

*Plexippoides flavescens* (O. Pickard-Cambridge, 1872)  
and *Menemerus marginatus* (Kroneberg, 1875),  
new records for Pakistan (Aranei: Salticidae)

*Plexippoides flavescens* (O. Pickard-Cambridge, 1872)  
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новые находки для Пакистана (Aranei: Salticidae)

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КЛЮЧЕВЫЕ СЛОВА: пауки-скакунчики, новые находки, Южная Азия, распространение.

ABSTRACT. The present work provides two new spider records for the fauna of Pakistan: *Plexippoides flavescens* (O. Pickard-Cambridge, 1872) and *Menemerus marginatus* (Kroneberg, 1875). Both sexes of *M. marginatus* and the male of *P. flavescens* are illustrated. The distribution of both species and the current state of knowledge of the Pakistani jumping spiders are discussed.

РЕЗЮМЕ. В настоящая работа приводятся две новые находки пауков для фауны Пакистана: *Plexippoides flavescens* (O. Pickard-Cambridge, 1872) и *Menemerus marginatus* (Kroneberg, 1875). Проиллюстрированы оба пола *M. marginatus* и самец *P. flavescens*. Кратко обсуждаются распространение обоих видов и уровень изученности пакистанских пауков-скакунчиков.

## Introduction

The spider fauna of Pakistan is studied insufficiently. The only available checklist by Siliwal & Molur [2007] includes 138 species, of which 37 are members of the family Salticidae (jumping spiders), but also misses some records: e.g., *Heliophanus curvidens* (O. Pickard-Cambridge, 1872) [Wesołowska, 1986]. For Turkey, which has about the same territory as Pakistan and similarly diverse landscapes, 110 species of the family Salticidae are listed [Bayram *et al.* 2014; Coşar, 2014]. This comparison alone shows how poorly the salticid fauna of Pakistan is yet studied.

In the present paper we report on two species of the jumping spiders, *Menemerus marginatus* (Kroneberg, 1875) and *Plexippoides flavescens* (O. Pickard-Cambridge, 1872) as new records for the spider fauna of

Pakistan. Both species were found in the vicinity of Turbat, Balochistan Province.

## Material and Methods

Presented photographs of the copulatory organs were taken by the third author using a Canon EOS 400 connected to a Nikon SMZ 1000 stereomicroscope, photographs of the habitus were taken with the Canon EOS 400 plus close-up lens (Sigma 105, 1:2,8 plus spacer rings). The nomenclature follows the World Spider Catalog [2014]. Specimens were identified using the works by Logunov & Zamanpoore [2005], Rakov & Logunov [1997] and Wesołowska [1996]. The specimens of *M. marginatus* are deposited in the private collection of the second author (PCMF); the male of *P. flavescens* is deposited in the collection of the Manchester Museum, University of Manchester, Manchester, UK (MMUM, Dr. D.V. Logunov).

## Survey of Species

*Plexippoides flavescens* (O. Pickard-Cambridge, 1872)  
Figs 1–2.

MATERIAL. PAKISTAN: 1 ♂ (MMUM), Balochistan Prov., near Turbat (26°01'N: 63°03'E), 140 m a.s.l., on stones, April 2010, I.N. Mohamed.

COMMENTS. Both sexes of this species were described by Wesołowska [1996] and Prószyński [2003: sub *P. arabicus*]. Additional figures of the copulatory organs can be found in Logunov & Zamanpoore [2005]; these authors also synonymized *Plexippoides stahr-muehleri* (Roewer, 1955) with *P. flavescens*.

*P. flavescens* is widespread from the Near East to Central Asia and has been described under different



Figs 1–2. *Plexippoides flavescens* (O. Pickard-Cambridge, 1872): 1 — male, dorsal view; 2 — male palp, ventral view.

Рис. 1–2. *Plexippoides flavescens* (O. Pickard-Cambridge, 1872): 1 — самец, вид сверху; 2 — пальпа самца, вид снизу.

names from several localities [Logunov, Zamanpoore, 2005]. This species was also recorded from Europe (Greece) by Deltshv & Paraschi [1990]. However, the latter record was considered doubtful by Metzner [1999] who also suspected that the Greek specimens should actually belong to *Plexippoides gestroi* (Dalmat, 1920). For a complete list of taxonomic sources see WSC [2014], for the arguments regarding synonymy see Wesolowska [1996] and Logunov & Zamanpoore [2005]. The specimen presented in this work was collected from the stony ground together with the specimens of *M. marginatus* reported below.

Here we present digital photographs of the general appearance and the male palp of *P. flavescens* for the first time (Figs 1–2).

#### *Menemerus marginatus* (Kroneberg, 1875)

Figs 3–6.

**MATERIAL.** PAKISTAN: 2 ♂♂, 1 ♀ (PCMF), Balochistan Prov., near Turbat (26°01'N: 63°03'E), 140 m a.s.l., on stones, April 2010, I.N. Mohamed.

**COMMENTS.** Both sexes of this species were described by Wesolowska [1996] and Wesolowska & van Harten [2011] (with additional photographs of both sexes).

