CONIOPTERYGIDAE FROM SOUTH AND CENTRAL AMERICA II
(NEUROPTERA)

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Résumé

Dix espèces nouvelles d'Amérique centrale et du sud, sont ici décrites. D'autres espèces sont signalées pour la première fois.

Abstract

The following species are described: Neoconis amazonica sp. n., Coniopteryx (Scotoco-coniopteryx) biapicata sp. n., C. (S.) brasiliensis sp. n., C. (S.) confluens sp. n., C. (S.) furcata sp. n., C. (S.) sinuata sp. n., C. (C.) trispina sp. n., C. (C.) gordica sp. n., Semidalis ecuadoriana sp. n. and S. serrata sp. n. New records of other species are listed.

All the species of Coniopterygidae from Central and South America were listed by PENNY (1977). Since then, several additional species have been described by MONSERRAT and myself, all, however, belonging to the generic taxa already recorded from the region. The present paper is based on material from several Museums and includes several new species, but does not introduce any new generic taxa for the fauna of the Region. It thus seems that the distribution of the generic taxa here has been documented, although obviously many new species remain to be described. The species concept of some groups is not yet settled and it may prove that the intraspecific variation is greater than has been postulated; several species names will thus be reduced to synonymy. At the present stage, however, it seems, better to describe new species in order to avoid nomenclatural confusion in case a future splitting should be necessary.

The material is deposited in the following institutions:

BMNH — British Museum, Natural History, Cromwell road, London SW 7 5 BD.
CAS — California Academy of Sciences, Golden Gate Park, San Francisco, Cal., 94118, U.S.A.
INPA — Instituto National de Pesquisas da Amazônia, Manaus, Brazil.
MZC — Universitetets Zoologiske Museum, Universitetsparken 15, DK-2100, København, Denmark.
USNM — Department of Entomology, United States National Museum, Washington D.C., 20560, U.S.A.
MZH — Universitetets Zoologiska Museum, N. Järnväsgatan 13, SF-00100 Helsingfors 10- Finland.

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Genus *Neoconis* Enderlein, 1929.

Meinander & Penny (1982) listed 11 species of *Neoconis*. In addition to these, three new species have been described: *N. gelesae* Monserrat 1981, *N. presai* Monserrat 1983 b and *N. unam* Monserrat 1983 a. *N. gelesae* is described from Paraguay, thus pushing the limit of distribution of the genus distinctly further southwards. With new species described here the number of known species is now 15.

*N. amazonica*, sp. n. (fig. 1 A-E).

Type area: Brazil, Amazonas.


Diagnosis: Veins M and Cu 1 in hind wing basally very close to each other, distal cross-vein M-Cu 1 present. Tubular penis only slightly curved. Prominent clavate stylus on a basal plate.

Description: Head capsule ochreous brown with brown sutures. Eyes black, height 0.27 mm. Antenna dark brown, 29-segmented, length about 1.3 mm. Scape and pedicel slightly longer than broad, basal flagellar segments about as long as broad. Palpi light greyish.

Thorax: sclerotized parts brown with dark sutures.

Legs light brown, tarsi concolorous with the rest of the legs. Fore femur with a ventral longitudinal row of about 10 short setae.

Wings: In fore wing the three distal «cross-veins» strike the longitudinal veins at the same distance from the base. Cross-vein Rs-M strikes M at the distal median bristle, while the cross-vein M-Cu strikes M about as distally from the median bristle as it is distal from the basal bristle. In the hind wing the radial cross-vein is basal to the cross-vein-like part of Sc 2 and strikes the branch R 2+3 and not the stem of Rs. M and Cu run very close to each other for more than half the length of Cu 1; there is a cross-vein connecting them where they diverge. The distal cross-veins of both wings have slight greyish margines, no other markings on the membranes. Length of fore wing 2.8 mm, of hind wing 2.4 mm.

Abdomen with large plicaturae at least on segments 3-6, plicaturae on segment 2 not examined.

Male genitalia (Figs. 1 A-E). Ninth segment anteriorly with a complete apodeme. Ninth segment and ectoproct dorsally separated by a weakly sclerotized area, but laterally there is an area where the sclerites are fused without any visible border. Ectoproct has dorsally, caudally a blunt spine on a sclerite, which is partly only weakly connected with the bulk of the ectoproct; ventrally is a slightly curved, thicker spine in a plate (stylus ?), which also is weakly connected with the ectoproct. The hypandrium is distinct, ligulate and fused to the ninth segment. Penis is tubular and fairly straight, cephalically terminating into two dorsal rods, caudally terminating in a ventral ligulate process dorsally of which are several long thin spines. Paramere simple, rod-like.

