ 1♀ N. D. Penny (CAS); Nobonob Hill (7 km NW Madang) 5°10'S 145°45'E, 1987-02-20, 4♂♂, N. D. Penny (CAS), 1987-03-22, 2♀♀ (CAS), 1987-03-23, 3♂♂ (MZH); Baiteta (12 km NW Alexishafen) 5°00'S 145°45'E, 1987-03-23, 4♀♀ N. D. Penny (CAS); Sapi forest reserve (30 km W Madang), 5°12'S 145°30'E, 1987-02-10, 1♀, N. D. Penny (CAS), 1987-02-14 2♂♂ 8♀♀, N. D. Penny (CAS), 1987-02-19, 11♂♂ 18♀♀, N. D. Penny (CAS), 1987-03-21, 2♂♂, N. D. Penny (CAS); Gogol river (12 km SW Madang) 5°20'S 145°42'E, 1987-02-25, 1♀, N. D. Penny (CAS); Nary River (31 km SW Madang), 5°26'S 145°27'E, 1987-03-03, 2♂ 1♀, N. D. Penny (CAS); Morobe district Wau 1200 m, 1970-12-08...14, 2♂♂, G. F. Hevel & R. E. Dietz (USNM), 1♂ (MZH).

Diagnosis

Belongs to *C. (C.) tineiformis* group. Median apical incision of hypandrium deep and parallel-sided. Stylus forked, anterior branch straight. No processus ventralis on paramere. End of paramere in lateral view both dorsally and ventrally with about equal processes.

Description

Head yellowish white, genae caudally greyish. Frons and palpi normal. Antenna greyish-brown; in some specimens the scape is concolorous with the head. Scale-like hairs are present on apex of pedicel and flagellar segments. Antenna 25–27-segmented. Median flagellar segments of male about twice as broad as long, of female about as long as broad.

Thorax yellowish white with dark brown shoulder spots. Legs light.

Wings with membrane light greyish. In fore wing

the cross-vein-like part of Sc₂ and cross-vein R₁-R₂₊₃ generally are at about the same distance from the base. The specimen which Enderlein described had these veins gradate, the cross-vein-like part of Sc₂ being more distally. In hind wing no cross-vein R₄₊₅-M. Length of fore wing 1.5–1.9 mm, of hind wing 1.3–1.5 mm.

Male genitalia (Figs. 19A–E). Hypandrium in lateral aspect about as high as long. Apodeme along anterior margin ventrally shortly interrupted. Median apical incision deep, about half the length of the hypandrium, rather narrow and parallel-sided. Processus terminalis in lateral aspect long and acute, in ventral view obliquely cut. Processus lateralis in lateral view broad, almost square. Dorsal margin of hypandrium oblique. Gonarcus discleritous, the sclerotized ventral apodeme continues slightly distad of the base of the stylus. Paramere without processus ventralis, processus dorsalis short and apically ventrally there is as a counterpart a small process. Styli forked, not connected below the aedeagus, outer branch straight, tapering towards the tip. Penis with two sclerotized narrow rods.

Female genitalia, Figs. 19G–H.

Enderlein described the species from a single female specimen, of which one pair of wings and one antenna is left. The present specimens differ from the one described by Enderlein in the position of the frontodistal cross-veins and the absence of shoulder spots in Enderlein's specimen. The absence of shoulder spots may indicate that Enderlein's specimen was newly hatched and the position of the cross-veins varies intraspecifically in all species. From New Guinea and the adjacent area there are the following species of subgenus *Coniopteryx* s.str. described: *C. biroi*, *C. kaindiensis* and *C. morobensis* from northern New Guinea, *C. lobata* from Australia and *C. ralumensis* from the Bismarch Archipelago. The genitalia of *C. ralumensis* are undescribed. *C. lobata* differs from all species in that the processus terminales are merged into a single ventral knob. *C. kaindiensis* differs from the species mentioned in having a transverse gonarcus. *C. biroi* differs from *C. morobensis* in the shape of the parameres and the distinct processus of the hypandrium.

Distribution: Northern New Guinea.

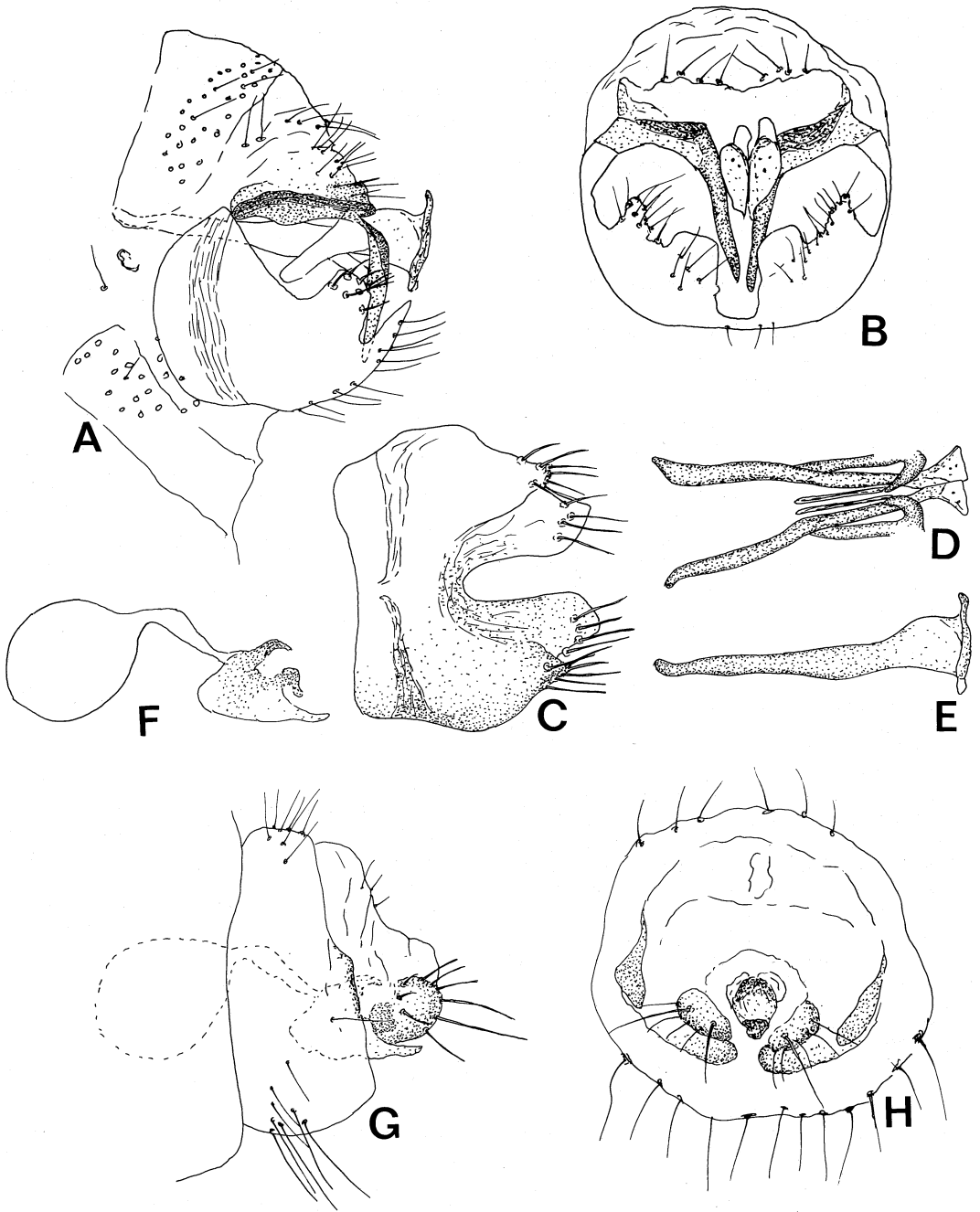


Fig. 19. *Coniopteryx biroi*: A. Male terminal segments in lateral aspect; B. Ditto in caudal aspect; C. Hypandrium in ventral aspect; D. Male internal genitalia in ventral aspect; E. Male paramere in lateral aspect; F. Female internal genitalia in lateral aspect; G. Female terminal segments in lateral aspect; H. Ditto in caudal aspect.

***Coniopteryx (Coniopteryx) borealis* Tjeder, 1930**

Coniopteryx (Coniopteryx) borealis: Meinander 1972a:240; Morton 1938:5 (faunistic record); Kloet & Hincks 1945:81 (list); Kloet & Hincks 1964:100 (list); Tjeder 1970:90 (male genitalia); Kis 1972:125 (faunistic record); Kleinstuber 1972a:42 (faunistic record); Kleinstuber 1972b:67 (faunistic record); Tjeder 1972:21 (list); Hölzel 1973:499 (faunistic record); Kleinstuber 1974:147 (list); Kis 1976:131 (faunistic record); Gepp 1977:176 (distribution, ecology); Monserrat 1977b:142, f. 3 (faunistic record); Popov 1977:8 (faunistic record); Zeleny 1977:129 (list); Barnard 1978:166 (list); Monserrat 1978c:183 (faunistic record); Monserrat 1978d:66 (faunistic record); Eglin 1979:494 (faunistic record); Monserrat 1979:415 (faunistic record, biology); Szirki 1979:182 (faunistic record, biology); Verdcourt 1979:58 (faunistic record); Zakharenko 1979:366 (faunistic record); Aspöck et al. 1980:148, Abb. 282–283 (monograph); Eglin-Dederding 1980:306 (biology, faunistic record); Hölzel et al. 1980:5 (list); Johnson 1980:159 (faunistic record); Monserrat 1980:58 (faunistic record); Monserrat & Reviejo 1980:360 (faunistic record); Gepp 1981:196 (faunistic records); Meinander 1981:105 (list); Eglin 1982:63; Pantaleoni 1982:15 (ecology); Zakharenko 1982:21 (faunistic record); Popov 1983:63 (faunistic record); Devetak 1984:57 (faunistic record); Monserrat 1984a:29 (faunistic record); Monserrat 1984b:147 (faunistic record); Monserrat 1984d:161 (faunistic record); Monserrat 1984e:106 (faunistic record); Monserrat 1984f:42 (faunistic record); Monserrat 1984g:175 (faunistic record); Pantaleoni 1984:64 (ecology); Eglin 1985:98 (faunistic record); Monserrat 1985b:131 (faunistic record); Monserrat 1985d:89 (faunistic record); Monserrat 1985e:95 (faunistic record); Monserrat 1985g:76 (faunistic record); Diaz-Aranda 1986a:1125 (biogeography); Diaz-Aranda 1986b:1142 (faunistic record); Gepp 1986:139 (list); Pantaleoni 1986:30 (ecology); Aagaard & Hågvar 1987:67, f. 57 (distribution); Greve 1987:13, f. 15ab (key); Monserrat 1987:142 (faunistic record); Monserrat & Diaz-Aranda 1987:183 (faunistic record); Diaz-Aranda & Monserrat 1988b:226 (faunistic record); Monserrat & Diaz-Aranda 1988b:93 (faunistic record); Pantaleoni 1988:635 (list).

Distribution: Europe, N. Africa: Morocco and Tunisia.

***Coniopteryx (Coniopteryx) caffer* Tjeder, 1957**

Coniopteryx caffer: Meinander 1972a:196.

Coniopteryx (Coniopteryx) caffer: Meinander 1981:105 (list); Meinander 1983:491, f. 41–45 (description of male).

New records: S. Africa, TVL Entabeni Frest Res. Soutpansberg 23°00'S 30°16'E, 1980-11-03...07, 1♂, M. W.

Mansell (Natal); Kenya Ngong Forestry Station, 1968-02-01...07, 1♂, Kronbein & Spangler (USNM).

Distribution: S. Africa and Kenya.

***Coniopteryx (Coniopteryx) ceylonica* Meinander, 1982**

Coniopteryx (Coniopteryx) ceylonica Meinander 1981:105 (list); Meinander 1982a:52, f. 4 (description).

Distribution: Sri Lanka.

***Coniopteryx (Coniopteryx) exigua* Withycombe, 1925**

Coniopteryx (Coniopteryx) exigua: Meinander 1972a:242; Ghosh & Sen 1977:279 (list); Meinander 1981:105 (list).

New records: India Assam Chabua, 1944-04-04, 1♂, D. E. Hardy (USNM); Malaysia Sabah 1 km S Kundasang 1530 m, 1983-08-25, 1♂, G. F. Hevel & W. E. Steiner (USNM).

Distribution: Pakistan, India, Nepal, and Malaysia: Sabah.

***Coniopteryx (Coniopteryx) ezequi* Monserrat, 1984**

Coniopteryx (Coniopteryx) ezequi Monserrat 1984a:29–32, f. 7–14 (description); Monserrat 1984b:147 (synonymy); Monserrat 1985f:240 (type deposit); Diaz-Aranda 1986a:1125 (biogeography); Diaz-Aranda 1986b:1142 (faunistic record); Monserrat & Diaz-Aranda 1987:183 (faunistic record); Diaz-Aranda & Monserrat 1988b:226 (faunistic record); Monserrat & Diaz-Aranda 1988b:93 (faunistic record).

Distribution: Spain.

***Coniopteryx (Coniopteryx) falciger* Karny, 1923**

Coniopteryx falciger: Meinander 1972a:197.

Coniopteryx (Coniopteryx) falciger: Meinander 1981:105 (synonymy).

Coniopteryx hamicerus Murphy & Lee 1971:1556, f. 3 (description).

Coniopteryx (Coniopteryx) hamicerus: Monserrat 1982a:37 (faunistic record).

Distribution: Singapore and Java.

***Coniopteryx (Coniopteryx) goniocera* Meinander, 1972**

Coniopteryx (Coniopteryx) goniocera Meinander 1972a:264; Meinander 1981:105 (list); Meinander 1982a:54 (faunistic record); Monserrat 1982a:36, f. 62–64 (faunistic record, female genitalia).

New record: Malaysia Sabah 1 km S. Kundasang 1530 m, 1983-08-27, G. F. Hevel & W. E. Steiner, 1♂, (USNM).

Distribution: S. India, Sri Lanka and Malaysia: Sabah.

***Coniopteryx (Coniopteryx) helvola* Zakharenko, 1987**

Coniopteryx (Coniopteryx) helvola Zakharenko 1987:76, f. 1–5 (description).

Apparently very close to *C. (C.) pygmaea*.

Distribution: USSR: Far East, Yakovleva Region.

***Coniopteryx (Coniopteryx) insularis* Meinander, 1972**

Coniopteryx (Coniopteryx) insularis Meinander 1972a:243; Meinander 1981:105 (list).

Distribution: Okinawa and Formosa.

***Coniopteryx (Coniopteryx) kaindiensis* New, 1988**

Coniopteryx (Coniopteryx) kaindiensis New 1988:10, f. 54–61 (description).

The gonarcus is transverse and not divided into two lateral plates. A synscleritous gonarcus is characteristic of the subgenera *Holoconiopteryx* and *Protoconiopteryx* and occurs in some species of *Scotoconiopteryx* but has not been recorded within the subgenus *Coniopteryx* s.str. The inclusion of *C. kaindiensis* here remains tentative.

Distribution: Papua New Guinea.

***Coniopteryx (Coniopteryx) lobata* Meinander, 1972**

Coniopteryx (Coniopteryx) lobata Meinander 1972a:266; Meinander 1981:105 (list).

Distribution: SE Australia.

***Coniopteryx (Coniopteryx) lobifrons* Murphy & Lee, 1971**

Coniopteryx lobifrons Murphy & Lee 1971:152, f.1, 4F (description).

Coniopteryx (Coniopteryx) lobifrons: Meinander 1981:105 (list); Monserrat 1982a:34, f. 54–61 (description, faunistic record).

Distribution: Singapore.

***Coniopteryx (Coniopteryx) macrosapes* Meinander, sp.n.**

Figs. 20A–H

Type: ♂ holotype; Malaysia, Sabah; USNM.

Specimen examined: Malaysia, Sabah, Kinabalu National Park, Headquarters area, el. 1560 m, 1983-09-09, ♂ holotype, G. F. Hevel & W. E. Steiner (USNM).

Diagnosis

Scape enormous, longer than the head and wider than the eye. Processus of hypandrium indistinct, median apical incision broad and shallow. Parameres simple, apically sinuously curved, ending bluntly.

Description***Male***

Head capsule brown with dark sutures (Figs. 20A–C). Height of eye 0.2 mm. Frons normal. Antenna 23-segmented, light greyish brown. Scape very large, length 0.35 mm, width 0.2 mm. Pedicel slightly longer than broad, about the same width as the flagellar segments. The ten basal flagellar segments (antennal segments 3–12) broader than long, distal segments longer than broad. The border between short and long segments is sharp. Pedicel and flagellar segments with scale-like

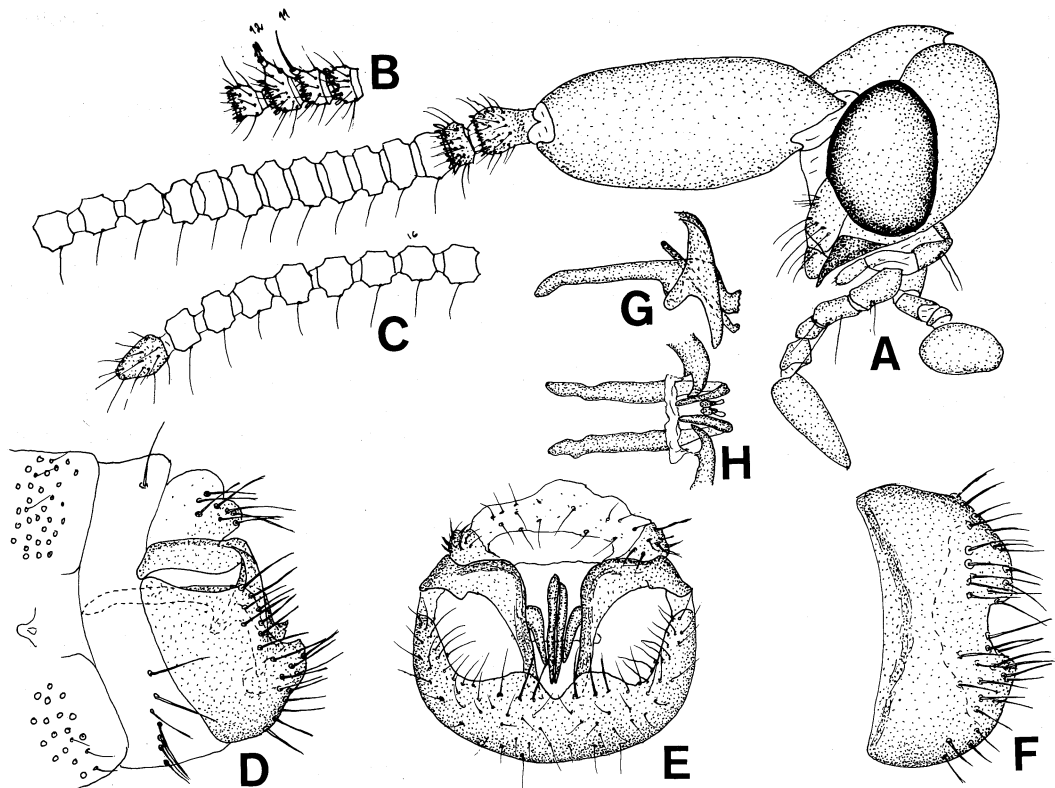


Fig. 20. Male of *Coniopteryx macroscepas*: A. Head, lateral aspect; B. Antennal segment 10-13, dorsal aspect; C. Antennal segments 15-23, lateral aspect; D. Terminal, abdominal segments, lateral aspect; E. Ditto, caudal aspect; F. Hypandrium, ventral aspect; G. Internal genitalia, lateral aspect; H. Ditto, ventral aspect.

hairs on the apex. Flagellar segments with two slightly irregular whorls of ordinary hairs and very distinct ventral setae. Antennal segment 11 with one and segment 12 with two inwards directed strong setae. Length of antenna 1.45 mm. Palpi light greyish.

