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PARAZODARION, A NEW GENUS OF THE SPIDER FAMILY ZODARIIDAE (ARANEAE) FROM ASIA

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Parazodarium, a New Genus of the Spider Family Zodariidae (Araneae) from Asia. **Ovchinnikov S. V., Ahmad B., Gurko V. O.** — *Parazodarium* Ovchinnikov, gen. n. is described. It is a monotypic genus with the type species *Zodarium raddei* Simon, 1889 widespread in Turkmenistan, Southern Kazakhstan, Uzbekistan, Tajikistan, Afghanistan, Iran and Pakistan previously assigned to the genus *Zodarium* Walckenaer, 1826 recently shown to be non-monophyletic.

Key words: Araneae, spiders, Zodariidae, *Parazodarium*, new genus, Asia.

Parazodarium — новый род пауков семейства Zodariidae (Araneae) из Азии. **Овчинников С. В., Ахмад Б., Гурко В. О.** — Описан *Parazodarium* Ovchinnikov, gen. n. Этот монотипический род включает типовой вид *Zodarium raddei* Simon, 1889, распространенный в Туркменистане, Южном Казахстане, Узбекистане, Таджикистане, Афганистане, Иране и Пакистане, ранее относившийся к сборному роду *Zodarium* Walckenaer, 1826.

Ключевые слова: Araneae, пауки, Zodariidae, *Parazodarium*, новый род, Азия.

Marusik and Koponen (2001) considered *Zodarium* Walckenaer, 1826 a polyphyletic complex that can be split into several good genera based on differences in the structure of the copulatory organs. They noted that two supraspecific taxa for the Central Asian *Zodarium raddei* Simon, 1889 and *Zodarium denisi* Spassky, 1938 could be established, but have not named them formally. In this paper, we establish a new monotypic genus for *Z. raddei*.

The following abbreviations used in the text are: ALE — anterior lateral eyes, AME — anterior median eyes, BSE — basal support of the embolus, BTA — basal tegular apophyse, PLE — posterior lateral eyes, PME — posterior median eyes. The measurements are given in millimeters.

***Parazodarium* Ovchinnikov, gen. n.**

Type species: *Zodarium raddei* Simon, 1889.

Diagnosis. The new genus is similar to *Zodariellum* Andreeva & Tyshchenko, 1968 in possessing small, but visible tutaculum and long thin embolus in males. It differs from the latter genus as well as from other zodariine genera by having the male bulb with two additional basal apophyses beside the terminal tegular one (retinaculum) (fig 1. 1, 2). Females can be recognized by the wide atrium sclerotized frontally and partly divided into two atria.

Composition. Type species.

***Parazodarium raddei* (Simon, 1889), comb. n.**

Zodarium raddei Simon, 1889: 383 (♂); Denis, 1958: 111, f. 42–44 (♂♀); Fet, 1985: 274 (synonyms); Mikhailov, Fet, 1994: 511 (note); Marusik & Koponen, 2001: f. 27 (distribution).