*N. amazonica* has a stylus-like structure as in *N. insulana* and *N. presai* and lacks as *N. presai* the accessory sclerite laterally of the tip of the paramere present in all other species. *N. presai* is separated from *N. amazonica* by a more blunt hypandrium; according to Monserrats figure the ectoproct of *N. presai* has a long hairy apophysis; *N. amazonica* has a shorter spine at about the same place. The tip of the penis in *N. amazonica* has two dorsal long spines which
are not present in *N. presai*. The two species no doubt still closely resemble each other.


Distribution : Jamaica.

Present material : Jamaica, St And. Par., Clydesdale 1975-04-09-XII. Gary F. Hevel, 1 ♂ (USNM).

*Neoconis gelesae* Monserrat, 1981.


Distribution : The type is from Paraguay.

Present material : Brazil, Acre, 11 km NE de Rio Branco, 1981-05-10, arm de luz, 1 m, J. R. Arias, 1 ♂ (INPA).


Distribution : The type is from Venezuela.

Present material : Brazil, Para, Vila do Reportimento, 1981-10-13... 18, Jorge Arias, 1 ♂ (INPA).

**Genus Pampoconis** Meinander, 1972.

*Pampoconis* is a genus with four species, all recorded from Argentina or Chile.


Meinander 1973 : 24, f. 1 (description) ; Penny 1977 : 29 (list).

Distribution : Recorded from Central Chile.

Present Material : Argentina, Rio Negro, S.C. da Bariloche Colonia Suiza, 800 m, 1981-11-12... 20, Nielsen & Karlsholt, 1 ♂ (MZH) ; Chile, Osorno, Parque Nacional Puyehue, Anticura, 350 m, 1981-11-17, Nielsen & Karlsholt, 1 ♂ (MZH) ; Parque Nacional Puyehue, Agua Calites, 450 m, 1981-11-12, Nielsen & Karlsholt, 1 ♂ 2 ♀ (MZC) ; « Chili », the rest of the label is unreadable, 1 ♂ (BMNH).


Adams 1973 a : 251, f. 2 a-e (description) ; Adams 1973 b : 324 (synonymy) ; Meinander 1974 : 99 (synonymy, faunistic records) ; Penny 1977 : 29 (list).

Distribution : Recorded from Central and South Chile.

Present material : Chile, Oborno, Parque Puyehue Anticura, 1981-12-18, Nielsen & Karlsholt, 1 ♂ (MZC).

**Genus Coniopteryx** Curtis, 1834.

The genus has a world-wide distribution. It is divided into six subgenera, of which only *Scotoconiopteryx* and the *C. dominicana* and the *C. westwoodi* groups of subgenus *Coniopteryx* occur in South and Central America. The genus was recently reviewed by the author (Meinander 1981) and latter Monserrat (1983 b) described *C. (C.) dorisae* which also is included in the present material. The present species *C. (C.) gordica* is the first record of the *C. (C.) dominicana*
group from South America. As a complete synonymy is included in Meinander 1981, no references are given except to Monserrat’s recent papers.

**Coniopteryx (Scotoconiopteryx) ariasii** Meinander, 1980.

Distribution: Brazil.


**Coniopteryx (Scotoconiopteryx) biapicata** Meinander, sp. n. (Figs. 2 A-E).

Type area: Uruguay.


Diagnosis: Gonarcus discleritous. Hypandrium with long acute processus terminales. Parameres caudally simply curved ventrad.

Description of male.

Head capsule ochreous brown. Eyes very large and black. Frons normal. The number of antennal segments could not be counted. Antennae ochreous brown. Scape and pedicel very short, basal flagellar segments about twice as broad as long. Scale like hairs on apex of pedicel and flagellar segments. Ordinary hairs in two whorls on flagellar segments, which also have setae. Palpi light ochreous brown.

Thorax light brown with slightly darker shoulder spots. Legs very light.

Wings. Membrane of fore wing with a slight greyish tinge. In hind wing no cross-vein $R_{4+5}-M$. Length of fore wing 2 mm, of hind wing 1.7 mm.

Genitalia (Figs. 2 A-E) Hypandrium in lateral view about twice as high as broad. Processus terminalis long and tapering towards the tip, which is curved outwards and upwards. Median apical incision deep and fairly narrowly V-shaped. Processus lateralis broadly rounded. Anterior apodeme ventrally complete, curving medially strongly apicad. Gonarcus not particularly broad, with no distinct ventral apodeme, biscleritous. Styli forming a simple arch below the parameres, attached to the apex of gonarcus. Parameres fairly narrow, apically bent downwards, with distinct processus ventralis. Penis with two sclerotized parallel rods.