Thorax. Sclerotized parts ochreous brown with distinct fairly large dark brown shoulder spots. Legs ochreous grey.

Wings. Membrane of both wings light greyish. In hind wing no cross-vein $R_{4+5}-M$. Length of fore wing 2.1 mm, of hind wing 1.7 mm.

Genitalia, Figs. 20D-H. Hypandrium in lateral view slightly higher than broad. Apodeme along anterior margin diffuse. Processus lateralis broadly rounded. Processus terminalis short and blunt. Median apical incision shallow and broadly

rounded. Gonarcus continuing ventrad as stylus without any distinct border and thus not continuing inwards apically of the base of the stylus. Stylus forked, outer branch downwards directed, tapering towards apex. Paramere simple, apically sinuously curved downwards and ending bluntly. Penis with two parallel long slender sclerotized rods.

***Coniopteryx (Coniopteryx) madagascariensis* Meinander, 1974**

Coniopteryx (Coniopteryx) madagascariensis Meinander 1974b:60, f. 1 (description); Meinander 1981:105 (list); Meinander 1983a:498 (list).

Distribution: Madagascar.

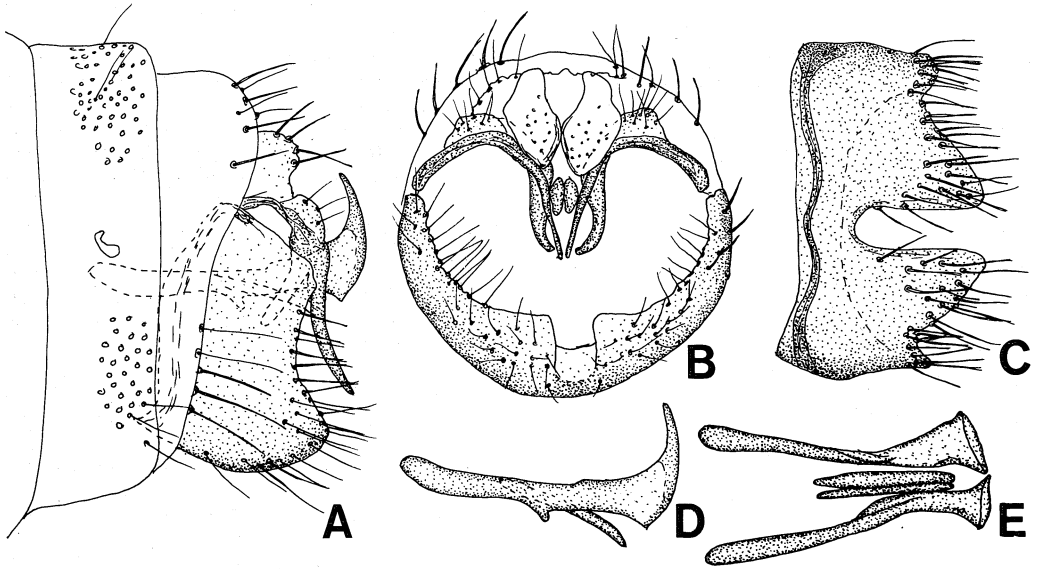


Fig. 21. Male of *Coniopteryx morobensis*: A. Terminal abdominal segments, lateral aspect; B. Ditto, caudal aspect; C. Hypandrium, ventral aspect; D. Internal genitalia, lateral aspect; E. Ditto, ventral aspect.

***Coniopteryx (Coniopteryx) morobensis* Meinander, sp. n.**

Figs. 21A–E

Type: ♂ holotype; Papua New Guinea, Morobe distr.; USNM.

Specimen examined: Papua New Guinea, Morobe distr. Mt. Kaindi, 2350 m, 1976-12-11, ♂ holotype, G. F. Hevel & R. E. Dietz (USNM).

Diagnosis

Processus of hypandrium indistinct. Median apical incision deep, narrow and parallel-sided. Stylus forked. Paramere slender, processus apicalis prominent.

Description

Male

Head ochreous brown. Frons and palpi normal. Antenna dark brown, 28-segmented. Scale-like hairs in a whorl on the apex of pedicel and flagellar segments. Scape and pedicel about as long as broad, flagellar segments slightly broader than

long. Ordinary hairs in two whorls, setae present on flagellar segments.

Thorax light brown with large shiny shoulder spots. Membrane of wings slightly greyish. In fore wing the cross-vein R_{s-M} strikes R_s at the fork. In hind wing no cross-vein R_{4+5-M} . Length of fore wing 2.4 mm, of hind wing 2.0 mm.

Genitalia, Figs. 21A–E. Hypandrium in lateral aspect almost twice as high as long. Processus lateralis broad and blunt, processus terminalis insignificant. Median apical incision about two third the length of hypandrium, narrow and parallel-sided. Apodeme along anterior margin ventrally complete. Gonarcus small and simple, ventrally with an apodeme which continues into the stylus. Stylus forked, outer branch slightly curved outwards. Paramere simple, processus ventralis small, processus apicalis long and prominent. Penis with two long slender parallel sclerotized rods. For a comparison with the species of *Coniopteryx* s.str. recorded from New Guinea and adjacent areas see *C. biroi*.

***Coniopteryx (Coniopteryx) notata* Kimmins, 1952**

Coniopteryx (Coniopteryx) notata: Meinander 1972a:265; Verdcourt 1978:152 (faunistic record); Meinander 1981:105 (list), 109 (faunistic record).

Coniopteryx sp. Verdcourt 1952:204 (faunistic record).

Distribution: Kenya.

***Coniopteryx (Coniopteryx) pallescens* Meinander, 1972**

Coniopteryx (Coniopteryx) pallescens Meinander 1972a:244; Meinander 1981:105 (list).

Distribution: Formosa.

***Coniopteryx (Coniopteryx) parthenia* (Navas & Marcet, 1910)**

Coniopteryx (Coniopteryx) parthenia: Meinander 1972a:245; Meinander 1972b:135, f. 5 (female genitalia, faunistic note); Ohm 1973b:302 (distribution); Gepp 1974a:168 (faunistic record); Gepp 1974d:17 (faunistic record); Gepp 1975a:267, 269 (biology); Schmidt Nielsen 1976:3 (faunistic record); Gepp 1977:177 (faunistic record); Lammes 1977:47 (faunistic record); Zeleny 1977:129 (list); Barnard 1978:166 (list); Monserrat 1978c:183 (faunistic record); Monserrat 1978d:66 (faunistic record); Ujhelyi 1978:287 (faunistic record); Monserrat 1979:415 (biology, faunistic record); Monserrat 1980:58 (faunistic record); Aspöck & al. 1980:149, Abb 226, 276–279, 284, 285, f. 73 (monograph); Hölzel et al. 1980:5 (list); Gepp 1981:196 (faunistic records); Meinander 1981:105 (list), 107 (faunistic record); Eglin 1982:63 (faunistic record); Leraut 1982:243 (faunistic record); Eyre 1983:118 (faunistic record); Devetak 1984:57 (faunistic record); Lammes 1984:56 (faunistic record); Monserrat 1984a:29 (faunistic record); Monserrat 1984b:147 (synonymy); Monserrat 1984d:161 (faunistic record); Monserrat 1984e:106 (faunistic record); Monserrat 1984f:42 (faunistic record); Monserrat 1984g:175 (faunistic record); Monserrat 1985b:131 (faunistic record); Monserrat 1985d:89 (faunistic record); Monserrat 1985e:95 (faunistic record); Monserrat 1985g:76 (faunistic record); Diaz-Aranda 1986a:1125 (biogeography); Diaz-Aranda 1986b:1142 (faunistic record); Gepp 1986:139 (larva); Popov 1986:168 (faunistic record); Greve 1987: 13, f. 15ef (key); Monserrat 1987:142 (faunistic record); Monserrat & Diaz-Aranda 1987:182 (faunistic record); Monserrat & Hölzel 1987:135 (faunistic record); Diaz-Aranda & Monserrat 1988a:120 (faunistic record); Diaz-Aranda & Monserrat 1988b:226 (faunistic note); Diaz-Aranda & Monserrat 1988c:224 (faunistic record); Monserrat & Diaz-Aranda 1988b:93 (faunistic record); Pantaleoni 1988:635 (list); Dobosz 1989:77 (faunistic record).

(?) *Coniopteryx parthenia*: Verdcourt 1980:4 (faunistic record).

Deasia parthenia: Navas 1924c:123, f. 79 (key); Monserrat 1985f:240 (type deposit).

Coniopteryx pigmaea: Navas 1915b:52 (faunistic record).
Coniopteryx pygmaea: Navas 1915b:30, 68 (faunistic record); Navas 1916b:190 (faunistic record); Navas 1917a:88 (faunistic record); Navas 1917b:42 (faunistic record); Navas 1919:202 (faunistic record); Navas 1920:43 (faunistic record); Navas 1921b:65 (faunistic record); Navas 1924c:123 (key); Lucas 1930:269 (faunistic record); Lucas 1931:243 (faunistic record); Blair 1932:211 (faunistic record); Navas 1931c:139 (faunistic record); Brown 1932:53 (faunistic record); Morton 1938:5 (faunistic record); Blair 1951:160 (faunistic record); Kloet & Hincks 1964:100 (list); Geijskes 1972:45 (faunistic record); Meinander 1972c:94 (faunistic record); Kleinstеuber 1972a:42 (faunistic record); Kleinstеuber 1972b:67 (faunistic record); Tjeder 1972:21 (list); Aspöck & Aspöck 1973a:250 (faunistic record); Hölzel 1973:499 (faunistic record); Joost 1973:151 (faunistic record); Kleinstеuber 1974:147 (list); Plewka 1974:288 (faunistic record); Morgan 1976:232 (faunistic record); Zakharenko 1977:65; Eglin 1979:497 (faunistic record); Zakharenko 1979:366 (faunistic record); Eglin-Dederding 1980:307 (faunistic record and biology); Zakharenko 1980:92 (faunistic record); Zakharenko 1982:21 (faunistic record); Popov 1983 (faunistic record); Eglin-Dederding 1984:55 (ecology); Monserrat 1984f:47 (list); Eglin 1985:98 (faunistic record).

(?) *Coniopteryx pygmaea*: Navas 1921:152 (faunistic record); Kovrigina 1978:507 (faunistic record);

Coniopteryx tineiformis: Gepp 1975b:177 (faunistic record).

Distribution: Europe, Morocco, Turkey, Siberia and Mongolia.

***Coniopteryx (Coniopteryx) portilloi* Monserrat, 1982**

Coniopteryx (Coniopteryx) portilloi: Monserrat 1982a:31, f. 46–53 (description); Meinander 1981:105 (list); Meinander 1982a:54, f. 5 (male genitalia, faunistic record).

Distribution: Sri Lanka.

***Coniopteryx (Coniopteryx) prehensilis* Murphy & Lee, 1971**

Coniopteryx prehensilis Murphy & Lee 1971:155, f. 2, 4A–E (description).

Coniopteryx (Coniopteryx) prehensilis: Meinander 1981:105 (synonymy), 107 (faunistic record).

Coniopteryx (Coniopteryx) unguicornis Meinander 1972a:249.

Distribution: India, China, Singapore.

***Coniopteryx (Coniopteryx) pygmaea* Enderlein, 1906**

Coniopteryx hoelzeli: Kis 1967:125 (morphology); Lauterbach 1972:141 (faunistic record); Gepp 1973:38 (ecology).

Coniopteryx (Coniopteryx) pygmaea: Meinander 1972a:247; Gepp 1974d:17 (faunistic record); Gepp 1975a:267 (biology); Gepp 1975b:178 (faunistic record); Gepp 1977:177 (distribution, ecology); Kovrigina 1978:747 (faunistic record); Zeleny 1979:129 (list); Aspöck et al. 1980:150, Abb. 288–290 (monograph); Hölzel et al. 1980:5 (list); Gepp 1981:196 (faunistic records); Meinander 1981:105 (list), 107 (faunistic record); Zakharenko 1982:21 (faunistic record); Popov 1983:63 (faunistic record); Devetak 1984:57 (faunistic record); Gepp 1986:139 (larva); Tröger 1986:133 (biology); Diaz-Aranda & Monserrat 1988b:226 (doubt a record of Navas).

(non) *Coniopteryx pygmaea*: Navas 1924c:123; Lucas 1930:269; Lucas 1931:243; Navas 1931c:139; Morton 1938:5; Kloet & Hincks 1964:100; Blair 1951:160; Geijskes 1972:45; Meinander 1972c:94; Kleinstauber 1972a:42; Kleinstauber 1972b:67; Tjeder 1972:21; Aspöck & Aspöck 1973a:250; Hölzel 1973:499; Joost 1973:151; Kleinstauber 1974:147; Plewka 1974:288; Morgan 1976:232; Zakharenko 1977:65; Eglin 1979:497; Zakharenko 1979:366; Eglin-Dederding 1980:307; Zakharenko 1980:92; Zakharenko 1982:21; Popov 1983; Eglin-Dederding 1984:55; Monserrat 1984f:47; Eglin 1985:98.(= *C. parthenia* (Navas & Marcet)).

Distribution: Central Europe, Ukraine, The Kurile Islands.

***Coniopteryx (Coniopteryx) riomunica* Monserrat, 1989**

Coniopteryx (Coniopteryx) riomunica Monserrat 1989:173, f. 40–43 (description).

Distribution: Equatorial Guinea.

***Coniopteryx (Coniopteryx) stenoptera* Monserrat, 1989**

Coniopteryx (Coniopteryx) stenoptera Monserrat 1989:175, f. 44–52 (description).

Distribution: Equatorial Guinea.

***Coniopteryx (Coniopteryx) tagalica* (Banks, 1937)**

Coniopteryx (Coniopteryx) tagalica: Meinander 1972a:250; Meinander 1981:105 (list); Monserrat 1982a:31 (faunistic record); New & Sudarman 1988:418 (faunistic record); New 1990a:7 (faunistic record).

Distribution: Malaysia, Indonesia, The Philippines.

***Coniopteryx (Coniopteryx) tineiformis* Curtis, 1834**

Coniopteryx lactea: Martin 1893:147 (faunistic record); Klapalek 1904:725 (faunistic record); Petersen 1906:43 (description, faunistic record); King & Halbert 1910:79 (faunistic record); Puschig 1922:73 (list).

Coniopteryx (Coniopteryx) tineiformis: Parfitt 1879:406 (faunistic record); King 1882a:11 (faunistic record); King 1882b:83 (faunistic record); Fletcher 1985:257 (faunistic record); Selys-Longchamps 1888:165, (description); Navas 1908:33 (faunistic record); Navas 1914b:58 (faunistic record); Navas 1916b:190 (faunistic record); Navas 1917a:88 (faunistic record); Navas 1917b:42 (faunistic record); Navas 1919:202 (faunistic record); Navas 1920:43 (faunistic record); Esben-Petersen 1921:42 (faunistic record); Navas 1924c:122, f. 78 (key); Navas 1927c:98 (faunistic record); Lucas 1930:269 (faunistic record); Lucas 1931:243 (faunistic record); Blair 1932:211 (faunistic record); Morton 1938:5 (faunistic record); Alfken 1939:520 (faunistic record); Esben-Petersen 1940:6 (faunistic record); Eglin 1941 (faunistic record); Blair 1951:160 (faunistic record); Aubert 1958:8 (distribution, biology); Kloet & Hincks 1964:100 (list); New 1968b:230 (ecology); Kleinstauber 1972a:42 (faunistic record); Kleinstauber 1972b:67 (faunistic record); Tjeder 1972:21 (list); Dorokhova 1973:315 (faunistic record); Joost 1973:151 (faunistic record); Hölzel 1973:499 (faunistic record); Kleinstauber 1974:147 (list); Andersen & Greve 1975:124 (faunistic record); Gepp 1975a:267 (faunistic record); Gepp 1975b:177 (faunistic record); Morgan 1976:232 (faunistic record); Schmidt Nielsen 1976:3 (faunistic record); Gepp 1977:176 (distribution, ecology); Zeleny 1977:129 (list); Barnard 1978:166 (list); Monserrat 1978c:183 (faunistic record); Eglin 1979:494 (faunistic record); Szirki 1979:181 (biology, faunistic record); Verdcourt 1979:58 (faunistic record); Zakharenko 1979:366 (faunistic record); Aspöck et al. 1980:148, Abb. 280–281 (monograph); Eglin-Dederding 1980:306 (faunistic record and biology); Hölzel et al. 1980:5 (list); Monserrat 1980:57 (faunistic record); Zakharenko 1980:93 (faunistic record); Gepp

1981:196 (faunistic records); Meinander 1981:105 (list), 107 (faunistic record); Eglin 1982:63 (faunistic record); Leraut 1982:243 (faunistic record); Pantaleoni 1982:15 (ecology); Zakharenko 1982:21 (faunistic record); Eyre 1983:118 (faunistic record); Popov 1983:63 (faunistic record); Devetak 1984a:57 (faunistic record); Lawson & McCafferty 1984:130 (faunistic record); Devetak 1984b:69 (list); Monserrat 1984a:28 (faunistic record); Monserrat 1984b:147 (synonymy); Monserrat 1984f:42 (faunistic record); Eglin 1985:98 (faunistic record); Monserrat 1985e:95 (faunistic record); Gepp 1986:139 (larva); Meinander 1986:40 (list); Popov 1986:168 (faunistic record); Greve 1987:13, 15gh (key); Pantaleoni 1988:635 (list).

Coniopteryx tineiformis v. *xaveriana*: Navas 1924c:122 (description); Monserrat 1985f:240 (type deposit).

(?)*Coniopteryx tineiformis*: Meyer-Dr 1874:361 (faunistic record); Costa 1888:55 (faunistic record); Esben-Petersen 1913:28 (faunistic record); Navas 1914c:32 (faunistic record); Navas 1914d:41 (faunistic record); Navas 1914e:190 (faunistic record); Navas 1914f:215 (faunistic record); Navas 1915b:30, 35, 39, 43, 52, 68, 70, 74, 76 (faunistic records); Navas 1921a:152 (faunistic record); Navas 1921b:65 (faunistic record).

(?)*Coniopteryx tineiformis* var. *xaverina*: Navas 1921b:65 (faunistic record).

