

## *Kilifia inquilina*, a new mysmenid spider from Kenya (Araneae, Mysmenidae)

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### Introduction

Recently, Griswold (1985) described from southern Africa a mysmenid species, *Isela okuncana*. These spiders live like a number of American *Mysmenopsis* species, as kleptoparasites in the webs of diplurid spiders. A new mysmenid species, for which a separate generic status is given, is described from Kenya. It also was found in the webs of a diplurid spider, *Ischnothele karschi* (Bösenberg & Lenz) (leg. J. & F. Murphy), so a kleptoparasitic lifestyle is also possible for this species.

### Genus *Kilifia*, new-genus

*Type species: Kilifia inquilina*, new species.

*Etymology:* Named after the type locality.

*Description:* Small spiders, length 1.7-2.2 mm. Carapace low with cephalic region slightly elevated behind AER and with a depression just in front of PME. Male palpus: Tibia elongated with an apical row of long stout flat spines of which the central one is the most conspicuous; cymbium rather simple and provided with a stout cymbial thorn; embolus forming a spiral and needle-like; bulbus small with a coiled tegular apophysis. Vulva: Copulatory ducts short, their separated openings located deep under the epigastric plate; retrolateral diverticulae long and coiled; spermathecal duct long and coiled.

*Diagnosis:* There is a great similarity between the carapaces of *Kilifia* and *Isela* Griswold, 1985, especially in the cephalic region being rather low and the PME being separated from the PLE and AER by a distinct depression. The submarginal depression found in *Isela* is however absent in *Kilifia*. The male palpi of these two genera are quite different from each other. The palpal configuration of *Kilifia* shows some resemblance to those of other known mysmenid genera with the exception of *Mysmenopsis* Simon, 1897. The tibia is elongated as in *Mysmenopsis* and *Isela*, while the marginal spines at the apex are not cusp-like but longer and flat, reaching the top of the cymbium as in the other mysmenid genera. A cymbial thorn is present as in *Calodipoena* Gertsch & Davis, 1936, *Microdipoena* Banks, 1895, *Mysmena* Simon, 1899, *Mysmenella* Brignoli, 1980 and *Calomyspoena* Baert & Maelfait, 1983. Another important difference from *Isela* is the presence, in *Kilifia*, of a well-defined apical tegular apophysis as in *Microdipoena*, *Mysmenella*, *Itapua* Baert, 1984 and *Anjouanella* Baert, 1986 (cf. bulbal shield). All these morphological differences in the male

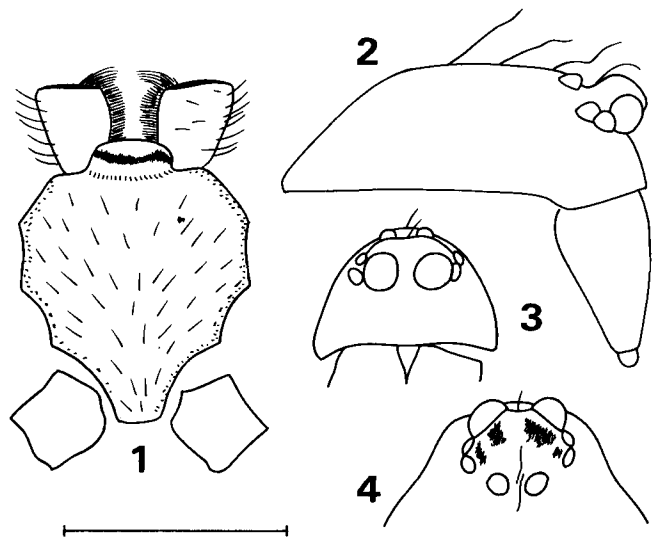
copulatory organ support the separate generic status of *Kilifia*. The Fe I of both sexes are strongly swollen as in *Isela*. A very small femoral organ is also present on the Fe I of the male of *Kilifia*.

### *Kilifia inquilina*, new species (Figs. 1-7)

*Material examined:* Kenya, Kilifi, 31 August 1977 (♂ holotype and ♀ paratype); 8 September 1977 (♂, ♀ paratypes); 16 September 1977 (♂, ♀ paratypes) and 9 August 1980 (3 ♀♀ paratypes). The types are deposited in the British Museum (Nat. Hist.) (holotype and paratypes), the Royal Belgian Institute for Natural Sciences (paratypes) and the Museum of Tervuren (paratypes).

*Description* (♂, ♀): Carapace brownish with broad darker striae; sternum dull greyish with dark margin; legs brown-yellow; abdomen greyish (in one male creamy) with long hairs.

