

The Thomisidae of Japan

V. *Monaeses* THORELL, 1869, and its New Junior Synonym,
Mecostrabus SIMON, 1903 (Arachnida, Araneae)

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Abstract An elongated thomisid spider newly collected in the Japanese subtropics is identified with *Mecostrabus aciculus* SIMON, 1903, based on the comparison with its type specimens. The species was known only from Vietnam. After a careful examination, it is regarded as a member of the genus *Monaeses* THORELL, 1869, and a new combination *Monaeses aciculus* (SIMON, 1903) is proposed. As it was designated as the type species of *Mecostrabus* SIMON, 1903, the latter falls into a junior synonym of *Monaeses*. The spider is redescribed with the new material from Japan, Taiwan and Nepal, and its male is first made known to science.

Analysing its geographical range, SIMON (1895) suggested the occurrence of certain members of the genus *Monaeses* THORELL, 1869, in Japan. However, it has never been confirmed for a long time, because no detailed information was given. KISHIDA (1914) did report a thomisid named *Monaeses simoni* (nom. nud.) from Yonezawa in the northern part of the main island of Japan, but his illustrations and explanation of a few lines show that the spider, though never rediscovered since that time, may not be a *Monaeses* but a *Tmarus* species.

Several years ago, Mr. Y. CHIKUNI sent to me a female specimen of a slender-bodied thomisid collected in Okinawa Island. It was identified with *Mecostrabus aciculus* SIMON, 1903, originally described from Annam. After a careful examination, I recognized that the species, which was designated as the type species of the genus, is in fact a member of the genus *Monaeses*, and therefore *Mecostrabus* should be regarded as a new junior synonym of *Monaeses*. Thus, the spider should be called *Monaeses aciculus* comb. nov.

Up to the present, I have obtained total nine individuals of the species collected in Japan, Taiwan and Nepal, including males first made known to science. This interesting thomisid spider will be redescribed in the present paper on the basis of the type specimens deposited in the Muséum National d'Histoire Naturelle, Paris, and the material newly obtained.

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The abbreviations used in this report are the same as those explained in my preceding paper (ONO, 1984).

Genus *Monaeses* THORELL, 1869

[Japanese name: Dōnagakanigumo-zoku]

Monastes LUCAS, 1846, Expl. sci. Algérie, 1, p. 192. — WALCKENAER, 1847, Hist. nat. Ins., Aptères, 4, p. 432. — SIMON, 1864, Hist. nat. Araign. (Aranéides), p. 418; 1866, Ann. Soc. ent. France, (4), 6, p. 286. (Preoccupied by *Monastes* NITZSCH, 1840; Aves.)

Monaeses THORELL, 1869, Nova Acta reg. Soc. sci. Upsal., (3), 7, p. 37 (nom. nov. pro *Monastes* LUCAS, 1846); 1870, ditto, p. 182. — L. KOCH, 1874, Arachniden Australiens, p. 523; 1876, ditto, p. 764. — SIMON, 1875, Arachnides de France, 2, p. 259; 1895, Hist. nat. Araign., éd. 2, 1, p. 955; 1932, Arachnides de France, 4, p. 780. — CHYZER & KULCZYŃSKI, 1891, Araneae hung., 1, p. 101. — DAHL, 1907, Mitt. zool. Mus. Berlin, 3, p. 375. — PETRUNKEVITCH, 1928, Trans. Conn. Acad. Arts Sci., 29, p. 168. — MELLO-LEITÃO, 1929, Arch. Mus. nac. Rio de Janeiro, 31, p. 300. — MILLOT, 1941, Mém. Acad. Sci. Inst. France, 65, p. 21. — TIKADER, 1971, Mem. zool. Surv. India, 15, p. 55; 1980, Fauna of India, Araneae, 1, p. 143. — LEVY, 1973, Israel J. Zool., 22, p. 109. — DIPPENAAR-SCHOEMAN, 1984, Phytophylactica, 16, p. 101. *Mecostrabus* SIMON, 1903, Ann. Soc. ent. France, 71, p. 726. — PETRUNKEVITCH, 1928, Trans. Conn. Acad. Arts Sci., 29, p. 168. (New synonymy.)

