

A new species of *Paracedicus* Fet, 1993 from Iran (Aranei: Cybaeidae)Новый вид *Paracedicus* Fet, 1993 из Ирана (Aranei: Cybaeidae)Omid Mirshamsi^{1,2}О. Миршамси^{1,2}¹ Department of Biology, Faculty of Sciences, Ferdowsi University of Mashhad, Mashhad, Iran² Research Department of Zoological Innovations (RDZI), Institute of Applied Zoology, Faculty of Sciences, Ferdowsi University of Mashhad, Mashhad, Iran; E-mail: mirshams@um.ac.ir

KEY WORDS: spider, fauna, Iranian Plateau, description.

КЛЮЧЕВЫЕ СЛОВА: паук, фауна, иранское плато, описание.

ABSTRACT. A new species — *Paracedicus darvishi* sp.n. (♂) — is described from the holotype male from north-eastern Iran. A detailed morphological description and illustrations of the new species are provided. The new species is closely related to *P. gennadii* Fet, 1993 and *P. feti* Marusik et Guseinov, 2003.

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РЕЗЮМЕ. Новый вид — *Paracedicus darvishi* sp.n. (♂) — описан по самцу-голотипу из северо-восточного Ирана. Даны детальное морфологическое описание и рисунки нового вида. Новый вид близок к *P. gennadii* Fet, 1993 и *P. feti* Marusik et Guseinov, 2003.

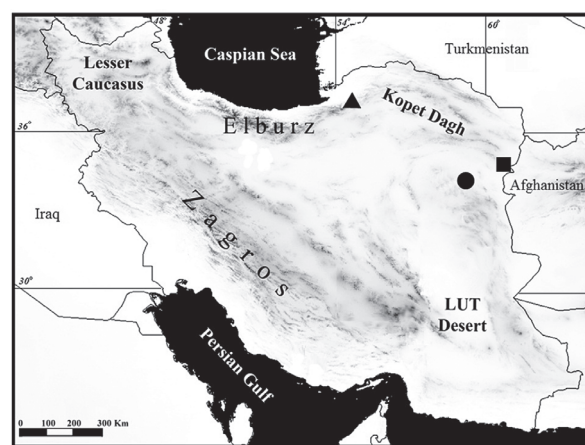
Introduction

Fet [1993] described *Paracedicus* as a subgenus of *Cedicus* Simon, 1875, which was later elevated to the genus rank by Marusik & Guseinov [2003]. Based on the available taxonomic literature [Kishida, 1955; Lehtinen, 1967; Levy, 1996; Marusik, Guseinov, 2003; Zamani, Marusik, 2017], there is no consensus on to which family this genus belongs, either Cybaeidae or Desidae. Recently, reasoning from the unique conformation of the male bulb [Marusik, Guseinov, 2003; Zamani, Marusik, 2017], this genus, as well as the genera *Cedicus* and *Cedicoides* Charitonov, 1946, has been transferred to the family Desidae. However, the latter taxonomic act was not accepted by the World Spider Catalog [WSC, 2018] because the geographical range of *Paracedicus* did not fit with the family distribution given by Wheeler *et al.* [2017]. In this paper, the family assignment of *Paracedicus* follows the WSC [2018]. It seems, however, that detailed integrative studies based both on morphological and on molecular evidences are required to further clarify the taxonomic position of this genus.

In Iran, *Paracedicus* is known by two species that were recently recorded and/or described: viz., *P. gennadii* Fet, 1993 [Zamani *et al.*, 2016] and *P. kasatkini* Zamani et Marusik, 2017 (Fig. 3). In the present paper, a new species from Iran is described. Thus, a number of the described/recorded *Paracedicus* species from Iran is risen to three (Map).

Material and methods

The illustrations were produced by means of an Olympus DP-71 camera attached to an Olympus SZH-10 stereomicroscope at the Ferdowsi University of Mashhad. In order to provide a complete depth of field, several digital images were combined using the Zerene Stacker focus stacking software. All measurements are in mm. Lengths of leg segments were measured on their dorsal side, and are given in the following sequence: total (femur, patella, tibia, metatarsus, and tarsus). The holotype male is deposited in the



Map. Collecting localities of *Paracedicus* species in Iran: *P. darvishi* sp.n. (triangle), *P. gennadii* Fet, 1993 (square), and *P. kasatkini* Zamani et Marusik, 2017 (circle).

Карта. Точки находок видов *Paracedicus* в Иране: *P. darvishi* sp.n. (треугольник), *P. gennadii* Fet, 1993 (квадрат), and *P. kasatkini* Zamani et Marusik, 2017 (кружок).