**Coniopteryx (Scotoconiopteryx) bicornis** Meinander, 1982.

Distribution: Brazil.

Present material: Brazil, Acre 11 km NE de Rio Branco 1981-05-06, arm de luz 15 m, Jorge Arias, 1 ♂ (INPA).

**Coniopteryx (Scotoconiopteryx) brasiliensis** sp. n. (Figs. 3 A-E).

Type area: Brazil, Amazonas.

Type material: Holotype ♂: Brazil, Amazonas, P. Laranjeira, Febr. 1981, Jorge Arias (INPA).

Description of male.

Head capsule dark brown. Eyes large and black. Antennae 32-segmented, dark brown. Scape and 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 on apex of pedicel and flagellar segments. Ordinary hairs in two whorls on each segment. A sinuous seta on each flagellar segment. Palpi dark brown.

Thorax dark brown with very obscure shoulder spots.

Legs greyish brown, tarsi light greyish. The c. 10 setae on fore femur are very small.

Wings. Membrane of both wings dark greyish brown with grey fasciae along the frontal veins and between Rs and M as well as between Cu, and A1. In hind wing no cross-vein between R4+5 and M. Marginal fringes in hing wing fairly long. Length of fore wing 1,7 mm, of hind wing 1,4 mm.

Genitalia. (Figs. 3 A-E). Hypandrium in lateral view about twice as high as broad. Processus terminales in ventral view broadly triangular. Median apical incision deep and broadly V-shaped, rounded at bottom, Processus lateralis nearly insignificant. Anterior apodeme weak, ventrally complete with an indistinct median caudally directed branch. Gonarcus broad, not continuing inwards from the base of the styli. Styli simple band-like, not forming a synscleriotus arch below the aedeagus. Paramere apically bent downwards, with distinct processus ventralis. Penis with two sclerotized straight parallel rods.

Coniopteryx (Scotoconiopteryx) confluens, sp. n. (Figs. 4 A-E).

Type area: Brazil, Amazonas.

Type material: Holotype, ♂: Brazil, Amazonas, P. Das Laranjeiras, 1981-07-29, Jorge Arias (INPA). Paratypes: same locality, Febr. 1981, 1 ♂ Jorge Arias (INPA); 1981-06-06, 1 ♂, Jorge Arias (MZH); 1981-07-06, 1 ♂ Jorge Arias (INPA); 1981-07-25, 1 ♂ Jorge Arias (INPA); 1981-08-17, 1 ♂ Jorge Arias (INPA).


Description of male.

Head capsule pale ochreous brown. Vertex above antennae slightly produced forwards. Eyes large and black. Frons normal. Antenna 32-33-segmented, brown. Scape about as long as broad, pedicel slightly longer than broad, basal flagellar segments about twice as long as broad, antennae 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, setae present. Maxillary palpi whitish, labial palpi greyish brown.

Thorax. Sclerotized parts of thorax light brown with dark brown sutures, shoulder spots and blackish brown trochantines.

Legs greyish brown with light tarsi. Fore femur with 16-20 almost transparent setae.

Wings. Membrane of both wings light greyish brown; in fore wing with light narrow fasciae along Sc, between Rs and M and between Cu2 and A1. In hind wing no cross-vein R4+5 - M. Marginal fringes of hing wing baso-caudally fairly long, elsewhere short. Length of fore wing 1,7 mm, of hind wing 1,3 - 1,4 mm.
Genitalia (Figs. 4 A-E) Hypandrium in lateral view about twice as high as broad. Apodeme along anterior margin ventrally complete. An additional apodeme along the border of the median apical incision which is broad and rounded. Processus terminalis blunt and broadly triangular in ventral view. Gonarcus simple; basally fused to hypandrium. Ventral apodeme distinct, running from the ventral base to inner part of the base of stylus. Gonarcus does not continue inwards from the base of stylus. Styli forming a simple arch below the aedeagus. Parameres fairly thick and caudally fused to each other, caudally with a short directed downwards process. Penis consisting of two long sclerites which are slightly curved downwards caudally.

*C. confluentes* resembles *C. panamensis*, where, however, the gonarcus continues inwards from the base of stylus, the median apical incision of the hypandrium is narrower, paramere is straighter and thinner and penal sclerites are curved upwards.

Coniopteryx (Scotoconiopteryx) furcata, sp. n. (Figs. 5 A-E).

Type area: Brazil, Amazonas.

Type material: Holotype, $\delta$: Brazil, Amazonas, Manaus, P. Ors Larenjeiras, 1981-06-13, Jorge R. Arias (INPA).