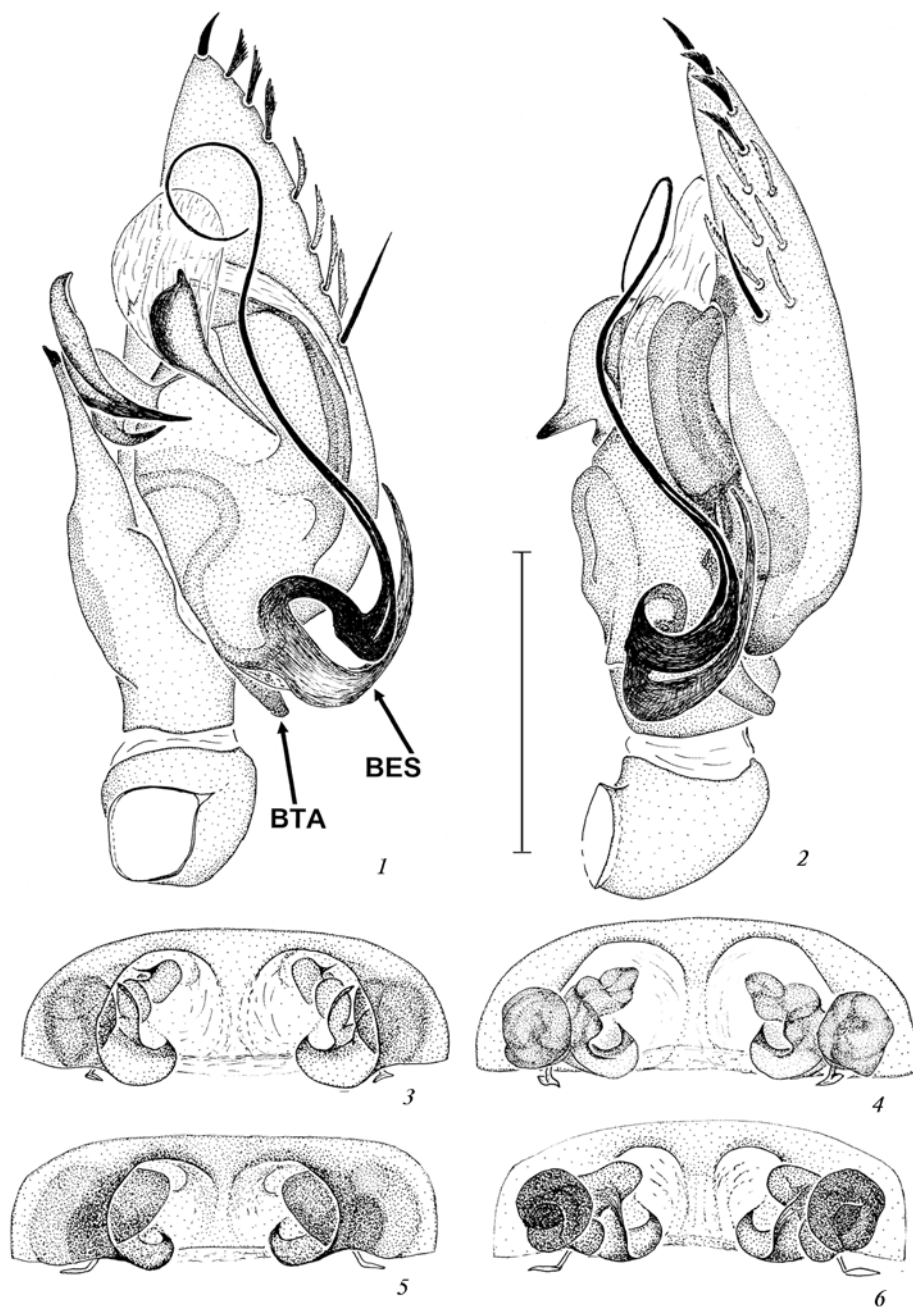


Fig. 1. *Parazodarium raddei*: 1 — male palp, ventral view; 2 — same, retrolateral view; 3 — epigyne, ventral view; 4 — same, dorsal view; 5 — epigyne (variant), ventral view; 6 — same, dorsal view. Abbreviations are given in the text. Scale bar 0.5 mm.

Рис. 1. *Parazodarium raddei*: 1 — пальпа самца, вентрально; 2 — то же, вентрально и сзади; 3, 5 — эпигина, вентрально (разные варианты); 4, 6 — то же, дорсально (разные варианты). Сокращения в тексте. Масштабная линейка 0,5 мм.

Zodarium vlasovi Sytshevskaja in Vlasov, Sytshevskaja, 1937: 249, f. 1–3 (♂). First synonymised by Fet, 1985: 274.

Zodarium denisi: Ovtsharenko, Fet 1980: 443 (distribution); Krivokhatsky, Fet, 1981: 47 (biology; based on the misidentification, not *Z. denisi* Spassky, 1938).

Material¹. Turkmenistan: Mary Veloyati: 4 ♂, 58 km N Serkhetabad [formerly Kushka], Kala-i-Mor, 8.04.1993; 3 ♂, Serkhetabad [= Kushka] Distr., Kushka River basin near Morgunovka vill., 19.04.1993 (S. Ovchinnikov); 2 ♂, 3 ♀, 1 juv., Serkhetabad [formerly Kushka] Distr., 15 km NNE of Chemenibit, Kushka River valley, right river bank, 520 m, canyon, 35°28' 21" N, 62° 24' 32" E, 5.04.2002; 1 ♀, Serkhetabad [formerly Kushka], Badkhyz Nature Reserve, 96 km NW of Serkhetabad near Kepelya cordon, 810 m, 35° 48' 11" N, 62° 32' 51" E, 10.04.2002 (A. V. Gromov); 1 ♂, 2 ♀, Zulfagar Mt. Rg., 37 km SE Pulikhatum, 14.04.1993; 1 ♂, Gezgedyk Mt. Rg., 27 km SE Pulikhatum, 17.04.1993; Balkan Veloyati: 1 ♂, 1 ♀, W Kopetdagh Mt. Rg., Syunt-Khasardagh Nature Reserve, 26.03.1993 (S. Ovchinnikov); 2 ♀, Lebab Veloyati, Kara-Kum Desert, Repetek Nature Reserve, 18.04.1993 (S. Ovchinnikov). **Tajikistan:** Teriklitau Mt. Rg., near Kumsan vill., 27.04.1991 (S. Ovchinnikov). **Iran:** 3 ♂, 5 ♀, S Qom Town, at light, 23.05.2003; 1 ♀, 30 km E of Maku, 39°10' N, 44° 50' E, 18.07.2005; 1 ♂, 1 ♀, Iranian Plateau, 50 km NW of Yazd, Sharifabad, 32°18' N, 54° 02' E, 20.07.2005 (S. Ovchinnikov). **Pakistan:** 1 ♀, Baluchistan Prov., Quetta, Hotel «Blumstar», 27.07.2005; 10 ♂, 2 ♀, Baluchistan Prov., 10 km W Kach vill., 30°25' N, 67°16' E, at light, 28.07.2005; 42 ♂, 22 ♀, Baluchistan Prov., Wam vill., Pil Forest (*Juniperus*), 30°26'18" N, 67°26'23"E, 2218 m, at light, 29.07.2005; 2 ♀, same locality, at light, 10.09.2005 (S. Ovchinnikov).

