

**New species of the genus *Chersodromia* WALKER
(Diptera Empidoidea Hybotidae)
from the northern coast of Papua New Guinea**

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Summary

Three new species of the genus Chersodromia WALKER are described from the shores of Laing Island and Hansa bay on the northern coast of Papua New Guinea.

Introduction

Several dolichopodid and empidoid species are found in the intertidal and supralittoral zone of the beaches of Papua New Guinea. At the moment we know four species of the genus *Cymatopus* KERTÉSZ (MEUFFELS & GROOTAERT, 1984; GROOTAERT & MEUFFELS, in press) which live on reef-flats and rocky shores. In the mangrove directly exposed to the sea, the genera *Mischopyga* and *Physopyga* GROOTAERT & MEUFFELS, 1989, are found. In the mangrove flooded with brackish water, there is a large variety of *Teuchophorus* species (MEUFFELS & GROOTAERT, 1986), while on the sandy beaches, several species of *Chersodromia* occur together with some other undescribed genera of minute empidids.

The genus *Chersodromia* WALKER, 1849, is mainly marine in distribution. The present record of the genus is new for the Indo-Malayan region. There are two records of *Chersodromia* from the Australian region. *C. lutescens* BEZZI, 1904 was described from Sydney (N.S.W.). CHVÁLA (1978) however doubts whether this species really belongs to *Chersodromia*. ROGERS (1982) provides a translation of the original description of *C. lutescens* stating that the eyes are touching on the face and that the third antennal segment is conical. These characters differ completely from the species described here. *C. zelandica* ROGERS, 1982 is more recently described from New Zealand. In the Oriental region there is a record of an undescribed species from Taiwan (BEZZI, 1912).

The systematic position of *Chersodromia* and a detailed description of the genus can be found in CHVÁLA (1975 and 1978). He divided the genus into four species groups. It is however very difficult to fit the present new species into one of these groups. The closest seems to be the *cursitans* group. However in this group a posthumeral is present while lacking in the new species.

Systematic account

Chersodromia flavipyga sp. n. (Figs 1-7)

A medium-sized (1.6-2.6 mm) species with black antennae. Front tibiae yellow. Palpi pale yellowish, not white. Male with mid tibiae ventrally in apical half with six strong, somewhat flattened black spine-like bristles; the row ending in a strong black apical bristle. Periandrial lamellae yellowish.