(non) *Coniopteryx tineiformis*: Gepp 1975b:177 (= *C. parthenia*).

New records: Canada B.C. Cache Creek, 1978-06-22, 1♂, P. H. Arnaud Jr (CAS); Yukon terr., Whitehorse 1♀ (D.K. McE. Kevan personal communication).

Distribution: Europe, Asia minor, Northern North America.

Coniopteryx (Coniopteryx) abdominalis Okamoto, 1906

Coniopteryx (Coniopteryx) abdominalis Enderlein 1930:108 (list); Ishihara 1965:160 (faunistic record, morphology); Meinander 1972a:267; Meinander 1981:105 (list), 107 (faunistic record).

Distribution: Japan and China.

Coniopteryx (Coniopteryx) trihamantennata Monserrat, 1989

Coniopteryx (Coniopteryx) trihamantennata Monserrat 1989:171, f. 34–39 (description).

Distribution: Equatorial Guinea.

Coniopteryx (Coniopteryx) californica Meinander, 1974

Coniopteryx (Coniopteryx) californica Meinander 1974c:225, f. 9 (description); Meinander 1981:105 (list), 107 (faunistic record); Meinander 1986:33, 40, f. 1 (map).

Distribution: U.S.A.: Texas and California.

Coniopteryx (Coniopteryx) callangana Enderlein, 1906

Coniopteryx (Coniopteryx) callangana: Meinander 1972a:255; Meinander 1974d:100 (faunistic record); Penny 1977:28 (list); Meinander 1980:141 (faunistic record); Meinander 1981:105 (list); Meinander & Penny 1982:202, f. 19 (description, faunistic record); Meinander 1983a:141 (faunistic record); Meinander 1983b:186 (faunistic record); Monserrat 1985a:215 (faunistic record); Meinander 1986:33, 40, f. (map).

New records: Peru, La Libertad, Samne 40 km NE Trujillo, 1500 m, 1975-07-15, 2♂♂, L. Stange (FLA); Peru, Lambayeque 5 km W. Zana, 1975-07-25, 2♂♂ 9♀♀, L. Stange (FLA); Bolivia, Santa Cruz, Palmar del Oratorio, 1973-07-12, 1♂ 3♀♀, C. Porter, L. Stange & E. Demerest (FLA); Brazil, Rio de Janeiro, Serra dos Organos, 1969-01-26, 1♂ 1♀, L. Stange, J. Lotti (FLA). Par, Oriximinã Rio Trombetas, 1982, 7♂♂ 1♀ (INPA); Par, Serra Norte Parana panema, 1982-10, 1♂, P. Ready (INPA).

Distribution: Mexico, Venezuela, Bolivia, Brazil, Peru and ?Argentina.

Coniopteryx (Coniopteryx) delta Johnson, 1980

Coniopteryx delta Johnson 1980:181, f. 1 (description).
Coniopteryx (Coniopteryx) delta: Meinander 1981:105 (list); Meinander 1986:33, 40, f. 1 (map).

Distribution: Mexico.

Coniopteryx (Coniopteryx) dorisae Monserrat, 1983

Coniopteryx (Coniopteryx) dorisae Monserrat 1983a:141, f. 6–14 (description); Meinander 1983b:187 (faunistic record); Meinander 1986:33, 40, f. 1 (map).

New record: Colombia, Valle road Cali to Pance, 1975-09-17, 2♂♂ 2♀♀ L. Stange (FLA).

Distribution: Colombia, Venezuela.

***Coniopteryx (Coniopteryx) dorsicornis* Johnson, 1980**

Coniopteryx dorsicornis Johnson 1980b:183, f. 2A–E (description)

Coniopteryx (Coniopteryx) dorsicornis: Meinander 1981:105 (list); Stange 1981:2 (key); Meinander 1986:33, 40, f. 1 (map).

(in part) *Coniopteryx (Coniopteryx) simplicior*: Meinander 1972a:261.

Distribution: U.S.A.: Florida.

***Coniopteryx (Coniopteryx) fitchi* Banks, 1895**

Coniopteryx (Coniopteryx) fitchi: Meinander 1972a:256; Meinander 1974c:226 (faunistic record); Penny 1977:28 (list); Meinander 1981:105 (list), 107 (faunistic record); Monserrat 1985a:214 (faunistic record); Meinander 1986:33, 40, f. 1 (map).

Malacomyza fitchi: Smith 1934:140, (faunistic record, key).

Distribution: SW U.S.A. and Mexico.

***Coniopteryx (Coniopteryx) forcipata* Johnson, 1980**

Coniopteryx forcipata Johnson 1980b:185, f. 3A–F (description).

Coniopteryx (Coniopteryx) forcipata: Meinander 1981:105 (list); Meinander 1986:33, 40, f. 1 (map).

Distribution: U.S.A.: Arizona.

***Coniopteryx (Coniopteryx) freytagorum* Johnson, 1978**

Coniopteryx (Coniopteryx) freytagorum Johnson 1978:163, f. 1 (description); Meinander 1981:105 (list); Meinander 1986:33, 40, f. 1 (map).

Distribution: Honduras.

***Coniopteryx (Coniopteryx) jorgei* Meinander, 1982**

Coniopteryx (Coniopteryx) jorgei Meinander 1981:105 (list); Meinander & Penny 1982:203, f. 20 (description); Meinander 1986:33, 40, f. 1 (map).

Distribution: Brazil.

***Coniopteryx (Coniopteryx) latipalpis* Meinander, 1972**

Coniopteryx (Coniopteryx) latipalpis Meinander 1972a:257; Meinander 1974c:226 (faunistic record); Penny 1977:28 (list); Meinander 1981:105 (list), 107 (faunistic record); Meinander 1986:33, 40, f. 1 (map).

New records: USA, Cal. Santa Clara Co. Alum Rock Park, 1986-04-06, 2♂♂ A. M. & N. D. Penny (CAS), 2♂♂ (MZH).

Distribution: W. U.S.A. (The records from Mexico in Meinander 1972a:259 refers to *C. (C.) palpalis*).

***Coniopteryx (Coniopteryx) mexicana* Meinander, 1974**

Coniopteryx (Coniopteryx) mexicana Meinander 1974c:226, f. 10 (description); Meinander 1974d:102 (faunistic record); Penny 1977:28 (list); Meinander 1981:105 (list), 107 (faunistic record); Meinander 1986:33, 41, f. 1 (map).

New records: Mexico Sinaloa, 10 mi N Los Machia, 1982-06-29, 1♂ 1♀, D. K. Faulkner (SD).

Distribution: U.S.A.: Texas, Mexico, Honduras.

***Coniopteryx (Coniopteryx) minuta* Meinander, 1972**

Coniopteryx (Coniopteryx) minuta Meinander 1972a:259; Meinander 1974c:227 (faunistic record); Meinander 1981:105 (list); Meinander 1986:33, 41, f. 1 (map).

New records: U.S.A., Cal. Riverside Co. 1978–1981, 19♂♂, 1♀ (UCR); 1♂ 1♀ (MZH); Mexico Baja norte 2.6 mi SE Catavina, 1981-03-23, D. Faulkner & F. Andrews, 1♂ (SD).

Distribution: U.S.A. California and Mexico.

***Coniopteryx (Coniopteryx) palpalis* Meinander 1972**

(in part) *Coniopteryx (Coniopteryx) latipalpis*: Meinander 1972a:259 (records from Mexico).

Coniopteryx (Coniopteryx) palpalis Meinander 1972a:260; Meinander 1974c:227 (faunistic record); Penny 1977:28 (list); Meinander 1981:105 (list); Monserrat 1985a:215 (faunistic record); Meinander 1986:33, 41, f. 1 (map).

New records: U.S.A., Cal. Monterey Co 3000' up Cone Mts, 1♂, E. I. Schlinger (UCR); Santa Clara Co. Alum Rock Park

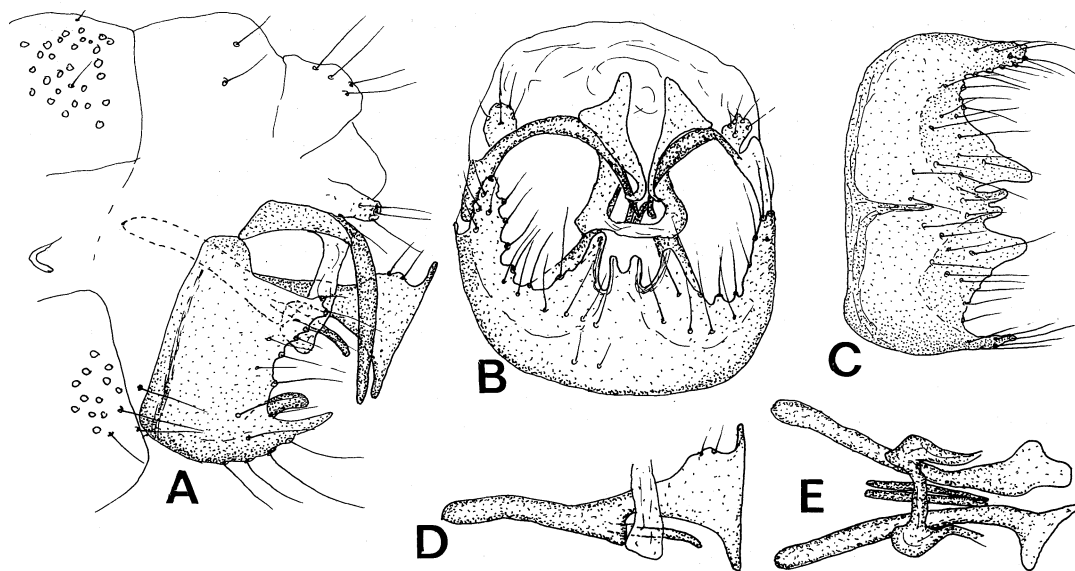


Fig. 22. Male of *Coniopteryx peruviansis*: A. Male terminalia in lateral view; B. ditto in caudal view; C. hypandrium in ventral view; D. internal genitalia in lateral view; E. ditto in ventral view.

1986-04-06, 2♂♂ A. M. & N. D. Penny (CAS), 2♂♂ (MZH); Mexico Durango, 82.3 mi E of Villa Anton Hwy 40, 8200', 1982-07-20, D. K. Faulkner 1♂ (SD), 1♂ (MZH).

Distribution: U.S.A.: California and Mexico.

***Coniopteryx (Coniopteryx) peruviansis* Meinander, sp. n.**

Figs. 22A–E

Type: ♂ holotype; Peru, La Libertad; FLA.

Specimens examined: Peru, La Libertad 40 km NE Trujillo ca Samne, 1975-07-12, ♂ holotype, 1♂, L. Stange (FLA); 1♂ (MZH).

Diagnosis

C. peruviansis belongs to a group of species within the *C. westwoodi*-group (Meinander 1981) characterized by the presence of an inner transverse bifurcate plate on the hypandrium and by normal frons and palpi. In *C. delta*, *C. minuta* and *C. simplex* the basal flagellar segments are about as long as broad; *C. delta* has no scale-like hairs on the flagellar segments. In *C. forcipata*, *C. minuta* and *C. simplex* the processus ventrales of para-

meres are not connected, i.e. the anterior branch of the styli are not forming a bridge below the parameres. In *C. peruviansis* the median apical incision of the hypandrium is small and rounded, in *C. dorsicornis*, *C. forcipata* and *C. minuta* the incision is deeper and V-shaped, in *C. delta*, *C. dorisae* and *C. simplicior* the incision is broadly rounded and distinctly deeper than in *C. peruviansis*. In *C. dorsicornis* the inner transverse bifurcate plate of hypandrium is distinctly higher and more deeply incised than in *C. peruviansis*. In *C. dorisae* and *C. simplex* the apodeme along the anterior margin of the hypandrium ventrally leaves the margin and goes to the median apical incision; in *C. delta* and *C. dorsicornis* the apodeme goes along the anterior margin, in *C. freytagorum* the apodeme is ventrally interrupted, in *C. forcipata*, *C. minuta* and *C. simplicior* there is ventrally a longitudinal branch of the apodeme running from the anterior margin of the hypandrium to the bottom of the median apical incision, in *C. peruviansis* the longitudinal apodeme does not completely reach the incision. In the shape of the hypandrium can still other differences be recorded, e.g. the hypandrium of *C. dorisae* is in lateral view longer than high, in *C. freytagorum* there is in ventral view no processus terminales.

*Description**Male*

Head capsule light greyish brown. Eyes large and black. Frons normal. Antenna 29-30-segmented, dark brown except scape which is medium brown. Scape and pedicel about as long as broad, basal flagellar segments almost twice as broad as long, distal segments about as long as broad. Scale-like hairs in a whorl on the apex of pedicel and flagellar segments. Ordinary hairs on flagellar segments in two whorls, no setae. Length of antenna about 1.5 mm. Palpi normal, medium brown.

Thorax. Sclerotized parts of thorax medium brown with dark brown shoulder spots, sutures and trochantines. Fore femur with about 20 ventral hyaline setae.

Wings. Membrane of both wings greyish brown. In hind wing no cross-vein R_{4+5} -M. Length of fore wing 2.5-2.6 mm, of hind wing 2.0-2.1 mm.

Genitalia, Figs. 22A-E. Hypandrium fairly broad, but in lateral view slightly higher than long. Apodeme along anterior margin ventrally united with a longitudinal apodeme, which does not completely reach the median incision. Processus terminales prominent and acute, median apical incision rather small and broadly rounded. Processus laterales prominent. The hypandrium has an inner distally furcate transverse plate at the bottom of the median incision. Gonarcus is rather small. Stylus forked at base, outer branch simply curved and not s-shaped; inner branch connected to processus ventralis of paramere and both styli are connected here, forming a bridge below the aedeagus. Processus apicalis of paramere long and acute and below it a similar ventral process. Anteriorly of processus apicalis is a small swelling with some hairs. Penis with two distinct sclerotized parallel rods.

The nine species *C. delta*, *C. dorisae*, *C. dorsicornis*, *C. forcipata*, *C. freytagorum*, *C. minuta*, *C. peruviansis*, *C. simplex* and *C. simplicior* form a close group. More material is needed from both Americas before possible conspecificity within this group can be stated.

Coniopteryx (Coniopteryx) quadricephala Johnson, 1980

Coniopteryx quadricephala Johnson 1980b:188, f. 5A-B, 6A-F (description).

Coniopteryx (Coniopteryx) quadricephala: Meinander 1981:105 (list); Meinander 1986:33, 41, f. 1 (map).

Distribution: U.S.A.: Utah.

Coniopteryx (Coniopteryx) simplex Meinander, 1974

Coniopteryx (Coniopteryx) simplex Meinander 1974c:228, f. 11 (description); Meinander 1981:105 (list); Meinander 1986:33, 41, f. 1 (map).

Distribution: U.S.A.: California.

Coniopteryx (Coniopteryx) simplicior Meinander, 1972

Coniopteryx (Coniopteryx) simplicior Meinander 1972a:261; Meinander 1974c:228 (faunistic record); Meinander 1974d:102 (faunistic record); Penny 1977:28 (list); Meinander 1981:106 (list), 107 (faunistic record); Meinander 1983b:187 (systematics, male genitalia and faunistic records); Lawson & McCafferty 1984:130 (faunistic record); Meinander 1986:33, 41, f. 1 (map).

New records: Bolivia, Santa Cruz, Est. Exp. Gral. Saavedra, 1974-06, 1♂ 1♀, L. Stange (FLA). Brazil Parana Curitiba, 1978-1979, 1♂ 2♀, A. Yamaroto (INPA), 1♂ (MZH).

Distribution: U.S.A., Jamaica, Mexico, Costa Rica, Venezuela, Bolivia, Brazil.

Coniopteryx (Coniopteryx) westwoodi (Fitch, 1856)

Malacomys ventralis: Monserrat 1985f:240 (type deposit).

Coniopteryx (Coniopteryx) westwoodi: Muma 1971:287, f. 5-8 (description of adult and 1st instar larva); Meinander 1972a:263; Throne 1972:126, f. 13 (faunistic record); Meinander 1975a:31 (faunistic record); Stange 1981:2 (key); Meinander 1981:106 (list), 107 (faunistic record); Lawson & McCafferty 1984:130 (faunistic record); Meinander 1986:33, 41, f. 1 (map).

Malacomys westwoodi: Leonard 1928:42 (list); Smith 1934:140 (faunistic record, key).

Distribution: E. U.S.A.

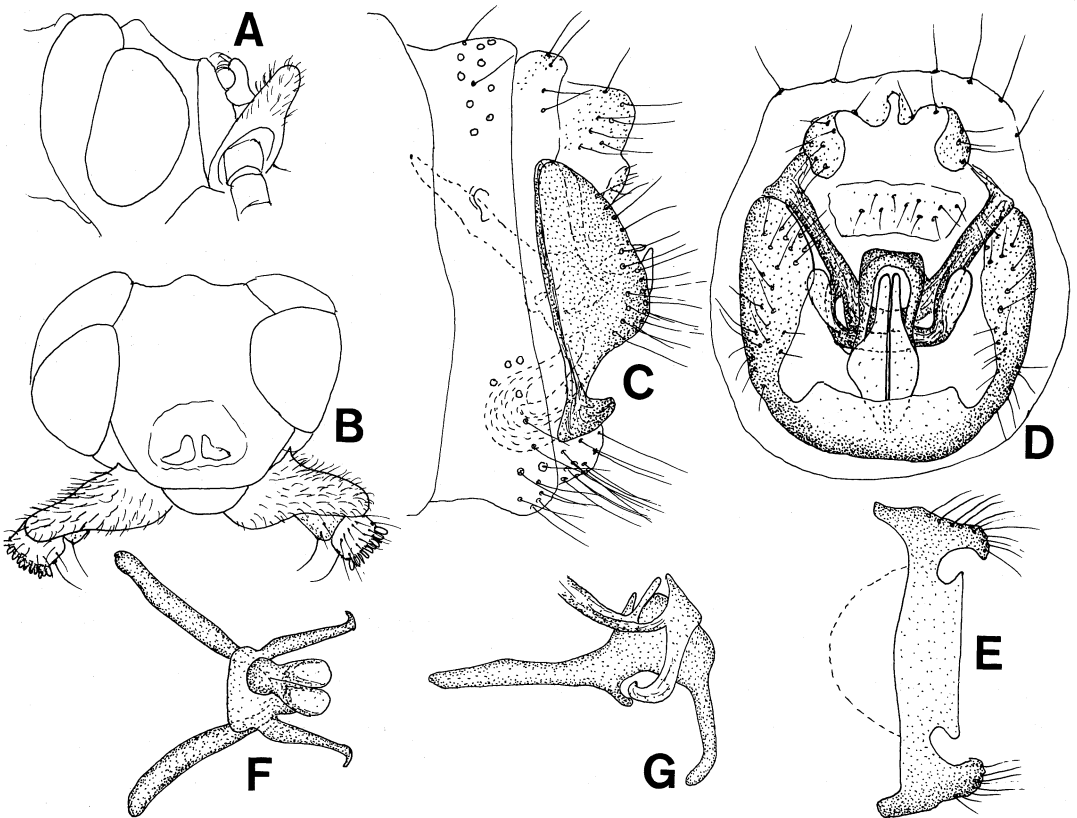


Fig. 23. Male of *Coniopteryx paranana*: A. Head, lateral aspect; D. Ditto, dorsal aspect; C. Terminal abdominal segments, lateral aspect; D. Ditto, caudal aspect; E. Hypandrium, ventral aspect; F. Internal genitalia, ventral aspect; G. Ditto, lateral aspect.

