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Mallinella thaleri, a new spider species from southern Thailand (Araneae: Zodariidae)

Pakawin Dankittipakul & Peter J. Schwendinger

ABSTRACT

Contrib. Nat. Hist. 12: 381–389.

A new zodariid spider species, *Mallinella thaleri* sp. nov., is described from a small island in southern Thailand. The new species is closely related to *M. irrorata* (THORELL, 1887) from Myanmar. Both species are distinct from other congeners in that they have the spines (hair-like in females) in front of the spinnerets arranged in a narrow band instead of a single row. The *irrorata*-group is established for these two species.

Keywords: Taxonomy, *Storena irrorata*, species group, Ko Tao.

Introduction

Konrad Thaler (University of Innsbruck, Austria) initiated a new phase of research on spiders of Thailand by Thai arachnologists, a "niche" that was in the past occupied by only a single person, Wipada Vungsilabutr (maiden name: Patarakulpong). K. Thaler supervised the doctoral thesis of P. J. Schwendinger on primitive spiders of northern Thailand, who then passed on his enthusiasm to two of his students at Chiang Mai University (Thailand): Chaloem Namoo (who sadly passed away in 1999) and P. Dankittipakul. The seed carried from Innsbruck to Chiang Mai has taken root and is now bearing fruit.

The new zodariid species described in here was collected by P. J. Schwendinger in the days before the untimely death of K. Thaler and we want to dedicate it to him as a gesture of gratitude and appreciation. Many more new *Mallinella* species from Thailand and nearby countries await description and will be treated in an upcoming taxonomic revision of the genus by P. Dankittipakul and Rudy Jocqué.

Material and Methods

External morphology was studied and drawn with an Olympus SZX-9 stereo-microscope equipped with a drawing tube. Photos were taken with the Auto-Montage® system using a video camera mounted on a Leica MZ APO stereo-microscope. Measurements of leg segments were taken from the dorsal side. The epigyne was drawn in natural and cleared state (immersing in lactic acid for 10–20 minutes); the male palp was drawn in lateral and ventral view. All measurements are in millimetres. The material examined will be deposited in the collections of the Muséum d'histoire naturelle de la Ville de Genève, Switzerland (MHNG) and of the Thailand Natural History Museum, National Science Museum, Pathumthani, Thailand (TNHM).

Abbreviations used in the text and in the figures:

ALE	anterior lateral eyes
AME	anterior median eyes
CD	copulatory duct
E	embolus
LE	lateral eyes
MA	median apophysis
ME	median eyes
MOQ	median ocular quadrangle
PER	posterior eye row
PLE	posterior lateral eyes
PME	posterior median eyes
RTA	retrolateral tibial apophysis
ST	subtegulum
T	tegulum

