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Spiders (Araneae) from Papua New Guinea III. Mysmenidae (Symphytognathoidea)*

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Introduction

This paper is the third contribution of a series of papers on spiders from Papua New Guinea. The material collected by Dr J. Van Goethem during his expeditions of 1977 and 1978 contained a few small spiders belonging to the Mysmenidae.

Family Mysmenidae

From the literature (Wunderlich, 1980; Brignoli, 1980) it seems clear that there is still considerable controversy among araneologists about the taxonomic validity of the various families of the Symphytognathoidea as split up by Forster & Platnick (1977). Without taking provisionally any position in this matter, two new symphytognathoid spiders are here described from Papua New Guinea. It seems justified to erect a new genus for them.

*Léopold III Biological Station, Laing Island. Contribution No. 35.

Kekenboschiella new genus

Type species: *Kekenboschiella marijkeae* sp. n.

Diagnosis of genus

Small spiders; prosoma high, in ♂ elevated in ocular area and about as long as wide, in ♀ longer than wide; ocular area broad, eight eyes with AME and PME > LE, AMs wide apart and directed forwards, LEs touching or nearly touching each other, anterior row recurved, posterior row almost straight; chelicerae long and slender, with strong frontal spine near base, pro- and retromargin with three teeth (♂) (in ♀ with two retromarginal teeth?); opisthosoma globular; legs: I > II > IV > III, clasping spur on ♂ Mt I, femoral organ on ♀ Fe I and II, Ta > Mt; ♂ palp twisted, tibia cup-like fringed with a row of long strong hairs, cymbium with curious outgrowth (trifid in *K. marijkeae* and horseshoe-like in *K. vangoethemi*).

Derivatio nominis: Dedicated to Mr J. Kekenbosch for his valuable work on Belgian spiders.

Kekenboschiella marijkeae new species (Figs. 1-11)

Material

Type locality: Papua New Guinea, Madang province.

♂ holotype (I.G. 25848/1, microscopic prepar-

ation of left palp 25848/3): Bari village at Sakula river; wet leaf litter at *ca* 50 m altitude; Berlese sample no. 165; 27 May 1978.

♀ paratype (I.G. 25848/2): Bogia (4°15' S, 145°00' E), hills south of Anchor High School; forest gallery; dry leaf litter at *ca* 80 m altitude; Berlese sample no. 227; 5 June 1978.

Collector: Dr J. Van Goethem (K.B.I.N.).

Types in the Koninklijk Belgisch Instituut voor Natuurwetenschappen (K.B.I.N.).

Derivatio nominis

The species is dedicated to my wife Marijke Lambert.

Male holotype

Total length: 0.68 mm; prosoma: 0.29 mm long, 0.29 mm wide, 0.21 mm high.

Prosoma (Figs. 1, 2): As long as wide, smaller than in *K. vangoethemi* but more elevated in the head

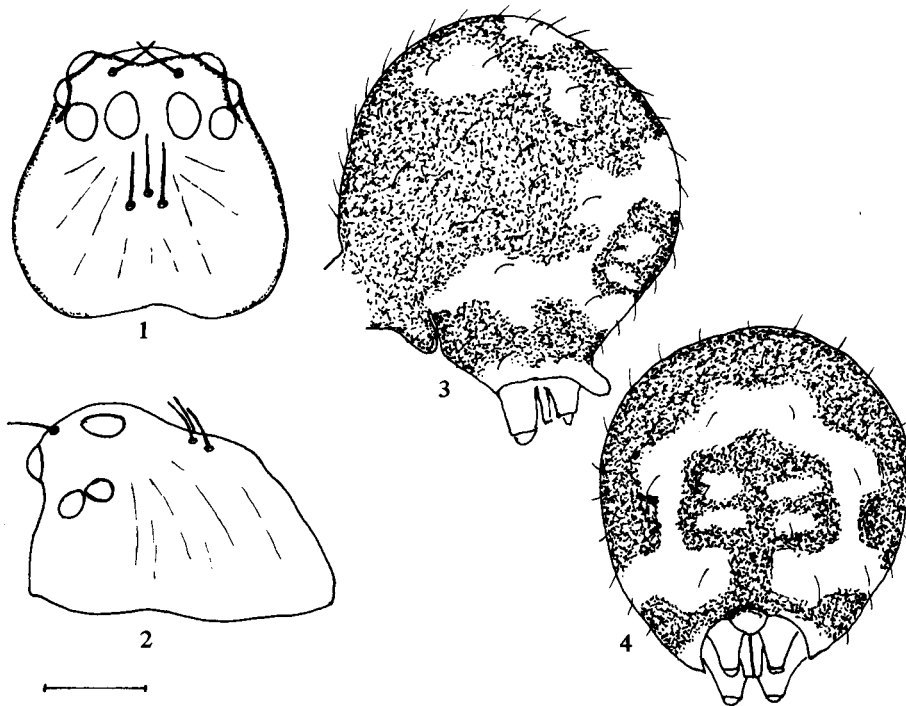
region; clypeus high, approximately 3x diameter of AME; ocular area broad (width ocular area/width prosoma: 0.68).