Fig. 1. Dorsal view of the holotype of *P. darvishi* sp.n. Scale bar 1 mm.

Рис. 1. Голотип *P. darvishi* sp.n., вид сверху. Масштаб 1 мм.

Zoological Museum of the Ferdowsi University of Mashhad, Iran (ZMFUM). Abbreviations used in the text are as follows: ALE — anterior lateral eyes; AME — anterior median eyes; PLE — posterior lateral eyes; PME — posterior median eyes.

Description

Paracedicus darvishi sp.n. Figs 1–6, Map.

TYPE. Holotype ♂ (ZMFUM) from Iran, Razavi Khorasan Province, Gonabad County, Kakhk (34°08'59"N, 58°38'21"E), under stone on a sandy-clay substrate, 20.03.2015, O. Mirshamsi.

ETYMOLOGY. The species name is a patronym honoring the late Prof. Dr Jamshid Darvish (1952–2017) of the Ferdowsi University of Mashhad (Iran) for his great contributions to zoology and biosystematic studies in Iran. He was the first who introduced the author to the amazing world of spiders.

DIAGNOSIS. *P. darvishi* sp.n. is closely related to *P. gennadii* known from Iran and Turkmenistan (Fig. 5) and *P. fети* Marusik et Guseinov, 2003 known from Azerbaijan (Fig. 6), but can easily be distinguished from both by the following characters: the oval tegulum; the long and lanceolate conductor, not bending downward; the long, slightly curved embolus, with a wide embolic base; the very small median apophysis; and the absence of tooth between patellar

apophyses (Figs 2–4). From the generotype — *P. ephthalitus* (Fet, 1993) — the new species can be separated by the oval tegulum, the reduced median apophysis and the shape of conductor.

COMMENTS. Zamani & Marusik [2017] described *P. kasatkini* from the female collected from Golestan Province in northern Iran (Map). This species reliably differs from all the congeners in having no abdominal pattern, which is typical of all other *Paracedicus* species, including *P. darvishi* sp.n. Therefore, based on the unique coloration of *P. kasatkini* and a significant geographic distance of its type locality from that of *P. darvishi* sp.n. (c. 500 km, see Map), these two taxa could not be conspecific.

DESCRIPTION. MALE. Body length (without chelicerae) 5.65; carapace 2.61 long, 1.84 wide. Eye sizes and interdistances: ALE 0.12, AME 0.07, PLE 0.09, PME 0.08, AME-AME 0.056, PME-PME 0.124. Sternum 1.48 long, 1.07 wide. Leg I: 7.19 (2.13, 0.9, 1.71, 1.55, 0.9). General appearance as in Fig. 1. Carapace dark brown, with dark margins; Chelicera dark brown, darker than carapace; Sternum dark brown. Endites and labium reddish brown, lighter in their frontal margins. Opisthosoma dark brown, with a distinct median colour pattern as in Fig. 1; venter dark brown, with scattered greyish markings. Spinnerets brown. Coxa and femora of all legs light reddish brown and slightly lighter than carapace. Trochanters and tibiae of all legs light brown. Metatarsi and tarsi of all legs yellowish brown. Legs with numerous spines, the leg spination as in Table.

Palp as in Figs 2–3, with two elongate and pointed patellar apophyses (Fig. 4), without the patellar tooth, tegulum oval, long conductor with a lanceolate tip, conductor started in the mid-part of tegulum, with long and straight embolus, not curved apically, embolic base wide, median apophysis very small, cymbium tip short and rounded.

FEMALE unknown.

DISTRIBUTION. The type locality only (Map).