Type species. *Monastes paradoxus* LUCAS, 1846, Expl. sci. Algérie, 1, p. 193.

Etymology. From Greek proper name; masculine. *Monaeses* (Μοναίσσης) was a general of the Parthians (southern part of Iran), who defeated the Romans.

Notes. SIMON (1903) described the monotypic genus *Mecostrabus* related to the genus *Monaeses*. He presented as the differences between the two genera the ratio of MOA-L/W and the spiniformation of legs. Having examined the type specimens of *Mecostrabus aciculus*, the type species of the genus, and comparing the descriptions of all the known species of *Monaeses*, I have come to the conclusion that they are basically identical not only in the general appearance but also in the genital structure. *Mecostrabus* is regarded as a junior synonym of *Monaeses*, and the two known species of the former should be removed to the latter: *Monaeses aciculus* (SIMON, 1903), comb. nov. (*Mecostrabus aciculus* SIMON, 1903, Ann. Soc. ent. France, 71, p. 727; 6 female syntypes from Phuc Son, Annam, in MNHN, examined), *Monaeses reticulatus* (SIMON, 1908), comb. nov. (*Mecostrabus reticulatus* SIMON, 1908, Bull. sci. France Belgique, 42, p. 127; juvenile male holotype from Hanoi, Tonkin, in MNHN, examined).

The genus *Rhynchognatha* THORELL, 1887, was described also with the affinity to the genus *Monaeses* (type species: *R. cinerascens* THORELL, 1887, from Burma). SIMON (1895) regarded it as a synonym of *Monaeses*. This synonymy was supported by most authors excepting CROME (1962), who newly defined *Rhynchognatha* and emphasized that it is generically different from *Monaeses*. His work has not been accepted by any other specialist, because his definition was based chiefly on general appearance,

not on genitalic features. I have no material to comment on this problem, but judging from the original description by THORELL, the genus *Rhynchognatha* seems closer to the genus *Tmarus* than to *Monaeses*.

Diagnosis. Medium sized thomisids; male a little smaller than female. Prosoma longer than wide, flattened, with short, stout setae; lateral margins almost parallel. Tubercles of eyes developed, lateral eyes situated on separate tubercles, $ALE > PLE > PME > AME$, MOA frequently wider than long, clypeus wide, almost horizontal. Chelicerae without tooth; labium longer than wide; sternum oval, longer than wide. Legs long, setaceous, legs I-II much longer than III-IV. Male palp with VTA and RTA; bulb simple, without any apophysis; embolic division long, winding twice around tegulum, embolus long, fine, filiform. Opisthosoma elongated, caudally extending beyond spinnerets. Epigynum usually with hood in the anterior part; intromittent orifices slit, slightly sclerotized; intromittent canal long, winding; atrium absent or modified to thin tube; spermathecae small, twisted, tube-shaped.

Range. Mainly Africa and South Asia, but also distributed to South Europe, Australia and South America.

Remarks. This genus has a close resemblance to *Tmarus* SIMON, 1875, but in *Tmarus* the embolus is shorter and thicker, the intromittent canal is short, the lateral margins of prosoma are not parallel, and the opisthosoma is not so long.

Total 22 species are known in the world; only one of them occurs in Japan.

***Monaeses aciculus* (SIMON, 1903), comb. nov.**

[Japanese name: Dōnagakanigumo]

(Figs. 1-8)

Mecostrabus aciculus SIMON, 1903, Ann. Soc. ent. France, **71**, p. 727 (6 female syntypes from Phuc Son, Annam (Vietnam), XI~XII-1899, H. FRUHSTORFER leg., in MNHN, examined); 1908, Bull. sci. France Belgique, **42**, p. 127.

Etymology. Specific name from Latin *acus* (needle)+*culus* (buttock); probably derived from the caudally pointed opisthosoma.