Eyes: AM directed forwards and slightly laterally, separated by *ca* 2.5x their diameter; PM on top of head elevation; AL and PL nearly touching each other; front row strongly recurved, posterior row almost straight at rear edge (Fig. 1).

Chelicerae: With strong frontal spine near the base, short fangs; three promarginal teeth distinctly far apart from each other, three retromarginal teeth contiguous with each other (see Fig. 16), numerous small denticles on surface of cheliceral furrow between pro- and retromargin.

Opisthosoma (Figs. 3, 4): Globular; greyish, more pigmented than in *K. vangoethemi*, with a number of pale spots on dorsum; a pale side band starts at the epigynal fold, and bifurcates caudally to form (as in *K. vangoethemi*) a ring surrounding a supra-anal dark area which is provided with four small pale spots; anal tubercle strongly protruding.

Legs: Measurements in mm (approximate values):



Figs. 1-4: *Kekenboschiella marijkeae* n. sp., ♂ holotype. 1, prosoma, dorsal view; 2 prosoma, lateral view; 3 opisthosoma, lateral view; 4 opisthosoma, caudal view. Scale line: 0.1 mm.

	Fe	Pa	Ti	Mt	Ta	Total
I	0.30	0.10	0.21	0.16	0.18	0.95
II	0.28	0.09	0.16	0.13	0.18	0.84
III	0.18	0.06	0.11	0.11	0.14	0.60
IV	0.21	0.06	0.16	0.12	0.16	0.71

Formula: I > II > IV > III; leg I with typical clasping spur on Mt; annulation on legs more conspicuous than in *K. vangoethemi*, distal halves of Ta, Mt and Ti darkened.

Palp (Fig. 11): Cymbium translucent with outgrowth of complicated trifold form lying between cymbium itself and bulbus.

