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First record of *Minosiella intermedia* (Araneae: Gnaphosidae) from Egypt

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Abstract. *Minosiella intermedia* Denis, 1958, from the family Gnaphosidae, is recorded from Egypt (Sadat City), and thereby the African continent, for the first time. The record, originating from a drip-irrigated pomegranate orchard, is based only on male specimens. It is the fourth recorded species of the genus *Minosiella* Dalmás, 1921 in Egypt. Diagnostic drawings and images of the copulatory organs are presented together with a depiction of the habitat.

Keywords: distribution, North Africa, pomegranate, spider, taxonomy

Zusammenfassung. Erstnachweis von *Minosiella intermedia* (Araneae: Gnaphosidae) in Ägypten. *Minosiella intermedia* Denis, 1958, aus der Familie Gnaphosidae, wird zum ersten Mal aus Ägypten (Sadat City) und, infolgedessen, Afrika gemeldet. Der Nachweis aus einer tröpfchenbewässerten Granatapfelplantage basiert nur auf männlichen Exemplaren. Es stellt die vierte aus Ägypten gemeldete Art der Gattung *Minosiella* Dalmás, 1921 dar. Diagnostische Abbildungen und Zeichnungen der Geschlechtsorgane sowie eine Darstellung des Habitats werden präsentiert.

The Gnaphosidae Banks, 1892 are a species-rich spider family currently containing 2576 species in 164 genera (World Spider Catalog 2021). The last Egyptian checklist included 47 species from 20 genera (El-Hennawy 2017). *Minosiella* Dalmás, 1921 is a small genus of Gnaphosinae spiders comprising only seven accepted species (World Spider Catalog 2021). The genus *Minosiella* was established by Dalmás (1921) for *M. mediocris* Dalmás, 1921 from Egypt, Tunisia and Algeria. This genus is currently represented by three species in Egypt, *M. mediocris* Dalmás, 1921, *M. pallida* (L. Koch, 1875) (but see “comments”) and *M. pharia* Dalmás, 1921 (El-Hennawy 2017, El-Hennawy et al. 2021). *Minosiella intermedia* Denis, 1958 is a little-known species, with only a few records from Central Asia and Iran (World Spider Catalog 2021). The aim of the present paper is to report the recently revealed presence of *M. intermedia* in Sadat City, Egypt, thus also representing the first report of the species from Africa. Based on the available material, the characteristic features of the male are described and illustrated. This new record adds a further species to the still insufficiently studied spider fauna of Egypt.

Material and methods

This study is based on specimens collected in Egypt, Menoufiya, Sadat City. All material is preserved in 75% ethanol and deposited at the Faculty of Agriculture, Al-Azhar University, Egypt. Specimens were photographed using a ToupCam S3CMOS microscope camera attached to an OPTIKA SZM-2 Stereomicroscope. The identification of *M. intermedia* is based on the descriptions, drawings and photographs in Marusik & Kovblyuk (2009). One male pedipalp was removed for the study. Terminology follows Dippenaar-Schoeman & Jocqué (2006). The map was created by using Shorthouse (2010) and the records with localities given in Denis (1958), Ovtsharenko (1992), Marusik & Kovblyuk (2009), Krivokhatskii & Fet (1982) and Zamani et al. (2014, 2017).

New record for Egypt and Africa

Minosiella intermedia Denis, 1958 (Figs 1-3)

Material examined. EGYPT: Menoufiya, Sadat City, Al-Azhar University, 2 ♂♂, 19. Feb. 2018, found on the ground of a pomegranate farm (Farm of Faculty of Agriculture, 30.4208°N, 30.5429°E), 30 m a.s.l, leg. Amr El-Gendy (hand collecting).

Description of male. General appearance as in Fig. 1; total length 3.93–4.02 mm (for further measurements see Tab. 1); carapace longer than wide; with narrow, distinct fovea; orange-yellow to bright yellow-brown (Fig. 1); chelicerae brown. Sternum light brown to pale yellowish; covered with hairs. Legs light brown; clothed with hairs and spines; fourth pair of legs longest, second pair shortest (for measurements see Tab. 2); leg formula 4, 1, 3, 2; two tarsal claws; opisthosoma elongated oval, greyish-brown (Fig. 1). Eyes large, closely grouped, with black circles; the eyes in two transverse curved rows; anterior eye row more curved, the posterior eye row nearly straight; anterior median eyes dark; posterior median eyes oblique and converge posteriorly (Fig. 1). Male palp as in Figs 2-3, embolus long, in basal part with membranous outgrowth; cymbium with thick spines. Male palpal tibia with simple, slender, and nearly straight tibial apophysis.