Specimens examined. Type series: 6 ♀♀ (syntypes), "Phuc Son, Annam," Vietnam, XI~XII-1899, H. FRUHSTORFER leg. (MNHN 22140).

Japan: 2 ♀♀ 1 ♂, Nishinakama, Amami-ōshima Island, Amami Islands, Kagoshima Pref., 24~26-V-1978, H. MAKIHARA leg. (NSMT-Ar 861); 1 juv., Kinsakubaru, Amami-ōshima Island, Amami Islands, Kagoshima Pref., 3-XI-1984, M. TOMOKUNI leg. (NSMT-Ar 862); 1 ♀, Okinawa Island, Okinawa Pref., 4-VI-1977, Y. CHIKUNI leg. (NSMT-Ar 863); 1 juv. ♀, Shuri, Naha-shi, Okinawa Island, Okinawa Pref., 2-VII-1976, H. MAKIHARA leg. (NSMT-Ar 864); 1 juv. ♀, Zamamijima Island, Okinawa Islands, Okinawa Pref., 5-XII-1982, M. SHIMOJANA leg. (MSO).

Taiwan: 1 ♂, Hung-yeh Wen-ch'uan, 13-VI-1976, H. MAKIHARA leg. (NSMT-Ar 865).

Nepal: 1 ♂, Tuklidan, Libang, 10 km NW of Taplejung, 23-IV-1970, M.

HUBERT leg. (MNHN).

Description. Measurement. Body length ♀ 6.15–8.59 mm, ♂ 5.56–6.37 mm; prosoma length ♀ 1.90–2.52 mm, ♂ 1.93–2.26 mm, width ♀ 1.40–1.85 mm, ♂ 1.44–1.67 mm; opisthosoma length ♀ 4.25–5.93 mm, ♂ 2.48–3.92 mm, width ♀ 1.40–1.63 mm, ♂ 1.01–1.11 mm; lengths of legs of 1 ♀ 1 ♂ from Amami-ôshima Island (in mm; ♀/♂):

