

Mitrager noordami*, an erigonine novelty from Java*P. J. van Helsdingen**Rijksmuseum van Natuurlijke Historie,
Leiden, Netherlands**Summary**

Mitrager noordami sp. n. is described from 2500 m altitude on the Djeng Plateau in Mid Java, Indonesia. The available material contains males and females. The male has very striking cephalic structures. The new genus *Mitrager* is compared with *Walckenaeria* Blackwall, *Nasoona* Locket and *Kuala* Locket.

Introduction

A visit by my friend Mr A. Noordam to Indonesia put me in possession of some Linyphiidae from Java. Among these was a series of a, morphologically, most peculiar species, which I will describe below mainly because it is of such striking appearance that I cannot simply leave it unnamed. A survey of the species described from the Indo-Malayan Region did not yield any description that covered the new material, or even anything near it. This is not surprising since hardly any collecting activities in the Indonesian archipelago have been carried out with the special techniques needed to produce the smaller, ground-dwelling Linyphiidae, especially Erigoninae.

Genus *Mitrager* gen. nov.

Type-species: Mitrager noordami spec. nov.

Etymology: The name is derived from mitra (mitre) and gerere (to bear) and is of female gender.

Generic diagnosis: Small spiders with distinct abdominal pattern. Male cephalothorax with balloon-shaped lobe behind the eyes and a second structure in front of this; bristle-bearing areas and impressions between the eyes. Tibial spine formula 2-2-1-1. No other spines present. Tm I 0.8, Tm IV present. Tarsal claws toothless. Male embolus thin, rigidly curved, not hair-like.

The genus should be compared with several genera, which have characters in common and bear general resemblance to *Mitrager* (Table 1). The cephalic structures of the male suggest relationship with

Walckenaeria Blackwall, but in *Mitrager* the position of Tm I is more distal (0.80), the tarsal claws are not very long and are toothless, and there is a distinct abdominal pattern. In its present conception (Wunderlich, 1977) *Walckenaeria* has a considerable range as to the ratio length/diameter of tibia I; a quick survey of available species resulted in 4.0-7.5 (7.5 in *Mitrager*).

Nasoona Locket does have an abdominal pattern, but again the position of Tm I is much lower (0.5-0.6) than in *Mitrager*, while the embolus in both *Nasoona* species is much more slender than in *Mitrager noordami*, as are the legs. The *Nasoona* species were described from western Malaysia.

With *Kuala* Locket it shares the presence of an abdominal pattern, but the only species described so far, *Kuala versa* from western Malaysia, has a long, hair-like embolus and long, slender legs.

For diagnoses of *Nasoona* and *Kuala*, see Locket (1982).

It is, therefore, unavoidable to create a new genus for this novelty from Java.

Mitrager noordami* sp. n. (Figs. 1-14)*Material**

Holotype ♂, 3♂ and 3♀ paratypes, from Indonesia, Central Java, Djeng Plateau, near Gunung (= mountain) Prahu (Perahu, Prau), 2580 m, sifted from litter among mosses, ferns and Ericaceae, 8 August 1977, leg. A. Noordam. All in Rijksmuseum van Natuurlijke Historie, Leiden.

	<i>Walckenaeria</i>	<i>Nasoona</i>	<i>Kuala</i>	<i>Mitrager</i>
Abdominal pattern	absent	present	present	present
Dorsal tibial spines	2-2-1-1	2-2-1-1	2-2-1-1	2-2-1-1
Tibia I ratio length/diameter	4.0-7.5	9-12	10	7.5
Tm I	< 0.7	0.5-0.6	0.6-0.7	0.80
Tm IV	present	present	present	present
Tarsal claws	large, toothed	?	?	no teeth
Embolus	long to very long	thin	long, hair-like	curved, rigid