Taxonomy

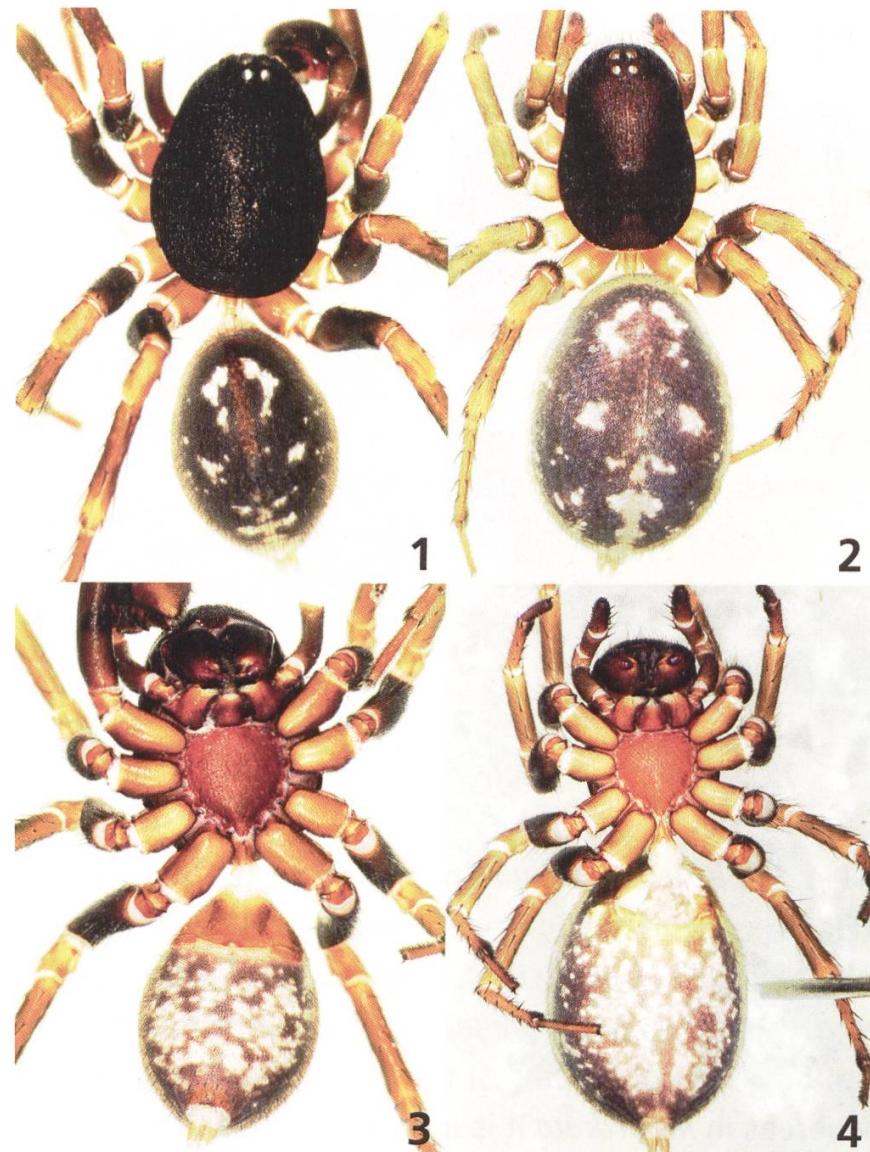
Zodariidae THORELL, 1881

***Mallinella* STRAND, 1906**

***Mallinella thaleri* sp. nov. (Figs. 1–11, 13–19)**

Type material: Male holotype (deposited in MHNG), 5 male and 5 female paratypes (deposited in MHNG and TNHM) from southern Thailand, Surat Thani

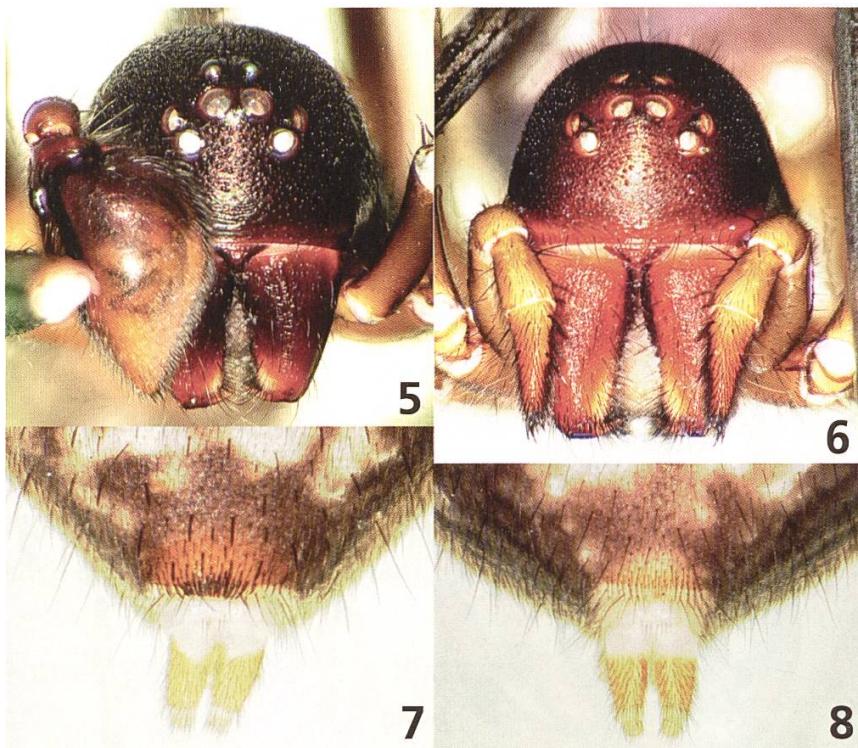
Figs. 1–4. *Mallinella thaleri* sp. nov., male holotype (1, 3) and female paratype (2, 4). Habitus, dorsal (1–2) and ventral view (3–4).