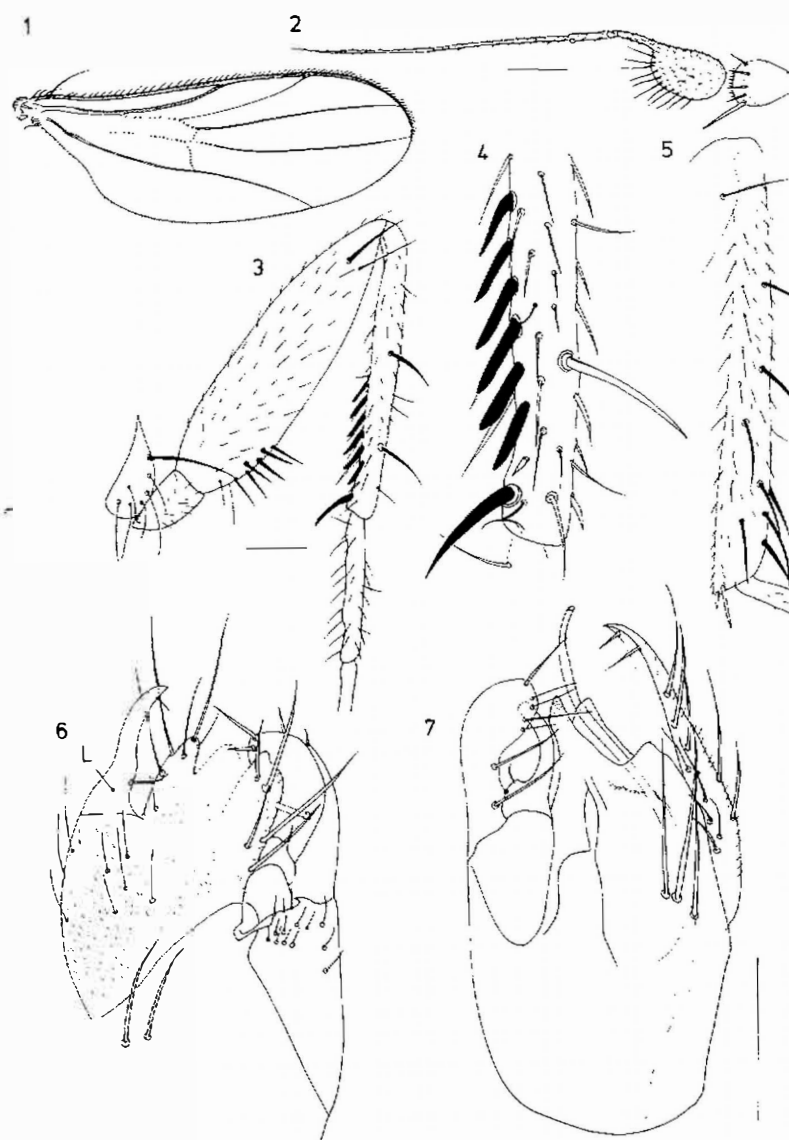
Male

Head black, but jowls brownish and proboscis yellowish. Face and frons wide. Face above as wide as second antennal segment, widening below. Anterior, posterior ocellar and vertical bristles as long as third antennal segment, black. Anterior ocellar and vertical bristles crossing. Only one pair of verticals. Occiput subshining black, covered with short white hairs that do not become longer below. Jowls broad, a fifth of the height of an eye, brownish. Antennae (Fig. 2) completely black. Second segment ventrally with a hair which is about as long as second segment. Third segment oval, slightly longer than deep. Arista dorsal, about three times as long as third segment. Proboscis yellow, somewhat shorter than head is high. Palpi ovate, somewhat pointed, pale yellowish (not white) and with a pale subterminal bristle.

Thorax black, but pleura more brownish. Humeri large but indistinct, with a long humeral bristle rather posteriorly. Acrostichals not distinct from other pubescence; three long dorsocentrals; two notopleurals; one postalar; a pair of scutellars.

Legs yellow, including coxae, but all femora with a brown streak dorsally on at least the apical half and terminal tarsal segment of all legs black. Front femora thickened on basal three quarters, ventrally with two widely spaced rows of short yellow bristles, nearly half as long as femur is deep. Each row ends in a long fine, brown preapical bristle. Anteriorly with a distinct, black preapical. Front tibiae somewhat narrowed near base with at least one long black dorsal bristle near middle, and with a strong antero- and postero-ventral preapical. Mid femora slightly thinner than front femora. Ventrally on basal third with a double row of about five strong brown bristles in each row; a long black anterior preapical. Mid tibiae (Figs 3-4) ventrally in apical half with six strong, somewhat flattened black spine-like bristles; the row ending in a strong black anteroventral preapical; a weak but long posteroventral preapical; two very long, but fine anterodorsals. Hind femora as wide as mid femora with a distinct black anterior preapi-

cal. Hind tibiae (Fig. 5) with two long anterior, four long anterodorsal and four posterodorsal bristles, ventrally with only some hairs.



Figs 1-7. *Chersodromia flavipyga* sp. n., male paratype. 1: wing; 2: antenna; 3: middle leg; 4: tip of mid tibiae; 5: hind tibia; 6: periandrium with cerci; 7: periandrium with hypandrium. Scale 0.1 mm.

Abdomen black with short hairs. Right and left periandrial lamellae (Figs 6-7) and hypandrium yellowish-brown. Tip of hypandrium and left cercus black. Left lamella with a long somewhat spoon-shaped dark extension.

Wings (Fig. 1) smokey-brown grey but basal part of wing, at the level of R 1 and first basal cell yellowish. R 4+5 and M slightly diverging but ending parallel in wingtip. Halteres yellowish-white.

Length: body: 2.4-2.5 mm; wing: 1.6-1.7 mm.

Female

In most respects identical to male. Mid femora ventrally without bristles. Mid tibiae on apical half with some short pale bristles instead of the black, flattened spine-like bristles in the male. Bristling on hind tibiae identical.

Length: body: 1.6-2.6 mm; wing: 1.44-1.6 mm.