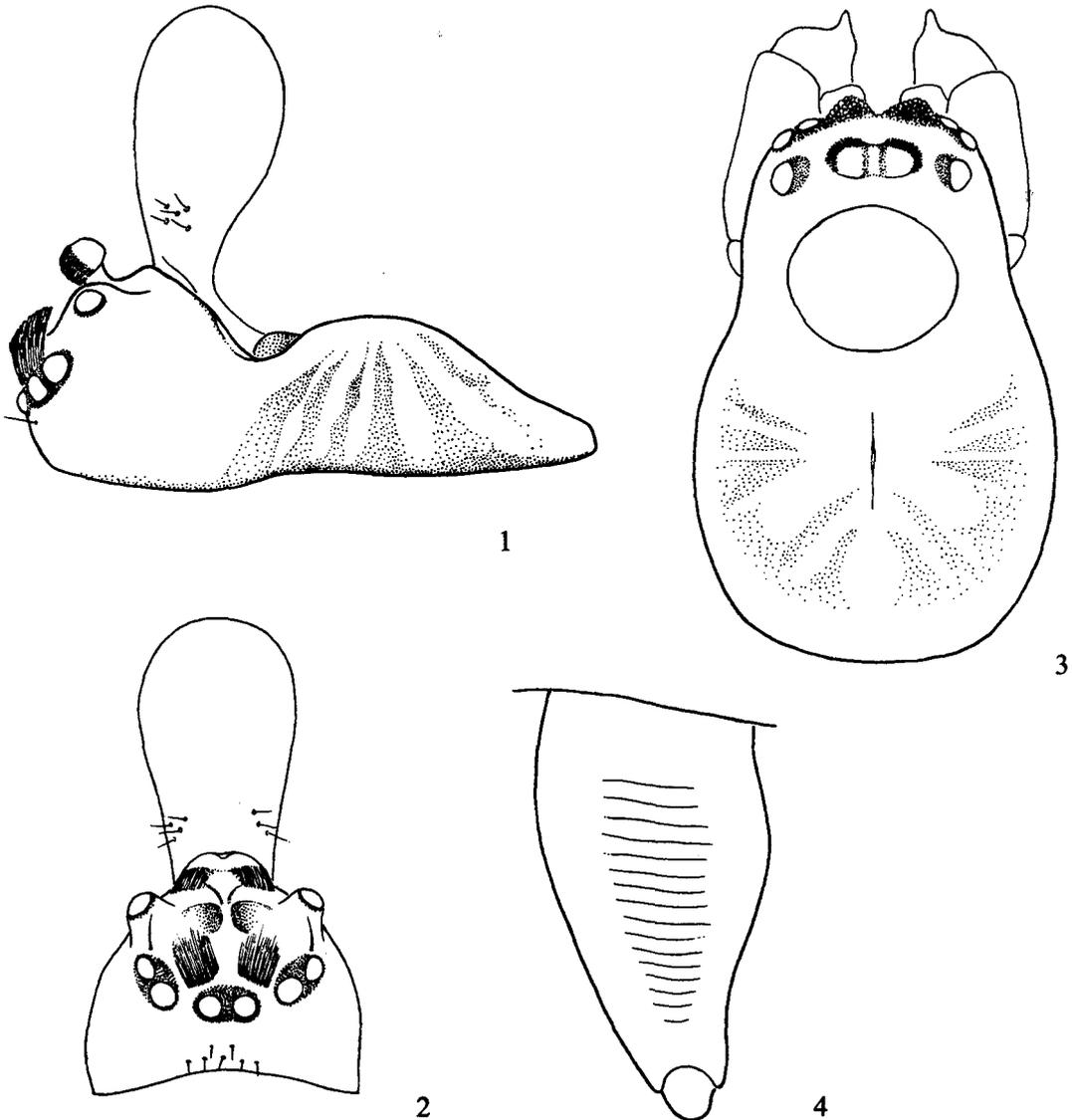
Table 1: Comparison of characters of genera resembling *Mitrager* gen. nov.

Description of male

Measurements (mm): Total length 2.3-2.5; cephalothorax, length 1.20-1.22, width 0.72-0.79, height 1.00-1.02; abdomen, length 1.15-1.42, width 0.70-0.80.

Coloration: Cephalothorax brown with grey striae and narrow grey lateral margins; cephalic lobe light brown. Chelicerae, gnathocoxae (tips lighter) and

sternum brown with grey suffusion. Legs yellow-brown with the ends of all segments (except tarsi) narrowly and faintly grey; all tarsi a shade darker than the other segments. Abdomen whitish with a dorsal pattern of two longitudinal bars of dark grey, more or less fused blotches, separated from the grey surroundings of the spinnerets; on posterior half some faint transverse connections between blotches on



Figs. 1-4: *Mitragrer noordami* sp. n. 1-3 Cephalothorax, lateral (1), frontal (2) and dorsal (3); 4 Chelicera, ectal; 1-3, x 64; 4, x 130.