Diagnosis: Styli long, fused at the end, forming a transverse V-shaped structure with two dorsad apophyses from the bottom. Parameres bifurcate.

Description of male.

Head capsule dark brown with dark sutures. Eyes very large and black. Frons normal. Antenna 28-segmented; dark brown. Scape large, about twice as long as broad and about twice as broad as the width of pedicel. Pedicel about one a half times as long as broad. Flagellar segments gradually narrowing towards the apex, proximal segments being distinctly broader than long, and distal segments being slightly longer than broad. Scale-like hairs on apex of pedicel and flagellar segments. Seta present on flagellar segments. Ordinary hairs in two whorls. Palpi light greyish brown.

Thorax. Sclerotized parts light yellowish brown with brown sutures. Shoulder spots and trochantines blackish brown.

Legs greyish brown with whitish tarsi. Fore femur with about 15 light setae.

Wings. Membrane of both wings greyish brown; in fore wing with a transparent fascia between Cu$_2$ and A$_1$. In hind wing no cross-vein $R_{4+5}$ -M. Marginal fringes on hind wing baso-caudally long, elsewhere medium-sized. Length of fore wing 1.5 mm, of hind wing 1.2 mm.

Genitalia (Figs. 5 A-E) Hypandrium in lateral view about twice as high as broad. Apodeme ventrally complete. Processus lateralis and intermedius insignificant, processus terminalis very short. Median apical incision very shallowly and broadly rounded, more than twice as broad as deep. Gonarcus basally fused to hypandrium. Styli ventrally fused and from the united ventral part there is a long bilobed dorsal projection. Gonarcus terminates in a small knob. Parameres distally dichotomously forked, connected by a small sclerotized bridge.

Coniopteryx (Scotoconiopteryx) panamensis Meinander, 1974.

Distribution: Panama and Brazil: Amazonas.

Present material: Venezuela, Aragua, Rancho Grande, 1100 m, 1978-01-17... 20, blacklight in cloud forest, J. B. Heppner, 1 $\delta$ (USNM), 1 $\delta$ (MZH); 1978-01-25... 16, 1 $\delta$ (USNM).
Coniopteryx (Scotoconiopteryx) pennyi Meinander, 1980.

Distribution: Brazil, Amazonas, Rondonia.


Coniopteryx (Scotoconiopteryx) quadricornis Meinander, 1982.

Distribution: Brazil, Rondonia.

Present material: Brazil, Para, BR 320 km 30, 1981-10-26, Jorge Arias, 1 ♂ (INPA); BR 422 km 30, 1981-10-29, Jorge Arias, 1 ♂ (MZH).

Coniopteryx (Scotoconiopteryx) sinuata, sp. n. (Figs. 6 A-E).

Type area: Brazil, Para.

Type material: Holotype, ♂: Brazil, Para, BR 422 km 30, 1981-10-23, Jorge Arias (INPA).


Description of male.

Head capsule greyish yellow with broad sutures. Eyes very large and black. Frons normal. Antenna 31-segmented; scape greyish brown, pedicel and flagellum light greyish brown. Scape and pedicel about as long as broad, basal flagellar segments about one and a half times as broad as long; flagellum tapering towards the apex and the distal segments are about as long as broad. Scale-like hairs on apex of pedicel and flagellar segments. Ordinary hairs on flagellar segments in two whorls. Setae present on flagellar segments. Palpi greyish white.

Thorax. Sclerotized parts very light brown with blackish brown sutures, shoulder spots and trochantines.

Legs greyish brown, light towards the tarsi. Fore femur with about 18 light setae.

Wings. Membrane of both wings fairly dark greyish brown; in fore wing with a transparent fascia between Rs and M as well as between Cu₁ and A₁. In hind wing no cross-vein R₄₊₅-M. Marginal fringes of hind wing basocaudally long, elsewhere fairly short. Length of fore wing 1,8 mm, of hind wing 1,4 mm.

Genitalia (Figs. 6 A-E). Hypandrium in lateral view about twice as high as broad. Apodeme ventrally complete and in ventral view sinuous. Median apical incision deep and broadly V-shaped with slightly sinuous borders. Processus terminalis in lateral view almost as long as the width of the hypandrium, in caudal view blunt. Processus lateralis and intermedius insignificant. Basally, gonarcus does not significantly continue inwards from the base of stylus. Styli ventrally fused to a band below the aedeagus. Parameres fairly thick, caudally curved ventrad. Processus ventralis large. Penis consisting of two straight narrow rods. The penis sclerites and the distal parts of the parameres are connected by a slightly sclerotized membrane.