*Male:* Total body length 1.70 (holotype)-1.83 mm. *Carapace* (Fig. 2): Longer than broad, with a dorsal row of spines; small depression just in front of PME; AME, ALE and PLE at base of small elevation; length 0.71 (holotype)-0.81 mm, width 0.62 (holotype)-0.68 mm, height 0.29 mm. *Eyes* (Figs. 3, 4): Arranged in a circle; AME, ALE and PLE contiguous; PME separated by their diameter from each other and from PLE. Ocular quadrangle slightly longer than wide, narrowed posteriorly, anterior side c. 1.5 times width of posterior side. *Clypeus:* Height 1.25-1.40 times diameter of AME. *Chelicerae:* Length nearly three times clypeus height; promargin with four small teeth, retromargin with one; fangs small. *Gnathocoxae* (Fig. 1): With small base, broadening apically, with flat apex. *Labium* (Fig. 1): Rebordered; much broader than long; fused with sternum. *Sternum* (Fig. 1): Heart-shaped with blunt end, hairy. *Legs:* Covered with many hairs and long spiny hairs; Fe with two rows of pro- and retroventral spiny hairs; Pa with a long proximal and apical spine; Ti with a long proximal spine and a dorsal row of trichobothria. Characteristics of leg I: Fe

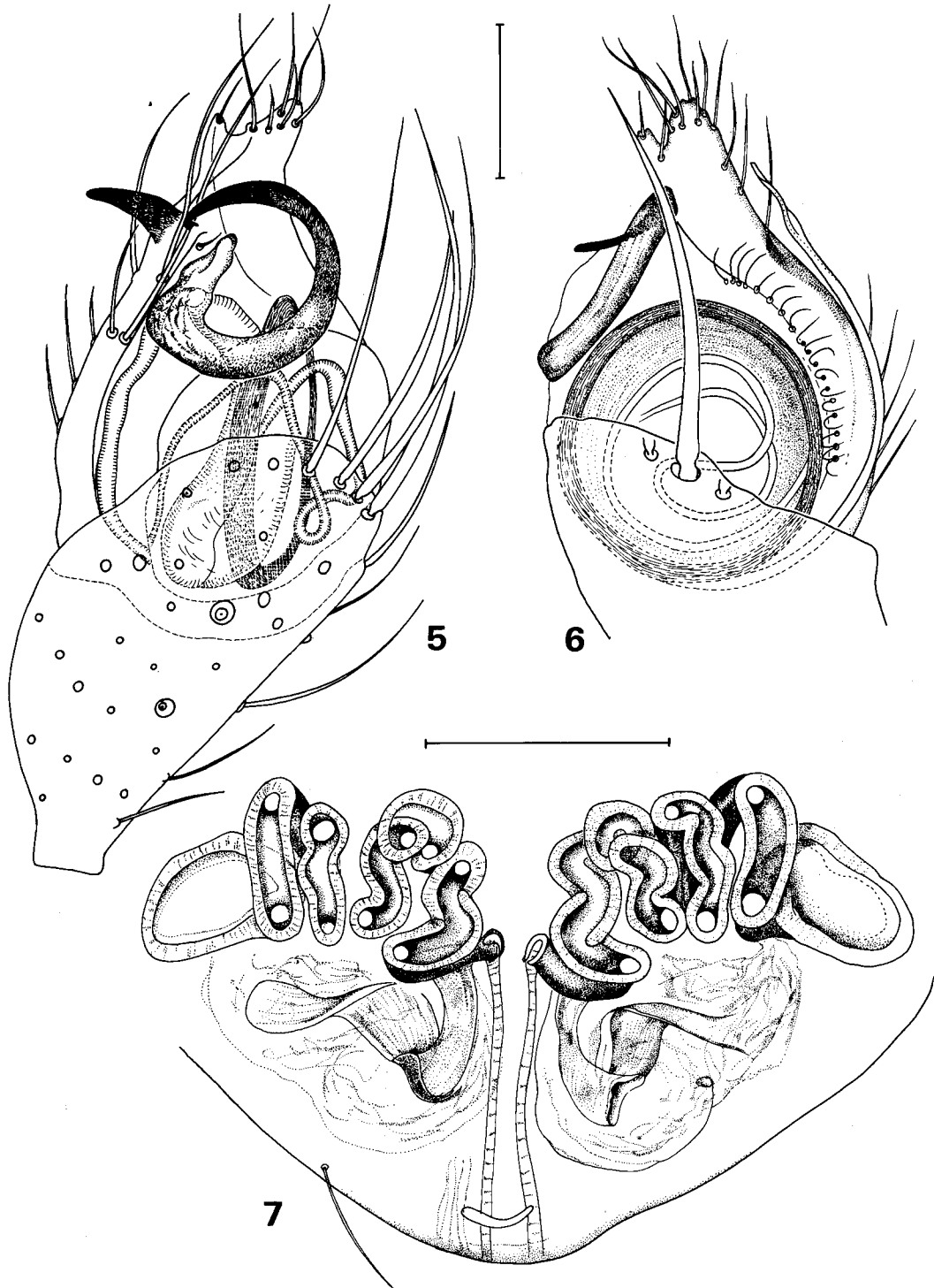


Figs. 1-4: *Kilifia inquilina* sp.n., cephalothorax. 1 Ventral view; 2 Lateral view; 3 Frontal view; 4 Dorsal view. Scale line = 0.5 mm.

