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A New Species of *Zygiella* from Vietnam

(Arachnida, Araneae, Araneidae)

With 6 Figures

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The spider collection given to the author by T. NADLER, Dresden, includes some interesting Araneidae which will be described here as a new species of *Zygiella* F. O. PICKARD-CAMBRIDGE.

Zygiella nadleri n. sp.

Material examined: 1 male holotype, 1 male, 5 females paratypoids from Hanoi, Sông Chay (Red River), 9. 2. 1982; 1 male, 2 females from Vung Tau east of Saigon, 20. 2. 1982. This material is deposited preliminarily in the author's collection; 1 male, 1 female from Hanoi, Sông chay, 9. 2. 1982, deposited in the Museum of Comparative Zoology, Harvard University, Cambridge/Mass., USA.

Description of the male, holotype: Cephalothorax 2.7 mm long, 1.9 mm wide, light brown, the cephalic area dark to blackish brown. Posterior median eyes separated by half their diameter and separated to the lateral eye group by two diameters. Lateral eyes separated by half their diameter. Anterior median eyes little larger than the others and are their radius apart. Sternum yellowish brown with darker margin. Near the coxae II und III with flat protuberances. Labium and gnathocoxae coloured like the sternum. All ventral parts of the cephalothorax with many long and fine setae. Chelicerae dark brown with some little hairy tubercles at the front side. Anterior margin of the claw furrow with four teeth, posterior three.

Legs yellow, all parts distally light brown ringed. Tibiae and metatarsi I and II also with brown rings in the middle. Measurements:

	femur	patella	tibia	metatarsus	tarsus
leg I	2.9	1.3	2.7	2.7	1.0
leg II	2.5	1.1	2.0	2.0	0.9
leg III	1.6	0.6	1.0	1.0	0.6
leg IV	1.9	0.9	1.5	1.2	0.7

All legs with long and fine bristles. Metatarsi I and II ventrally with three short and very strong bristles like spines. All tibiae ventrally with one or two curved strong spine-like bristles near its distal end. Tibia I and II also with three or four strong bristles at the ventral side. Femur IV dorsally with three long bristles and a short retrolateral spine-like one distally.

Abdomen 3.0 mm long and 2.2 mm wide, oval, dorsally with long and very fine setae. Upper side yellowish brown, under side lighter. Folium light brown, bordered laterally by little white spots. Median line brown, in its front a large white spot.

Colulus large, triangular and with two fine bristles.

Male palp in its basal parts like this of other *Zygiella* species. Tibia little longer than wide, not modified. Cymbium long oval, basally with a flattened shovel-shaped paracymbium (pc). Tegulum without a projection seen in some other *Zygiella* (fig. 1).
Expanding the palp (fig. 2, 3) there is seen the terminal apophysis (ta) which is inserted in a large distal hematodocha. The embolus (e) is strongly sclerotized and curved. Near the basal part of the curved radix (ra) the conductor (cd) inserted which has at its distal end a sclerotized edge. Medianapophysis (ma) strongly sclerotized and curved. Its convex side coarse because of many very short pustules. Distal end of the medianapophysis is tapering into a short tip.