***Coniopteryx (Coniopteryx) dominicana* Meinander, 1974**

Coniopteryx (Coniopteryx) dominicana Meinander 1974d:101, f. 3 (description); Penny 1977:28 (list); Meinander 1981:106 (list); Meinander 1986:41 (list).

Distribution: Dominica.

***Coniopteryx (Coniopteryx) gordica* Meinander, 1983**

Coniopteryx (Coniopteryx) gordica Meinander 1983b:187 (description); Meinander 1986:41 (list).

New record: Brasil, Amazonas, Rio Urubu AM 010 km 246, 1981-07-12...14, 1♂, Penny, Arias, Adams (MZH).

Distribution: Brazil.

***Coniopteryx (Coniopteryx) paranana* Meinander, sp. n.**

Figs. 23A–G

Coniopteryx (Coniopteryx) paranana Meinander 1986:41 (list) (nomen nudum).

Type: ♂ holotype; Brazil, Parana; USNM.

Specimen examined: Brazil, PR, Curitiba, 1979, ♂ holotype, A. Yamamoto (INPA).

Diagnosis

Frons with an unsclerotized area with two tuberculae. Scape with dorsal digitate projection. Hypandrium with a deep incision dorsally of processus terminalis. Styli forming a ring around the aedeagus.

*Description**Male*

Head capsule light greyish brown. Eyes large and black. Frons in an unsclerotized median area with a pair of slightly backwards turned tuberculae. Antenna 29-segmented, dark brown except the scape which is medium brown. Scape very large with an outwards directed dorsal digitate projection. Pedicel about as long as broad, basal flagellar segments about twice as broad as long, distal segments about as long as broad. Scale-like hairs in a whorl on the apex of the flagellar segments. Ordinary hairs in two whorls, setae present on flagellar segments. Length of antenna about 1.5 mm. Palpi normal, medium brown.

Thorax. Sclerotized parts of thorax medium brown with blackish brown shoulder spots, sutures and trochantines. Legs greyish brown. Fore femur with about 18 ventral hyaline setae.

Wings. Membrane of both wings greyish brown, fore wing with hyaline fasciae along Sc_2 , between R_s and M as well as between Cu_2 and A_1 . In hind wing no cross-vein R_{4+5} - M . Marginal fringes of hind wing fairly short. Length of fore wing 2.2 mm, of hind wing 1.8 mm.

Genitalia, Figs. 23C–G. Hypandrium very short. No processus lateralis. Processus terminales fused to a short broad structure, dorsally of which deep incisions making the hypandrium here very narrow. Apodeme along anterior margin ventrally diffuse. Gonarcus small. Styli forked, inner branch of both styli ventrally fused forming an arch below the aedeagus. Outer branches of both styli curving upwards forming a plate dorsally of the aedeagus, from which there is a band-like structure forming a ring around the aedeagus. Paramere distally broad with a long slender ventral apophysis. No penis sclerites.

This highly aberrant species is here tentatively placed with the *C. dominicana* group.

Subgenus *Holoconiopteryx* Meinander, 1972***Coniopteryx (Holoconiopteryx) drammonti* Rousset, 1964**

Coniopteryx (Holoconiopteryx) clavata Monserrat 1976b:259 (description); Monserrat 1978d:66 (faunistic record).

Coniopteryx (Holoconiopteryx) drammonti: Meinander 1972a:269; Joost 1973:152 (faunistic record); Aspöck et al 1980:151. Abb. 293–294 (monograph); Hölzel et al. 1980:5 (list); Meinander 1981:106 (list); Popov 1983:63 (faunistic record); Devetak 1984a:57 (faunistic record); Monserrat 1984d:161 (faunistic record); Monserrat 1984e:107 (faunistic record); Monserrat 1984g:176 (faunistic record); Diaz-Aranda 1986a:1125 (biogeography); Diaz-Aranda 1986b:1143 (faunistic record); Popov 1986:169 (faunistic record); Monserrat & Diaz-Aranda 1987:183 (faunistic record); Diaz-Aranda & Monserrat 1988a:120 (faunistic note).

Coniopteryx drammonti: Joost 1973:152 (faunistic record). *Coniopteryx (Coniopteryx) drammonti*: Popov 1977:8 (faunistic record).

New record: Morocco, 5 km S. Kenitra, 1972-03-25, 1♂ 4♀♀, L. Stange, J. Lotti (FLA).

Distribution: South Europe, Turkey, U.S.S.R.: Georgia.

***Coniopteryx (Holoconiopteryx) haematica* McLachlan, 1868**

Coniopteryx (Holoconiopteryx) haematica: Meinander 1972a:270; Tjeder 1972:21 (list); Gepp 1974a:167 (faunistic record); Zeleny 1975b:178 (faunistic record); Gepp 1977:177 (distribution, ecology); Zeleny 1977:129 (list); Szirki 1979:182 (biology, faunistic record); Aspöck et al. 1980:151, Abb. 291–292 (monograph); Hölzel et al 1980:5 (list); Monserrat 1980:58 (faunistic record); Meinander 1981:106 (list), 107 (faunistic record); Monserrat 1981b:179, f. 1–6 (male genitalia, distribution); Monserrat 1982c:83 (faunistic record); Pantaleoni 1982:15 (ecology); Tröger 1984:207 (faunistic record); Devetak 1984a:57 (faunistic record); Monserrat 1984b:147 (synonymy); Monserrat 1984d:161 (faunistic record); Monserrat 1984e:107 (faunistic record); Monserrat 1984f:43 (faunistic record); Monserrat 1984g:176 (faunistic record); Monserrat 1985b:131 (faunistic record); Monserrat 1985d:89 (faunistic record); Monserrat 1985g:76 (faunistic record); Diaz-Aranda 1986a:1125 (biogeography); Diaz-Aranda 1986b:1142 (faunistic record); Popov 1986:168 (faunistic record); Tröger 1986:133 (biology); Monserrat 1987:142 (faunistic record); Monserrat & Diaz-Aranda 1987:183 (faunistic record); Diaz-Aranda & Monserrat 1988a:120 (faunistic note); Diaz-Aranda & Monserrat 1988b:227 (faunistic note); Diaz-Aranda & Monserrat 1988c:224 (faunistic record); Monserrat & Diaz-Aranda 1988b:93 (faunistic record); Pantaleoni 1988:635 (list).

Coniopteryx haematica: Gepp 1981:196 (faunistic records); Pantaleoni 1986:30 (ecology); Greve 1987:13 (reference); Marín & Monserrat 1987:350 (ecology).

Coniopteryx (Coniopteryx) tullgreni: Kis 1972:125 (faunistic note); Tjeder 1954:27 (male genitalia).

Distribution: Europe, N. Africa, Turkey, Cyprus.

***Coniopteryx (Holoconiopteryx) lindbergi* Tjeder, 1957**

Coniopteryx (Holoconiopteryx) lindbergi: Meinander 1972a:271; Meinander 1981:106 (list); Ohm & Hölzel 1982:163 (biology, distribution).

Distribution: The Cape Verde Islands.

***Coniopteryx (Holoconiopteryx) renate* Rausch & Aspöck, 1977**

Coniopteryx (Holoconiopteryx) renate Rausch & Aspöck 1977:72, f. 1 (description); Ujhelyi 1978:287, f. 1 (male genitalia, faunistic record); Aspöck et al. 1980:152, Abb. 295–297 (monograph); Meinander 1981:107 (list).

Distribution: Hungary, Italy.

***Coniopteryx (Holoconiopteryx) tenuicornis* Tjeder, 1969**

Coniopteryx (Xeroconiopteryx) bicuspis: Meinander 1972:228 (females); Meinander 1977:84 (females).
Coniopteryx (Holoconiopteryx) tenuicornis: Meinander 1972a:272; Meinander 1977:84 (female genitalia, faunistic record); Meinander 1981:106 (list); Meinander 1983a:498 (list).

Distribution: S. Africa, Zimbabwe, Yemen and ?Tanzania.

***Coniopteryx (Holoconiopteryx) turneri* Kimmins, 1935**

Coniopteryx (Holoconiopteryx) turneri: Meinander 1972a:273; Meinander 1981:106 (list); Meinander 1983a:493 (faunistic record).

Distribution: S. Africa.

***Coniopteryx (Holoconiopteryx) verticicornis* Monserrat, 1989**

Coniopteryx (Holoconiopteryx) verticicornis Monserrat 1989:170, f. 28–33 (description).

Distribution: Equatorial Guinea.

Subgenus *Metaconiopteryx* Kis, Nagler & Mandru, 1970***Coniopteryx (Metaconiopteryx) arcuata* Kis, 1965**

Coniopteryx (Metaconiopteryx) arcuata: Meinander 1972a:275; Popov 1977:9 (faunistic record); Monserrat 1977a; Monserrat 1978c:183 (faunistic record); Monserrat 1979b:103, f. 1 (faunistic record); Aspöck et al. 1980:153, Abb. 300–301 (monograph); Hölzel et al. 1980:5 (list); Monserrat 1980:51 (faunistic record); Meinander 1981:106 (list), 107 (faunistic record); Monserrat 1982c:84 (faunistic record); Pantaleoni 1982:17 (ecology); Popov 1983:64 (faunistic record); Devetak 1984a:58 (faunistic record); Monserrat 1984b:148 (synonymy); Monserrat 1984d:161 (faunistic record); Monserrat 1984f:43 (faunistic record); Monserrat 1984g:175 (faunistic record); Pantaleoni 1984:65 (ecology); Tröger 1984:207; Diaz-Aranda 1986b:1143 (faunistic record); Popov 1986:169 (faunistic record); Tröger 1986:132 (biology); Monserrat & Diaz-Aranda 1987:184 (faunistic record); Pantaleoni 1988:635 (list).

Distribution: Europe, Turkey.

***Coniopteryx (Metaconiopteryx) esbenpeterseni* Tjeder, 1930**

Coniopteryx asbenpeterseni: Zeleny 1977:129 (faunistic record).

Coniopteryx (Metaconiopteryx) esbenpeterseni: Meinander 1972a:276; Kis 1972:125 (faunistic record); Tjeder 1972:21 (list); Gepp 1974a:168 (faunistic record); Gepp 1974b:38 (ecology); Kleinsteuber 1974:147 (list); Gepp 1975a:267 (biology); Gepp 1975b:178 (faunistic record); Kis 1976:131 (faunistic record); Gepp 1977:177 (distribution, ecology); Monserrat 1977b:140, f. 1 (faunistic record); Zakharenko 1977:65 (faunistic record); Dessant 1978:177 (parasite); Kovrigina 1978:507/747 (faunistic record); Monserrat 1978c:183 (faunistic record); Ujhelyi 1978:287 (faunistic record); Eglin 1979:494 (faunistic record); Szirki 1979:183, f. 14 (biology, faunistic record); Zakharenko 1979:366 (faunistic record); Aspöck et al. 1980:152, Abb. 298–299 (monograph); Eglin-Dederding 1980:308 (biology, faunistic record); Hölzel et al. 1980:5 (list); Monserrat 1980a:58 (faunistic record); Zakharenko 1980:93 (faunistic record); Meinander 1981:106 (list); Leraut 1982:243 (faunistic record); Pantaleoni 1982:18 (ecology); Zakharenko 1982:21 (faunistic record); Pantaleoni 1983:199, 200 (parasites); Popov 1983:64 (faunistic record); Devetak 1984a:58 (faunistic record); Monserrat 1984a:32 (faunistic record); Monserrat 1984b:147 (synonymy); Monserrat 1984d:161 (faunistic record).

tic record); Monserrat 1984f:43 (faunistic record); Monserrat 1984g:175 (faunistic record); Pantaleoni 1984:64 (ecology); Tröger 1984:207 (faunistic record); Monserrat 1985e:95 (faunistic record); Diaz-Aranda 1986b:1143 (faunistic record); Popov 1986:169 (faunistic record); Monserrat & Diaz-Aranda 1987:183 (faunistic record); Pantaleoni 1988:635 (list).

Coniopteryx esbenpeterseni: Esben-Petersen 1940:7 (faunistic record); Zeleny & Talitzki 1966; Kis 1972:125 (faunistic note); Kleinstauber 1972a:42 (faunistic note); Kleinstauber 1972b:67 (faunistic note); Hölzel 1973:499 (faunistic note); Joost 1973:152 (faunistic note); Gepp 1974d:17 (faunistic note); Gepp 1981:196 (faunistic records); Greve 1987:13, f. 15cd (key); Dobosz 1989:77 (faunistic record).

Distribution: Europe, Asia minor, U.S.S.R.: Armenia and Aserbeidshan.

Coniopteryx (Metaconiopteryx) lentiae Aspöck & Aspöck, 1964

Coniopteryx (Metaconiopteryx) lentiae: Meinander 1972a:153; Gepp 1974a:167 (faunistic record); Plewka 1974:288 (faunistic record); Gepp 1975:267 (biology); Gepp 1977:178 (distribution, ecology); Popov 1977:9 (faunistic record); Zeleny 1977:129 (list); Kovrigina 1978:507/747 (faunistic record); Monserrat 1978c:183 (faunistic record); Eglin 1979:494 (faunistic record); Aspöck et al. 1980:153, Abb. 302-303 (monograph); Hölzel et al. 1980:6 (list); Monserrat 1980:58 (faunistic record); Gepp 1981:196 (faunistic records); Meinander 1981:106 (list), 107 (faunistic record); Leraut 1982:243 (faunistic record); Monserrat 1982c:84 (faunistic record); Popov 1983:64 (faunistic record); Devetak 1984a:58 (faunistic record); Monserrat 1984a:32 (faunistic record); Monserrat 1984b:148 (faunistic record); Monserrat 1984e:108 (faunistic record); Monserrat 1984f:43 (faunistic record); Monserrat 1984g:175 (faunistic record); Tröger 1984:207 (faunistic record); Monserrat 1985e:95 (faunistic record); Diaz-Aranda 1986a:1125 (biogeography); Diaz-Aranda 1986b:1143 (faunistic record); Popov 1986:169 (faunistic record); Tröger 1986:133 (biology).

New record: Israel, Bet Dagan, 1989-11-12, 1♂ (MZH); Herzkyia, 1982-05-05, 3♂♂ 14♀♀ (Bet Dagan).

Distribution: Central and south Europe, Middle East.

Coniopteryx (Metaconiopteryx) tjederi Kimmins, 1934

Coniopteryx (Metaconiopteryx) tjederi: Meinander 1972a:278; Kleinstauber 1974:147 (list); Monserrat 1977b:140, f. 2 (faunistic record); Monserrat 1978d:67 (faunistic record); Aspöck et al. 1980:154, Abb. 304-305 (monograph); Hölzel et al. 1980:6 (list); Monserrat

1980b:192 (faunistic record); Meinander 1981:106 (list), 107 (faunistic record); Monserrat 1982c:84 (faunistic record); Monserrat 1984b:148 (synonymy); Monserrat 1984f:43 (faunistic record); Monserrat 1985a:131 (faunistic record); Monserrat 1985b:131 (faunistic record); Monserrat 1985d:90 (faunistic record); Monserrat 1985e:95 (faunistic record); Diaz-Aranda 1986a:1125 (biogeography); Diaz-Aranda 1986b:1143 (faunistic record); Popov 1986:169 (faunistic record); Monserrat & Diaz-Aranda 1987:184 (faunistic record); Diaz-Aranda & Monserrat 1988a:121 (faunistic note); Monserrat & Diaz-Aranda 1988b:93 (faunistic record).

Coniopteryx tjederi: Aspöck & Aspöck 1965a:19 (faunistic record); Kleinstauber 1972a:42 (faunistic record); Kleinstauber 1972b:68 (faunistic record); Szirki 1979:183 (faunistic record); Zakharenko 1979:366 (faunistic record); Zakharenko 1982:21 (faunistic record).

New record: England Surrey Botanical Gardens at Wisley, 40 km W London, 1986-07-20...21, 1♂, W. R. B. Hynd (coll. Rothamsted Exp. Station. England).

Distribution: Central and south Europe, Morocco, Asia minor.

Genus *Parasemidalis* Enderlein, 1905

Parasemidalis fuscipennis (Reuter, 1894)

Parasemidalis amae: Kloet & Hincks 1964:100 (list).
Parasemidalis fuscipennis: Meinander 1972a:281; Aagard & Solem 1972:110 (faunistic record); Kleinstauber 1972:43 (faunistic record); Kleinstauber 1972b:68 (faunistic record); Tjeder 1972:22 (list); Ohm 1973b:301 (distribution); Solem & Aagard 1973:289, f. 1A-B, E-F (taxonomical notes, faunistic record); Kleinstauber 1974:147 (list); Meinander 1974c:229 (faunistic record); Schmidt Nielsen 1976:3, f. 2 (faunistic record); Zeleny 1977:129 (list); Barnard 1978:167 (taxonomy, list); Ujhelyi 1978:274 (faunistic record); Gepp 1979:495 (faunistic record); Aspöck et al 1980:156, Abb. 227, 310-313 (monograph); Hölzel et al. 1980:6 (list); Gepp 1981:196 (faunistic records); Stange 1981:2 (key); Zakharenko 1982:21 (faunistic record); Devetak 1984a:58 (faunistic record); Monserrat 1984b:149 (synonymy); Diaz-Aranda 1986b:1143 (faunistic record); Meinander 1986:41 (list); Popov 1986:169 (faunistic record); Monserrat & Diaz-Aranda 1987:185 (faunistic record); Aagaard & Hågvar 1987:67, f. 57 (distribution); Greve 1987:13, f. 14 (key); Pantaleoni 1988:635 (list).

Parasemidalis sp. 1. Solem & Aagard 1973:289, f. 1C-D (taxonomic notes);

New records: Grece Nafplion, Bucht von Karathona, 1979-05-07, 3♀♀, C. Lienhard (coll. Lienhard); Katara-Pass 1500 m, 1979-06-02, 1♀, C. Lienhard (coll. Lienhard); Mongolia Khentei aimak 8 km N from Binder, 1976-07-03 (Kerzhner).

Distribution: Europe, Mongolia, U.S.A. and Mexico.

***Parasemidalis similis* Ohm, 1986**

Parasemidalis similis Ohm 1986:327, f.1–2 (description).
Parasemidalis sp. 1. Meinander 1972a:283

Distribution: Canary Islands.

***Parasemidalis alluaudina* (Navas, 1912)**

Parasemidalis alluaudina: Meinander 1972a:284; Aspöck et al. 1980:378 (list).

Distribution: Canary Islands.