Province, Ko Tao, secondary forest off the road from Ban Chalok – Ban Kao to Cape Jetakang (180 m alt.; 10° 04' 30" N, 99° 49' 26" E) and evergreen forest on top of hill east of Cape Yai Nee (330–370 m alt.; 10° 06' 58" N, 99° 49' 33" E) (mixed sample TH-05/04); leg. P. J. Schwendinger, 7.–10. VII. 2005.

Etymology: The specific epithet is a patronym in memory of the late Prof. Dr. Konrad Thaler (1940–2005).

Diagnosis: *Mallinella thaleri* sp. nov. belongs to the *irrorata*-group (established here), the species of which share the following somatic characteristics: Body conspicuously covered with a relatively dense pubescence (Figs. 1–8); dark chestnut-brown tegument strongly sclerotized, particularly the coarsely granulose carapace (Figs. 1–2, 5–6); spines in front of spinnerets arranged in a narrow band (Figs. 7–8) and not in a single row (*sensu* Jocqué 1991), these spines resembling fine elongate hairs in females (Fig. 8). The new species is similar to *M. irrorata* from Myanmar in having a membranous mesal sub-distal flange and a baso-retrolateral ridge on the median apophysis (Figs.



Figs. 5–8. *Mallinella thaleri* sp. nov., male holotype (5, 7) and female paratype (6, 8). Prosoma, frontal view (5–6). Posterior part of opisthosoma showing arrangement of spines in front of spinnerets, ventral view (7–8).

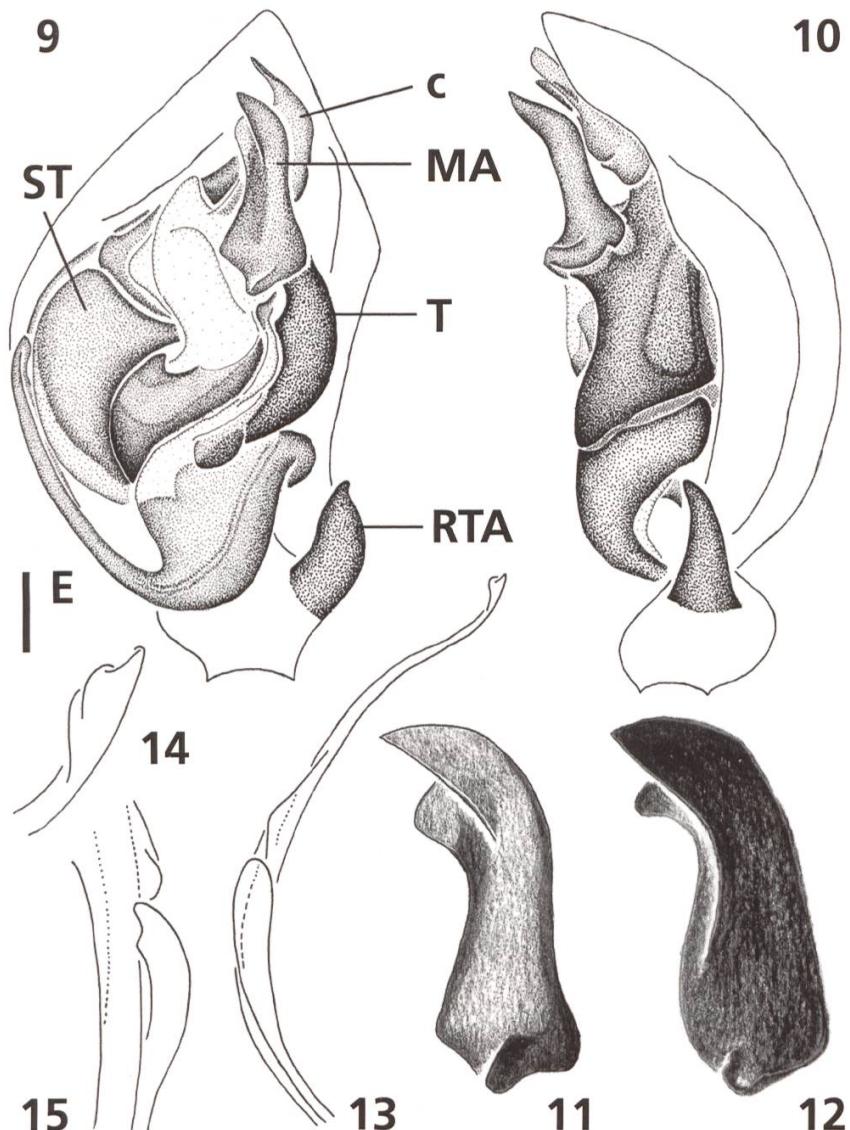
11–12), but it can be distinguished by the posteriorly originating embolus (Fig. 9) (originating more retrolaterally in *M. irrorata*), by the embolus with a short branch at mid-length (Figs. 13, 15), and by the unique arrangement of white patches on the dorsal side of the opisthosoma (Figs. 1–2). In *M. thaleri* sp. nov. the coiled part of the internal epigynal ducts is short (Figs. 17–19), whereas in *M. irrorata* it is more elongate and globular, with at least two coils visible in anterior view.

