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Notes on African Linyphiidae (Araneae)  
V. *Murphydium*, a new genus from East-Africa\*

by R. JOUQUÉ

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Abstract

*Murphydium foliatum* n. gen., n. sp. is described from coastal areas in Kenya and Somalia. The genus is characterized by the male palpal tibia with prolateral apophysis and trilobate paracymbium; the female by the epigyne with central membranous area.

Key words: *Murphydium* n. gen., Linyphiidae, afrotropical region.

Résumé

L'auteur décrit *Murphydium foliatum* n. gen., n. sp. sur du matériel des côtes du Kenya et de la Somalie. Le genre est caractérisé par une apophyse prolaterale sur le tibia du palpe mâle et le paracymbium à trois lobes. L'épigyne est pourvue d'une partie membraneuse centrale; les spermathèques sont situées à l'extrémité latérale.

Introduction

The Linyphiidae are probably the best known spider family of Africa. Although they are fairly small, they have received much attention in papers by European arachnologists (DENIS, LOCKET, MILLER, HOLM, BOSMANS, JOUQUÉ), summarized in the catalogue by SCHARFF (1990). Linyphiidae is indeed the only sizeable spider family for which there is a recent catalogue of the African representatives. It appears from that catalogue that the degree of endemism in Linyphiidae, at least at the generic level, tends to be higher in lowland than in montane areas, although the richness of the tropical linyphiid fauna increases with increasing altitude (JOUQUÉ, 1984; SCHARFF, 1992; BAERT & JOUQUÉ, 1993). The find of a new lowland genus

\* Received: 6.III.1996.

in the family is therefore of particular interest, specially since it is from Kenya, the linyphiid fauna of which is better known than that of other African countries.

The previous note in this series was by JOCQUÉ (1985).

Abbreviations:  $\emptyset$ : spine length in diameter of the leg section; ALE: anterior lateral eyes; AME: anterior median eyes; imm.: immature; MRAC: Musée royal de l'Afrique Centrale; MZF: Museo Zoologica de "la Specola", Firenze (S. Mascherini); PLE: posterior lateral eyes; PME: posterior median eyes; SA: subtegular apophysis; sub: subadult; TM: trichobothrium; position of trichobothrium base if followed by figure.

All measurements are in mm.

Genus *Murphydium* nov.

**Diagnosis:** the genus is recognized by the remarkable genitalia: in the male the palpal tibia has a large prolateral apophysis and a trilobate striated paracymbium; the female has an epigyne with a central membranous area surrounded by sclerotized brims. The spermathecae are far apart, situated at the lateral extremity of the epigyne.