Variability: There is an important variation in body length.

Material examined: Holotype male and paratypes: Papua New Guinea, Madang province, Bogia district, Laing Island, 4.III.1992, 14 males, 21 females (several specimens carrying a red mite).

Derivatio nominis: *flavipyga* alludes to the yellow periandrial lamellae.

Chersodromia nigripyga sp. n. (Figs 8-14)

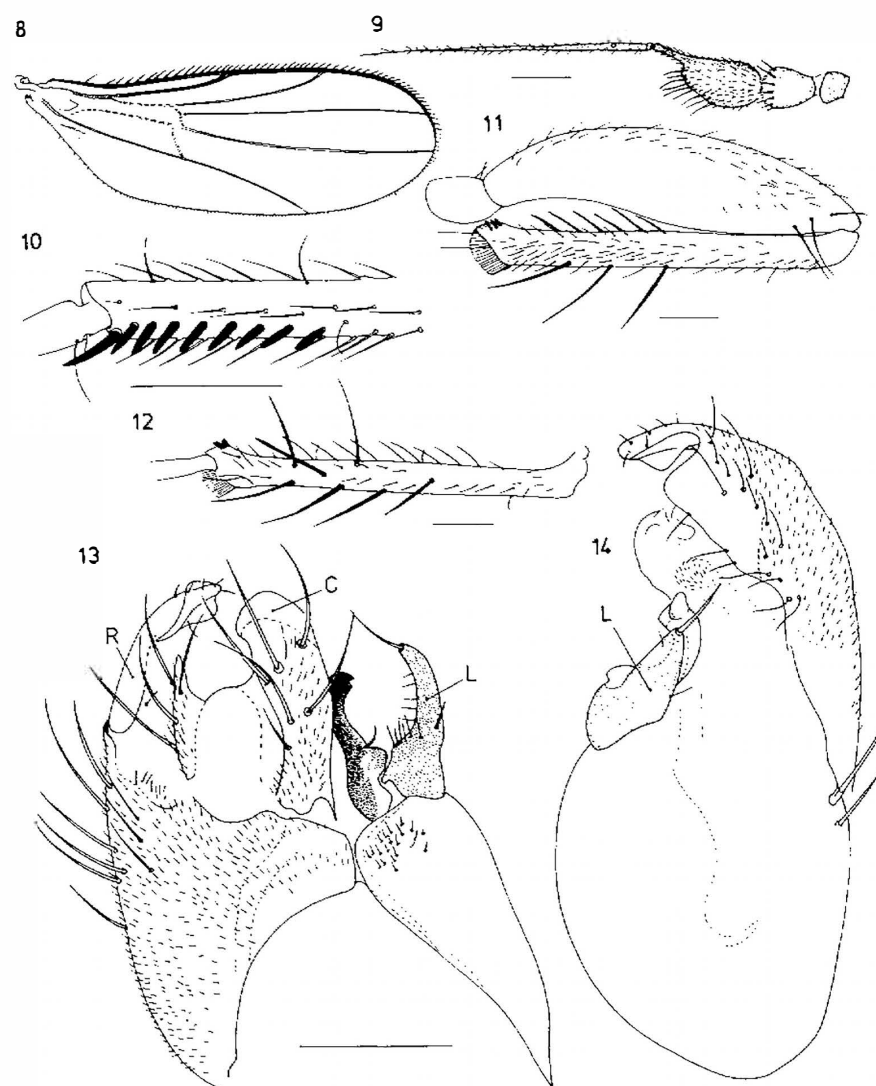
A medium-sized species with black antennae. Front tibiae with a brown stripe anteriorly. Palpi pale whitish. Male with mid tibiae ventrally in apical half with eight strong, somewhat flattened black spine-like bristles; the row ending in a strong black apical bristle. Periandrial lamellae black.

Male

Head black, but jowls brownish and proboscis yellowish. Face and frons wide. Frons a little wider than second antennal segment, parallel-sided below, widening towards ocellar triangle. Face narrower than frons, above as wide as second antennal segment, widening below. Anterior, posterior ocellar and vertical bristles nearly as long as third antennal segment, black. Anterior ocellar and vertical bristles crossing. Occiput subshining black, covered with short white hairs that do not become longer below. Jowls broad, brownish. Antennae (Fig. 8) completely black. Second segment ventrally with a very short, inconspicuous hair which is hardly a third of the length of the second segment. Third segment slightly longer than deep. Arista dorsal, about three times as long as third segment. Proboscis yellow, somewhat shorter than head is high. Palpi ovate, somewhat pointed, white and with a short, pale subterminal bristle.