Habitat. The specimens studied were found on the ground of a drip-irrigated pomegranate orchard next to the tree trunks (Fig. 4). Other records of *M. intermedia* were from rodent burrows (Denis 1958, Krivokhatskii & Fet 1982) and from an abandoned clay construction (Denis 1958).

Tab. 1: Measurements of *Minosiella intermedia*, CL = carapace length, CW = carapace width, OL = opisthosoma length, OW = opisthosoma width, TL = total length

	TL	CL	CW	OL	OW
MIN	3.93	1.78	1.31	1.94	1.59
MAX	4.02	1.85	1.39	2.01	1.61

Tab. 2: Measurements of leg segments of *Minosiella intermedia*

Leg	Femur	Patella	Tibia	Meta-tarsus	Tarsus	Total length
I	1.30	0.73	0.95	0.70	0.56	4.24
II	1.21	0.63	0.81	0.76	0.58	3.99
III	1.25	0.65	0.71	0.94	0.72	4.26
IV	1.48	0.67	1.05	1.39	0.85	5.44

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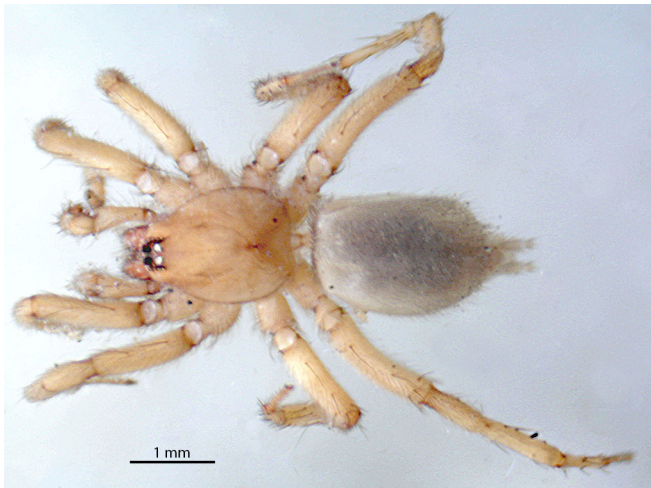


Fig. 1: Habitus of male *Minosiella intermedia* from Egypt, dorsal view

Distribution. *Minosiella intermedia* has been recorded from Central Asia, Afghanistan and Iran (World Spider Catalog 2021). This is the first record of this species from Egypt and, consequently, the African continent (Fig. 5).

Comments. *Minosiella intermedia* is very similar to *M. pallida*, which was described from Northeast Africa (“Hamazsen” = Eritrea/Ethiopia; Koch (1875)). Marusik & Kovblyuk (2009) suspected that *M. pallida* and *M. intermedia* might be synonyms. However, while the male of *M. pallida* is not sufficiently known, the epigynal foveae of the two species seem to differ in the width of the posterior part. Marusik & Kovblyuk (2009) also described an outgrowth on the distal part of the femora in *M. intermedia* (Fig. 2d). This seems to be absent in the drawings of the male pedipalp available from descriptions of *M. pallida* (Simon 1882, Dalmás 1921). Recently, El-Hennawy et al. (2021) published an Egyptian record supposed to constitute *M. pallida*. While the images of the males (El-Hennawy et al. 2021, figs 8-9; cf. fig. 2 and fig. 4 in Marusik & Kovblyuk 2009) apparently show the femoral character of *M. intermedia*, the females (El-Hennawy et al. 2021, figs 12-15) are not easily assigned to one of both species. Only a re-examination of type material of *M. pallida* will clarify the situation and help to decide whether both species are indeed synonyms.

