

New faunistic records of the jumping and crab spiders (Aranei: Salticidae, Thomisidae and Philodromidae) from Iran

Новые фаунистические находки пауков-скакунчиков и пауков-крабов (Aranei: Salticidae, Thomisidae и Philodromidae) из Ирана

D.V. Logunov¹, B. Vazirianzadeh^{2,3}, S.A. Moravvej² & S. Navidpour⁴
Д.В. Логунов¹, Б. Вазириназаде^{2,3}, С.А. Моравей², С. Навидпур⁴

¹The Manchester Museum, The University of Manchester, Manchester M13 9PL UK. E-mail: dmitri.v.logunov@manchester.ac.uk. The corresponding author.

Манчестерский Музей, Университет Манчестера, Окфорд Роуд, Манчестер M13 9PL Великобритания. Email: dmitri.v.logunov@manchester.ac.uk.

²Department of Medical Parasitology and Mycology, School of Medicine, Jundi Shapour University of Medical Sciences, Ahwaz, Islamic Republic of Iran.

³Research Centre of Tropical Medicine and Infectious Diseases, Jundi Shapour University of Medical Sciences, Ahwaz, Islamic Republic of Iran.

⁴Department of Medical Entomology, Razi Institute, Ahwaz, Islamic Republic of Iran.

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КЛЮЧЕВЫЕ СЛОВА: переописание, фаунистика, распространение.

ABSTRACT. New faunistic records for 19 species of Philodromidae, Salticidae and Thomisidae for the spider fauna of Iran are presented. Five jumping spiders (*Heliophanus curvidens*, *Langona tartarica*, *Menerus marginatus*, *Plexippus paykulli*, and *Pseudicius arabicus*) and two philodromid species (*Philodromus fallax* and *P. hierosolymitanus*) are new records for the spider fauna of Iran. *P. hierosolymitanus* is illustrated and redescribed on the basis of the Iranian specimens.

РЕЗЮМЕ. Даны новые фаунистические находки 19 видов из семейств Philodromidae, Salticidae и Thomisidae фауны Ирана. Пять видов пауков-скакунчиков (*Heliophanus curvidens*, *Langona tartarica*, *Menerus marginatus*, *Plexippus paykulli* и *Pseudicius arabicus*) и два вида филодромид (*Philodromus fallax* и *P. hierosolymitanus*) впервые отмечены для фауны Ирана. *P. hierosolymitanus* иллюстрирован и переописан по иранским материалам.

Introduction

In spite of a number of old contributions, which were recently summarized by Mozaffarian & Marusik [2001] and Ghavami [2006], and a few recent papers on various spider families of Iran by Logunov [2001a,b], Logunov *et al.* [2001], Komposch [2002], Ono & Martens [2004], Ghavami [2007] and some others, the Iranian spiders remain poorly known. Within Iran, the spider fauna of some provinces, for example Khūzestān, Hormozgān, Khorāsān, Fārs and some others remain practically unexplored. Therefore, any newly

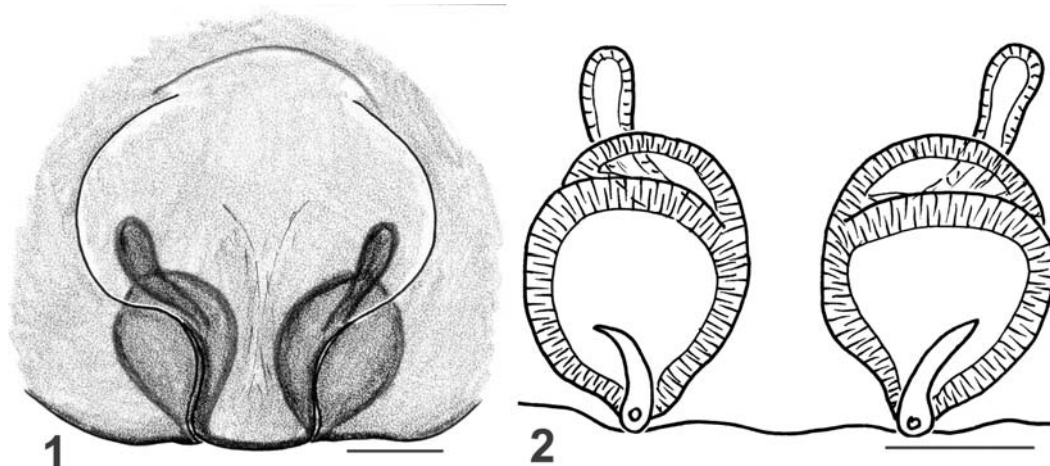
collected material derived from these regions is worthy of consideration and publishing. Here, we present data on new faunistic records for nineteen spider species of the families Philodromidae, Salticidae and Thomisidae from various localities of Iran, based both on newly collected and museum preserved material.