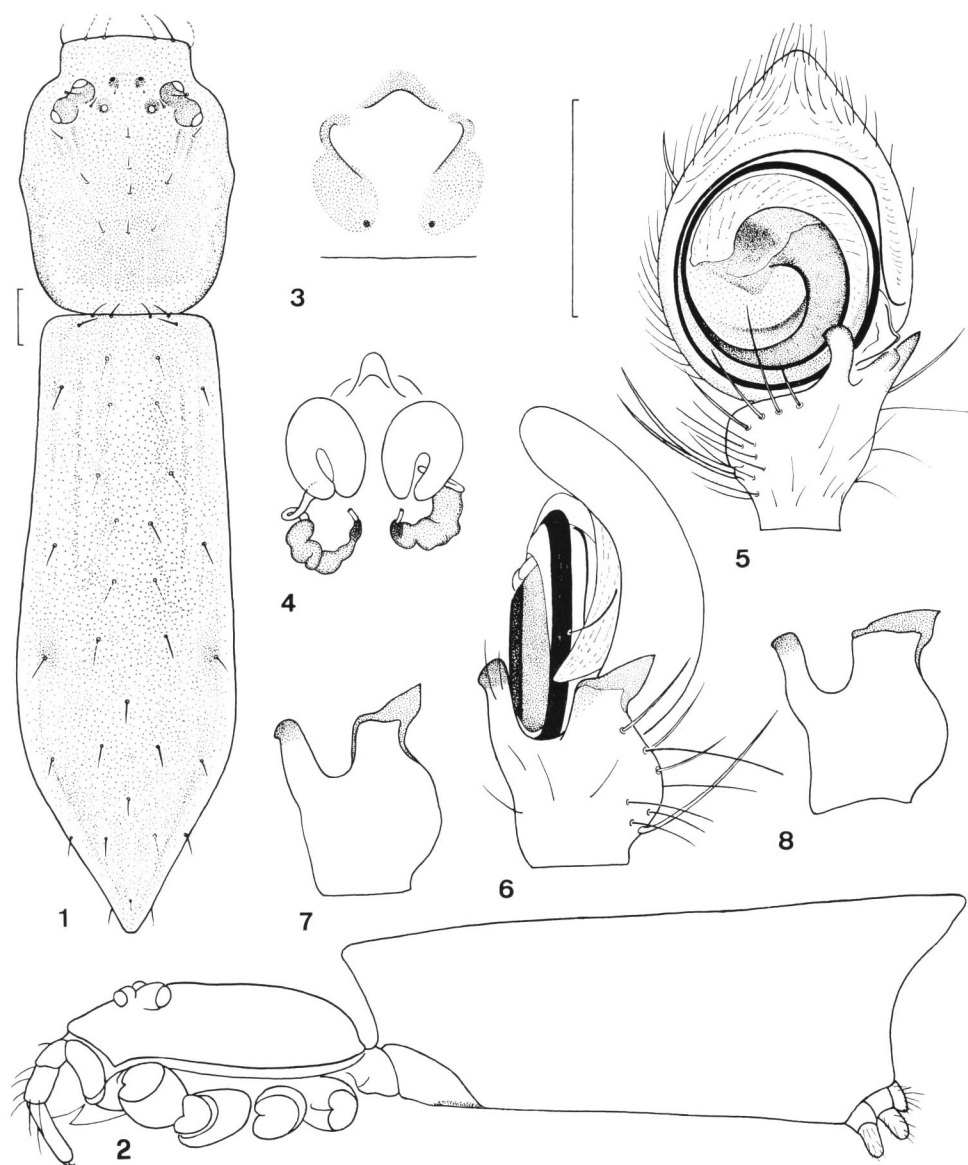
Leg	Tarsus	Metatarsus	Tibia	Patella	Femur	Total
I	0.88/1.08	2.15/2.58	2.65/3.05	1.25/1.25	3.25/3.28	10.18/11.24
II	0.80/0.95	1.88/2.23	2.40/2.64	1.13/1.05	2.93/3.10	9.14/ 9.97
III	0.48/0.53	0.65/0.68	1.35/1.20	0.70/0.53	1.55/1.44	4.73/ 4.38
IV	0.48/0.49	0.55/0.63	1.38/1.45	0.70/0.50	2.15/1.95	5.26/ 5.02.

Prosoma longer than wide (length/width ♀ 1.33–1.44, ♂ 1.28–1.36), flattened, with short setae. Lateral eyes situated on much developed tubercles, ALE/AME ♀ 2.00–2.50, ♂ 2.12–2.50, PLE/PME ♀ 1.33, ♂ 1.33–1.64, AME–AME/AME–ALE ♀ 0.92–1.25, ♂ 1.00–1.20, PME–PME/PME–PLE ♀ 1.00–1.16, ♂ 0.84–1.09, MOA–WA/WP ♀ 0.62–0.75, ♂ 0.64–0.69, MOA–L/W ♀ 0.54–0.69, ♂ 0.63–0.75, clypeus/AME–AME ♀ 1.36–1.85, ♂ 1.54–1.84. Chelicerae without tooth; labium longer than wide (length/width ♀ 1.63–2.00, ♂ 1.88–2.25); sternum oval, longer than wide (length/width ♀ 1.55–1.75, ♂ 1.53–1.57). Leg formula I–II–IV–III; tarsal claws of legs with 5–7 teeth.

Spiniformation of legs variable. 1 ♀ (syntype): Femur: I prolateral 1–1–1, II prolateral 1–1–1–1, III dorsal 1, prolateral 1–1, IV prolateral 0–1; patella: III–IV dorsal 1–1; tibia: I prolateral lap, ventral 2–2–2–2, II prolateral 1–1–0–lap, ventral 2–2–2–2, III–IV prolateral 1–1, ventral 1; metatarsus: I prolateral 1–0–0–0, ventral 2–2–2–2–2, II prolateral 1–0–1–0, ventral 2–2–2–2–2, III prolateral 1–1, ventral 1, IV prolateral 0–1, ventral 1.