*M. marginatus* is the only species of the genus *Menemerus* occurring in Middle Asia [Rakov, Logunov 1997] and was recorded from Afghanistan [Logunov, Zamanpoore 2005]. *Menemerus raji* Dyal, 1935, the only species of this genus known from Pakistan according to Siliwal & Molur [2007], was reported by Wesolowska & Freudenschuss [2012] to be *nomen dubium*. The latter authors also described a new species, *Menemerus nigli* Wesolowska et Freudenschuss

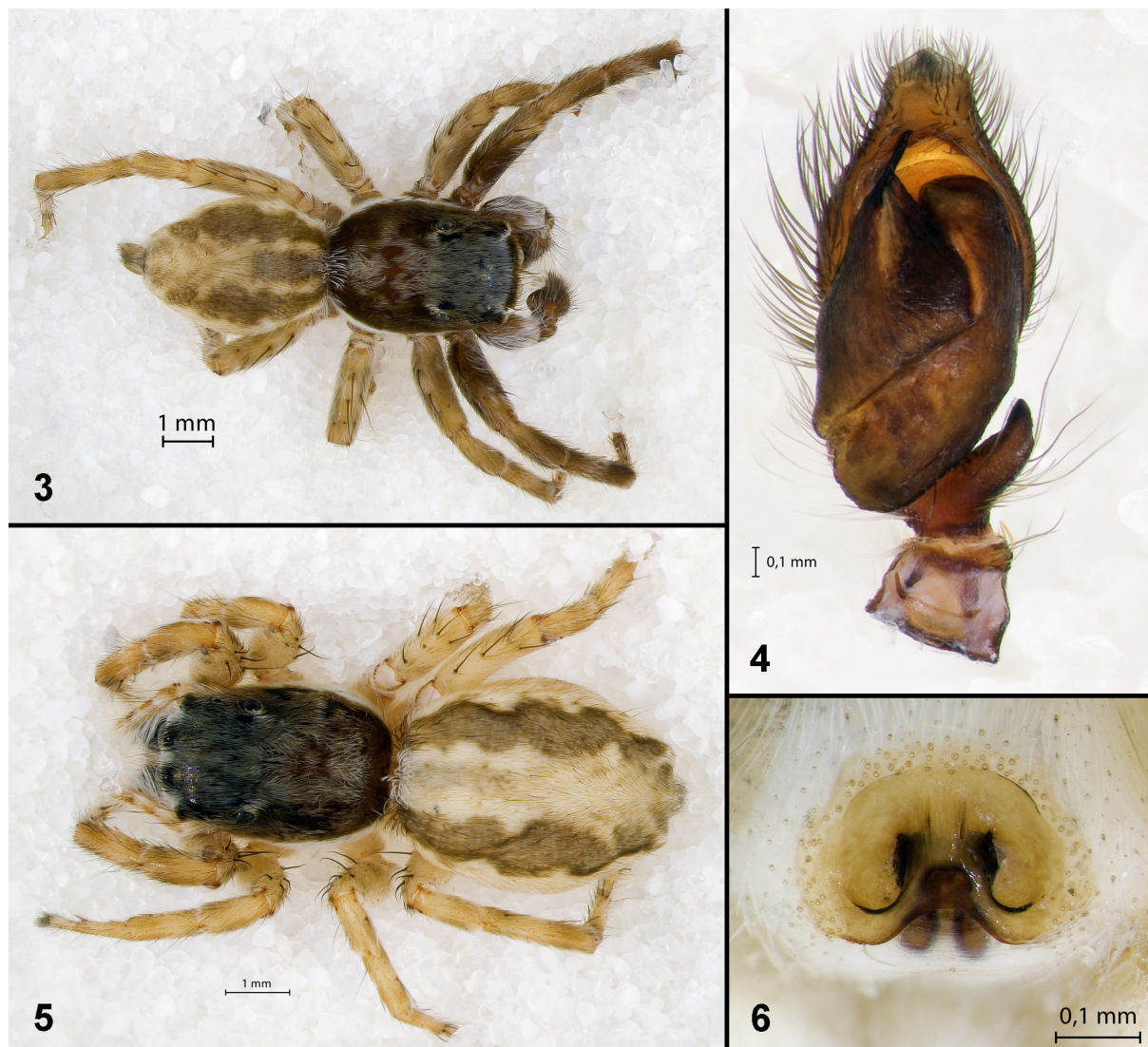
2012, from a single male from the same locality where *M. marginatus* was collected. The male of *M. marginatus* differs from that of *M. nigli* by the curved tibial apophysis which is broadened at its base and by the straight embolus (Fig. 4).

## Discussion

The state of faunistic and taxonomic knowledge of the Pakistani Salticidae is complicated. Some of the earlier described species require a revision and confirmation upon reference to the pertinent material, because the published information and drawings are inadequate for reliable identification. Some of the earlier described species were taxonomically misplaced [Logunov *et al.* 2011]. For instance, none of the four species of *Marpissa* C.L. Koch, 1846 described by Butt & Beg [2000] actually belongs to this genus. Furthermore, these species names will inevitably become *nomina dubia*, as their type material was lost (Logunov, pers. comm.). Most of the species described by Dyal [1935] from Pakistan have never been collected and/or described again [WSC 2014], so their taxonomic status also remains unclear. Further studies are essential to gain a better knowledge of the spider fauna of Pakistan.

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Figs 3–6. *Menemerus marginatus* (Kroneberg, 1875): 3 — male, dorsal view; 4 — male palp, ventral view; 5 — female, dorsal view; 6 — epigyne, ventral view.

Рис. 3–6. *Menemerus marginatus* (Kroneberg, 1875): 3 — самец, вид сверху; 4 — пальпа самца, вид снизу; 5 — самка, вид сверху; 6 — эпигина, вид снизу.

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