Female paratype

Total length: 0.78 mm; prosoma: 0.38 mm long,

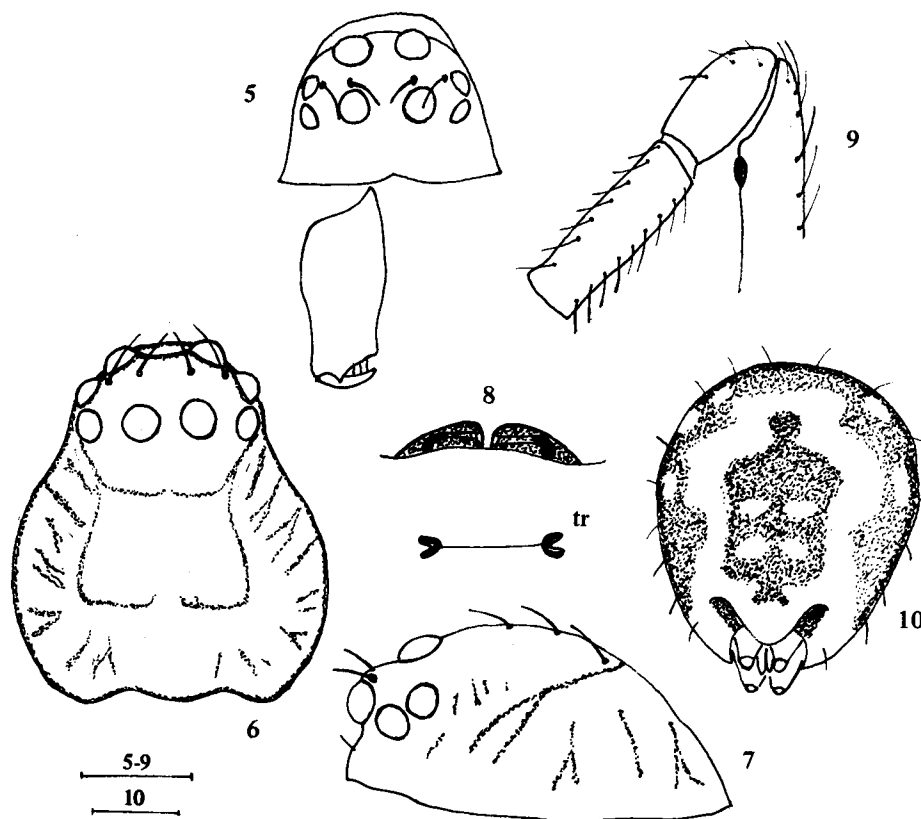
0.30 mm wide, 0.18 mm high.

Prosoma (Figs. 5-7): Longer than wide; elevation situated at about mid-point; clypeus *ca* 1.3x diameter of AME, concave just below AME, merging into a convex lower part; width ocular area/width prosoma: 0.57.

Eyes: Large; AM directed forwards and slightly laterally, separated by 1.6x their diameter; AL and PL nearly touching each other; front row strongly recurved, posterior row nearly straight, at least rear edge of eyes lying on a straight line.

Chelicerae (Fig. 5): No spine near base; promargin with three teeth (relative position as in ♂), retro-margin with two contiguous teeth.

Opisthosoma: Greyish with pale spots on dorsum; pale side band starting from pedicel, bifurcating



Figs. 5-10: *Kekenboschiella marijkeae* n. sp., ♀ paratype. 5 prosoma, frontal view; 6 prosoma, dorsal view; 7 prosoma, lateral view; 8 epigynal region; 9 femoral organ, leg I; 10 opisthosoma, caudal view. Scale lines: 0.1 mm. (tr = tracheal spiracle).

caudally and forming a ring surrounding a dark area which is provided with four pale spots (Fig. 10); anal tubercle strongly protruding.

Legs: Yellowish with distal ends of Ti and Mt darkened; Fe I and II with "femoral organ" lying very close to articulation with patella (Fig. 9). Measurements in mm (approximate values):

	Fe	Pa	Ti	Mt	Ta	Total
I	0.34	0.13	0.18	0.16	0.16	0.97
II	0.27	0.12	0.18	0.13	0.16	0.86
III	0.19	0.09	0.11	0.10	0.15	0.64
IV	0.26	0.10	0.18	0.14	0.15	0.83

Formula: I > II > IV > III.

Epigynum: Composed of two sclerotised plates, no scape, vulva as in Fig. 8.

Kekenboschiella vangoethemi new species (Figs. 12-15)

Material

Type locality: Papua New Guinea, Madang province, Yoro (4°28' S, 145°11'50" E).