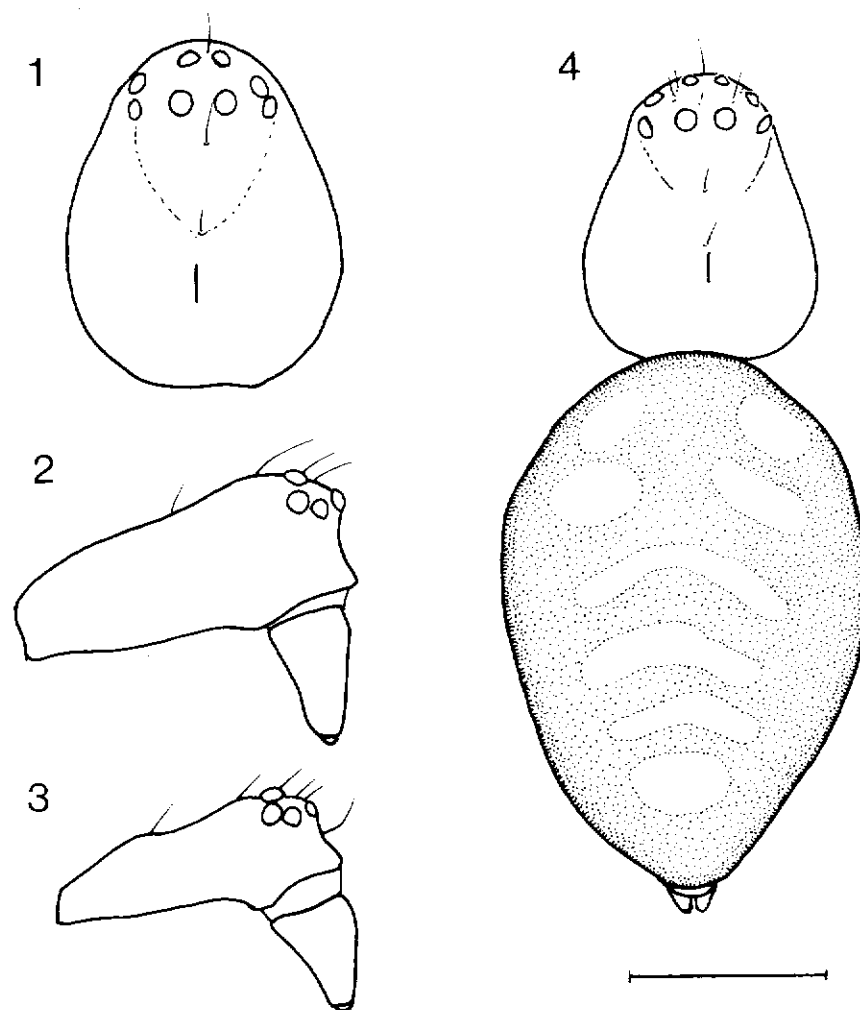
**Description:** Medium sized Erigoninae (desmitracheate) with smooth tegument; male with broadly oval carapace without modifications; female carapace more elongate; abdomen with dorsal pattern. Leg formula 1423; long and slender: length tibia I 12 times as long, tibia IV 14 times as long as its diameter; femur IV resp. 0.95 (♀) and 0.80 (♂) times the length of the carapace. TM I in proximal half of the segment; TM IV absent; all tibiae with one spine. Chelicerae with obvious stridulating ridge; promargin with 3 or 4 teeth, retromargin with three teeth.

Male palpal tibia with long prolateral apophysis and short retrolateral one; 2 trichobothria; paracymbium peculiarly shaped with three branches, the retrolateral one foliate and striated. SA well developed, knob-shaped, visible from lateral side; ED complex with a tail piece, two apophyses, a distal membrane and a long falciform embolus; protegulum present. Palpal conformation in between *Pelecopsis* and *Walckenaeria*-groups (sensu MILLIDGE 1977): the membrane of the SA is lacking as in the *Walckenaeria*-group but the representatives of that group have an embolus which is coiled over the SA, unlike in *Murphydium*.

**Affinities:** If the desmitracheate condition is decisive, the genus belongs in the Erigoninae (sensu MILLIDGE 1984). It is not all clear though to what genera in that subfamily *Murphydium* is related. There is vague resemblance with *Pachydelphus* JOCQUÉ & BOSMANS from lowland forest in Ivory Coast, in which the male palpal tibia is also expanded prolaterally and the paracymbium is trilobate. Although the epigyne also has a membranous centre the general arrangement of entrance opening and ducts and of the spermathecae is very different.

**Type species:** *Murphydium foliatum* n. sp.

**Etymology:** the genus is a patronym in honour of John & Frances MURPHY as appreciation for their invaluable spider collections I was allowed to study. The gender is neuter.



Figs 1-4. *Murphydium foliatum* n. gen., n. sp. 1. Male carapace dorsal view; 2. idem; lateral view; 3. Female carapace and abdomen, dorsal view; 4. female carapace, lateral view (scale line = 0.5 mm).

*Murphydium foliatum* n. sp.  
(Figs 1-13)

**Type material**

Holotype male: Kenya; Kilifi, Betty's garden, 8.XI.1977; J. MURPHY (MRAC 200.588).