♀♀ (from Japan): Femur: I prolateral 1–1–1–1, 1–1–1–1–1 or 1–1–2–1–1, II prolateral 1–1–1–1 or 0–1–1–1, III–IV prolateral 0–0–1 or none; tibia: I prolateral 0–0–0–1, 1–1–0–1, 0–1–1 or none, ventral 2–2–2–2 or 2–2–2–2–2, II prolateral 1–1–0–1 or 0–1–0–1, ventral 2–2–2–2, III prolateral 1–1 or 0–1, ventral 1, IV prolateral 0–1, ventral 1; metatarsus: I prolateral 1–1–0–0 or 1–0–0–0, ventral 2–2–2–2–2ap, II prolateral 1–0–1–0, ventral 2–2–2–2–2ap, III prolateral 1–1, ventral 1, IV prolateral 0–1 or 1–1, ventral 1.

1 ♂ (from Amami-ôshima Island, Japan): Femur: I–II prolateral 1–1–1–1, I retrolateral 0–0–1–1, II retrolateral 0–0–0–1, III–IV dorsal 0–1–1, prolateral 1–1–1 (at the right leg 0–0–1); patella: I–II pro- and retrolateral 1, III–IV pro- and retrolateral 1 (weak); tibia: I–II prolateral 1–1–1, ventral 2–2–2–2, I retrolateral 1–1–1 (at the right leg 1–1–0), II retrolateral 1–1, III prolateral 1–0–1 (at the right leg 1–1–1), ventral 1 (at the right leg 1–1–1), IV prolateral 1–0–1, ventral 1; metatarsus: I–II prolateral 1–1–0–0, ventral 2–2–2–2–2ap, I retrolateral 1–0–0–0, III prolateral 1–1–0 (at the



Figs. 1-8. *Monaeses aciculus* (SIMON, 1903). — 1. Female (syntype), dorsal view. 2. Ditto, lateral view. 3. Epigynum. 4. Female genitalia, dorsal view. 5. Male palp (Japan), ventral view. 6. Ditto, retrolateral view. 7. Tibia of male palp, retrolateral view (Taiwan). 8. Ditto (Nepal). (Scale: 0.4 mm.)

right leg 1-1-1), IV prolateral 1-1.

Male palp (Figs. 5-8). Tibia with VTA and RTA; VTA developed, digitiform, RTA wide and short with a distal tooth much sclerotized and variable (Figs. 6-8).

Bulb simple, embolic division long, winding twice around tegulum, embolus filiform, long, the apical part curved retrolaterally.

Opisthosoma very long and slender, length/width ♀ 3.00–3.81, ♂ 3.34–3.75, extending caudally beyond spinnerets, dorsally with stout hairs.

Female genitalia (Figs. 3–4). Epigynum with a central hood sclerotized, intromittent orifices splitting, situated between hood and epigastric furrow. Intromittent canal soft, long and winding, atrium tube-shaped, spermathecae long, reniform.

Coloration and markings. ♀: Prosoma light yellow-brown or light orange mottled with brown, lateral margins and clypeus darker, chelicerae, maxillae, labium and sternum yellow to yellow-brown, legs yellow to light yellow-brown. Opisthosoma white, grey or beige, occasionally with dark-coloured markings.

♂: Prosoma yellow-brown, darker at the middle and along lateral margins, chelicerae, maxillae, labium, sternum and legs light yellow-brown without any marking. Opisthosoma dorsum grey with longitudinal black band at the middle, ventrum beige, darker at the sides.

Range. Japan (Nansei Islands), Taiwan, Vietnam, Nepal.

Biology. Unknown.

Remarks. This species resembles *M. israeliensis* LEVY, 1973, from Israel but has shorter "tail" of opisthosoma and different structure of male palp and female genitalia. In general appearance, *M. reticulatus* SIMON, 1908, from Vietnam is the species most closely similar to *M. aciculus*. However, its holotype (from Hanoi, P. VAULOGER leg., in MNHN, examined) is a juvenile male, so that detailed comparison in the structure of male palp was not possible between the Vietnamese and the northern species. There is a strong possibility of synonymy between the two names.

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