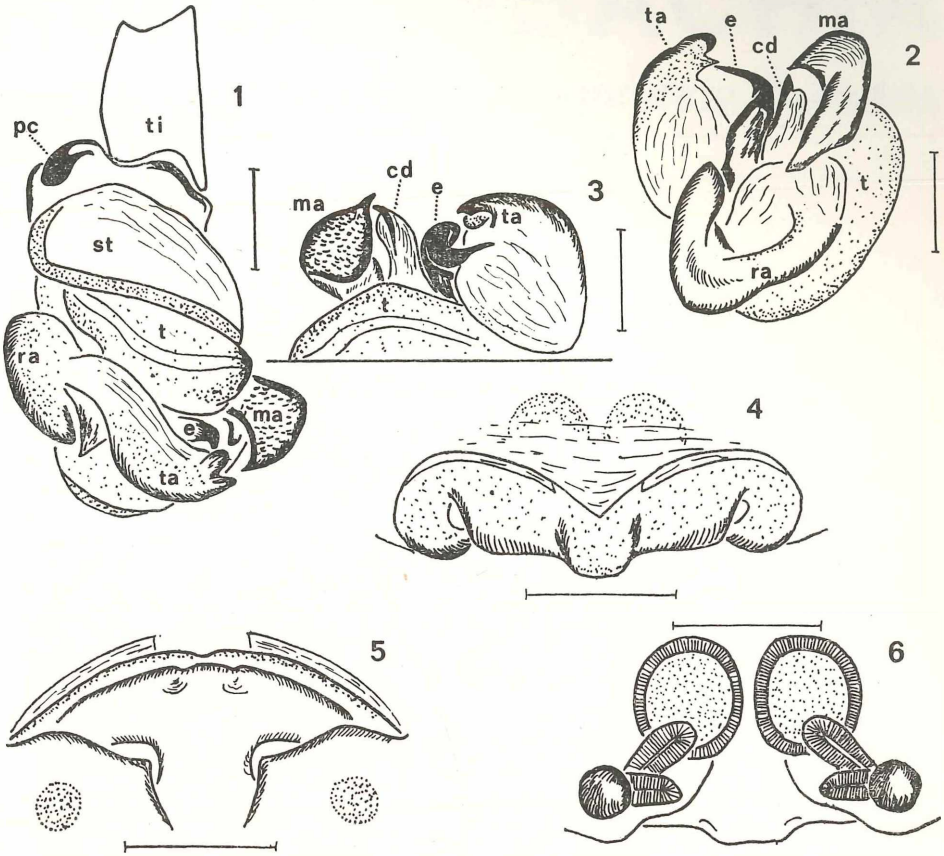
Description of the female, paratypoids: Cephalothorax 3.0 mm long, 2.3 mm wide. Colouration like in the male but little darker in some specimens. In the eye arrangement as well as in the shape of the ventral side of the cephalothorax and chelicerae the female is similar to the male.
Legs yellowish brown. Pattern darker as in the male. Measurements:

	femur	patella	tibia	metatarsus	tarsus
leg I	3.1	1.5	2.8	2.5	1.0
leg II	2.6	1.3	2.2	2.0	1.0
leg III	2.0	0.7	1.2	1.0	0.7
leg IV	2.3	1.0	1.7	1.7	0.9

Spination similar to that of the male but some strong bristles are relatively longer. At tibia I a prolateral spine-like bristle too which is inserted near the middle of the tibia.
Abdomen 5.6 to 6.0 mm long and 4.4 to 4.9 mm wide. Similar to that of the male but pattern sometimes reduced to two rows of dark brown spots besides the folium.
Female genitalia without a well developed scape (fig. 4, 5). There is a small and slight lamella on each side which bordered the epigynum plates. The median plate showes a flat hook which has two small depressions seen from behind. The internal genitalia (fig. 6) are characterized by a well sclerotized "atrium" at the inner side of each opening. Between this and the globular receptacula there are glandular ducts.

Discussion LEVI (in litt.) noted that this species is "very close to *Zygiella*" but suggested "it may need a new generic name because it differs from *Zygiella* in having the tapetum of the posterior median eyes reduced and narrow as in Araneinae. The tegulum lacks a tegular apophysis and is transverse rather than paraxial in the bulb." But the author is of the opinion that this species must include in the genus *Zygiella* because it complies with the diagnosis given by LEVI (1974).
The conformation of the eyes is similar to that of *Zygiella calyptrata* (WORKMAN), *Z. melanocrania* (THORELL) and other species. In the male palpal organ some characters are recognized which can be find also in some "typical" *Zygiella*. For instance *Z. x-notata* CLERCK has no projection at the tegulum of male palp as well as the new species described in this paper.
After examination of several characters *Z. nadleri* n. sp. is closely related to *Z. melanocrania* (THORELL) from Burma. The two species are similar both in colouration and size. In the authors opinion they only can be distinguished from each other by the female genitalia (the male of *Z. melanocrania* is unknown). The epigynum of *Z. melanocrania* lacks the slight lamellae in front of the epigynum plates as seen in *Z. nadleri* n. sp. The species also differ in the form of the openings and the lateral parts of the median epigynum plate. Internal the "atrium" of the *Z. melanocrania* vulva is in the shape of a kidney bean but globular in *Z. nadleri* n. sp. There are also differences in the turning of the ducts.

Bionomics T. NADLER (pers. comm.) noted that *Z. nadleri* n. sp. built an orb web which has mostly a free sector for the signal thread. The web is spread between grass-



Figs. 1–6. *Zygiella nadleri* n. sp.
1: Male, left palp, retrolateral view. – 2: Male, left palp (expanded), bulb, distal-dorsal view. – 3: Male, left palp (expanded), bulb, distal-ventral view. – 4: Female, epigynum, ventral view. – 5: Female, epigynum seen from behind. – 6: Female, vulva, dorsal view. Scale lines: 0.2 mm. For abbreviations see text.

blades or roots of trees mostly over water surface near the shore. The retreat is at the periphery of the web. Spiders at day time sit in it, mostly male and female together.

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