Redescription. Male. Body length 3.75. Carapace: length 1.61; width 1.29; ratio L/W 1.25. Cephalic part broad with length 0.46, width 0.71, ratio L/W 0.65; maximal width of thorax / same of cephalic part, 1.81. Median eyes of both rows forming square. AME very large, their diameter 3 times as large as distance between them. PME slightly smaller than PLE and ALE, latter twice smaller than AME. Clypeus steep and twice longer than AME diameter. Sternum as long as wide. Leg formula 4132. Femora of all legs usually with 2 dorsal spines; femora I–III sometimes with 3 spines; femur IV with small weakly developed second spine. Flattened incised hairs on femora almost absent.

Carapace dark brown with cephalic area almost black. Femora I completely, II almost completely and III–IV in anterior half blackish-brown. Tibiae, metatarsi and tarsi yellowish-grey, in some places with weak blackening. Chelicera, cymbium and sternum dark brown. Abdomen dorsally black, ventrally of dark sepia color.

Male palp (fig 1. 1, 2): Tibia with one long apophysis. Cymbium with simple terminal spine; mesally with 9 unilaterally serrated setae (3 dark and 6 light ones). Bulbus with terminal tegular apophysis (retinaculum) and two long sharp basal teeth. Basis of tegulum with long falcate apophysis (BSE) and finger-shaped apophysis (BTA). Embolus long and thin, with broad and flattened base.

Female. Body length 5.00. Carapace: length 2.03; width 1.47; ratio L/W 1.38. Cephalic part: length 0.74; width 0.77; ratio L/W 0.96; maximal width of thorax / same of cephalic part — 1.99. Coloration as in male.

Epigyne (fig 1. 3–6) with two wide semi-circular openings divided by median longitudinal prominence. Below, two semicircular chitinous flat blades jut out which represent the beginning of copulatory ducts. Distance between copulatory ducts equal to their width.

Variability. Males and females of *Z. raddei* collected in Baluchistan (Iran, Pakistan) at light differ from the specimens collected within the territory of the former USSR by their light yellow appendages and faintly dark carapace and sternum. The most dark coloured conspecific specimens were collected in the South of Tajikistan on the banks of Pyandzh River. Color of the femora can be coal-black (in the eastern part of its distributional range) or yellow (in the western one); metatarsi and tarsi are always lighter. No differences were found in the structure of copulatory organs of males from different localities. Epigyne in the Iranian females often possesses the wider atrium, but in females from Turkmenistan the shape of epigyne is more variable. We give no taxonomic status to these color forms, because the coexistence of lighter and darker forms is common for other widespread representatives of the Zodariinae.

¹ All the listed specimens are temporarily deposited in the private collection of A. V. Gromov (Almaty, Kazakhstan).

Table 1. Leg length (male/female)

Таблица 1. Длина ноги (самец/самка)

Legs	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	1.96/1.86	0.51/0.66	1.50/1.46	1.87/1.81	1.07/1.00	6.91/6.79
II	1.73/1.90	0.47/0.71	1.46/1.21	1.71/1.89	1.03/0.99	6.40/6.70
III	1.78/1.86	0.53/0.71	1.29/1.19	2.04/2.07	0.86/0.91	6.50/6.74
IV	2.21/2.53	0.59/0.69	1.91/2.07	2.39/2.60	1.03/1.04	8.13/8.93

Etymology. The name is composed from the well-known generic name *Zodarion* and a prefix *para-* (equal); thus we emphasize that the rank of the new taxon is equal to that of the genus *Zodarion*.

Distribution. Afghanistan (Denis, 1958), Turkmenistan, Kazakhstan (Mikhailov, 1997), Tajikistan, Iran, Pakistan (new records).

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