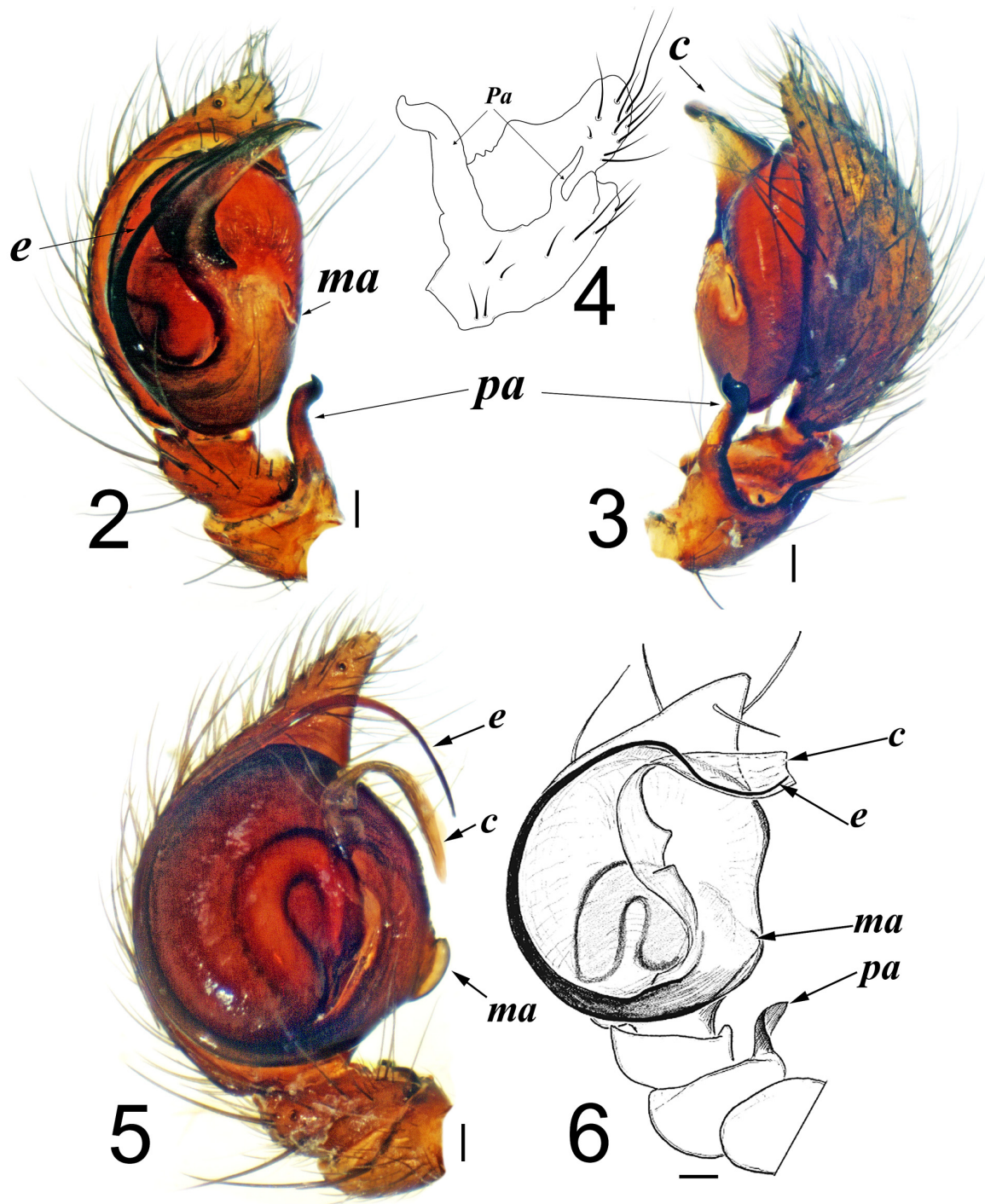
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Table. Leg spination in *Paracedicus darvishi* sp.n.
Таблица. Вооружение ног у *Paracedicus darvishi* sp.n.

| | Femur | Patella | Tibia | Metatarsus |
|-----|-------|---------|-------------|------------|
| I | 2d 1p | – | 1p 6v | 1p 6v |
| II | 2d 1p | – | 4v | 1p 6v |
| III | 2d 1p | 1p 1r | 1d 2p 1r 6v | 2r 6v |
| IV | 3d | 1p 1r | 2r 6v | 1p 2r 6v |



Figs 2–6. Male palps of *Paracedicus* species: *P. darvishi* sp.n. (2–4); *P. gennadii* Fet, 1993 (5, after Zamani et al. [2016]); *P. feti* Marusik et Guseinov, 2003 (6, after Marusik & Guseinov [2003]): 2, 5, 6 — ventral view; 3 — retrolateral view; 4 — patellar apophyses. Scale bars: 0.1 mm. Abbreviations: *c* — conductor; *e* — embolus; *ma* — median apophysis; *pa* — patellar apophysis.

Рис. 2–6. Пальпы самцов видов *Paracedicus*: *P. darvishi* sp.n. (2–4); *P. gennadii* Fet, 1993 (5, по Zamani et al. [2016]); *P. feti* Marusik et Guseinov, 2003 (6, по Marusik & Guseinov [2003]): 2, 5, 6 — вид снизу; 3 — вид сзади-сбоку; 4 — отростки голени. Масштаб: 0,1 мм. Сокращения: *c* — кондуктор; *e* — эмболос; *ma* — медиальная апофиза; *pa* — голенный отросток.

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