The specimens examined are preserved in the following museum collections: DPMA — the Department of Parasitology and Mycology, College of Medicine, the Jundi Shapour University of Medical Sciences, Ahwaz, Iran (Dr B. Vazirianzadeh); NHMW — Naturhistorisches Museum, Wien, Austria (Dr J. Gruber); ZMTU — the Zoological Museum of the University of Turku, Finland (Dr S. Koponen); ZMUM — the Zoological Museum of the Moscow State University, Moscow, Russia (Dr K.G. Mikhailov). Comparative type material was borrowed from the Zoological Department of the Hebrew University of Jerusalem, Israel (HUJI; Dr G. Levy). The format of the description and the terminology follows Szita & Logunov [2007]. All measurements are in mm.

Results

PHILODROMIDAE

The Philodromidae of Iran have never been the subject of serious taxonomic studies. To date, eight philodromid species have been reported [Mozaffarian & Marusik, 2001; Ono & Martens, 2004; Ghavami, 2006, 2007], and some of the earlier records need confirmation. For instance, the record of *P. aureolus* by Roewer [1955] might belong either to *P. praedatus* O. Pickard-Cambridge, 1871 or to *P. longipalpis* Simon, 1870; both have recently been reported from Iran by Komposch [2002: sub. *P. cf. praedatus*] and by Ono & Martens [2004] respectively.



Figs 1–2. The ♀ copulatory organs of *Philodromus hierosolymitanus* Levy, 1977 from Iran: 1 — epigyne; 2 — spermathecae. Scale bar 0.1 mm.

Рис. 1–2. Копулятивные органы самки *Philodromus hierosolymitanus* Levy, 1977 из Ирана: 1 — эпигина; 2 — сперматека. Масштаб 0,1 мм.

Philodromus fallax Sundevall, 1833

Identification: Roberts [1995].

MATERIAL. Iran: 1 ♂ (DPMA), Khūzestān, Bostan (c. 31°41'N, 47°55'E), 04.2006, Bahrani & S. Navidpour; 1 ♂ 1 ♀ (ZMUM), Khūzestān, Shadegan, Naseri (=Nāšerī; c. 30°39'N, 48°37'E), 02.2006, S. Navidpour.

COMMENTS. *P. fallax* is a trans-Palaeartic temperate species known from Portugal and France in the west, eastward throughout the Caucasus and Central Asia to Yakutia and Chukotka in the east [Szita & Logunov 2007]. This is a new record for Iran, and the southernmost record for the species.

Philodromus hierosolymitanus Levy, 1977

Figs 1–2.

Identification: Levy [1977], present work.

Philodromus hierosolymitanus Levy, 1977: 203, figs 19–20 (D♀; the ♀ holotype in HUJI, examined).

TYPE MATERIAL. The ♀ holotype (HUJI, 15502) from Israel, Jerusalem, 28.06.1954, G. Levy.

OTHER MATERIAL. Iran: 2 ♀♀ (ZMUM), Fārs, c. 50 km NNE of Shiraz, Bamboo Reserve (52°45'N, 29°45'E), 18–28.05.2000, Yu.M. Marusik.