Paratypes: KENYA (all collected by J. MURPHY, all in Murphy collection unless MRAC register number mentioned): 8♂ 9♀ 5 imm.: Kilifi, Betty's garden, 30.VIII.-17.IX.1977; 1♀: 22.VIII.1980, further as previous (MRAC 200.589); 1♀: 29.IX.1980, further as previous; 2♂ 1♀: Kilifi, Graham's, 2-7.IX.1977 (1♂ MRAC 200.591); 1♂ 2♀: Kilifi, I. Sale's scrub, 2-9.IX.; 2♂ 4♀: 13.IX.1980 (MRAC 200.590); 1♀: Kilifi, Stubbs' scrub, 24-31.IX.1980; 2♂ 4♀ 4 imm.: Kilifi, 11.VIII.1974; 4♂ 6♀ 2 imm.: Kilifi, VIII-IX.1980, beach; 2♂ 4♀ 1 imm.: Watamu beach 13-21.IX.1984 (1♂1♀ MRAC 200.592); 1♀ 1 sub♂: Watamu garden, 11-20.IX.1984; 1♂: Gedi, Jilore forest, 11.IX.1977; 1♀: Mida Creek, 16.IX.1984 (MRAC 200.593). SOMALIA: 1♂: 20 km. S. Chisimaio, Sar Uanle, 6.VI.1973, pitfall trap, dune facing land, 12.III.1991, Messana G. et al. (MRAC 172.666); 1♂: Sar Uanle, Littoral Program, 20.VI.1973, S.B.S. (MZF).

**Description**

MALE: total length 2.70 ; carapace 1.14 long, 0.91 wide; ocular area 0.44 wide.

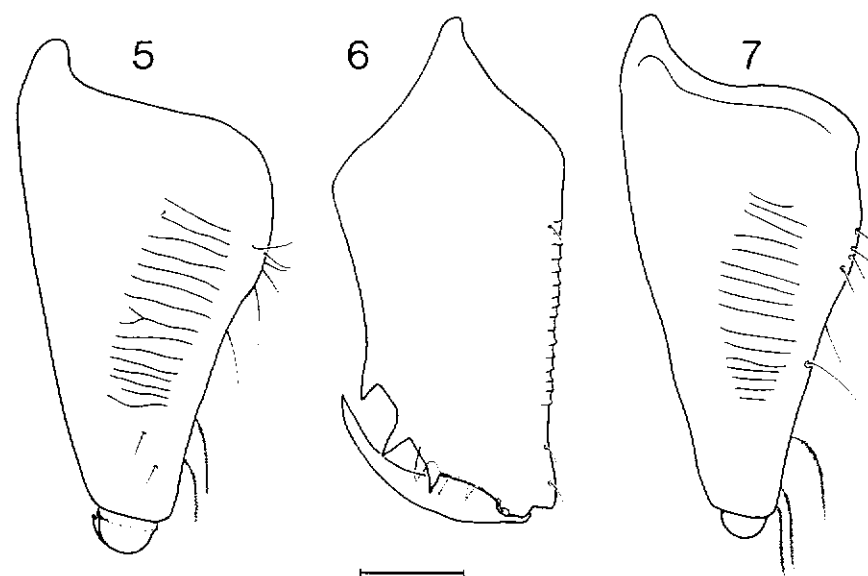
Colour: carapace uniform pale brown with dark margin and slightly marked radiating striae; sternum medium brown. Abdomen: dorsum dark grey in anterior half with a series of three pairs of small faint pale dots; in posterior half with 5 faint chevrons; opercula covering booklungs pale brown; remainder of venter dark grey; spinnerets dark brown.

Carapace (Figs 1-2): fairly broad (L/W = 1.25); smooth.

Eyes: both rows straight; AME one third of their diameter apart, at 0.8 times that distance from ALE which are 1.2 times as big. PME slightly less than their diameter apart, at same distance from PLE which have same size.

Clypeus strongly concave; 0.23 high or about 2.5 times diameter of ALE. Sternum 0.63 wide, 0.61 long; posterior coxae separated by 0.65 times their length. Chelicerae 0.57 long; promargin with three big teeth; most distal one sometimes double; stridulating file clear, with about 15 ridges (Figs 5-6).

Legs relatively long; tibia IV length/width: 14; 0.8 times length of the carapace.