***Parasemidalis fusca* Meinander, 1963**

Parasemidalis fusca: Meinander 1972a:285; Aspöck et al. 1980:378 (list).

Distribution: Morocco and Canary Islands.

***Parasemidalis triton* Meinander, 1976**

Parasemidalis triton Meinander 1976:87, f. 4 (description).

Distribution: Algeria.

***Parasemidalis* sp.**

Parasemidalis sp. Verdcourt 1952:204 (faunistic record)
 (?= *Hemisemidalis* sp.)

Distribution: Kenya.

Genus *Incasemidalis* Meinander, 1972***Incasemidalis chilensis* Meinander, sp.n.**

Figs. 24A–E

Type: ♂ holotype; Chile, Santiago; USNM.

Specimen examined: Chile El Portezuelo 7km N Santiago, 1981-10-22...25, 1♂, D. & M. Davis (USNM).

Diagnosis

Membrane of both wings spotted. Gonarcus with a median semicircular projection. Parameres in

caudal aspect basally broad. Penis in ventral aspect cephally broad.

Description

Head light brown. Height of eye 0.3 mm. Antennae of holotype broken, only the scape is left. Palpi dark brown.

Wings, Fig. 24A. Membrane of both wings spotted. In fore wing dark spots at the cross-veins R_1 - R_{2+3} , R_{4+5} - M_{1+2} and M-Cu₁ and lighter spots in the distal cells along the wing margin. The anterior proximal cells greyish with whitish light margins. A transverse light band distally of the cross-vein M-Cu₁. In the hind wing dark spots at cross-veins R_1 - R_{2+3} , R_{4+5} - M_{1+2} and in the distal cells along the wing margin. The subcostal and radial cells are darker than the posterior part of the hind wing. The cross-veins R_1 -Rs and Rs-M are distal to the fork of Rs in both wings. Length of fore wing 3.5 mm, of hind wing 2.9 mm.

Male genitalia, Figs. 24B–E. Ectoprocts in lateral aspect dorsally on the caudal border with a short projecting knob and ventrally smoothly rounded. Parameres free, not ventrally connected by a bridge. Penis sclerite in ventral aspect basally broadly rounded, tapering towards the apex, dorsally with a spiny projection. Paramere cephally slender and about two thirds towards the apex broadening into transverse blades from which there is an acute upwards curved hook-like projection. Gonarcus archlike with a median upwards directed projection which in caudal aspect is semicircular. Tenth sternite irregularly triangular.

The genitalia of *I. chilensis* much resemble the other three species in structure, but differ in their details. The species is the first in the genus with spotted wings.

***Incasemidalis columbiensis* Meinander, 1972**

Incasemidalis columbiensis Meinander 1972a:288; Penny 1977:29 (list); Meinander 1986:37, 41, fig 4 (map).

Distribution: Colombia.

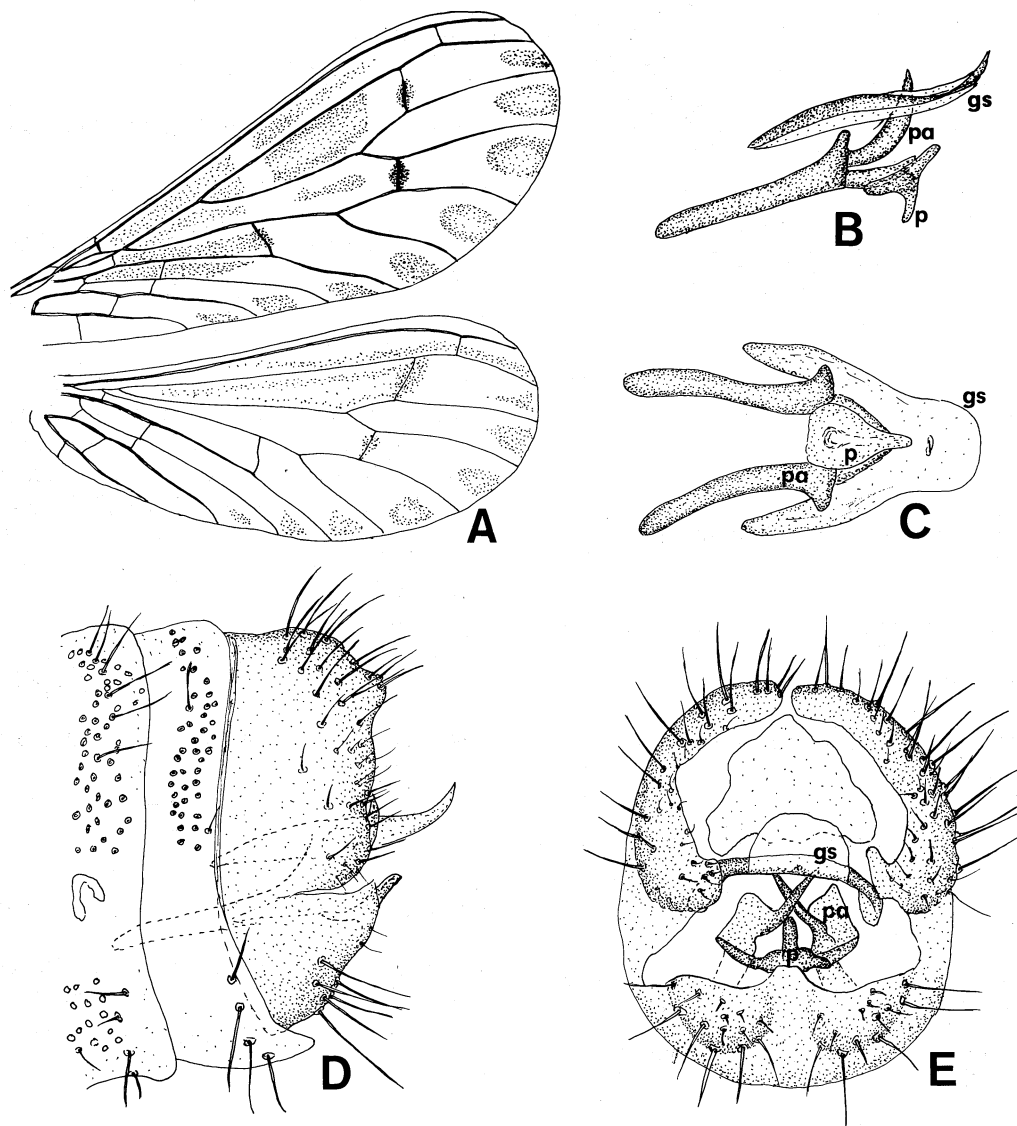


Fig. 24. Male of *Incasemidalis chilensis*: A. Wings; B. Internal genitalia, lateral aspect; C. Ditto, ventral aspect; D. Terminal abdominal segments, lateral aspect; E. Ditto, caudal aspect. (gs = gonarcus, p = penis, pa = paramere).

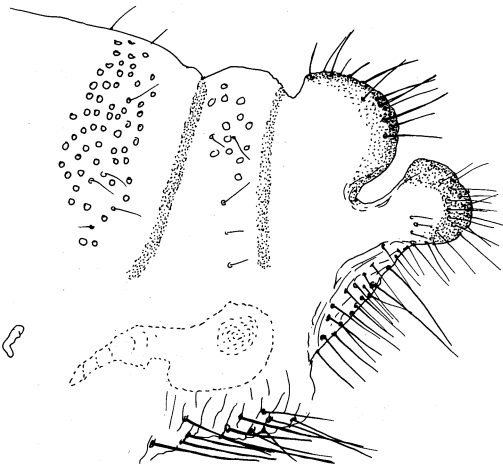


Fig. 25. Female terminal abdominal segments of *Incasemidalis meinanderi*.

***Incasemidalis meinanderi* Adams, 1973**

Fig. 25

Incasemidalis meinanderi Adams 1973a:253, f. 3 (description); Penny 1977:29 (list) Meinander 1986:37, 41, fig. 4 (map).

New records: Chile, Coquimbo, El Pangué 1700 m, 1983-10-17, 1♂, 1♀, L. E. Peña (MZH); Santiago Rio Colorado, Rio Maipo, 1986-02-11...12, 1♀ (CAS); San Jose de Maipo, 1986-02-10...11, 1♀ (CAS)

In the male specimen the cross-vein R-Rs intersects the stem of R. Female genitalia, Fig. 25.

Distribution: Chile.

***Incasemidalis peruviansis* Meinander, 1972**

Incasemidalis peruviansis Meinander 1972a:288; Penny 1977:29 (list); Meinander 1986:37, 41, fig. 4 (map).

Distribution: Peru.

Genus *Thecosemidalis* Meinander, 1972

Thecosemidalis Meinander 1972b:135. Type by original designation: *Thecosemidalis biacuta* Meinander, 1972.

***Thecosemidalis biacuta* Meinander, 1972**

Thecosemidalis biacuta Meinander 1972b:136, f. 6 (description); Zakharenko 1988a:1250 (faunistic records).

Distribution: U.S.S.R.: Uzbekistan, Mongolia.

Tribe CONWENTZIINI

Genus *Hemisemidalis* Meinander, 1972

***Hemisemidalis barnardi* (Kimmins, 1935)**

Hemisemidalis barnardi: Meinander 1972a:291; Meinander 1983a:498 (list).

New record: Zimbabwe, Kariba 1675', 1969-09-13, 1♂, D. R. Birkenmeyer (FLA).

The antennae of the present specimen is 31 segmented and the caudal segments are slightly broader than long, the apical segments are slightly longer than broad, a character which I (Meinander 1972a:291) indicated may separate *H. barnardi* from *H. pallida*.

Distribution: Namibia, Zimbabwe.

***Hemisemidalis bipunctata* Meinander, 1983**

Hemisemidalis bipunctata Meinander 1983a:493, f. 46-51 (description).

Distribution: South Africa.

***Hemisemidalis kasyi* (Aspöck & Aspöck, 1965)**

Hemisemidalis kasyi: Meinander 1972a:292; Meinander 1979a:341 (faunistic record).

Distribution: Lebanon, Saudi Arabia and Afghanistan.

***Hemisemidalis longipennis* (Tjeder, 1957)**

Hemisemidalis longipennis: Meinander 1972a:292; Meinander 1983a:494, f. 52-55 (description of male, faunistic record).

Distribution: South Africa.

***Hemisemidalis pallida* (Withycombe, 1924)**

Hemisemidalis pallida: Meinander 1972a:292; Meinander 1972b:138 (faunistic record); Aspöck & Aspöck 1973:256 (biology, faunistic record); Monserrat 1976c:247 (distribution); Meinander 1979a:341 (faunistic record); Aspöck et al. 1980:158, f. 229, 319–323 (monograph); Monserrat 1985b:135 (faunistic record); Monserrat 1985d:90 (faunistic record); Monserrat 1985g:79 (faunistic record); Diaz-Aranda et al. 1986b:1143 (faunistic record); Marín & Monserrat 1987:350 (ecology); Monserrat 1987:143 (faunistic record); Monserrat & Diaz-Aranda 1987:185 (faunistic record); Monserrat & Hölzel 1987:136, figs. 1–8 (description of larva, faunistic record); Diaz-Aranda & Monserrat 1988b:227 (faunistic note); Monserrat 1988c:224 (faunistic record); Zakharenko 1988:1250 (faunistic record).

New record: Mongolia, Gobi-Altai aimak 25 km WSW from Lake Bur-Nur, 1970-07-17, 1♀, Emelyanov (ML); Egypt Manatta Maskhara, 1924-03-25...27, 13♂♂, 1♀ Coll. CBW (Cairo); Wadi um Elek, 1924-03-21, 1♂ Coll. HCE (Cairo); Wadi Digla, 1924-08-01, 12♂♂, 3♀♀ Coll. CBW & AA (Cairo).

Distribution: The Mediterranean area, USSR: Usbekistan, Kasachstan, Iraq, Iran, Pakistan, Afghanistan, Mongolia.

***Hemisemidalis* sp.**

Hemisemidalis sp. Popov 1986:165 (faunistic record).

Distribution: Bulgaria.

***Hemisemidalis sharovi* Meinander, 1975**

Hemisemidalis sharovi Meinander 1975b:57, f. 5 (description).

Fossil species from Baltic amber.

Genus *Conwentzia* Enderlein, 1905***Conwentzia africana* Meinander, 1975**

Conwentzia africana Meinander 1975c:250, f. 4 (description).

Distribution: Nigeria.

***Conwentzia barretti* (Banks, 1899)**

Coniopteryx barretti: Banks 1901:363 (faunistic record).
Conwentzia barretti: Meinander 1972a:295; Meinander 1974a:13, f. 1 (description of larva); Meinander 1974c:229 (faunistic record); Penny 1977:29 (list); Johnson & Morrison 1979:395 (mating behaviour); Monserrat 1984b:148 (synonymy, faunistic record); Monserrat 1985a:215 (faunistic record); Meinander 1986:41 (list).

New records: U.S.A.: Cal.: Riverside Co., U. C. Riverside, 1980-04-29, 1♂ D.Friese (SD); San Diego Co., Balboa Park, 1981-07-09, 1♂, D. K. Faulkner (SD); Monterey Co 3000' up Cone Mts, 1♀, E. I. Schlinger (UCR); Mexico, Durango, 82.3 mi E of Villa Anton on Hwy 40, 8200', 1982-07-20, D. K. Faulkner (SD).

Distribution: U.S.A.: California and Mexico.

***Conwentzia californica* Meinander, 1972**

Conwentzia californica Meinander 1972a:297; Meinander 1974c:229 (faunistic record); Penny 1977:29 (list); Johnson & Morrison 1979 (faunistic record, mating behaviour); Monserrat 1985a:215 (faunistic record); Meinander 1986:41 (list).

Conwentzia hageni: Spencer 1942:28 (faunistic record).

New record: Canada, B.C. Spahats creek Prov. Park, Hwy 5 north of Clearwater, 1985-07-22, 1♂, R. T. Finnamore & T. W. Thormin (ALB).

Distribution: Western Canada, western U.S.A. and Mexico.

***Conwentzia capensis* Tjeder, 1969**

Conwentzia capensis: Meinander 1972a:299; Meinander 1975d:84 (faunistic record); Meinander 1983a:498 (list).

New record: South Africa, TVL Pretoria Queenswood, 25°45'S 8°12'E, 1980-10-11, 1♀, M. W. Mansell (Natal).

Distribution: South Africa.

***Conwentzia fraternalis* Yang, 1974**

Conwentzia fraternalis Yang 1974:89, f. 3–4, 14 (description); Ghosh & Sen 1977:280 (list).

Distribution: China.

***Conwentzia inverta* Withycombe, 1925**

Conwentzia inverta: Meinander 1972a:299; Monserrat 1982a:26, f. 37–39 (male and female genitalia described).

Distribution: India.

***Conwentzia nietoi* Monserrat, 1982**

Conwentzia nietoi Monserrat 1982a:24, f. 30–36 (description).

Distribution: Sri Lanka, Indonesia.

***Conwentzia orthotibia* Yang, 1974**

Conwentzia orthotibia Yang 1974:88, f. 5–6, 11–12, 15 (description).

Distribution: China.

***Conwentzia pineticola* Enderlein, 1905**

Conwentzia angulata: Weiss 1915:101 (faunistic record); Monserrat 1985f:240 (type deposition).

Conwentzia axillata: Monserrat 1985f:240 (type deposition).

Coniopteryx hageni: Leonard 1928:42 (list).

Conwentzia hageni: Quayle 1913:85 (biology).

Conwentzia hageni: Leonard 1928 (list).

(non) *Conwentzia hageni* Spencer 1942:28 (= *C. californica*).

Conwentzia pineticola: Navas 1908:32 (faunistic record); Navas 1924c:121 (key); Navas 1926c:209 (faunistic record); Meinander 1972a:300; Esben-Petersen 1913:28 (faunistic record); Schremmer 1959 (biology, description of larva); Kleinstauber 1972a:43 (faunistic record); Kleinstauber 1972b:68 (faunistic record); Meinander 1972b:128 (faunistic record); Meinander 1972c:95 (faunistic record); Throne 1972:126, f. 14 (faunistic record); Tjeder 1972:22 (list); Aspöck & Aspöck 1973:255 (faunistic record); Dorokhova 1973:315 (faunistic record); Hölzel 1973:499 (faunistic record); Joost 1973:152 (faunistic record); Ohm 1973b:302 (faunistic record); Farkas & Szalay 1974:254 (faunistic record); Gepp 1974a:168 (faunistic record); Gepp 1974b:38 (ecology); Gepp 1974d:16 (faunistic record); Kleinstauber 1974:147 (list); Plewka 1974:288 (faunistic record); Andersen & Greve 1975:126 (faunistic record); Gepp 1975a:267, 269 (biology); Greve 1976:6 (faunistic record); Schmidt Nielsen 1976:3 (faunistic record); Gepp 1977:178 (faunistic record, ecology);

Lammes 1977:47 (faunistic record); Monserrat 1977 (monograph); Zeleny 1977:130 (list); Barnard 1978:165, f. 2 (list); Kovrigina 1978:507 (faunistic record); Eglin 1979:495 (faunistic record); Aspöck et al. 1980:163, f. 338–338 (monograph); Eglin-Dederding 1980:308 (faunistic record, biology); Hölzel et al. 1980:6 (list); Monserrat 1980:57 (faunistic record); Gepp 1981:196 (faunistic records); Leraut 1982:243 (faunistic record); Pantaleoni 1982:20 (ecology); Zakharenko 1982:21 (faunistic record); Eyre 1983:118 (reference); Popov 1983:64 (faunistic record); Devetak 1984a:58 (faunistic record); Lammes 1984:56, f.9 (faunistic record); Lawson & McCafferty 1984:130 (faunistic record); Monserrat 1984b:148 (synonymy); Monserrat 1984d:161 (faunistic record); Monserrat 1984f:148 (synonymy); Eglin 1985:98 (faunistic record); Monserrat 1985b:137 (faunistic record); Monserrat 1985d:90 (faunistic record); Monserrat 1985e:96 (faunistic record); Monserrat 1985g:79 (faunistic record); Diaz-Aranda et al. 1986a:1125 (biogeography); Diaz-Aranda et al. 1986b:1144 (faunistic record); Meinander 1986:41 (list); Popov 1986:170 (faunistic record); Monserrat 1987:144 (faunistic record); Greve 1987:11, f. 9 (key); Diaz-Aranda & Monserrat 1988b:228 (faunistic note); Diaz-Aranda & Monserrat 1988c:225 (faunistic record); Pantaleoni 1988:635 (list).

(?) *Conwentzia pineticola*: Esben-Petersen 1913:28 (faunistic record); Navas 1914b:58 (faunistic record); Navas 1914e:190 (faunistic record); Navas 1915b:30, 68 (faunistic record); Navas 1927b:209 (faunistic record).

(?) *Conwentzia psociformis*: Kuwayama 1962:336.

Conwentzia puncticola: Lacroix 1912:49 (faunistic record).

Distribution: Europe, N. Africa, Turkey, USSR: Georgia, Siberia, Mongolia, ?Japan, Canada, East U.S.A.