DIAGNOSIS. *P. hierosolymitanus* is a member of the *histrion* species group [*sensu* Szita & Logunov, 2007] and resembles *P. alascensis* Keyserling, 1884 [see Dondale & Redner, 1978: figs 192–198], but can easily be distinguished from it by the presence of the wide transverse yellow band at the rear part of dorsum and by the longer and narrower spermathecal organs (Fig. 2). The male of *P. hierosolymitanus* remains unknown.

DISTRIBUTION. The species is known from Israel (the type locality; see Levy [1977]) and Iran (present data) only. This is a new record for the spider fauna of Iran, and the easternmost record for the species.

DESCRIPTION. MALE unknown.

FEMALE. *Measurements*. Carapace 2.05 long, 2.05 wide. Median ocular area: MOA-WA 0.27, MOA-WP 0.49, MOA-L 0.39. Diameter of eyes and inter-distances: AME 0.14, ALE 0.09, PME 0.10, PLE 0.11, AME-AME 0.14, AME-ALE 0.09, PME-PME 0.29, PME-PL 0.17. Abdomen 3.45

long, 2.93 wide. Chelicera length 0.83. Clypeus height 0.28. Length of leg segments: I 2.38 + 0.95 + 1.88 + 1.85 + 0.95; II 2.90 + 1.15 + 2.48 + 2.28 + 1.13; III 2.38 + 0.93 + 1.75 + 1.70 + 0.85; IV 2.28 + 0.85 + 1.88 + 1.75 + 0.83. Leg spination of leg I: Fm d and pr 1-1-1, rt 0-1-1-1; Pt d 1-0, rt 0-1-0; Tb d 0-1, pr and rt 1-1-1, v 2-2-2ap; Mt pr and rt 1-1-1ap, v 2-2-2ap.

Coloration. Carapace light yellow-brown (but light yellow in its center), with dark brown radial veins, narrow longitudinal lines on cephalic region and longitudinal brown spot on the area of fovea. Clypeus brown. Sternum, maxillae and labium yellow. Abdomen: dorsum and sides lilac brownish, with the well-marked brown cardiac spot and a wide transverse band at the rear part of abdomen; venter yellow. Book-lung covers and spinnerets yellow. All legs and palpi yellow, with brown dots and (semi)rings at segment joints. Epigyne and spermathecae as in Figs 1–2.

SALTICIDAE

The Salticidae seem to be the most studied group of the Iranian spiders, with 70 species from 35 genera being reported to date [Logunov *et al.*, 2001; Ghavami, 2006]. Of them the records of *Heliophanus ledeufilus* (Hahn, 1831) by Ghavami [2006: p. 1844] is very confusing, as such the species name has never been published and is likely to be *lapsus calami*. Here we present new faunistic data on sixteen species, five of which are new records for Iran.

Ballus chalybeus (Walckenaer, 1802)

Identification: Prószyński [2003].

MATERIAL. Iran: 1 ♂ (NHMW), Qazvīn, c. 108 km N of Qazvīn (=Kazvin; c. 36°16', 50°01'E), hills with coniferous trees, small valley (under stones), summer 1970, K. Bilek.

COMMENTS. This is a European-Middle Asian species [Logunov & Rakov, 1998]; previously reported from Iran by Logunov *et al.* [2001: sub *B. depressus*].

Chinattus caucasicus Logunov, 1999

Identification: Logunov [1999].

MATERIAL. Iran: 1 ♂ (NHMW), Māzandarān, c. 2 km S of Chalus (= Chālūs; c. 36°39'N, 51°25'E), in forest litter, 28.04.1972,

F. Ressler; 2 ♀♀ (ZMTU), Māzandarān, Chalus Forest Park (c. 36°39'N, 51°25'E), moist forest with liverwort moss and ferns, 17.09.1971, P.T. Lehtinen & K. Kavon.