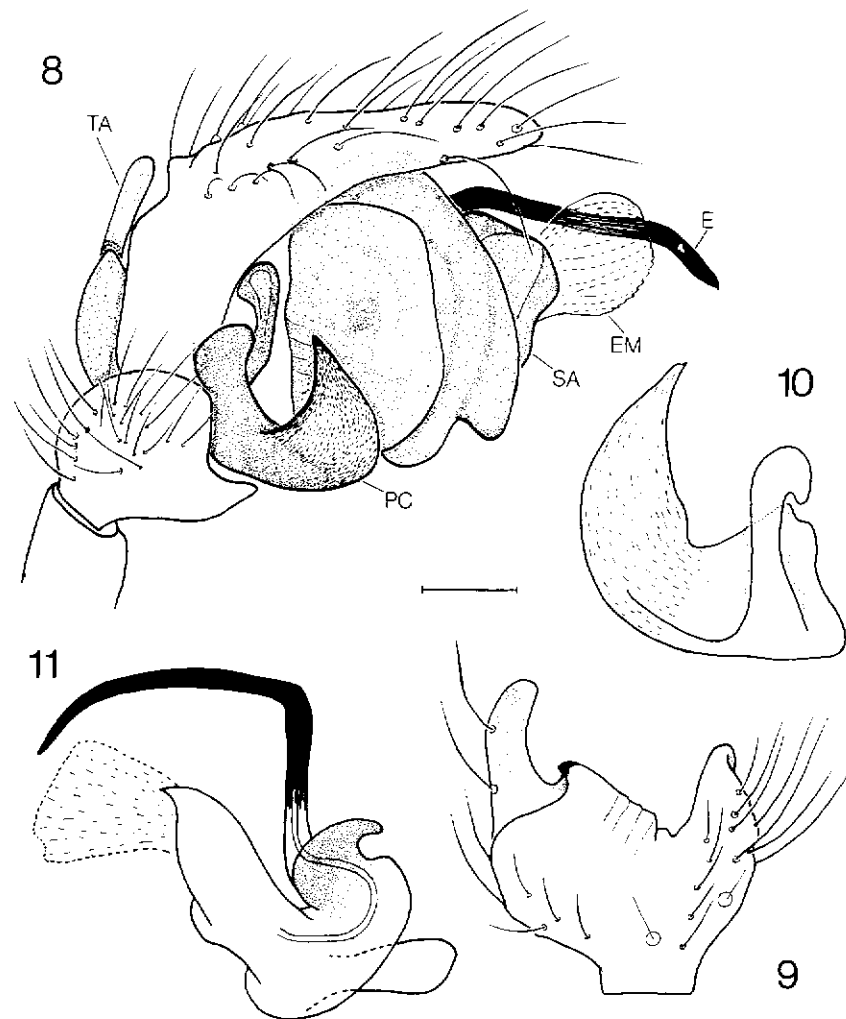
Figs 5-7. *Murphydium foliatum* n. gen., n. sp. 5. Male chelicera, lateral view; 6. Idem, frontal view; 7 Female chelicera, lateral view (scale line = 0.1 mm).

**Measurements**

	F	P	T	Mt	t	Tot
I	0.91	0.21	0.86	0.81	0.54	3.33
II	0.81	0.21	0.72	0.71	0.49	2.94
III	0.68	0.19	0.53	0.56	0.39	2.35
IV	0.92	0.21	0.53	0.75	0.45	3.15

**Chaetotaxy**

	TM	Tibial spines			
		proximal		distal	
		position	length (e)	position	length
I	0.26	0.28	1.8	-	-
II	0.27	0.31	2.1	-	-
III	0.25	0.32	3.0	-	-
IV	-	0.36	3.3	-	-



Figs 8-11. *Murphydium foliatum* n. gen., n. sp. 8. Male right palp, lateral view; E = embolus; EM: embolic membrane; PC = paracymbium; SA: subtegular apophysis; TA: prolateral tibial apophysis; 9. Male palpal tibia, dorsal view; 10. paracymbium: prolateral view; 11. Embolic division; lateral view (scale line = 0.1 mm).

Tarsal claws with a few minute teeth.