***Conwentzia psociformis* (Curtis, 1834)**

Conwentzia psociformis: Meinander 1972a:304; Navas 1908:32 (faunistic record); Lacroix 1912:164 (faunistic record); Lacroix 1920:131 (faunistic record); Navas 1920:43 (faunistic record); Navas 1921:152 (faunistic record); Navas 1924c:121 (key); Navas 1926c:209 (faunistic record); Lucas 1930:269 (faunistic record); Lucas 1931:243 (faunistic record); Navas 1931c:139 (faunistic record); Blair 1951:160 (faunistic record); Auber 1958:8 (biology, distribution); Kloet & Hincks 1964:100 (list); New 1968:230 (biology); Geijskes 1972:45 (faunistic record); Kleinstauber 1972a:43 (faunistic record); Kleinstauber 1972b:68 (faunistic record); Tjeder 1972:22 (list); Farkas & Szalay 1974:254 (faunistic record); Gepp 1974b:38 (ecology); Gepp 1974d:16 (faunistic record); Kleinstauber 1974:147 (list); Plewka 1974:288 (faunistic record); Gepp 1975:267, 269 (biology); Meinander 1975a:31 (faunis-

tic record); Morgan 1976:232 (faunistic record); Gepp 1977:179 (distribution; ecology); Zeleny 1977:130 (list); Zakharenko 1977:65 (biology); Barnard 1978:165, f. 1 (list); de Jong 1978:50 (faunistic record); Kovrigina 1978:507 (faunistic record); Monserrat 1978c:182 (faunistic record, biology); Eglin 1979:495 (faunistic record); Monserrat 1979:414 (faunistic record, biology); Sziráki 1979:183, f. 13 (faunistic record, biology); Zakharenko 1979:366 (faunistic record); Aspöck et al. 1980:162, f. 231, 339 (monograph); Hölzel et al. 1980:6 (list); Monserrat 1980a:57 (faunistic record); Monserrat 1980b:192 (faunistic record); Zakharenko 1980:93 (faunistic record); Gepp 1981:196 (faunistic records); Leuraut 1982:243 (faunistic record); Monserrat 1982c:82 (faunistic record); Zakharenko 1982:21 (faunistic record); Eyre 1983:118 (reference); Devetak 1984a:58 (faunistic record); Devetak 1984b:69 (list); Monserrat 1984a:33 (faunistic record); Monserrat 1984b:148 (synonymy); Monserrat 1984e:109 (faunistic record); Monserrat 1984f:44 (faunistic record); Monserrat 1984g:176 (faunistic record); Monserrat 1985b:137 (faunistic record); Monserrat 1985e:96 (faunistic record); Monserrat 1985g:79 (faunistic record); Diaz-Aranda et al. 1986a:1125 (biology); Diaz-Aranda et al. 1986b:1144 (faunistic record); Meinander 1986:41 (list); Popov 1986:170 (faunistic record); Greve 1987:11, f. 8 (key); Marin & Monserrat 1987:350 (ecology); Monserrat 1987:144 (faunistic record); Monserrat & Diaz-Aranda 1987:185 (faunistic record); Diaz-Aranda & Monserrat 1988a:121 (faunistic note); Diaz-Aranda & Monserrat 1988b:228 (faunistic note); Diaz-Aranda & Monserrat 1988c:225 (faunistic record); Monserrat & Diaz-Aranda 1988b:94 (faunistic record); Pantaleoni 1988:635 (list); Dobosz 1989:77 (faunistic record).

Coniopteryx psociformis: Schneider 1845:340 (faunistic record); Meyer-Dür 1874:361 (faunistic record); Fletcher 1885:257 (faunistic record); Selys-Longchamps 1888:165 (description); King 1899:82 (faunistic record); Klapálek 1904:725 (faunistic record); Petersen 1906:43 (description, faunistic record); van der Weele 1907:126 (list); King & Halbert 1910:79 (faunistic record); Puschnig 1922:73 (list).

(?) *Conwentzia psociformis*: Costa 1888:55 (faunistic record); Navas 1914b:58 (faunistic record); Navas 1916b:191 (faunistic record); Navas 1914e:190 (faunistic record); Navas 1915b:30 (faunistic record); Navas 1927b:209 (faunistic record).

(non?) *Conwentzia psociformis*: Kuwayama 1962:336 (=?) *Conwentzia pineticola*.

New records: Egypt, Dokki 1920-12-08, 1♀ (Cairo), 1920-10-10 1♀ (Cairo); Matari 1921-02-17 1♀ (Cairo); Demerdache 1920-11-12 1♀ (Cairo); Cairo 1919-03-27 1♂, 1911-11-15, 1♀, coll. Alfieri (Cairo); Barraga 1924-10-10, 1♀ (Cairo); Meadi 1923-10-29 1♂, coll. CBW (Cairo); Ashmont, 1917-10-08, Coll. Sibson, 1♂ (Cairo); Palstina, 1934, 3♂♂ 4♀♀, Steinitz (Cairo); Morocco, 5 km S. Kenitra, 1972-03-25, 1♂ 3♀♀, L. Stange (FLA).

Distribution: Europa, N. Africa, Turkey, USSR: Georgia, Cyprus, Israel, ?Japan, Canada, U.S.A., New Zealand.

Conwentzia sinica Yang, 1974

Conwentzia sinica Yang 1974:84, f. 1-2, 7-10, 13 (description of male, female and larva).

Distribution: China.

Genus *Semidalis* Enderlein, 1905

Almost all the species can only be recognized from the male genitalia. There is apparently considerable variation in the shape of the structures of the male genitalia within the species as well and delimitation of the separate species is hitherto only tentative. Very probably many of the names listed here will prove to be synonyms.

The species are here grouped into five groups:

- 1) The *S. decipiens* group in which are included the east Asian species with a distinct stylus.
- 2) The *S. meridionalis* group characterized by the paired uncini. Here are also included the African species lacking an uncinus and the African species of which the male genitalia have not been described.
- 3) The *S. vicina* group characterized by the fused uncini.
- 4) The *S. inconspicua* group as defined by Meinander 1974. Here are included all the South American species of which the male genitalia have not been described.
- 5) The *S. teneriffae* group as defined by Meinander 1972a.

Last is listed the fossil species *S. copalina*.

Semidalis decipiens (Roepke, 1916)

Semidalis decipiens: Meinander 1972a:313; Ghosh & Sen 1977:280 (list); Monserrat 1982a:29, f. 45 (faunistic record); New 1990a:7 (faunistic record).

New records: Malaysia, Sabah, Kinabalu National Park, Summit trail, Paka Cave to Panat Laban 3200-3350 m, 1983-09-14, 2♀♀, G. & J. Hevel & W. Steiner (USNM); 1983-09-16, 1♂ 1♀ (MZH); 1♂ 3♀♀ (USNM); Summit trail below Carson Camp, 1980-2700 m, 1983-09-16, 1♀, (USNM).

Distribution: S. Asia.

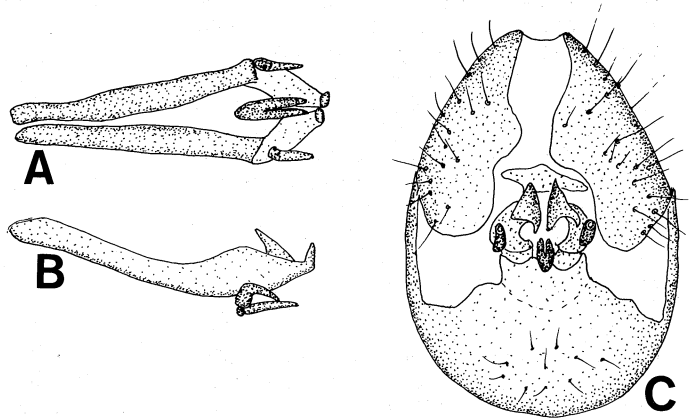


Fig. 26. Male of *Semidalia africana*: A. Internal genitalia, ventral aspect; B. Ditto, lateral aspect; C. Terminal abdominal segments, caudal aspect.

Semidalis galantei Monserrat, 1982

Semidalis galantei Monserrat 1982a:28, f. 40-44 (description).

Distribution: The Philippines.

Semidalis macleodi Meinander, 1972

Semidalis macleodi Meinander 1972a:314.

Distribution: Formosa.

Semidalis africana Enderlein, 1906

Figs. 26A-C

Semidalis africana: Meinander 1972a:315; Esben-Petersen 1928:449 (list).

Semidalis terminalis Kimmins, 1951. Verdcourt 1951:204 (faunistic record); Meinander 1972a:325. New synonym.

New records: Kenya Ngong Forestry station, 1968-02-01...07, 1♂ 1♀ Krombein & Spangler (USNM).

The present specimen proves that *S. terminalis* is a synonym of *S. africana*. When I examined the type (Meinander 1972a) I stated that it was not possible to accurately figure the genitalia, which are mounted on a slide. On mounted genitalia the degree of sclerification is not easy to determine, and in my figure (Meinander 1972a, fig. 199A) the difference in the degree of the sclerification of the ring of the ninth segment is not indicated, while in the figure of *S. terminalis* (Meinander

1972a, fig. 207A), the weakly sclerotized median parts of the ring are indicated as not sclerotized. The general habitus of the genitalia of the two species therefore appear rather different. The only possibly real difference indicated by my description (Meinander 1972a) is the absence of the more proximal hook dorsally on the parameres. Apparently this noted absence was due to the bad shape of the preparation. I include here figures (Fig. 26) of the genitalia of the actual male specimen showing that there is no process at the inner angle of the ectoproct and that the hypandrium is truncate. Ventrally of the parameres there are two parallel penial sclerites which are obviously fused proximally.

Distribution: Kenya and Tanzania.

Semidalis aleyrodiformis (Stephens, 1836)

Semidalis aleyrodiformis: Navas 1908:33 (faunistic record); Lacroix 1912:164 (faunistic record); Navas 1914d:41 (faunistic record); Navas 1914e:190 (faunistic record); Navas 1915b:30 (faunistic record); Navas 1919:202 (faunistic record); Navas 1921b:65 (faunistic record); Lucas 1922:58 (faunistic record); Navas 1924c:124 (key); Navas 1927:98 (faunistic record); Lucas 1930:269 (faunistic record); Lucas 1931:243 (faunistic record); Navas 1931c:139 (faunistic record); Klefbeck 1951:20 (faunistic record); Auber 1958:9 (references, biology, distribution); Tjeder 1972:22 (list); Zakharenko 1977:65 (biology); Kovrigina 1978:747 (faunistic record); Eglin 1979:495 (faunistic record); Eglin-Dederding 1980:309 (faunistic record, ecology).

Coniopteryx aleyrodiformis: Meyer-Dür 1874:361 (faunistic note); Perfitt 1879:407 (faunistic record); McLaclan 1880:106 (faunistic record); King 1882a:11 (faunistic record); King 1882b:83 (faunistic record); Fletcher 1885:257 (faunistic record); Selys-Lonchamps 1888:165 (description); King 1899:82 (faunistic record); Klappalek 1904:725 (faunistic record); Petersen 1906:44 (description, faunistic record); van der Weele 1907:127 (list).

Semidalis aleyrodiformis: Meinander 1972a:316; Morton 1938:5 (faunistic record doubted); Blair 1951:160 (faunistic record); Varley 1959:197 (faunistic record); Kloet & Hincks 1964:100 (list); Ishihara 1965:52, 160 (morphology, faunistic record); Geijskes 1972 (faunistic record); Kis 1972:126 (faunistic record); Kleinsteuber 1972a:43 (faunistic record) Kleinsteuber 1972b:68 (faunistic record); Lauterbach 1972:143 (larva, biology); Gepp 1973:33 (ecology); Joost 1973:152 (faunistic record); Hölzel 1973:499 (faunistic record); Gepp 1974a:167 (faunistic record); Gepp 1974b:102 (faunistic record); Gepp 1974d:16 (faunistic record); Kleinsteuber 1974:147 (list); Plewka 1974:288 (faunistic record); Gepp 1975a:267,269 (biology); Gepp 1975b:177 (faunistic record); Kis 1976:131 (faunistic record); Schmidt Nielsen 1976:3 (faunistic record); Gepp 1977:178 (distribution, ecology); Ghosh & Sen 1977:280 (list); Lammes 1977:47 (faunistic record); Popov 1977:9 (faunistic record); Zeleny 1977:129 (list); Agekian 1978:509 (biology, larva); Barnard 1978:167 (list); Monserrat 1978b:371 (distribution), 374 (larva); Monserrat 1978c:182 (faunistic record, biology); Monserrat 1978d:65 (faunistic record); Monserrat 1979:415 (faunistic record); Verdcourt 1979:58 (faunistic record); Zakharenko 1979:366 (faunistic record); Aspöck et al. 1980:159, f. 230, 329–331 (monograph); Hölzel et al. 1980:6 (list); Monserrat 1980b:192 (faunistic record); Zakharenko 1980:93 (faunistic record); Gepp 1981:196 (faunistic records); Leraut 1982:243 (faunistic record); Monserrat 1982a:28 (faunistic record); Monserrat 1982c:83 (faunistic record); Pantaleoni 1982:18 (ecology); Zakharenko 1982:21 (faunistic record); Eyre 1983:118 (faunistic record); Popov 1983:64 (faunistic record); Devetak 1984a:58 (faunistic record); Devetek 1984b:79 (list); Monserrat 1984a:32 (ecology, faunistic record); Monserrat 1984b:148 (synonymy); Monserrat 1984d:161 (faunistic record); Monserrat 1984e:108 (faunistic record); Monserrat 1984f:44 (faunistic record); Monserrat 1984g:176 (faunistic record); Monserrat 1985b:135 (faunistic record); Monserrat 1985d:90 (faunistic record); Monserrat 1985e:96 (faunistic record); Monserrat 1985g:79 (faunistic record); Diaz-Aranda et al. 1986a:1125 (biology); Diaz-Aranda et al. 1986b:1143 (faunistic record); Popov 1986:170 (faunistic record); Greve 1987:13, f. 13 (key); Marín & Monserrat 1987:350 (ecology); Monserrat 1987:144 (faunistic record); Monserrat & Diaz-Aranda 1987:184 (faunistic record); Monserrat & Hölzel 1987:135 (faunistic record); Diaz-Aranda &

Monserrat 1988a:121 (faunistic note); Diaz-Aranda & Monserrat 1988b:227 (faunistic note); Diaz-Aranda & Monserrat 1988c:225 (faunistic record); Monserrat & Diaz-Aranda 1988b:93 (faunistic record); Pantaleoni 1988:635 (list); Zakharenko 1988:1250 (faunistic record); Dobosz 1989:77 (faunistic record).

Semidalis curtisiana: van der Weele 1907:127 (list); Navas 1908:33 (faunistic record); Lacroix 1912:49 (faunistic record); Navas 1914d:41 (faunistic record); Navas 1914e:190 (faunistic record); Navas 1915b:52, 68 (faunistic record); Navas 1916b:190 (faunistic record); Navas 1919:202 (faunistic record); Lacroix 1920:131 (faunistic record); Navas 1921b:65 (faunistic record); Navas 1924c:125, f. 81 (key); Navas 1926c:209 (faunistic record); Navas 1927c:98 (faunistic record); Carpenter & Lestage 1928:160 (morphology); Auber 1958:9 (distribution).

(?)*Semidalis curtisiana*: Navas 1927b:209 (faunistic record).

Coniopteryx nakaharae (nomen nudum): Nakahara 1913:198.

New records: Mongolia Khentey aimak 25 km NE from Bayan-Adraga, 1976-07-06, 1♂ Kerzhner (ML); Egypt Dokki 1920-10-09, 1♂ (Cairo); Palestina 1934 1♂ 2♀♀, Steinitz (Cairo).

Distribution: Europe, Asia, Egypt.

Semidalis arabica Meinander 1977

Semidalis arabica Meinander 1977:85, f. 5A–C (description).

Distribution: South Yemen.

Semidalis brincki Tjeder, 1957

Semidalis brincki: Meinander 1972a:310; Meinander 1983:498 (list).

Distribution: Lesotho.

Semidalis candida Navas, 1916

Semidalis candida: Meinander 1972a:320; Monserrat & Reviejo 1977:353 (faunistic record); Monserrat 1978b:369, f. 1–9 (distribution, description of larva); Monserrat & Reviejo 1978:367 (faunistic record, biology); Monserrat 1979c:81 (faunistic record); Monserrat 1984b:149 (synonymy); Monserrat 1985f:240 (type deposit).

Distribution: Canary Islands.

***Semidalis deemingi* Meinander, 1975**

Semidalis deemingi Meinander 1975c:251, f. 6 (description).

Distribution: Nigeria.

***Semidalis enderleini* Meinander, 1972**

Semidalis enderleini Meinander 1972a:322.

Distribution: Tanzania.

***Semidalis fueleborni* Enderlein, 1906**

Semidalis fueleborni: Meinander 1972a:322; Esben-Petersen 1928:449 (list); Meinander 1983a:495 (faunistic record).

Distribution: Angola, S. Africa and Tanzania.

***Semidalis guineana* Monserrat 1989**

Semidalis guineana Monserrat 1989:164, f. 13–20 (description).

Distribution: Equatorial Guinea.

***Semidalis maculipennis* Meinander, 1975**

Semidalis maculipennis Meinander 1975d:84, f. 4 (description of female); Meinander 1983a:496, f. 60–63 (description of male, faunistic record).

New record: South Africa, TVL Entabeni Forest Res. Soutpansberg, 23°00'S 30°16'E, 1980-11-03...07, 1♀, M. W. Manswell (Natal).

Distribution: South Africa.

***Semidalis mascarenica* Fraser, 1952**

Semidalis limbalis: Meinander 1972a:311.

Semidalis mascarenica: Meinander 1972a:338; Meinander 1974b:61 (synonymy, variation, faunistic record); Johnson 1980a:159 (nomenclatory); Meinander 1983a:498 (list).

Semidalis nigrivena: Johnson 1980:159 (neotype designation).

Distribution: Madagascar, Réunion and Seychelles.

***Semidalis meridionalis* Kimmins, 1935**

Semidalis meridionalis: Meinander 1972a:323; Meinander 1975d:84 (faunistic record); Meinander 1983a:497, f. 64–73 (synonymy, faunistic record).

Semidalis uncinata: Meinander 1972a:326.

New record: South Africa TVL Entabeni Forest Res. Soutpansberg 23°00'S 30°16'E, 1980-11-03...07, 1♂ 1♀, M. W. Mansell (Natal).

Distribution: South Africa.

***Semidalis pluriramosa* (Karny, 1924)**

Semidalis pluriramosa: Meinander 1972a:324; Meinander 1975c:251 (faunistic record); Monserrat & Reviejo 1980:361 (female genitalia, faunistic record); Monserrat 1985g:80 (faunistic record).

New record: Nigeria, Inst. Agr. Res. 5 mi NW Mokwa, 1978-02-04...05, 2♂♂ 1♀, D. & M. Davis (USNM).

Distribution: Nigeria, Morocco, Tunisia, Egypt, Sudan.