In Meinander’s key (1982) C. sinuata keys out as C. rondoniensis, from which it easily is separated, however, by the very deep median apical incision of the hypandrium.
Coniopteryx (Scotoconiopteryx) trispina, sp. n. (Figs. 7 A-E).

Type area: Brazil, Amazonas.


Diagnosis: Gonarcus discleritous but continues far inwards from base of stylus. Median apical incision of hypandrium small, medially with a small knob. Processus terminalis small, digitate.

Description of male.

Head capsule light greyish brown. Eyes large and black. Frons normal. Antenna 20-29-segmented, greyish brown. Scape and pedicel about as long as broad, basal flagellar segments slightly broader than long, 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 in two regular whirls on flagellar segments, which also have setae. Palpi light greyish brown.

Thorax. Sclerotized parts of thorax light greyish yellow. Shoulder spots, sutures and trochantines dark brown.

Legs greyish brown, except for the tarsi which are greyish white. Fore femur with about 10 light setae.

Wings. Membrane of both wings light greyish; in fore wing with transparent fasciae along Sc2 and between Rs and M as well as between Cu1 and A1.. Marginal fringes of hind wing fairly long. In hind wing no cross-vein R4+5-M. Length of fore wing 1,6 - 1,7 mm, of hind wing 1,4 - 1,5 mm.

Genitalia (Figs 7 A-E). Hypandrium in lateral view about three times as high as broad. Apodeme along anterior margin ventrally complete. Ventrally three distinct processus, processus terminalis almost digitate, median apical incision medially with a distinct processus which is slightly longer than broad. No other distinct processus on hypandrium. Gonarcus continuing far inwards from the base of stylus, medially gonarcus almost uniscleritous. Ventral apodeme of gonarcus distinct, continuing inwards from the base of stylus. Styli forming a simple arch below the aedeagus. Paramere slightly sinuous, fairly thick with distinct, almost lateral processus ventralis. Penis with two long sinuous sclerites which are fairly thick cephally but taper towards the tip.

Coniopteryx (Scotoconiopteryx) tucumana Navas, 1930.

Distribution: Argentina, Brazil, Venezuela, Uruguay.

Present material: Brazil, Para, Caganeho, 1981-10-06... 09, Jorge Arias 1 ♂ (INPA) ; Venezuela, Aragua, Rancho Grande 1100 m, 1978-01-17... 20, blacklight in cloud forest, J.-B. Heppner, 4 ♂♂ (USNM), 2 ♂♂ (MZH) ; Venezuela, Lara, Yacambu National Park 13 km SE Sanara, 4800 ft, 1978-03-04... 07, blacklight in cloud forest, J.-B. Heppner, 1 ♂ (USNM).

Coniopteryx (Coniopteryx) callangana Enderlein, 1906.

Monserrat 1983 a: (faunistic record) ; Monserrat 1983 b: (faunistic record).

Distribution: Mexico: Yucatán, Argentina, Brazil: Amazonas and Santa Catarina, Peru, Venezuela.

Present material: Brazil, Amazonas, P. das Laranjeiras, 1981-01-08, Jorge Arias, 1 ♂ (INPA), 1981-06-30... 07-02, 1 ♂ (MZH), 1981-07-08... 14, 1 ♂ (INPA), 1981-07-25, 1 ♂ (INPA), 1981-08-06, 1 ♂ (INPA).
Coniopteryx (Coniopteryx) dorisae Monserrat, 1983.

Monserrat 1983 b : f. 6-14 (description).

Distribution : Venezuela, Aragua.

Present material : Venezuela, Aragua, Rancho Grande, 1100 m blacklight in cloud forest, J.-B. Heppner, 1978-03-30... 31, 2 ♂♂ (USNM), 1 ♂ (MZH), blacklight 1978-01-22... 23, 1 ♂ (USNM), 1978-10-25... 26, 1 ♂ (USNM), 1978-04-01... 03, 2 ♂♂ (USNM), 1 ♂ (MZH).

Coniopteryx (Coniopteryx) gordica Meinander, sp. n. (Figs. 8 A-E).

Type area : Brazil, Amazonas.

Type material : Holotype, ♂ : Brazil, Amazonas, Manaus, P. das Laranjeiras, 1981-07-02, Jorge Arias (INPA).

Diagnosis : Hypandrium in lateral view tapering ventrad, no processus visible. Parameres caudally fused into a diffuse structure. Styli forming a band below the aedeagus.

Description of male.