Description: Male (holotype). Colour in alcohol: Carapace reddish brown; chelicerae, labium and sternum brown. Leg articles brown except for yellowish brown tibiae, metatarsi and tarsi. Dorsum of opisthosoma dark sepia, anteriorly with a pair of large pale patches followed by series of irregular pale stripes; venter purple, mottled with numerous irregularly arranged white spots. See Figs. 1, 3.

Prosoma ovate, widest between leg coxae II and III. Carapace coarsely granular, with a fine white pubescence on pars cephalica. Legs and other sclerotized areas of body set with numerous hinged hairs on round sockets. Opisthosoma elongate oval, covered with black hairs; dorsal scutum triangular (not clearly visible in Fig. 1), relatively broad in front, with straight anterior margin, gradually tapering towards posterior end, occupying about half of opisthosoma length. Spines in front of spinnerets relatively thick and short, situated in a weakly sclerotized area (Fig. 7).

Palp (Figs. 9–11, 13–15) with retrolateral tibial apophysis (RTA) broad at base, bent ectad, then turning slightly anteroventrad (visible only in ventral

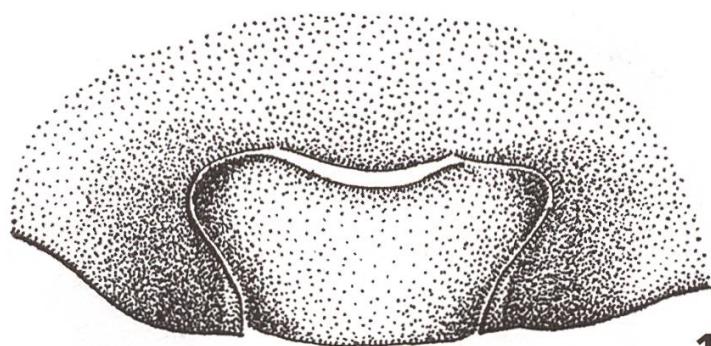
Figs. 9–15. Left male palp of holotype of *Mallinella thaleri* sp. nov. (9–11, 13–15) and of a *Mallinella irrorata* male from Rangoon (12). Cymbium and tibia, ventral (9) and retrolateral view (10). Median apophysis on tegulum (11, 12). Distal part of embolus, ventral view (13). Embolic tip, pro-lateral view (14). Embolus at branching point, dorsal view (15).



view, Fig. 10) and ending in a pointed apex. Cymbium with broad retrolateral ridge extending over approximately 3/4 of cymbium length. Median apophysis (MA) on tegulum broad at base, with a basolateral hump, terminally bending mesad. Embolic base directed posteromesad, its membranous area small, situated anteriorly. Embolus (E) relatively broad at base, with a short branch at mid-point (Figs. 13, 15).