COMMENTS. This species is known from Iran and the Caucasus only [Logunov, 1999; Logunov *et al.*, 2001].

Cyrba algerina (Lucas, 1844)

Identification: Metzner [1999].

MATERIAL. Iran: 1 ♀ (NHMW), Kermanshah, c. 20 km SE of Miyaneh (=Miyāheh; c. 34°05'N, 47°04'E), field-slope with rubble (under stones), summer 1970, K. Bilek; 1 ♂ (NHMW), Gorgan, c. 10 km SW of Shāh Pa Sand (=Āzād Shahr; c. 37°05', 55°15'E), East Elburz Mts, 26.04.1972, K. Bilek & F. Ressler.

COMMENTS. This species is known from the Mediterranean, including the Canaries and N Africa, to India and Middle Asia [Logunov & Rakov, 1998]; previously reported from Iran by Logunov *et al.* [2001].

Heliophanillus fulgens (O. Pickard-Cambridge, 1872)

Identification: Prószyński (2003).

MATERIAL. Iran: 2 ♂♂ (DPMA), Khūzestān, Ahwaz (=Ahvāz; c. 31°19'N, 48°41'E), 7.07.2005, B. Vazirianzadeh, S. Moravvej & Shirasian; 1 ♂ (NHMW), Kermān, Sirjān (c. 29°28'N, 55°40'E), 21.03.1972, K. Bilek & F. Ressler.

COMMENTS. The eastern Mediterranean species [Prószyński, 2003]; previously reported from Iran by Logunov *et al.* [2001].

Heliophanus curvidens (O. Pickard-Cambridge, 1872)

Identification: Metzner [1999].

MATERIAL. Iran: 1 ♀ (NHMW), Hormozgān, oasis c. 95 N of Bandar-Abbass (c. 28°00'N, 56°25'E), covered canal, palm grove, summer 1970, K. Bilek.

COMMENTS. This species is known from the Middle East across to western China (Gansu and Karakorum) and Mongolia in the east [Rakov & Logunov, 1997a]. This is the first record of this species from Iran.

The examined female is light yellow, much brighter than those studied by one of us (DL) from Middle Asia (all were brownish), and therefore might belong to a separate species. The problem requires further attention when more material of both sexes has been collected from Iran.

Heliophanus mordax (O. Pickard-Cambridge, 1872)

Identification: Metzner [1999].

MATERIAL. Iran: 1 ♀ (NHMW), Māzandarān, c. 3 km S of Chalus (=Chālūs; c. 36°33'N, 51°25'E), dense deciduous forest beside river, small bed of a creek (under stones), summer 1970, K. Bilek; 1 ♂ (NHMW), Fārs, the gorge c. 180 km S of Abadeh (c. 30°30'N, 52°40'E), summer 1970, K. Bilek.

COMMENTS. This species is widespread in the eastern Mediterranean, Asia Minor, Central Asia, and the Caucasus [Metzner, 1999; Logunov & Rakov, 1998; Logunov & Zamanpoore, 2005]; previously reported from Iran by Logunov *et al.* [2001].

Hyllus insularis Metzner, 1999

Identification: Metzner [1999].

MATERIAL. Iran: 1 ♀ (NHMW), East Azerbaijan, c. 83 km SE of Tabrīz (c. 37°45'N, 47°00'E), 30.04.1972, K. Bilek & F. Ressler.

COMMENTS. To date, this species has been reported from Greece and Iran only [Metzner, 1999; Logunov *et al.*, 2001].

Langona redii (Savigny et Audouin, 1825)

Identification: Prószyński [2003].

MATERIAL. Iran: 2 ♀♀ (DPMA), Khūzestān, Ahwaz (=Ahvāz; c. 31°19'N, 48°41'E), 7.07.2005, B. Vazirianzadeh, S. Moravvej & Shirasian.