***Semidalis pseudouncinata* Meinander, 1963**

Semidalis pseudouncinata: Lauterbach 1972:142 (faunistic record); Meinander 1972a:325; Ohm 1973b:302 (distribution); Gepp 1974a:167 (faunistic record); Monserrat 1977 (monograph); Monserrat 1978:65 (faunistic record); Monserrat 1979:415 (faunistic record); Aspöck et al. 1980:161, f. 324–328 (monograph); Hölzel et al. 1980:6 (list); Monserrat & Reviejo 1980:360 (faunistic record); Leraut 1982:243 (faunistic record); Pantaleoni 1982:20 (ecology); Devetak 1984a:58 (faunistic record); Monserrat 1984a:33; Monserrat 1984b:149 (synonymy); Monserrat 1984e:109 (faunistic record); Monserrat 1984f:44 (faunistic record) Eglin 1985:48 (faunistic record); Monserrat 1985b:137 (faunistic record); Monserrat 1985d:90 (faunistic record); Monserrat 1985g:80 (faunistic record); Diaz-Aranda et al. 1986a:1125 (biology); Diaz-Aranda et al. 1986b:1144 (faunistic record); Tröger 1986:133 (biology); Marín & Monserrat 1987:350 (ecology); Monserrat 1987:144 (faunistic record); Monserrat & Diaz-Aranda 1987:184 (faunistic record); Diaz-Aranda & Monserrat 1988b:227 (faunistic note); Diaz-Aranda & Monserrat 1988c:225 (faunistic record); Monserrat & Diaz-Aranda 1988b:94 (faunistic record); Panteleoni 1988:635 (list).

New record: France, Pyr.or. Banyuls, 1978-03-26, 2♂♂, C. Lienhard (coll. Lienhard); Morocco, Essaouira, 1972-03-08, 2♂♂ 4♀♀, L. Stange (FLA).

Distribution: France, Switzerland, W. Germany, Andorra, Spain, Italy, Yugoslavia, Morocco, Tunisia.

***Semidalis scotti* Esben-Petersen, 1928**

Semidalis scotti: Meinander 1972a:311; Meinander 1976:88, f. 5 (description of male, faunistic record).

Distribution: Ethiopia.

***Semidalis angusta* (Banks, 1906)**

Semidalis angusta: Meinander 1972a:327; Meinander 1974c:230 (faunistic record); Johnson & Morrison 1979:395 (mating behaviour); Meinander 1986:41 (list).

New records: U.S.A.: Cal. Santa Clare Co. Stevens Creek, 1977-04-03, 1♂, R. D. Cave (SD); San Diego Co. Torrey Pines State Park, 1982-09-02, 1♂, D. K. Faulkner (SD); Marin Co. Mill valley Blithedale Ridge Lee Street, 110 m 1965-08-05...08, 1♂, P. H. Arnaud Jr (CAS); 1965-08-24...27, 1♂, P. H. Arnaud Jr (CAS); Mexico, Durango 82.3 mi E of Villa Anton Hwy 40, 8200', 1982-07-20, 2♂♂ 2♀♀, D. K. Faulkner (SD); Baja California norte, San Jose, 5.2 mi E of Tecate on Hwy 2, 1981-05-28, 3♂♂ 2♀♀, D. K. Faulkner (SD); Sinaloa Hwy 40, 36.7 mi E of Villa Union, 1982-07-19, 1♂, D. K. Faulkner (SD); Sinaloa 8 mi N of Lobotas, 1982-07-04, 4♂♂ 1♀, D. K. Faulkner (SD).

Distribution: Western parts of U.S.A. and Mexico.

***Semidalis arnaudi* Meinander 1972**

Semidalis arnaudi Meinander 1972a:328; Meinander 1974c:230 (faunistic record); Penny 1977:29 (list); Meinander 1986:41 (list); Greve 1989:176 (faunistic note).

New records: U.S.A.: Arizona Tucson, 11 Oct 1987, 1♂ 1♀; 16 Oct 1987 2♂♂, Lita Greve (Coll. Bergen); Mexico Baja sur 81.4 mi W. Mexico 1 on Bahia Tortugas road, 1981-03-18, 1♂, D. K. Faulkner & F. Andrews (SD); Sinaloa 10 mi N Los Machis, 1982-06-29, 1♂ 1♀ (SD), 1♂ (MZH); Durango 20.4 mi NE of El Salto, 1982-07-21, 1♂, D. K. Faulkner (SD); 1♂ (MZH).

S. arnaudi and *S. angusta* may be the ends of a cline, in which case *S. arnaudi* is a synonym of *S. angusta*.

Distribution: U.S.A.: Arizona, Mexico.

***Semidalis kazakhstania* Zakharenko, 1988**

Semidalis kazakhstania Zakharenko 1988:1249, f. 2 (description).

The species resembles much both *S. unicornis* recorded from Formosa and *S. angusta* recorded from western U.S.A., the genitalia being inter-

mediate between the two species. This probably indicate conspecificity for all three species or two or them.

Distribution: U.S.S.R.: Kazakhstan.

***Semidalis marginalis* (Banks, 1930)**

Semidalis marginalis: Meinander 1972a:329; Penny 1977:29 (list); Meinander 1986:41 (list).

New record: Dominican Republic, Prov. of La Vega, 6 km NW Constanza, 1986-05-31, 6♂♂ 1♀, L. A. Stange (FLA), 1♂ 1♀, L. A. Stange (MZH).

Distribution: Cuba, Dominican Republic.

***Semidalis tricornis* Johnson, 1980**

Semidalis tricornis Johnson 1980b:191, f. 7A-F (description); Monserrat 1985a:216 (faunistic record); Meinander 1986:42 (list).

Distribution: U.S.A.: Arizona and Mexico.

***Semidalis unicornis* Meinander, 1972**

Semidalis unicornis Meinander 1972a:330.

New records: Mongolia, East aimak, Lake Bur-nur under Lasigrostis splendens 1976-07-28, 1♂, Kerzhner (Museum Leningrad); Malaya, Kedah, Pk 3300-3978', 1962-04-28, 1♂, Ross & Cavagnaro (UCA).

Distribution: Mongolia, Formosa, Malaysia.

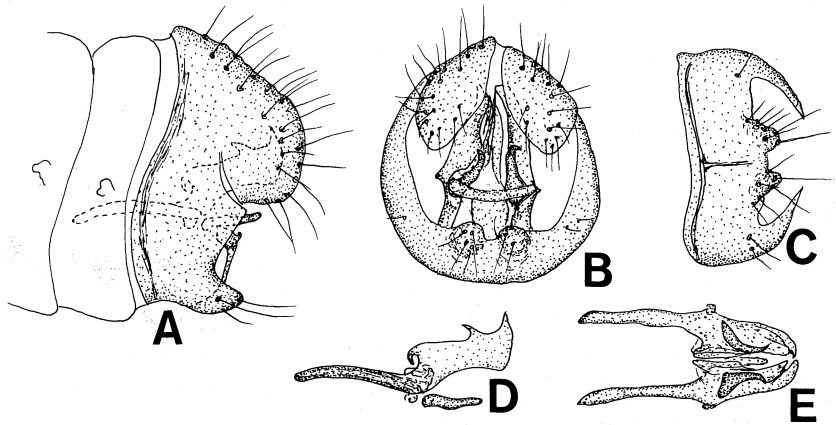
***Semidalis vicina* (Hagen, 1861)**

Parasemidalis nigriceps: Monserrat 1985f:240 (type deposit).

Coniopteryx vicina: Banks 1907:152 (faunistic record); Smith 1925:170 (faunistic record); Leonard 1928:42 (list); Smith 1934:140 (key).

Semidalis vicina: Muma 1971:284, f. 1-4 (description of adult and 1st instar larva); Meinander 1972a:330; Throne 1972:127, f. 17 (faunistic record); Gepp 1974c:223 (description of larva); Meinander 1974a:14, f. 2 (description of larva); Meinander 1974c:330 (faunistic record); Monserrat 1978b:374 (larva); Monserrat 1978d:65, (faunistic record); Monserrat 1979:415 (faunistic record); Aspöck et al. 1980:161, f. 332-334 (monograph); Monserrat 1980b:193 (faunistic record); Stange 1981:2 (key); Lawson & McCafferty 1984:130 (faunistic record); Monserrat 1984b:149 (synonymy); Monserrat 1984e:108 (faunistic record); Monserrat 1984f:44 (faunistic record); Monserrat 1985g:80 (faunistic record); Meinander 1986:42 (list); Monserrat & Diaz-Aranda 1987:184 (faunistic record); Diaz-Aranda & Monserrat 1988a:121 (faunistic note); Diaz-Aranda & Monserrat 1988c:225 (faunistic record).

Fig. 27. Male of *Semidalis bituberculata*: A. Terminal abdominal segments, lateral aspect; B. Ditto, caudal aspect; C. Ditto, ventral aspect; D. Internal genitalia, lateral aspect; E. Ditto, ventral aspect.



New records: Portugal Portimao Praia da Rocha, 1979-09-10, 1♂, C. Lienhard (coll. Lienhard); Espana, Palma de Mallorca, Porto, 1932-08-07, 2♂♂, Enderlein (HMB); Algeria, 1♂, (BMNH).

Distribution: France, Portugal, Spain, Italy, Yugoslavia, Morocco, Algeria, eastern parts of N. America.

***Semidalis absurdiceps* (Enderlein, 1908)**

Semidalis absurdiceps: Meinander 1972a:310; Gonzales Olazo 1984a:187, f. A-C (redescription); Meinander 1986:41 (list).

Semidalis adsurdiceps (!): Meinander & Penny 1982:204 (list).

New records: Colombia, Valle near Cali, 1975-09-02, 2♂♂ 6♀♀, L. Stange (FLA); 1975-08-25 1♂, L. Stange (MZH); Bolivia, Rio Pirai Santa Cruz de la Sierra, 1972-07-05, 9♂♂ 3♀♀, L. Stange (FLA); Santa Cruz Est. Exp. Gral. Saavedra, 1974-07, 2♀♀ L. Stange (FLA).

Distribution: Colombia, Bolivia.

***Semidalis amazonensis* Meinander, 1980**

Semidalis amazonensis Meinander 1980:142, f. 10A-D (description); Meinander & Penny 1982:205, f. 21 (description, faunistic record); Meinander 1983b:189, f. 10A-C (description of female, faunistic record); Meinander 1986:41 (list).

New records: Brasil Amazonas BR-319 km 62, 1983-05-03...04, 1♂, J. R. Arias (INPA); Reserva Ducke, 1981-11-23, 1♂, J. A. Rafael (INPA).

Distribution: Brazil.

***Semidalis bituberculata* Meinander, sp. n.**

Figs. 27A-E

Semidalis bituberculata Meinander 1986:42 (list) (nomen nudum).

Type: ♂ holotype; U.S.A., California; UCR.

Specimens examined: U.S.A., Cal. Riverside Co. Menifee Vly (hills on W side) 33°39'N 117°13'W 1800' 1980-07-27, ♂ holotype, 3♂♂, J. D. Pinto (UCR), 2♂♂ (MZH); S. Palm desert (P. L. Boyd desert res. center) Malaise trap, 1973-07-28...08-17 1♂ (UCR), 1978-07-17...19 1♂ (UCR), 1978-08-30...09-02 1♂ (UCR), 1978-09-02...04 1♂ 1♀ (UCR), 1980-06-27...07-01 1♂ (UCR).

Diagnosis

Belonging to *S. inconspicua* group. Differs from all other species by the pair of tuberculae on the hypandrium.

Description

Head dark greyish brown. Antenna 28-33-segmented, greyish brown. Scape and pedicel about as long as broad. Basal flagellar segments slightly broader than long, distal segments about as long as broad.

Thorax dark brown.

Wings hyaline. In at least one paratype the crossvein M-Cu strikes the fork of M. Length of fore wing 2.0-2.3 mm, of hind wing 1.7-2.0 mm.

Male genitalia, Figs. 27A-E. Ectoproct broad, short and truncate. No process at inner angle of ectoproct. Hypandrium short, terminally with a

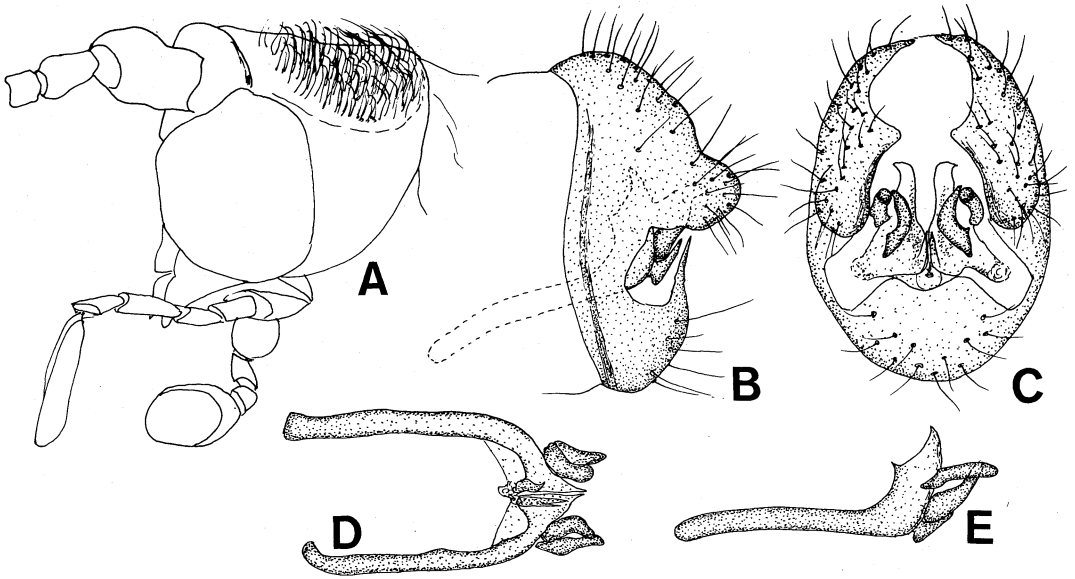


Fig. 28. Male of *Semidalis boliviensis*: A. Head, lateral aspect; B. Terminal abdominal segments, lateral aspect; C. Ditto, caudal aspect; D. Internal genitalia, ventral aspect; E. Ditto, lateral aspect.

pair of tuberculae. Paramere slender, apically membranous with two dorsal spines and medially a small dorsal hook. Uncini in ventral view cephally broad and tapering towards the apex.

Semidalis boliviensis (Enderlein, 1905)

Figs. 28A–E

Semidalis boliviensis: Meinander 1972a:332; Meinander 1974d:103, f. 4A–C (morphology, faunistic record); Penny 1977:29 (list); Meinander & Penny 1982:204 (list); Monserrat 1983:143 (female genitalia, faunistic record); Monserrat 1985a:216 (faunistic record); Meinander 1986:41 (list).

New records: Trinidad, Simla, 1977-05-02...13, 2♂♂ 5♀♀, L. Stange (FLA); Peru, Huanuco, Tingo Maria, 1974-08-10...12, 1♂, L. Stange (FLA); Bolivia, Santa Cruz Est. Exp. Saavedra, 1972-07-10, 4♂♂ 10♀♀, L. Stange & C. Porter (FLA); Santa Cruz de la Sierra, 1973-07-10, 3♂♂ 7♀♀, L. Stange & E. Demarest (FLA); Brasil Oriximinà, Rio Trombetes, Ig: Gairola, 1982-11-17...25, 8♂♂ 12♀♀, J. Vidal (INPA), 2♂♂ 2♀♀ (MZH); Rio Trombetes CDC 1 m, Cruz Alta, 1982-10-08, 1♂, J. Vidal (INPA); Rio Trombetes

Alcoamin. 1982-11-17...25, 8♂♂ 3♀♀, J. E. Binda (INPA); Rio Trombetes C. Alea, 1982-10, 4♂♂ 2♀♀, J. A. Rafael (INPA).

From Brazil, Oriximinà there is a series of specimens the males of which have a protruding vertex with a large weakly sclerotized area which is thickly covered by fairly long and at the end hook-like curved hairs (Fig. 28A). The weakly sclerotized area is larger than in the specimens figured in Meinander 1974d. The eyes of the present specimens are larger than in the specimens figured in Meinander 1974d. Male antenna 42-segmented. The wing venation is normal, length of fore wing 2.1–2.6 mm, of hind wing 1.5–1.9 mm. The genitalia are very similar to those of the type and the specimens figured in Meinander 1974d and with some hesitation I consider these populations conspecific with the type. Drawings of the genitalia of a specimen from Oriximinà are included (Figs. 28B–E).

Distribution: Mexico, Venezuela, Trinidad, Peru, Bolivia, Brazil.

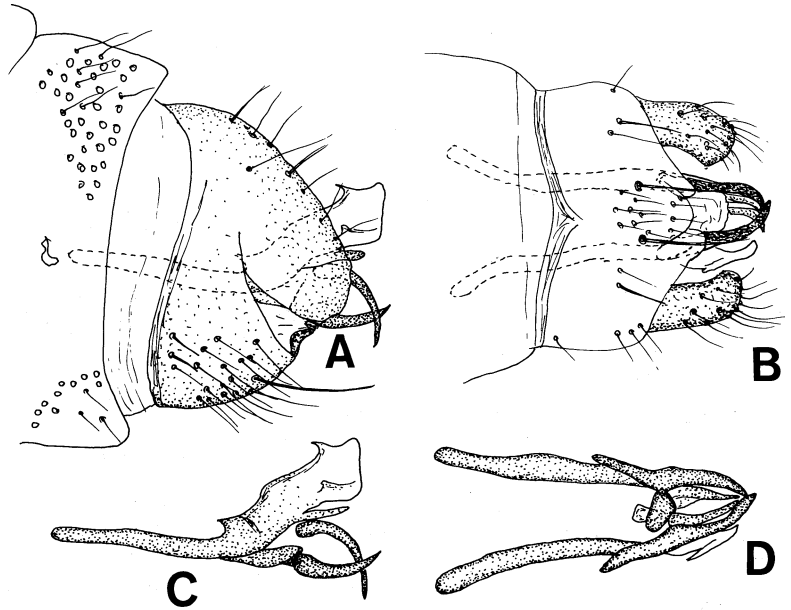


Fig. 29. Male of *Semidalis faulkneri*: A. Terminal abdominal segments, lateral aspect; B. Ditto, ventral aspect; C. Internal genitalia, lateral aspect; D. Ditto, ventral aspect.

***Semidalis brasiliensis* Meinander, 1974**

Semidalis brasiliensis Meinander 1974d:103, f. 4D–F (description); Penny 1977:29 (list); Meinander & Penny 1982:204 (synonymy); Meinander 1986:41 (list).

Distribution: Brazil.

***Semidalis byersi* Meinander, 1972**

Semidalis byersi Meinander 1972a:335; Meinander 1974c:230 (faunistic record); Penny 1977:29 (list); Meinander & Penny 1982:204 (synonymy); Monserrat 1985a:219 (faunistic record); Meinander 1986:41 (list).

Distribution: Mexico.

***Semidalis deserta* Meinander, 1974**

Semidalis deserta Meinander 1974c:230, f. 12 (description); Meinander & Penny 1982:204 (synonymy); Meinander 1986:41 (list).