Total length 5.63. Carapace 2.86 long, 2.31 wide. Opisthosoma 3.42 long, 2.56 wide. Eye sizes and interdistances: AME 0.08, ALE 0.10, PME 0.10, PLE 0.11; AME-AME 0.04, AME-ALE 0.07, PME-PME 0.08, PME-PLE 0.23, ALE-PLE 0.07; MOQ 0.28 long, front width 0.29, back width 0.30. Clypeus 2.50 high. Leg formula (from shortest to longest): 3214. Leg measurements, see Table 1.

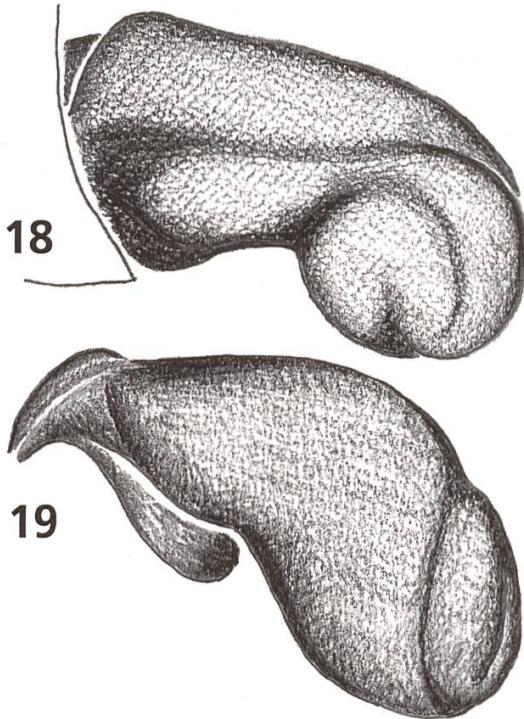
Female (paratype). As the male, but larger in size; anterior part of carapace relatively wider (Fig. 2, cf. Fig. 1); hinged hairs present only on coxae, trochanters, femora and patellae of legs; venter of opisthosoma with three dark purple



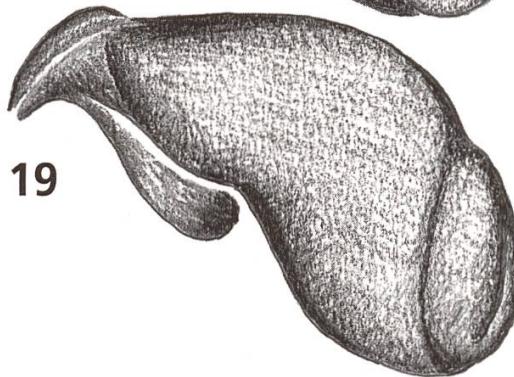
16



17



18



19

Figs. 16–19. *Mallinella thaleri* sp. nov., female paratype. Epigyne, ventral view (16). Internal structures of epigyne, anterior (17), lateral (18) and dorsolateral view (19).

bands running longitudinally between epigastric furrow and spinnerets (Fig. 4, cf. Fig. 3); spines in front of spinnerets fine, hair-like (Fig. 8, cf. Fig. 7).

Epigyne and its internal structures, see Figs. 16–19. Median plate of epigyne somewhat trapezium-shaped, wider in front than behind, anterior margin slightly concave, posterior margin indistinctly convex; internal epigynal ducts moderately long, strongly sclerotized and convoluted, in lateral view bending posteriad (Fig. 18), in anterodorsal view curved ectad (Fig. 17).

Total length 7.56. Carapace 3.41 long, 2.39 wide. Opisthosoma 3.82 long, 2.73 wide. Eye sizes and interdistances: AME 0.10, ALE 0.12, PME 0.11, PLE 0.11; AME-AME 0.05, AME-ALE 0.08, PME-PME 0.07, PME-PLE 0.25, ALE-PLE 0.08; MOQ 0.30 long, front width 0.30, back width 0.32. Clypeus 2.59 high. Leg formula (from shortest to longest): 3214. Leg measurements, see Table 1.