Thorax black, but pleura more brownish. All bristles brownish to black. Humeri large but indistinct, with a long, upright humeral bristle (longer than third antennal segment), rather posteriorly. Acrostichals biserial,

distinctly separated from the dorsocentrals; three long dorsocentrals among the bi- to multi-serial row of dorsocentrals; two short notopleurals, about as long as third antennal segment; a short postalar; a pair of long scutellars.



Figs 8-14. *Chersodromia nigripyga* sp. n., male paratype. 8: antenna; 9: wing; 10: mid tibia; 11: hind femur and tibia posteriorly; 12: hind tibia anteriorly; 13: periandrium with cerci; 14: periandrium (L: left periandrial lamella, R: right periandrial lamella, C: cercus). Scale 0.1 mm.

Legs yellow, base of front coxae and posterior four coxa, all femora with a brown streak dorsally on at least the apical half and terminal tarsal segment of all legs black. Sometimes all tarsal segments brown. Front tibiae with a brown streak anteriorly near middle. Front femora thickened on basal three quarters, ventrally with two widely spaced rows of short yellow bristles, nearly half as long as femur is deep. Each row ends in a long fine, yellowish preapical bristle (stronger and brown in female). Anteriorly with a weak, brown preapical. Front tibiae only slightly narrowed near base with some brownish dorsal bristles, and with a strong antero- and postero-ventral preapical. Mid femora slightly thinner than front femora. Ventrally on basal third with some short yellowish bristles; a distinct black anterior preapical. Mid tibiae (Fig. 10) ventrally in apical half with eight short, somewhat flattened black spine-like bristles; the row ending in a strong black apical, which is nearly as long as tibia is deep; dorsal bristles inconspicuous. Hind femora stouter than mid femora, basal quarter narrow, apical part broadened. Hind femora bent in a dorsoventral plane but also in an antero-posterior plane. A distinct black anterior preapical. Hind tibiae (Fig. 12) with two very long pale anteroventral, two anterior, three long dorsal (twice as long as tibia is deep), but without posterodorsal bristles.

Abdomen black with short hairs. Hypopygium (Figs 13-14) black. Left lamella with a long black extension, bearing a pale bristle at its tip. Right periandrial lamella very large, its tip generally envelops the tips of the cerci. Right cercus very short, left cercus long, strap-shaped.

Wings (Fig. 9) smokey-brown grey but basal part of wing, at the level of R 1 and first basal cell yellowish. R 4+5 and M slightly diverging but ending parallel in wingtip. A long black costal bristle present. Halteres whitish.

Length: body: 1.9-2.6 mm; wing: 1.4-1.6 mm.

Female

In most respects identical to male. Mid femora ventrally without bristles. Mid tibiae on apical half with some short pale bristles instead of the black, flattened spine-like bristles in the male. Hind femora also bent but not so thickened as in male.

Length: body: 2.2-2.7 mm; wing: 1.4-1.9 mm.

Variability: There is some variation in the darkening of the legs.

Material examined: Holotype male and paratypes: Papua New Guinea, Madang province, Bogia district, Laing Island, 4.III.1992, 24 males, 26 females.

Derivatio nominis: *nigripyga* alludes to the black periandrial lamellae.

Chersodromia micra sp. n. (Figs 15-20)