Palpus (Figs 8-11): tibia broader than long; with two trichobothria: with long prolateral apophysis, rounded at its extremity and with strong sclerotized tooth at dorsolateral base; retrolateral apophysis broad, rounded, densely haired; ventrolateral short, rounded; cymbium with broad translu-

cent lateral margin, shallow tubercle behind it. Paracymbium with slender basal part, broadly hooked at proximal extremity; median part truncated at extremity; distal branch foliate, striated, ending in sharp point; tegulum with well developed chitinized protegulum; suprategular apophysis well developed, prominent as seen from retrolateral side, in shape of oval window: central part of apophysis translucent, margins more strongly sclerotized. ED complex with long falciform embolus, hooked apophysis at base, small tail piece and broad frontal membrane inserted on long tapering anterior excrescence.

Abdomen elongate, 0.89 wide, 1.55 long. Colulus broad at base, strongly tapering towards extremity, with two terminal setae.

FEMALE: total length 3.02; carapace 1.07 long, 0.78 wide; ocular area 0.41 wide.

Colour (Fig. 3): carapace medium brown with darker margin and striae; sternum dark brown, chelicerae pale brown with yellow patch at base; abdomen dorsally pale grey with variable pale pattern usually consisting of pair of pale patches in front, followed by four faint chevrons and single pale patch above the spinnerets; in some specimens dorsum entirely pale without pattern or with inverted pattern then consisting of dark spots on a pale background; venter dark grey.

Carapace: (Figs 3-4): less broad than in male (L/W = 1.37); smooth.

Eyes: anterior row straight, posterior one slightly recurved.

AME 0.6 diameter apart, at one diameter from ALE which are 1.2 times as big. PME slightly less than diameter apart and at one diameter from PLE which have same size.

Clypeus 0.17 high, or about twice diameter of ALE; strongly concave.

Chelicerae: 0.49 long; stridulating file faint; promargin with 3 or 4 teeth, in the latter case the most distal ones close together.

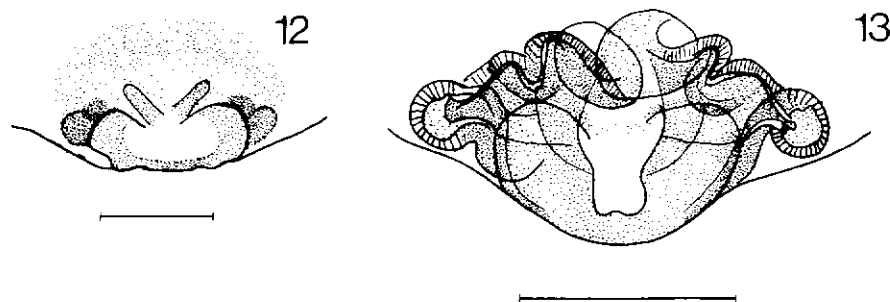
Legs: measurements

	F	P	T	Mt	t	Tot
I	0.95	0.23	0.82	0.79	0.54	3.33
II	0.89	0.22	0.73	0.72	0.49	3.05
III	0.72	0.21	0.53	0.58	0.37	2.41
IV	1.01	0.22	0.83	0.76	0.45	3.27

Chaetotaxy

	TM	Tibial spines			
		proximal		distal	
		position	length (°)	position	length (°)
I	0.29	0.35	2.4	-	-
II	0.29	0.32	2.3	-	-
III	0.36	0.30	2.9	-	-
IV	-	0.39	3.3	-	-

Epigyne (Figs 12-13): membranous area surrounded by chitinous brims, narrow at the rear end, broader at the sides and in front. Entrance openings in front of the central atrium with chitinized wall, right one partly overlapping left one; thick walled duct leads to lateral spermathecae.



Figs 12-13. *Murphydium foliatum* n. gen., n. sp. 12. Epigyne, ventral view; 13. Epigyne, cleared, ventral view (scale line = 0.25mm).

Abdomen: 1.19 wide, 1.65 wide; oval, with some long hairs dorsally. Colulus as in male.

#### Diagnosis

The species is easily recognized by the peculiar secondary genitalia.

**Etymology:** The species is called *foliatum* in view of the foliate outer arm of the paracymbium on the male palp.

**Distribution:** Coastal East-Africa.

**Habitat:** coastal woodland and dunes. The species was found together with *Ceratinopsis machadoi* MILLER, *Ceratinopsis raboeli* SCHARFF, *Locketidium couloni* JOUQUÉ, *Microlinyphia sterilis* PAVESI and *Meioneta* sp.

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