Head capsule ochreous grey with dark sutures. Eyes very large and black. Frons normal. Antennae 26-segmented. Scape dark greyish brown, almost twice as long as broad; pedicel and flagellum ochreous grey. Pedicel about as long as broad, basal flagellar segments slightly broader than long, distal flagellar segments about as long as broad. Scale-like hairs on apex of pedicel and flagellar segments. Seta present on flagellar segments. Ordinary hairs in two whorls. Palpi light greyish brown.


Wings. Membrane of both wings very light greyish. In hind wing no cross-vein R₄₊₅ -M. Marginal fringes of hind wing of moderate length. Length of fore wing 1,5 mm, of hind wing 1,3 mm.

Genitalia (Figs. 8 A-E). Hypandrium in lateral view tapering ventrad, and ventrally very narrow. Apodeme ventrally complete. In lateral view no distinct processus. Median apical incision small and broadly rounded. Gonarcus small and indistinct. Styli unforked and fused to a ring below the parameres. Parameres caudally connected by a large ventral structure which apparently supports the penis.

C. gordica resembles most the aberrant species C. dominicana Meinander 1974, from which it can easily be distinguished by the small median apical incision of the hypandrium.

Coniopteryx (Coniopteryx) simplicior Meinander, 1972. (Figs. 9 A-E).

Distribution : U.S.A., Jamaica, Costa Rica, Mexico, Venezuela.

Present material : Venezuela, Aragua, Rancho Grande, 1100 m, 1978-01-17... 20, blacklight in cloud forest, J.-B. Heppner, 2 ♂♂ (MZH), 4 ♂♂ (USNM), 1978-01-25... 26, 1 ♂ (USNM); Lara Yacambu National Park 13 km SE Sanare, 4800 feet, blacklight in cloud forest, 1978-03-04... 07, CCCB J.-B. Heppner, 6 ♂♂ 4 ♀♀ (USNM); Merida, Mucuy Fish Hatchery 7 km E Tabay, 6600 feet, blacklight, 1978-02-10... 13, 1 ♂ (MZH).
The present specimens from Venezuela differ from those described as *C. simplicior* in North America by slight differences, mainly in hypandrium; the median apical incision of the hypandrium is narrower and not as deep as in the North American specimens. The incision of the inner transverse plate is shallower. The outer branch of the styli is not sinuous, as in the North American specimens, but straight, as in the specimens from Costa Rica included among the paratypes and the specimens from Jamaica and Venezuela recorded by MEINANDER 1974.

The number of antennal segments in the present material is 25-32 in males and 26-33 in females. Length of fore wing $\sigma$ : 2.03 mm - 3.3 mm, $\varphi$ : 2.5 mm - 2.6 mm, of hind wings $\sigma$ : 1.6 mm - 2.7 mm, $\varphi$ : 2.0 - 2.1 mm.

Belonging to the *C. westwoodi* group sensu Meinander 1981 there are six species which, like *C. simplicior*, lack a hook on the frons and/or broadened distal maxillary palpal sements: *C. delta* Johnson, *C. dorisae* Monserrat, *C. dorsicornis* Johnson, *C. forcipata* Johnson, *C. freytagorum* Johnson and *C. minuta* Meinander. The difference between these species is to be found in the shape of the genital parts, mainly the hypandrium, but these differences may well prove to be bare intraspecific variation and several of these species may prove conspecific. Drawings of the male genitalia of the Venezuelan specimens (Figs. 9 A-E) are given for future reference.

**Genus Semidalis** Enderlein, 1905.

The only species group of this genus (which has a world wide distribution) represented in South America is the *Semidalis inconspicua* group as defined by MEINANDER 1974 : 102.

In recent years a lot of species belonging to the group have been described and the number of species totals 24. Whether all these species will prove to be really different species cannot be decided until much more is known about the variation of the male genitalia. MONSERRAT (1983 b) e.g. described and drew three specimens from Venezuela. He considered them conspecific and called them *S. intermedia*. The differences are rather great, particularly in the shape of the hypandrium but also in the inner genitalia, and according to current usage they could well have been described as separate species. The sympathy, on the other hand, may indicate conspecificity.

The South American species of the group can be grouped as follows:

1. Species with bent distinctly upwards inner apophysis of the ectoproct: *S. amazonensis* Meinander 1980; *S. intermedia* Monserrat 1983; *S. isabelae* Monserrat 1981; *S. lolae* Monserrat 1983; *S. problematica* Monserrat 1983; *S. rondoniensis* Meinander 1982; *S. soleri* Monserrat 1983. All these species, except *S. lolae* and certain specimens of *S. intermedia*, have a hypandrium which is basally narrowed and distally more or less bifurcate. The hypandrium of *S. lolae* and the aberrant specimens of *S. intermedia* tapers towards the end.