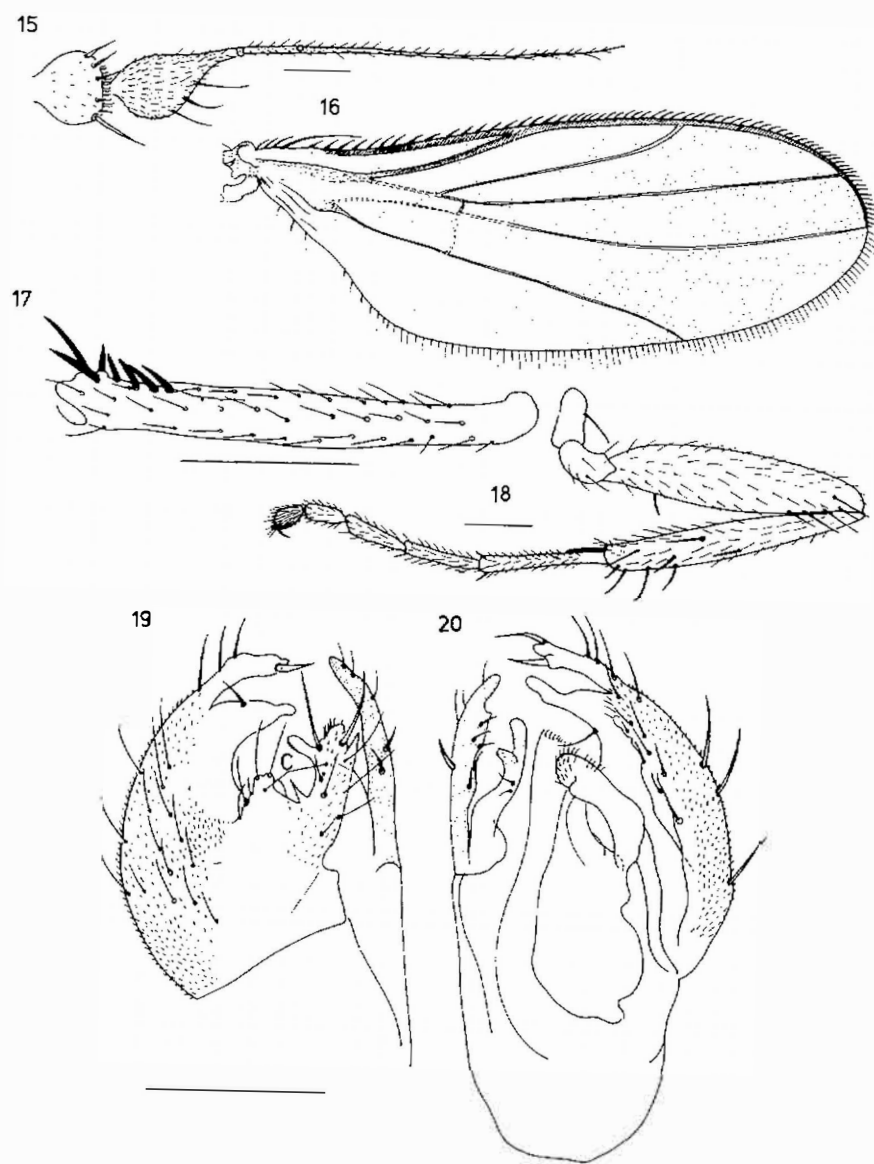
A small species with basal antennal segments yellowish-brown, third segment dark brown. Palpi yellowish-white, with pale hairs. Mid tibiae with four short, black spine-like bristles in apical quarter, apart from the antero- and postero-ventral preapicals. Hind femora with a short black ventral bristle in apical third.

Male

Head black, but jowls and proboscis yellowish. Face and frons rather wide. Frons as wide as second antennal segment, parallel-sided below, widening towards ocellar triangle. Face as wide as frons, above as wide as second antennal segment, widening below. Anterior and posterior ocellar bristles as long as third antennal segment, black. Anterior ocellar and vertical bristles crossing. Vertical bristles as long as ocellars. Occiput subshining black, covered with short dark hairs that do not become longer below. Jowls broad. Antennae (Fig. 15) with basal segments yellowish-brown, third segment darker. Second segment ventrally with a bristle, as long as second segment. Third segment as long as deep, dorsal extension not developed. Arista dorsal, about two and a half times as long as third segment. Proboscis yellow, half as long as head is high. Palpi ovate, yellowish-white, covered with some pale hairs and with a subterminal bristle which is as long as palpus is long.

Thorax dark brown, but pleura paler. All bristles black. No propleural bristle. Humeri with a long, upright humeral bristle (longer than third antennal segment), preceded by some shorter hairs. Acrostichals biserial, distinctly separated from the dorsocentrals; three long dorsocentrals; no post-humeral; two notopleurals, longer than third antennal segment; a supra-alar, a postalar and a pair of long crossing scutellars.