COMMENTS. To date, this species has been reported from Egypt, Israel and Iran only [Logunov *et al.*, 2001].

Langona tartarica (Charitonov, 1946)

Identification: Logunov & Rakov (1998).

MATERIAL. Iran: 1 ♂ (NHMW), Hormozgān, c. 38 N of Bandar-Abbass (c. 27°30'N, 56°15'E), 'Abad Geno', sulphurous spring, 3.04.1972, K. Bilek & F. Ressler.

COMMENTS. To date, this species has been known from Central Asia only [see Logunov & Rakov, 1998]. This is a new record for Iran, and the south-westernmost locality of the species.

Menemerus marginatus (Kroneberg, 1875)

Identification: Rakov & Logunov [1997b].

MATERIAL. Iran: 1 ♀ (ZMUM), Khūzestān, Ahwaz (=Ahvāz; c. 31°19'N, 48°41'E), 18.02.2005, S. Moravvej; 3 ♂♂ 2 ♀♀ (DPMA), same locality, 7.07.2005, B. Vazirianzadeh, S. Moravvej & Shirasian.

COMMENTS. A Central Asian species, known from the eastern Caucasus (Azerbaijan and Chechnya) in the west to Tajikistan and Afghanistan in the east [Rakov & Logunov, 1997b; Logunov & Zamanpoore, 2005]. This is a new record for Iran, and the southernmost record for the species.

Philaeus chrysops (Poda, 1761)

Identification: Metzner [1999].

MATERIAL. Iran: 1 ♀ (NHMW), Fārs, the gorge c. 180 km S of Abadeh (c. 30°30'N, 52°40'E), summer 1970, K. Bilek; 1 ♀ (NHMW), Kermanshah, c. 20 km SE of Miyaneh (=Miyāheh; c. 34°05'N, 47°04'E), field-slope with rubble (under stones), summer 1970, K. Bilek; 1 ♂ 1 juv. (NHMW), Gorgan, c. 10 km SW of Shāh Pa Sand (=Āzād Shahr; c. 37°05', 55°15'E), East Elburz Mts, 26.04.1972, K. Bilek & F. Ressler; 2 ♂♂ (NHMW), Khorāsān, above Mohammadābād (c. 35°45', 57°32'E), 'Dschalal Bariz'-Mts, dry forest, 2.05.1949, H. Löffler.

COMMENTS. This is a common trans-Palaearctic species [Prószyński, 2003]; previously reported from Iran by Logunov *et al.* [2001].

Plexippoides flavescens (O. Pickard-Cambridge, 1872)

Identification: Logunov & Zamanpoore [2005].

MATERIAL. Iran: 1 ♀ (DPMA), Khūzestān, Deylam-Gonaveh road (c. 32°07'N, 48°34'E), 01.2006, Shirasian; 1 ♀ (DPMA), Khūzestān, Ahwaz (=Ahvāz; c. 31°19'N, 48°41'E), 18.02.2005, S. Moravvej; 3 ♂♂ 1 ♀ (DPMA), same locality, 06.2006, Shirasian; 1 ♀ (DPMA), Khūzestān, Haft Gel (c. 31°29'N, 49°37'E), 7.04.2006, S. Navidpour; 3 ♀♀ (NHMW), Kermān, c. 52 km S of Sirjān (c. 29°00'N, 55°45'E), 17.04.1972, K. Bilek & F. Ressler; 1 ♂ (ZMTU), Tehran, Rūdehān (c. 35°45'N, 50°48'E), stone bed at the base of sand hills, 15.09.1971, P.T. Lehtinen.

COMMENTS. This species is known from the Near East and Sinai to Central Asia [Logunov & Zamanpoore, 2005]; previously reported from Iran by Logunov *et al.* [2001].

Plexippus paykulli (Audouin in Savigny, 1826)

Identification: Prószyński [2003].