2. Species with a separate cupilate hypandrial plate, which has a deep rounded incision caudally: *S. boliviensis* (Enderlein, 1905), and *S. kolbei* Enderlein, 1906.

3. Species without inner apophysis of the ectoproct bent inwards, but with a basally incised hypandrium which is distally somewhat bifurcate: *S. brasi-

liensis* Meinander 1974; *S. ecuatoriana* sp. n.; *S. hidalgoana* Meinander 1975;

4. Species without inner apophysis of the ectoprocts bent inwards, and the hypandrium is not basally incised: S. serrata sp. n.

In addition to these species there are seven species recorded from North America and listed by Meinander & Penny 1982.

Semidalis amazonensis Meinander, 1980 (Figs. 10 A-C).


Distribution: Brazil, Amazonas and Rondonia.

Present material: Brazil, Amazonas, P. das Laranjeiras 1981-07-30, Jorge Arias, 1 ♂ (INPA), 1981-08-04, Jorge Arias, 1 ♂ (MZH); Amazonas, Manaus, R. Ducke Copa aru, 1981-09-26, J. Rafael, 1 ♂ 3 ♀ ♀ (INPA); Acre, 11 km NE de Rio Branco, 1981-05-05... 10, 7 ♂ ♂ 5 ♀ ♀ N. Penny & E. Brasil (INPA), 1981-05-10, 1 m arm de luz, 1 ♂, J. Arias (INPA).

In the female specimens, which are here tentatively associated with S. amazonensis from Manaus, there are distinct sclerotized plates in the terminalia (Figs. 10 A-C), while in the specimens from Acre there are none.

Semidalis ecuadoriana, sp. n. (Figs. 11 A-D).

Type area: Ecuador.

Type material: Holotype, ♂: Ecuador, Imba, Otavalo/Apuela, 2200 m, 1977-09-08... 09, L. E. Pena G. (USNM).

Diagnosis: No inner apophysis of ectoproct. Hypandrium basally incised, caudally bifurcate. Two accessory sclerites lateral to the parameres. Paramere with a caudal and one precaudal dorsal tooth.

Description of male.

Head shiny blackish brown. Palpi and antennae dark brown. Antennae 41-segmented.

Thorax. Sclerotized parts dark blackish brown. Legs greyish brown.

Wings. Membrane of wings light greyish. Length of fore wing 3,0 mm, of hind wing 2,5 mm.

Genitalia (Figs. 11 A-D) Segment 9 synscleritous. Ectoproct short, without any apophyses. Hypandrium basally incised and dorsally shallowly bifurcate ending in lateral acute tips. Paramere caudally and dorsally with a small backwards directed tooth. Two caudal accessory sclerites, the ventral one being cephaly robust with a narrow caudal apophysis; the more dorsal clavate with the inner caudal tip much longer than the outer. This structure is possibly homologous with the uncinus.

Semidalis kolbei Enderlein, 1906.

Adams 1973 a : 254 (faunistic note); Meinander 1974 : 105 (faunistic notes); Penny 1977 : 29 (list); Meinander & Penny 1982 : 204 (synonymy).

Distribution: Argentina, Neuquén, Chile: Coquimbo to Tierra del Fuego.
Present material: Argentina, Prov. Neuquén 214 ex in 27 samples from different localities (MZC), 4 ex. in 3 samples (USNM); Prov. Rio Negro 131 ex in 30 samples (MZC), 2 ex. in 2 samples (BMNH); Prov. Chubut 92 ex. in 11 samples (MZC) — Chile, Prov. Santiago 6 ex. in 4 samples (CAS), Prov. Talca 1 ex. (MZC); Prov. Linares 1 ex. (USNM); Prov. Nuble 26 ex. in 5 samples (USNM); Prov. Arauco 1 ex. (MZC); Prov. Malleco 18 ex. in 4 samples (USNM), 12 ex. in 1 sample (MZH); Prov. Cautín 1 ex. (USNM); Prov. Valdivia 1 ex. (MZC), 1 ex. (USNM); Prov. Osorno 107 ex. in 8 samples (MZC); 18 ex. in 6 samples (USNM); Prov. Mayellanes 4 ex. in 2 samples (CAS).

The species has thus proved to be the most common by far in Chile and southern Argentina.

*Semidalis rondoniensis* Meinander, 1982.


Distribution: Brazil, Rondonia.

Present material: Brazil, Para BR 422 km 30, 1981-10-29, 1 ♂, Jorge Arias (INPA); BR 230 km 30, 1981-10-26, 1 ♂, Jorge Arias (INPA).

*Semidalis serrata* Meinander, sp. n. (Figs. 12 A-D).