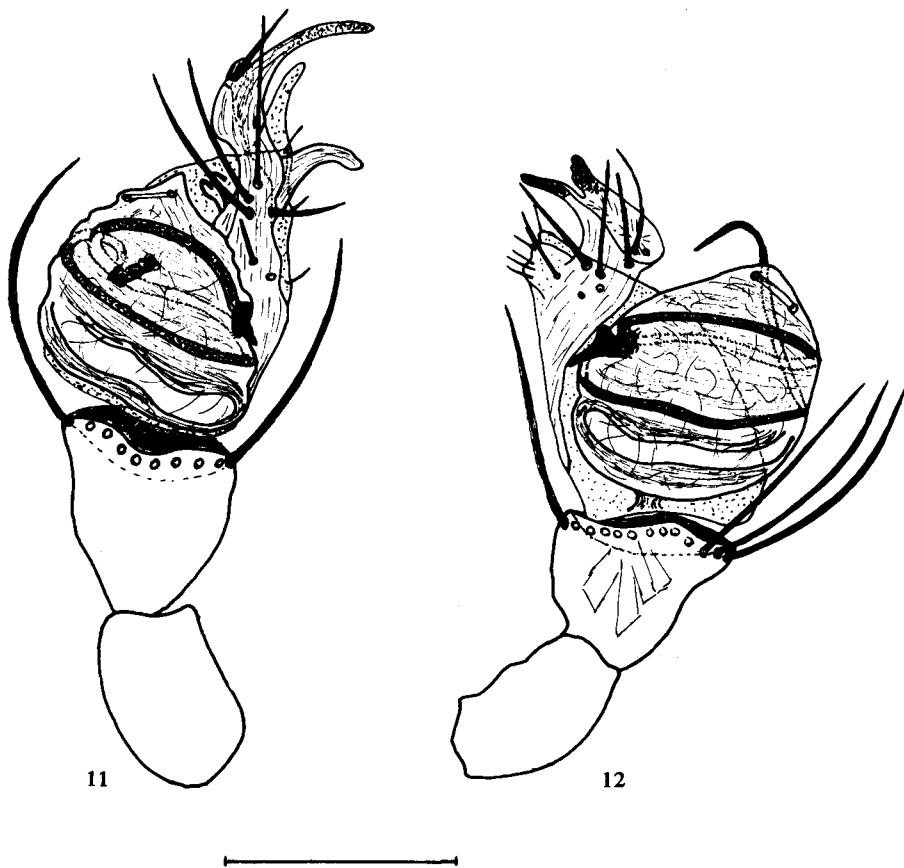
♂ holotype (I.G. 25681/14, microscopic preparation of ♂ right palp I.G. 25681/15): dry forest litter; Berlese sample no. 98; 13 May 1977.

Collector: Dr J. Van Goethem (K.B.I.N.)

Type in the Koninklijk Belgisch Instituut voor Natuurwetenschappen.

Derivatio nominis

The species is named after Dr J. Van Goethem, collector of the Papua New Guinea material.



Figs. 11-12: 11 left palp of *K. marijkeae* n. sp.; 12 right palp of *K. vangoethemi* n. sp. Scale line: 0.1 mm.

Male holotype (♀ unknown)

Total length: 0.60 mm; prosoma: 0.33 mm long, 0.33 mm wide, 0.17 mm high.

Prosoma (Figs. 13,14, 15): As long as wide, head-region elevated; clypeus concave, height approximately 1.5x diameter of AME; width ocular area/width prosoma: 0.70.

Eyes: AM overhanging clypeus at an angle facing ventro-laterally, separated by *ca* 1.4x their diameter, nearly touching the smaller AL; AL and PL contiguous; front row recurved seen dorsally (Fig. 14), posterior row nearly straight.