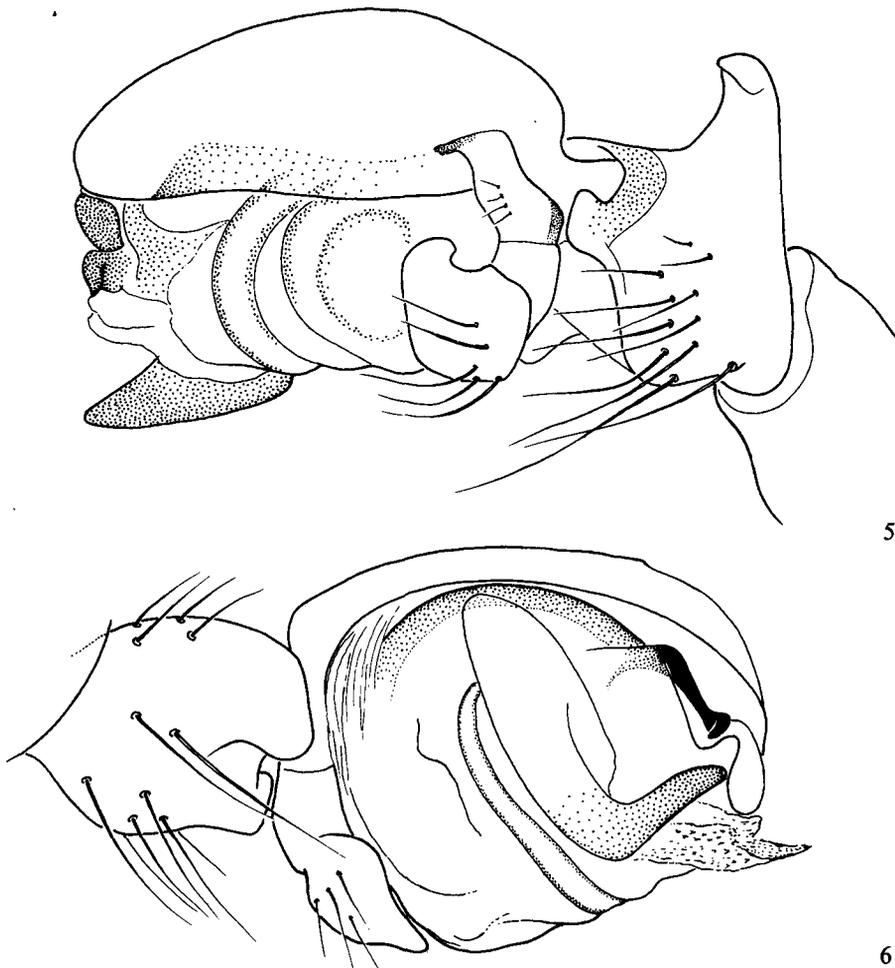
either side; grey bars (ill-defined) at either side of the ventral surface connecting the grey surroundings of the spinnerets with the anterior ends of the dorsal bars.

Cephalothorax: Of peculiar shape (Figs. 1-3). A very striking balloon-shaped cephalic lobe (height 0.60, width 0.30 x 0.34) with five receptor hairs at the base at either side, standing upright behind the eye-region; a membranous area behind this lobe. In front of this lobe and between the PME stands a double-cup-shaped ornament on a short, narrow stalk, with lower anterior margin with a fringe of short, stout setae; in front of this protrusion two narrowly separated and slightly darker pigmented impressions;

mesally of the combined ALE and PLE two areas with longer setae, which are thick and blunt-tipped; a few short setae on the clypeus.

Eyes: AME small (diameter 0.050) and close together (0.25 diam. apart); separated from ALE by one diameter. All other eyes slightly larger (diameter 0.062); ALE and PLE close together, PME 1.6 diam. from PLE and situated behind (!) the latter and directed more or less sideways. (PME forced apart by the impressed areas and the anterior median protrusion.) Height of clypeus slightly more than 2 diam. of AME or 0.09-0.10 of cephalothorax length.

Chelicerae (Fig. 4): Of normal shape, stridulating



Figs. 5, 6: *Mitrager noordami* sp. n., Male palp, retrolateral (5) and meso-ventral (6); x 213.