Type area: Brazil, Acre.

Type material: Holotype. ♂: Brazil, Acre, Cruzeiro do Sul, 1981-05-16, arm de luz 15 m, J. R. Arias (INPA).

Diagnosis: Ectoproct without inner apophyses. Hypandrium simple, only diffusely incised. Parameres caudally curved upwards, caudal end serrate. Two accessory sclerites lateral to parameres.

Description of male.

Head yellowish brown, genae caudally darker. Palpi greyish brown. Antennae broken, 31 segments left; scape and pedicel greyish brown; flagellum pale greyish brown.

Thorax. Sclerotized parts of thorax greyish brown with dark sutures. Legs light greyish brown with whitish tarsi.

Wings. Membrane of wings greyish brown in the cells, hyaline along the veins. Length of fore wing 2.5 mm, of hind wing 1.8 mm.

Genitalia (Figs. 12 A-D). Segment 9 synscleritous. Ectoproct with a short outer process without any teeth or processus at the inner angle. Hypandrium dorsally with a small incision. Paramere cephally slender, caudally with a dorsal membranous process, the caudal margin of which is serrate. Lateral to the parameres there is a pair of rod-like sclerites, which are possibly homologous with the uncinus.

*S. serrata* resembles *S. isabelae* Monserrat, where, however, the parameres not are serrate and the hypandrium has lateral apophyses distally.

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RÉFÉRENCES


Fig. 1: *Neoconis amazonica* Meinander, male genitalia.
A. Penis and parameres, ventral view. — B. Ditto, lateral view.
C. Genital segments, ventral view. — D. Ditto, caudal view — Ditto, lateral view.
Fig. 2: *Coniopteryx* (Scotoconiopteryx) biapicata Meinander, male genitalia.
A. Genital segments, lateral view. — B. Ditto, caudal view. — C. Hypandrium, ventral view.
D. Internal genitalia, lateral view. — E. Ditto, ventral view.

Fig. 3: *Coniopteryx* (Scotoconiopteryx) brasiliensis Meinander, male genitalia.
A. Genital segments, lateral view. — B. Ditto, caudal view. — C. Hypandrium, ventral view.
D. Internal genitalia, lateral view. — E. Ditto, ventral view.
Fig. 4: *Coniopteryx (Scotoconiopteryx) confluens* Meinander, male genitalia.
A. Genital segments, lateral view. — B. Ditto, caudal view. — C. Hypandrium, ventral view. 
D. Internal genitalia, lateral view. — E. Ditto, ventral view.

Fig. 5: *Coniopteryx (Scotoconiopteryx) furcata* Meinander, male genitalia.
A. Genital segments, lateral view. — B. Ditto, caudal view. — C. Hypandrium, ventral view. 
D. Internal genitalia, lateral view. — E. Ditto, ventral view.
Fig. 6: *Coniopteryx (Scotoconiopteryx) sinuata* Meinander, male genitalia.
A. Genital segments, lateral view. — B. Ditto, caudal view. — C. Hypandrium, ventral view.
D. Internal genitalia, lateral view. — E. Ditto, ventral view.

Fig. 7: *Coniopteryx (Scotoconiopteryx) trispina* Meinander, male genitalia.
A. Genital segments, lateral view. — B. Ditto, caudal view. — C. Hypandrium, ventral view.
D. Internal genitalia, ventral view. — E. Ditto, lateral view.
Fig. 8: *Coniopteryx* (C.) *gordica* Meinander, male genitalia.
A. Genital segments, lateral view. — B. Ditto, caudal view. — C. Hypandrium, ventral view.
D. Internal genitalia, ventral view. — E. Ditto, lateral view.
Fig. 9: *Coniopteryx* (C.) *simplicior* Meinander, male genitalia of specimen from Venezuela. A. Genital segments, lateral view. — B. Ditto, caudal view. — C. Hypandrium, ventral view. D. Paramere, lateral view. — E. Internal genitalia, ventral view.

Fig. 10: *Semidalis amazonensis* Meinander, female genitalia. A. Genital segments, lateral view. — B. Scerotized internal plate, lateral view. C. Internal plates, ventral view.
Fig. 11: *Semidalis ecuadoriana* Meinander, male genitalia.
A. Genital segments, lateral view. — B. Ditto, caudal view.
C. Internal genitalia, lateral view. — D. Ditto, ventral view.

Fig. 12: *Semidalis serrata* Meinander, male genitalia.
A. Genital segments, lateral view. — B. Ditto, caudal view.
C. Internal genitalia, lateral view. — D. Ditto, ventral view.
Bibliography of the Neuropterida

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