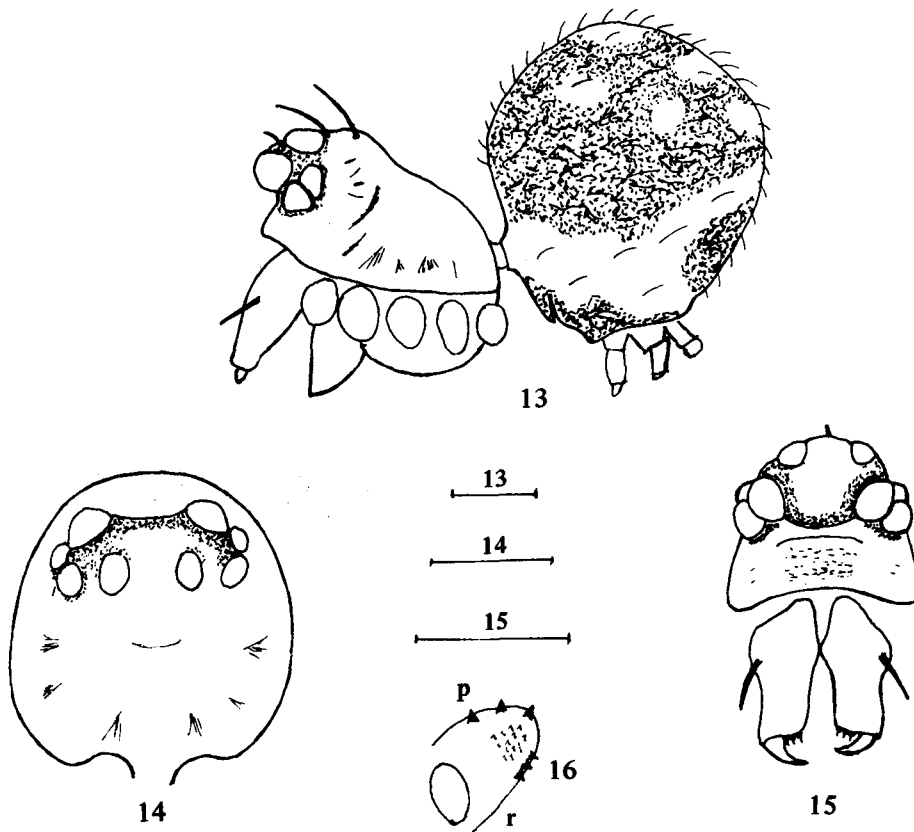
Chelicerae (Fig. 15): Promargin with three teeth

(relative position as in *K. marijkeae*), retromargin with three contiguous teeth; strong spine near the base; short fangs.

Opisthosoma (Fig. 13): Globular; greyish with a number of pale spots on dorsum; a pale band along both sides, starting from pedicel and bifurcating caudally to form a ring surrounding a broad supra-anal dark area.

Legs: Measurements in mm (approximate values):

	Fe	Pa	Ti	Mt	Ta	Total
I	0.26	0.08	0.17	0.14	0.17	0.82
II	0.21	0.07	0.13	0.11	0.15	0.67
III	0.14	0.04	0.09	0.09	0.12	0.48
IV	0.17	0.07	0.12	0.10	0.14	0.60



Figs. 13-15: *Kekenboschiella vangoethemi* n. sp., ♂ holotype. 13 lateral view; 14 prosoma, dorsal view; 15 prosoma, frontal view; 16 distal end of ♂ chelicera (outline) of *K. marijkeae* n.sp. & *K. vangoethemi* n.sp. (p = promargin; r = retromargin). Scale lines: 0.1 mm.

Formula: I > II > IV > III; leg I with typical clasping spur on Mt; distal end of Ti and Mt darkened (less visible on Mt).

Palp (Fig. 12): Cymbial outgrowth horseshoe-like.

Discussion

The description of the ♀ found at Bogia as the ♀ of *K. marijkeae* is based upon the following characters: (1) colour pattern of opisthosoma; (2) leg measurements; (3) protruding anal tubercle. More material from this area is nevertheless needed to consolidate this statement with certainty.

Kekenboschiella n.g. can be separated from all other genera placed in the Mysmenidae by Brignoli (1980) by the general structure of its complex male palpus, i.e. the bulbus and the complex form of the cymbium. The general appearance of *Mysmena vitiensis* Forster, 1959 (Fiji Is.) and *Mysmena woodwardi* Forster, 1959 (♀ from Papua New Guinea), considered as dubious *Mysmena* species by Brignoli (1980) bears some resemblance to the species described here, and may perhaps be closely related to them. Further detailed study on this matter is necessary. There is also a general resemblance to the

American *Calodipoena* species concerning the arrangement of the eyes, the cup-like palpal tibia, the distinct colour pattern (pale spots and pale side band) and bulbal structure. The cymbium is however much more specialised (cymbial outgrowth) in *Kekenboschiella*. I also fully agree, in this matter, with Brignoli (1980) that zoogeographical regions are of relevance in araneology.

Mysmena also has a specialised cymbium with an extremity transformed into a kind of supplementary conductor (Brignoli, 1980). In the case of *Kekenboschiella*, the curious cymbial outgrowth bears no apparent relation to the embolus.

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