Legs yellow, including coxae, but apical four tarsal segments of front tarsi and terminal segment of posterior four legs darkened. Front coxae with short pale hairs. Front femora thickened on basal three quarters, ventrally with two widely spaced rows of short dark bristles. Each row ends in the crown of preapicals. Anteriorly with a weak, brown preapical. Front tibiae somewhat thickened, only slightly narrowed near base with some brownish dorsal bristles, and with a short antero- and postero-ventral preapical. Mid femora less stout than front femora. Ventrally at base with two black bristles, which are hardly half as long as femur is deep; a distinct black anterior preapical. Mid tibiae (Fig. 17) ventrally in apical quarter with about four short, black spine-like bristles; the row ending in a strong black antero- and postero-ventral preapical, which are nearly as long as tibia is deep. Hind femora a little stronger than mid femora. Hind femora (Fig. 18) only slightly bent in a dorsoventral plane. Ventrally with a short but distinct black bristle on basal third. A distinct black anterior and a ventral preapical bristle present. Hind tibiae as long as hind femora, distinctly arched; with two long black anteroventral, two anterior and three long dorsal bristles (as long as tibia is deep).



Figs 15-20. *Chersodromia micra* sp. n.: paratype male. 15: antenna; 16: wing; 17: mid tibia; 18: hind leg anteriorly; 19: periandrium with cerci (C); 20: periandrium with hypandrium. Scale 0.1 mm.

Abdomen black with short hairs. Base of hypopygium (Figs 18-19) yellowish but all extensions black.

Wings (Fig. 16) brownish but basal part of wing paler. R 4+5 and M, almost straight, slightly diverging so running parallel towards wingtip. A long black costal bristle present.

Length: body: 1.1-1.2 mm; wing: 0.8-0.96 mm.

Female

In most respects identical to male. Bristling of the legs is also identical to male, except for the absence of spine-like bristles on the mid tibiae and the short ventral bristle on the hind femora.

Length: body: 0.88-1.2 mm; wing: 0.8-1.04 mm.

Material examined: Holotype male and paratypes: Papua New Guinea, Madang province, Bogia district, Condor Point, 15.III.1992, 2 males, 4 females.

Derivatio nominis: *micra* alludes to the small size of the species.

Key to the species of Hansa bay, northern coast of Papua New Guinea

1. - Antennae completely black. Larger species 2
- Antennae with at least the basal segments yellowish-brown. Smaller species (0.9-1.2 mm) *micra* sp. n.
2. - Front tibiae completely yellowish. Periandrial lamellae yellowish *flavipyga* sp. n.
- Front tibiae anteriorly with a brown stripe. periandrial lamellae black *nigripyga* sp.n.

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**Trois nouvelles Linyphiidae de l'Atlas Algérien,
avec la description du mâle de
Lepthyphantes djazairi BOSMANS, et la redescription
de *Lepthyphantes homonymus* DENIS (Araneae)**

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Résumé

Les auteurs décrivent trois Linyphiidae nouvelles de l'Atlas Saharien, Algérie: Typhochrestus djellalensis sp. n., Lepthyphantes bkheita sp. n. et Lepthyphantes naili sp. n.; ils décrivent également le mâle inconnu de L. djazairi BOSMANS, et redécrivent L. homonymus DENIS.

Summary

The authors describe three new Linyphiid spiders from the Saharian Atlas: Typhochrestus djellalensis sp. n., Lepthyphantes bkheita sp. n. and Lepthyphantes naili sp. n.; they also describe the unknown male of L. djazairi BOSMANS, and redescribe L. homonymus DENIS.

Introduction

La région de Djelfa se situe dans l'Atlas Saharien dans l'étage bioclimatique semi-aride à hiver froid. L'arachnofaune n'y est pratiquement jamais étudiée; nous trouvâmes seulement quelques très anciennes citations de SIMON (1899, 1910).

Pendant une année, nous avons étudié la pédofaune de deux pinèdes dans les environs de Djelfa. Une première série de trois fois dix pièges de Barber fut installée au niveau du Djebel Sénalba, 7 km à l'est de Djelfa à une altitude de 1220-1450m. Une deuxième série de trois fois dix pièges