strongly swollen (diameter  $\frac{1}{3}$  of length), with a ventral prolateral apical stout short spine; small femoral organ. Ti with apical prolateral clasp spine (spur); Mt with medio-proximal prolateral, slightly twisted, clasp spine. Approximate measurements as in Table 1. Leg formula I > II = IV > III. *Palpus* (Figs. 5, 6): Tibia enlarged and cusp-shaped with an apical row of long flat spines of which the central one (Fig. 6) is the most conspicuous (not all drawn); cymbium more or less simple with a conspicuous cymbial thorn; bulbus small, with a well-sclerotised coiled tegular apophysis; embolus forming a spiral, needle-like with a small

enlargement at apex; at rest it lies close to the inner border of the cymbium where it is protected by a row of short curved strong hairs.

*Female*: As male. Total body length: 2.00-2.22 mm. *Carapace*: Length 0.83-0.93 mm, width 0.67-0.73 mm, height 0.31 mm. Approximate leg measurements as in Table 1. Leg formula: I > II = IV > III. Fe I with 2-3 prolateral slender spines. *Vulva* (Fig. 7): Epigastric region slightly swollen with a small depression at apex of epigastric plate. Probably the tegular apophysis of the male (or cymbial thorn?) is inserted into this excavation during copulation in order that the



Figs. 5-7: *Kilifia inquilina* sp.n. 5 Palpus, lateral view, some spines omitted; 6 Palpus, mesal view, some spines omitted; 7 Vulva, ventral view. Scale lines = 0.1 mm.

Male	Fe	Pa	Ti	Mt	Ta	Total
I	0.78(h)-0.87	0.27(h)-0.31	0.56(h)-0.65	0.45(h)-0.54	0.33(h)-0.41	2.39(h)-2.78
II	0.60(h)-0.67	0.25(h)-0.27	0.44(h)-0.49	0.38(h)-0.45	0.31(h)-0.38	1.98(h)-2.26
III	0.53(h)-0.56	0.18(h)-0.22	0.32(h)-0.38	0.32(h)-0.37	0.30(h)-0.32	1.65(h)-1.85
IV	0.58(h)-0.68	0.22(h)-0.25	0.43(h)-0.49	0.42(h)-0.45	0.34(h)-0.38	1.99(h)-2.25
Female	Fe	Pa	Ti	Mt	Ta	Total
I	0.73-0.87	0.29-0.33	0.54-0.65	0.50-0.51	0.34	2.40-2.70
II	0.58-0.72	0.26-0.31	0.43-0.53	0.43-0.51	0.33-0.34	2.03-2.41
III	0.53-0.61	0.22-0.29	0.38-0.40	0.37-0.40	0.30-0.33	1.80-2.03
IV	0.62-0.73	0.23-0.29	0.43-0.54	0.40-0.47	0.33-0.34	2.01-2.37

Table 1: Leg measurements in mm (h = holotype).

epigastric plate may be lifted up, thus facilitating the insertion of the embolus into the copulatory ducts. The copulatory ducts are short, the retrolateral diverticulae long and coiled, the spermathecal ducts long and coiled.

#### Notes on biology

Observations on the biology of *Kilifia inquilina* were only made incidentally during a survey of *Ischnothele karschi* webs undertaken in 1980 for the purpose of investigating the behaviour of *Portia schultzei* Karsch (Forster & Murphy, 1986). Regrettably, at that time, they were assumed to be *Dipoena*-like theridiids of no particular interest.

The extensive web built by *I. karschi*, a medium-sized (about 15 mm in length) diplurid, becomes greatly cluttered with dead leaves and other debris. The web shelters an extensive collection of spiders and insects such as thysanurids, crickets and ants. A good number of diplurid webs were examined, probably 40 or more. The commonest inquiline spider was *K. inquilina*, followed by *Portia schultzei* which occurred at the rate of one to every three webs.

Two females and a male of *K. inquilina* were brought to England and installed on 9 October 1980 in one of the cages which were set up to study the behaviour of *P. schultzei*. This cage contained an adult *I. karschi* female, which had built a substantial web, and a *P. schultzei*. Both female *K. inquilina* disappeared into the web, one never being seen again. The male was seen around the edge of the web for a week and then too disappeared. Subsequently a collection of *I. karschi* spiderlings was added to the cage and for food small spiders and various diptera

were provided at intervals. In March 1981 the cage was investigated and found to contain only the adult *I. karschi* and a female *K. inquilina*.

#### Acknowledgements

We thank Dr Charles E. Griswold of the Natal Museum, Pietermaritzburg, South Africa, for the loan of the types of *Isela okuncana*, Dr N. I. Platnick for his comments, and Mrs K. de Pierpont-Bouckaert who made the final drawings.

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