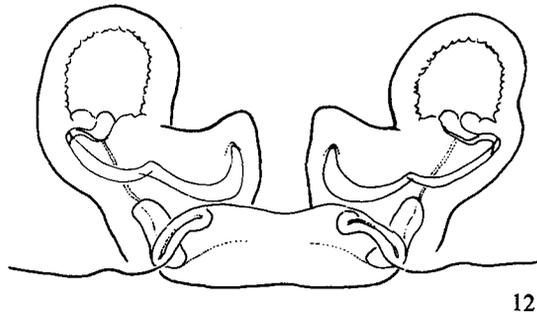
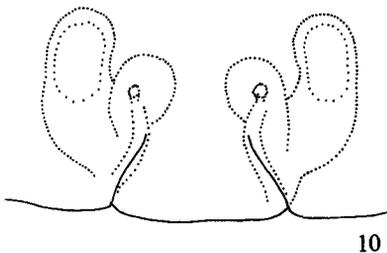
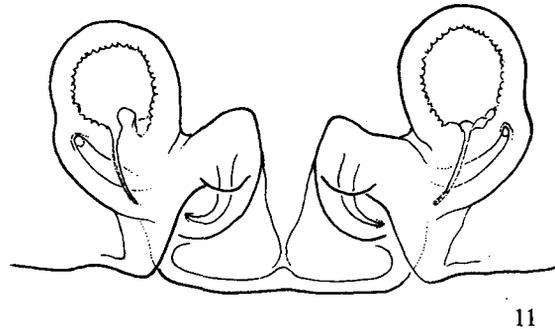
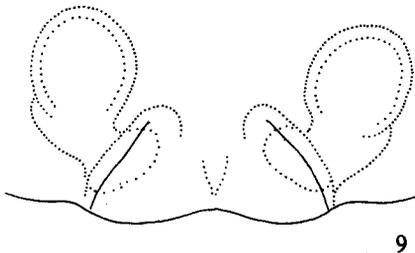
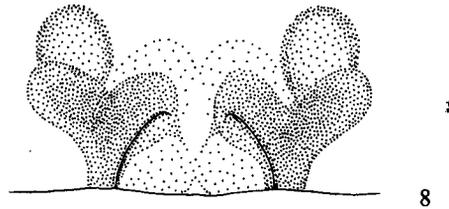
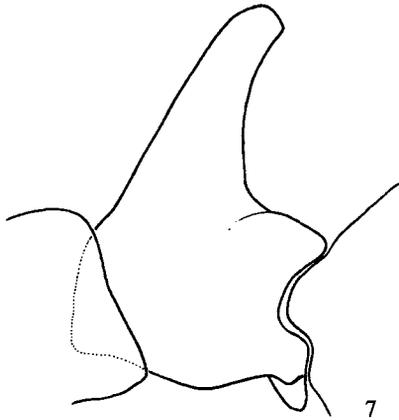
files coarse with ridges *c.* 0.015 mm apart. Posterior margin with four small teeth, anterior margin with five teeth, basal and apical ones small.

Legs: Tibia I 7.5 diam. long, femur I shorter than cephalothorax. Measurements (in mm):

	I	II	III	IV	palp
Fe	1.00	0.95	0.75	0.85	0.37
Pa	0.29	0.28	0.26	0.27	0.18
Ti	0.85	0.65	0.70	1.00	0.16/0.24
Mt	0.80	0.77	0.65	0.95	—
Ta	0.50	0.50	0.40	0.45	0.31

Tibiae I and II with a weak (retro)dorsal spine at 0.25-0.30 and an equally weak (pro)dorsal at 0.70; on tibiae III and IV only the (retro)dorsal spine present; only the one on tibia IV is well-developed, length 0.26 mm (= 2.6 diam. of segment). Trichobothria on all metatarsi at *c.* 0.80.

Palp (Figs. 5-7, 13, 14): Patella without spine. Tibia (Fig. 7) with a long, dorsal apophysis with slightly hooked tip; setosity of tibia extending up to tip of apophysis. Paracymbium simple, with a few



Figs. 7-12: *Mitrager noordami* sp. n. 7 Male palpal tibia, retrolateral; 8-10 Epigynes of the three available specimens; 11, 12 Vulva, ventral (11) and dorsal (12) of epigyne depicted in Fig. 8; 7-10, x 207; 11, 12, x 292.

spines. Median (suprategular) apophysis (Fig. 13) broad and bluntly tipped. The lateral aspect of the palp (Fig. 5) shows the forwardly directed lamella ventro-distally; the lamella appears more clearly in the meso-ventral aspect (Fig. 6), and postero-ectal aspect (Fig. 14). The embolus (Fig. 14) is a strongly sclerotized, slender element, rigidly curved and with a blunt tip (not hair-like and flexible!). Terminal apophysis a simple, rounded structure.

Description of female

There are three females present in the sample, with slightly different epigynes (Figs. 8-10), which, however, are of the same size. Despite the differences observed, in an organ generally considered of major diagnostic value, I decided to take them to belong to the same species and to represent the female of the species described here.