MATERIAL. Iran: 2 ♀♀ (DPMA), Khūzestān, Shamsābād, Dezful (c. 32°22'N, 48°25'E), 05.2005, Shirasian; 2 ♂♂ (DPMA), Khūzestān, Ahwaz (=Ahvāz; c. 31°19'N, 48°41'E), spring 2003, S. Moravvej; 1 ♀ (DPMA), same locality, 7.07.2005, B. Vazirianzadeh, S. Moravvej & Shirasian; 1 ♂ (DPMA), Khūzestān, Bostan (c. 31°41'N, 47°55'E), winter 2006, Bahrani; 1 ♂ 2 ♀♀ (ZMTU),

Māzandarān, Qā'emshahr (=Ghaemshahr; c. 36°28'N, 53°47'E), citrus orchards, 07.2005, H. Ghahari; 1 ♀ (ZMTU), Erfahān (=Isfahan), Najafābād (c. 32°38'N, 51°20'E), almond orchards, 09.2000, H. Ghahari; 2 ♂♂ (ZMTU), Kermān, Jiroft (c. 28°40'N, 57°45'E), citrus orchards, 08.2000, H. Ghahari; 1 ♂ (ZMTU), Golestan, Gorgān (c. 36°47'N, 54°28'E), cotton fields, 09.2004, H. Ghahari.

COMMENTS. This is a widespread pantropical species [see Prószyński, 2003], yet it is a new record for Iran.

Pseudicius arabicus (Wesołowska et van Harten, 1994)

Identification: Logunov & Zamanpoore [2005].

MATERIAL. Iran: 1 ♂ (NHMW), Kermān, c. 74 km S of Strjān (c. 28°55'N, 55°43'E), waterditch, summer 1970, K. Bilek.

COMMENTS. This species has hitherto been known from the two localities in Yemen and Afghanistan [see Logunov & Zamanpoore, 2005]. This is a new record for Iran.

Pseudicius spasskyi (Andreeva, Hęciak et Prószyński, 1984)

Identification: Andreeva *et al.* (1984).

MATERIAL. Iran: 1 ♂ (ZMTU), Māzandarān, Qā'emshahr (=Ghaemshahr; c. 36°28'N, 53°47'E), rice fields, 06.2005, H. Ghahari.

COMMENTS. To date, this species is known from Central Asia [see Logunov & Rakov, 1998]; previously reported from Iran by Logunov *et al.* [2001].

Thyene imperialis (Rossi, 1846)

Identification: Prószyński (2003).

MATERIAL. Iran: 1 ♂ (DPMA), Khūzestān, Bostan (c. 31°41'N, 47°55'E), 30.05.2006, B. Vazirianzadeh; 2 ♀♀ (DPMA), Khūzestān, Shādegān (c. 30°40'N, 48°40'E), 14.02.2006, B. Vazirianzadeh.

COMMENTS. This species is distributed from East Africa, throughout the Mediterranean and Central Asia to China and India [Logunov & Zamanpoore, 2005]; previously reported from Iran by Logunov *et al.* [2001].

THOMISIDAE

The thomisid fauna of Iran has recently been the subject of special attention by Ono & Martens [2004], who reported on 14 species (five were newly described). Earlier data on 12 species were summarized by Mozaffarian & Marusik [2001]. A few more species were added by Komposch [2002], Ghavami [2006] and Logunov [2006]. Thus, a total of 31 thomisid species have been recorded from Iran to date.

Runcinia grammica (C.L. Koch, 1837)

Identification: Roberts (1995).

MATERIAL. Iran: 2 ♂♂ 1 ♀ (DPMA), Khūzestān, Shoushtar (=Shushtar; 32°02'N, 48°52'E), alfa-alfa fields, 05.2005, Chaharmachali.

COMMENTS. This is a common thomisid species better known under the name *R. lateralis* (C.L. Koch, 1838); the latter name was preoccupied. The species is known from southern Europe, northern Africa, the Middle East and China. Previously reported from Iran (Masandaran) by Ono & Martens [2004: sub *R. lateralis*].

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