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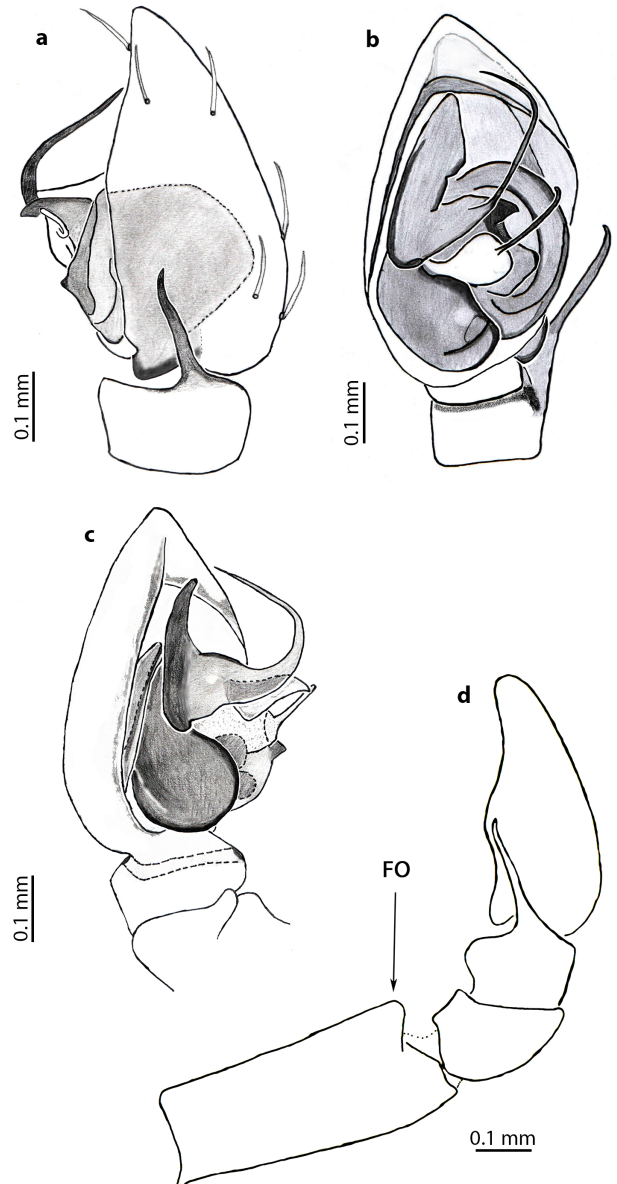


Fig. 2: Male pedipalp of *Minosiella intermedia* from Egypt. **a.** retrolateral view; **b.** ventral view; **c.** prolateral view; **d.** retrolateral view of palpal segments. FO = femoral outgrowth

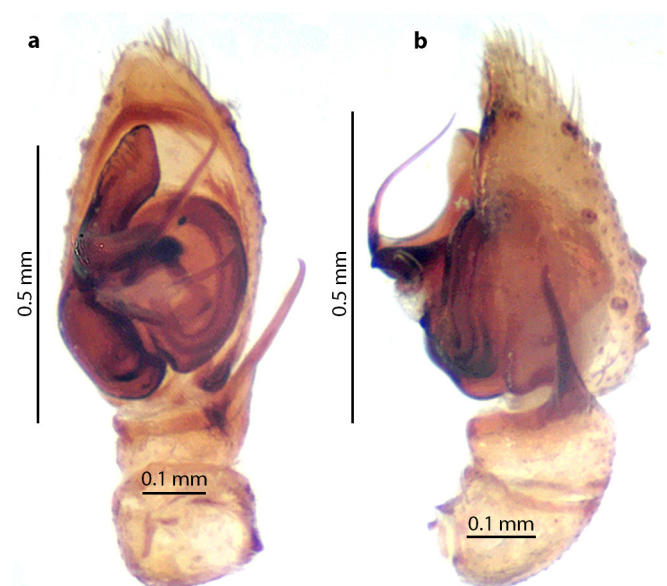


Fig. 3: Male pedipalp of *Minosiella intermedia* (spines broken off). **a.** ventral view; **b.** retrolateral view



Fig. 4: Drip-irrigated pomegranate orchard in Sadat City, Egypt, habitat of *Minosiella intermedia*



Fig. 5: Map of the known records of *Minosiella intermedia*. Square = record in this paper, triangle = possible Egyptian record (sub. *Minosiella pallida* Dalmás, 1921) in El-Hennawy et al. (2021), circles = records from the literature

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