Variation: Range of measurements in males (n=6) and females (n=5; in parentheses): Body 5.10–6.21 (7.43–7.92) long, carapace 2.75–2.98 (3.29–3.75) long, 2.11–2.56 wide (2.32–2.64). There is little variation in the dorsal

	I	II	III	IV
Femur	1.80 (2.51)	1.79 (2.20)	1.75 (2.21)	1.82 (2.75)
Patella	0.95 (0.98)	0.91 (0.95)	0.99 (0.89)	1.02 (0.91)
Tibia	1.57 (1.85)	1.31 (1.53)	1.17 (1.42)	1.78 (2.02)
Metatarsus	1.95 (1.83)	1.86 (1.74)	1.89 (1.81)	2.95 (3.01)
Tarsus	1.70 (1.77)	1.49 (1.53)	1.38 (1.42)	1.77 (1.83)
Total	7.97 (8.94)	7.36 (7.95)	7.18 (7.75)	9.34 (10.52)

Tab. 1. *Mallinella thaleri* sp. nov.: Leg measurements of male holotype and female paratype (in parentheses).

and ventral pattern of the opisthosoma. The absence of some spines in front of the spinnerets is due to physical damage rather than intraspecific variation.

Natural history: *Mallinella thaleri* sp. nov. was collected by sifting leaf litter in a secondary forest at low altitude and in a remnant patch of primary forest at the top of a hill. This species is a forest dweller, as other *Mallinella* species (see Jocqué 1991: 62), and seems to prefer humid and shady conditions in forests with a closed canopy.

Distribution: Known only from the type locality, a small island about 64 km off the eastern coast of southern Thailand, at approximately the same latitude as the Isthmus of Kra (Kraburi).

***Mallinella irrorata* (THORELL, 1887) (Fig. 12)**

Storena irrorata; Thorell (1887): 72 (description of juvenile). – Thorell (1895): 27 (description of male and female). – Ono (1983): 215, fig. 9 (description of male).

Mallinella irrorata: – Ono (2003): 134 (mention, new combination). – Ono (2004): 3 (mention).

Material examined: Juvenile holotype from Rangoon, Burma (= Myanmar), collected by L. Fea, deposited in the Museo civico di storia naturale di Genova. 1 ♀ from Palon, Burma, collected by L. Fea, deposited in the Zoological Museum, University of Copenhagen. 1 ♂, 9 ♀ and 3 juveniles from Rangoon, collected by E. W. Oates, deposited in the British Museum (Natural History), London. 1 ♂, 2 ♀, from, Khao Kor-Hong, behind the Prince of Song Khla University Campus, Song Khla Province and District, Thailand, 15. X. 2005, collected by P. Dankittipakul, deposited in the MHNG.

Discussion

Members of the genus *Mallinella* are usually recognizable by the presence of a single row of small spines anterior to the spinnerets. However, this is not the case in *Mallinella thaleri* sp. nov. and in other species of the *irrorata*-group (established here), which otherwise correspond well with the current diagnosis of the genus (Strand 1906: 670, Jocqué 1991: 62). It thus is necessary to modify the present definition of the genus and focus more on genital characters. Spiders of the *irrorata*-group have the spines in front of the spinnerets irregularly arranged in a narrow transversal band, and in females these spines are thin and hair-like. Such a characteristic (in a more or less pronounced form) was found only in a few species from the Indo-Burmese part of the Oriental region (specimens mostly from the northern half of Thailand, some also from Myanmar and Vietnam), whereas those examined from the Sunda subregion (specimens from the Thai-Malay Peninsula and islands on the Sunda Shelf) correspond well with Jocqué's generic definition. These findings, together with descriptions of more new species in the *irrorata*-group, will be presented in detail in a taxonomic revision of the genus *Mallinella* by P. Dankittipakul and Rudy Jocqué.

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