Measurements: Total length 2.5-2.9; cephalothorax, length 1.05-1.25, width 0.72-0.92, abdomen, length 1.52-1.72, width 1.02-1.07.

Coloration: As male, but abdominal pattern less distinct in two specimens.

Cephalothorax: Without special modifications, AME small (0.050) and separated by 0.7 diam. Lateral eyes and PME larger (0.075); ALE and PLE contiguous; PME separated by their diameter and by

0.5 diam. from PLE. Height of clypeus 0.15 of cephalothorax length or 3 diam. of AME. Chelicerae with stridulating files as coarse as in male; posterior margins with four, anterior with five teeth.

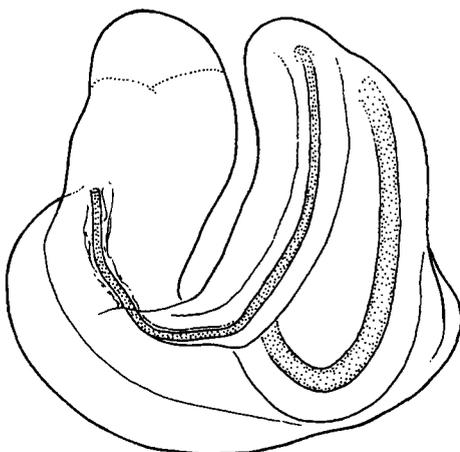
Legs: As slender as in male, with femur I shorter than cephalothorax and tibia I 7-7.5 diam. long. Measurements of one specimen (of which the vulva preparation was studied and depicted):

	I	II	III	IV
Fe	1.07	1.05	0.95	1.20
Pa	0.35	0.35	0.32	0.35
Ti	1.05	1.02	0.87	1.20
Mt	0.90	0.87	0.82	1.12
Ta	0.57	0.52	0.47	0.57

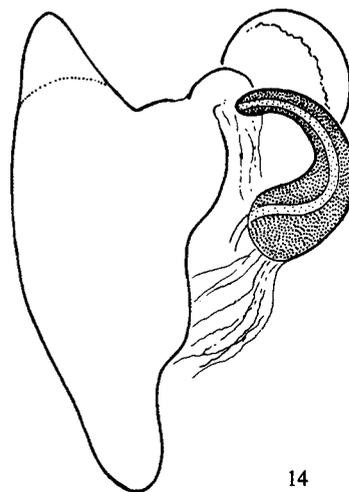
Chaetotaxy as in male; positions of (retro)dorsal spines *c.* 0.27 (I) and 0.30 (IV), of (pro)dorsal spines on tibiae I and II 0.70. Length of (retro)dorsal spine on Ti I 0.25 mm (= slightly less than 2 diam.). Trichobothria on all metatarsi, 0.81-0.83.

Epigyne (Figs. 8-10): The ventral aspect shows a median plate, flanked at either side by the dark, chitinized internal structures (ducts, receptacula seminis), which show through the integument.

Vulva (Figs. 11, 12, of epigyne depicted in Fig. 8): The exact course of the ducts is not clear. The entrances of the sperm ducts lie at the antero-ventral corners of the median plate and are capped by a narrow extension of the ventral surface; the duct is



13



14

Figs. 13, 14: *Mitrager noordami* sp. n. **13** Median apophysis, antero-ventral; **14** Embolic section, oblique postero-ectal; 13, 14, x 270.

thick-walled and the first section could accommodate the rigid male embolus. The duct runs in an outward direction where it enters the receptaculum. The receptacula are more or less globular and point anterad. The fertilisation ducts run almost straight from the bases of the receptacula to the posterior margin of the epigyne where they turn to the dorsal side of the organ and open at the anterior margin of the mesal area. In the second specimen the entrances of the sperm ducts seem to lie slightly further apart, but the width of the whole vulva is the same (Fig. 10).

In the third specimen the median ventral area has the posterior margin slightly excised (Fig. 9); again the internal structures do not look basically different.

References

- LOCKET, G. H. 1982: Some linyphiid spiders from western Malaysia. *Bull. Br. arachnol. Soc.* 5: 361-384.
- WUNDERLICH, J. 1977: Zur Kenntnis der Gattung *Walckenaeria* Blackwall 1833 unter besonderer Berücksichtigung der europäischen Subgenera und Arten (Arachnida: Araneae: Linyphiidae). *Zool. Beitr.* (N.F.) 18: 371-427.