New records: U.S.A., Cal. Riverside Co. S. Palm desert (P. L. Boyd desert res. center), 1973–1980, 80♂♂ 9♀♀ (UCR), 1♂ (MZH); Menifee Vly (hills on W end) 33°39'N 117°13'W 1800', 1980-08-07...17, 1♂, J. D. Pinto (UCR).

Distribution: U.S.A.: California.

***Semidalis ecuadoriana* Meinander, 1983**

Semidalis ecuadoriana Meinander 1983b:189, f. 11A–D (description); Meinander 1986:41 (list).

New record: Colombia, Ant. Queb. Agua Mala 34 km NW Medellin 1983-02-14, 1♂ O. S. Flint Jr (USNM), 1♂ (MZH).

The antennae of the present specimens are 39–41 segmented. The basal 15–16 flagellar segments of the male are flattened and distinctly broader than long, the distal segments are longer than broad.

Distribution: Colombia and Ecuador.

***Semidalis faulkneri* Meinander, sp.n.**

Figs. 29A–D

Semidalis faulkneri Meinander 1986:41 (list) (nomen nudum).

Type: ♂ holotype; Mexico, Sinaloa; SD.

Specimen examined: Mexico Sinaloa, 39 mi NE of Mazatlan Hwy 40, 1982-07-03, ♂ holotype, D. K. Faulkner (SD).

Diagnosis

Uncinus long and slender. Ventrally of parameres a pair of long sclerites, almost half the length of the parameres.

Description

Frons and vertex except the caudal fourth and upper part of genae yellowish, caudal part of vertex and lower parts of genae greyish. Sutures of head blackish. Scape and pedicel greyish brown, flagellum blackish brown. Flagellar segments slightly longer than broad. Antenna 36-segmented, about 2.0 mm.

Thorax dark brown. Membrane of wings light greyish, hyaline along the veins. Length of fore wing 2.3 mm, of hind wing 2.1 mm.

Male genitalia, Figs. 29A–D. Outer process of ectoprocts broad, short and truncate. Spine at inner angle of ectoprocts? Hypandrium short, ending in three broad and short lobes. Paramere slender, caudally membranous, dorsally medially and slightly before apex with small hooks. Uncinus long and slender, curved. Ventral to parameres a pair of accessory long sclerites.

***Semidalis flinti* Meinander, 1972**

Semidalis flinti Meinander 1972a:335; Meinander 1974c:231 (faunistic record); Meinander & Penny 1982:209 (synonymy); Meinander 1986:41 (list).

New record: U.S.A. Cal. Marin Co. Mill Valley, Blitheral Ridge Lee Street, 110m, 1965-08-31...09-02, 1♂, P. H. Arnaud (CAS).

Distribution: U.S.A.: Texas and California, Mexico.

***Semidalis frommeri* Meinander, 1974**

Semidalis frommeri Meinander 1974c:231, f. 13 (description); Meinander 1975a:32, f. 4 (genitalia figured, faunistic note); Meinander & Penny 1982:204 (synonymy); Meinander 1986:41 (list).

New record: U.S.A. Cal. Riverside Co. S. Palm Desert (P. L. Boyd desert res. center) 1963–1980, 28♂♂ 15♀♀ (UCR), 4♂♂ (MZH).

Distribution: U.S.A.: California and Mexico.

***Semidalis hidalgoana* Meinander, 1975**

Semidalis hidalgoana Meinander 1975a:31, f. 3ADF (description); Meinander & Penny 1982:204 (synonymy); Monserrat 1985a:216 (faunistic record); Meinander 1986:41 (list).

New records: Mexico, Nuevo Leon Mesa de Chipinque, 1984-08-18, 7♂♂ 6♀♀, L.A. Stange (FLA); S. Luis Potosi Hoyel Covadonga 12 km S. Valles, 1981-06-27, 1♂ 3♀♀, L.A. Stange (FLA); Colombia Valle road Cali to Pance, 1975-09-17, 2♂♂ 2♀♀, L. Stange (FLA).

Distribution: Mexico, Colombia.

***Semidalis inconspicua* Meinander, 1972**

Semidalis inconspicua Meinander 1972a:336; Throne 1972:127, f. 16 (faunistic record); Meinander 1974c:232 (faunistic record); Meinander 1975a:31 (male genitalia, faunistic record); Meinander & Penny 1982:204 (synonymy); Lawson & McCafferty 1984:130 (faunistic record); Meinander 1986:41 (list).

Distribution: U.S.A.

***Semidalis intermedia* Monserrat, 1983**

Semidalis intermedia Monserrat 1983:149, f. 24–38 (description); Meinander 1986:41 (list).

New record: Colombia, Valle near Cali, 1000 m, 1975-08-25, 7♂♂ 2♀♀, L. Stange (FLA), 1975-09-02, 1♂, L. Stange (MZH); Peru, La Libertad, 40 km NE Trujillo, 1975-07-12, 31♂♂ 29♀♀, L. Stange (FLA), 5♂♂ 5♀♀, L. Stange (MZH).

Distribution: Colombia, Venezuela and Peru.

***Semidalis isabelae* Monserrat, 1981**

Semidalis isabelae Monserrat 1981a:158, f. 8–18 (description); Meinander 1986:41 (list).

Distribution: Paraguay.

***Semidalis kolbei* Enderlein, 1906**

Semidalis kolbei: Meinander 1972a:333; Navas 1924d:16 (faunistic record); Navas 1926b:108 (faunistic record); Adams 1973a:254 (faunistic record); Meinander 1974d:105 (faunistic record); Penny 1977:29 (list); Meinander & Penny 1982:204 (synonymy); Meinander 1983b:189 (faunistic record); Monserrat 1984b:149 (synonymy); Meinander 1986:41 (list).

Distribution: Chile and Argentina.

***Semidalis lolae* Monserrat, 1983**

Semidalis lolae Monserrat 1983:145, f. 19–23 (description); Meinander 1986:41 (list).

Distribution: Venezuela.

***Semidalis manausensis* Meinander, 1980**

Semidalis manausensis Meinander 1980:144, f. 11A–F (description); Meinander & Penny 1982:205, f. 22 (description); Meinander 1986:41 (list).

New record: Peru, Huanuco, Tingo María, 1974-07-10...12, 1♂ 1♀, C. Porter, L. Stange (FLA).

Distribution: Peru, Brazil.

***Semidalis mexicana* Meinander, 1972**

Semidalis mexicana Meinander 1972a:334; Meinander 1974c:230 (keyed, faunistic record); Meinander 1975a:31 (male genitalia); Penny 1977:29 (list); Meinander & Penny 1982:204 (synonymy); Meinander 1986:41 (list).

New records: Mexico Sinaloa 51.3 mi E. of Villa Union Hwy 40, 1982-07-20, 1♂ D. K. Faulkner (SD); Durango 20.4 mi NE of El Salto, 1982-07-21, 3♂♂ D. K. Faulkner (SD), 1♂ (MZH); Jal Barranquillas, 1964-02-03, 1♂, E. I. Schlinger (UCR).

Distribution: Mexico.

***Semidalis nivosa* Enderlein, 1906**

Semidalis nivosa: Meinander 1972a:311; Penny 1977:29 (list); Meinander & Penny 1982:204 (list); Meinander 1986:41 (list).

Semidalis pruinosa: Meinander & Penny 1982:204 (list).

Semidalis scobis: Meinander & Penny 1982:205 (list).

Distribution: Peru.

***Semidalis normani* Meinander, 1982**

Semidalis normani: Meinander & Penny 1982:205, f.23 (description); Meinander 1986:41 (list).

Distribution: Brazil.

***Semidalis panamensis* Meinander, 1974**

Semidalis panamensis Meinander 1974d:103, f. 4G–I (description); Penny 1977:29 (list); Meinander & Penny 1982:204 (synonymy); Meinander 1986:41 (list).

New record: Brazil, Rio de Janeiro, 1969-01-29, 2♂♂ 4♀♀, J. & L. Stange (FLA).

Distribution: Panama.

***Semidalis peruviansis* Meinander, 1974**

Semidalis peruviansis Meinander 1974d:105, f. 4J–M (description); Penny 1977:29 (list); Meinander & Penny 1982:204 (synonymy); Meinander 1986:41 (list).

Distribution: Peru.

***Semidalis problematica* Monserrat, 1985**

Semidalis problematica Monserrat 1985a:219, f. 14–19 (description); Meinander 1986:41 (list).

Distribution: Mexico.

***Semidalis rondoniensis* Meinander, 1982**

Semidalis rondoniensis: Meinander & Penny 1982:206, f. 24 (description); Meinander 1983b:190 (faunistic record); Meinander 1986:41 (list).

New record: Bolivia, Cochabamba Ivivigarsama, 62 km E. Villa Tunari, 1973-07-22, 1♂, C. Porter, L. Stange, E. Demarest (FLA); Brasil Par Sao Geralda, 1982-11-30...12-08, 1♂ J.R. Arias (INPA).

Distribution: Colombia, Brazil.

***Semidalis serrata* Meinander, 1983**

Semidalis serrata Meinander 1983b:190, f. 12 A–D (description); Meinander 1986:41 (list).

New records: Peru, Huanuco Cueva de Las Pavas, Cerca de Tingo Maria, 1974-07-11...12, 2♂♂ 11♀♀, L. Stange & C. Porter (FLA); Brasil Para Oriximain Rio Trobetes Alcoa: Miner Cruz Alta CDC 15 m, 1982-10-14, 1♂ 1♀, J. Vidal (INPA); Am Manaus Pg Laranj CDC-trap 1981-01-15...02-20, 1♂ 2♀♀ Vidal & Nonato (INPA).

Distribution: Peru, Brazil.

***Semidalis soleri* Monserrat, 1985**

Semidalis soleri Monserrat 1985a:216, f. 8–13 (description); Meinander 1986:41 (list).

Distribution: Mexico.

***Semidalis sonorana* Meinander, 1975**

Semidalis sonorana Meinander 1975a:32, f. 3BEG (description); Meinander & Penny 1982:204 (synonymy); Meinander 1986:41 (list).

Distribution: Mexico.

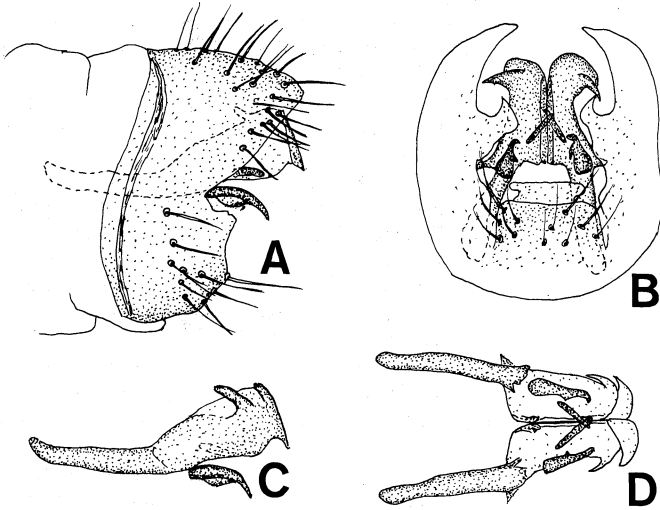


Fig. 30. Male of *Semidalis xerophila*: A. Terminal abdominal segments, lateral aspect; B. Ditto, caudal aspect; C. Internal genitalia, lateral aspect; D. Ditto, ventral aspect.

Semidalis wallacei Meinander, 1972

Semidalis wallacei Meinander 1972a:337; Meinander 1974c:230 (keyed); Meinander & Penny 1982:204 (synonymy); Meinander 1986:41 (list).

Distribution: U.S.A.: Pennsylvania.

Semidalis xerophila Meinander, sp.n.

Figs. 30A–D

Semidalis xerophila Meinander 1986:41 (list) (nomen nudum).

Type: ♂ holotype; U.S.A., California; UCR.

Specimens examined: U.S.A., Cal. Riverside Co. S. Palm Desert (P. L. Boyd desert res. center), 1978-06-19...21 ♂ holotype, 1978-1980 56♂♂ 8♀♀ (UCR), 8♂♂ (MZH).

Diagnosis

Ectoproct in lateral view triangular and fairly acute, process at inner angle broad and hooked. Paramere with a pair of laterodorsal spines.

Description

Head dark brown. Antenna 27–29 segmented, dark brown. Scape and pedicel about as long as broad, basal flagellar segments slightly broader than long, distal segments slightly longer than broad.

In fore wing the cross-vein M-Cu strikes M basally of the fork, in hindwing the branch M_{3+4} . Length of fore wing 1.7–2.0 mm, of hind wing 1.4–1.6 mm.

Male genitalia, Figs. 30A–D. Ectoproct in lateral view triangular, the most protruding part being dorsally. Process at inner angle of ectoproct broad and hooked. Hypandrium short, terminally with short lateral apophyses. Paramere rather stout, apically with a pair of latero-dorsal spines. Ventrally of parameres two pairs of slender sclerites.

Semidalis palmensis (Klingstedt, 1936)

Semidalis palmensis: Meinander 1972a:339; Monserrat 1978a:141, f. 1–9 (redescription); Monserrat 1978b:370 (list); Monserrat & Reviejo 1978:367 (faunistic record); Aspöck et al. 1980:378 (list).

Distribution: Canary Islands.

Semidalis teneriffae Meinander, 1972

Semidalis teneriffae Meinander 1972a:340; Monserrat & Reviejo 1977:351 (faunistic record); Monserrat 1978b:370 (list); Monserrat 1979c:81 (faunistic record); Aspöck et al. 1980:378 (list).

Distribution: Canary Islands.

***Semidalis* sp. 1**

Semidalis sp.: Monserrat & Diaz-Aranda 1988a:501 (faunistic note).

Distribution: Equatorial Guinea.

***Semidalis* sp. 2**

Semidalis sp.: New & Sudarman 1988:417 (faunistic record).

Distribution: Indonesia: Krakatau.

***Semidalis copalina* Meunier, 1910**

Semidalis copalina: Meinander 1972a:35.

Subfossil in copal from Madagascar.

Acknowledgements. My thanks are due to the following curators for kindly letting me investigate material belonging to their institutions: Dr. P. C. Barnard (BMNH); Dr. David K. Faulkner (SD); Dr. Albert T. Finnermore (ALB); Dr. Oliver S. Flint Jr. (USNM); Dr. Saul I. Frommer (UCR); Dr. Kurt K. Günther (HMB); Dr. J. Halpensis (Bet Dagan); Dr. William R. B. Hynd (Farnham, England); Dr. Charles Lienhard (Genve); Dr. J. G. H. Londt (Natal); Dr. M. W. Mansell (Pretoria); Dr. Norman D. Penny (INPA); Jerry A. Powell (UCA); Dr. L. A. Stange (FLA); Dr. Bo Tjeder (Lund); Dr. V. V. Zherichin (Moscow) and Dr. L. A. Zhilzova (Leningrad). The following colleagues are acknowledged for fruitful discussions and for the opportunity to read manuscripts of papers in press: Prof. H. Aspöck (Wien); Dr. Ulrike Aspöck (Wien); Dr. Victor Monserrat (Madrid) and Dr. T. R. New (Bundoora, Australia). My particular thanks go to Dr. Victor Monserrat, who kindly read an early version of this paper and made many valuable suggestions and additions.

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<i>esbenpeterseni</i>	67	<i>inconspicua</i>	82	<i>maculipennis</i> (A.)	7
<i>espanoli</i>	37	<i>indica</i>	21	<i>maculipennis</i> (P.)	32
<i>evansorum</i>	22	<i>indivisa</i>	49	<i>maculipennis</i> (S.)	77
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<i>ezequi</i>	55	<i>insulana</i>	28	<i>maculorus</i>	21
<i>fadiacra</i>	5	<i>insularis</i>	56	<i>madagascariensis</i>	57
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<i>farinosa</i>	32	<i>interna</i>	23	<i>manausensis</i>	83
<i>faulkneri</i>	81	<i>interrupta</i>	20	<i>manka</i>	41
<i>felix</i>	6	<i>inverta</i>	73	<i>marginalis</i>	78
<i>fenestrata</i>	14	<i>iriana</i>	10	<i>marginata</i>	29
<i>fijiensis</i>	26	<i>isabelae</i>	82	<i>maroccana</i>	25
<i>fimbriata</i>	21	<i>istmicola</i>	49	<i>marroquina</i>	37
<i>fitchi</i>	62	<i>japonica</i>	21	<i>mascarenica</i>	77
<i>flavicornuta</i>	10	<i>javana</i>	38	<i>megacornis</i>	8
<i>flinti</i> (C.)	48	<i>javanica</i>	14	<i>meinanderi</i> (C.)	21
<i>flinti</i> (S.)	82	<i>jorgei</i>	62	<i>meinanderi</i> (I.)	71
<i>forcipata</i>	62	<i>juniperi</i>	6	<i>meinanderi</i> (S.)	49
<i>fraternalis</i>	72	<i>kaindiensis</i> (C.)	56	<i>meinanderi</i> (X.)	40
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<i>frontalis</i>	43	<i>kasyi</i> (N.)	37	<i>mindanaoensis</i>	22
<i>fuellborni</i>	77	<i>kaszabi</i>	25	<i>minuta</i> (A.)	9
<i>fulvinervosa</i>	32	<i>kayi</i>	34	<i>minuta</i> (C.)	62
<i>fumata</i>	48	<i>kazakhstania</i>	78	<i>mongolica</i>	42
<i>fumicolor</i>	48	<i>kerzhneri</i>	41	<i>monstruosa</i>	35
<i>fumipennis</i>	10	<i>ketiae</i>	41	<i>morobensis</i>	58
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<i>furcata</i> (Coniopt.)	49	<i>kolbei</i>	82	<i>microgonarcuata</i>	43
<i>furcifera</i>	32	<i>lactea</i>	60	<i>nakaharae</i>	76
<i>furcocubitalis</i>	9	<i>laticornis</i>	39	<i>namibica</i>	40
<i>fusca</i> (H.)	20	<i>latigonarcuata</i>	43	<i>natalensis</i>	36
<i>fusca</i> (P.)	69	<i>latilobis</i>	43	<i>nebulosa</i>	26
<i>fuscicornis</i>	38	<i>latipalpis</i>	62	<i>necopinata</i>	28
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<i>gagnei</i>	14	<i>latistylus</i>	42	<i>nietoi</i>	73
<i>galantei</i>	75	<i>laufferina</i>	23	<i>nigeriana</i>	38
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<i>gelesae</i>	28	<i>liasina</i>	5	<i>nigricornis</i>	16
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<i>occidentalis</i>	39	<i>renatae</i>	67	<i>transsylvanica</i>	25
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Bibliography of the Neuropterida

Bibliography of the Neuropterida Reference number (r#):
4147

Reference Citation:

Meinander, M. 1990 [1990.09.21]. The Coniopterygidae (Neuroptera, Planipennia). A check-list of the species of the world, descriptions of new species and other new data. Acta Zoologica Fennica 189:1-95.

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