The first record of the genus Rudakius from Egypt (Araneae: Salticidae)

Author: Abdel-Ghani, Doaa Mahmoud

Source: Arachnologische Mitteilungen: Arachnology Letters, 67(1) : 1-3

Published By: Arachnologische Gesellschaft e.V.

URL: https://doi.org/10.30963/aramit6701

The first record of the genus *Rudakius* from Egypt (Araneae: Salticidae)

Doaa Mahmoud Abdel-Ghani

doi: 10.30963/aramit6701

Abstract. The salticid species *Rudakius ludhianaensis* (Tikader, 1974) was discovered while studying the role of spiders in controlling insect pests on mango trees in the Giza Governorate. This species is thus recorded from Egypt for the first time.

Keywords: Active hunter, jumping spiders, mango trees, *Rudakius ludhianaensis*

Zusammenfassung. Der Erstnachweis der Gattung *Rudakius* aus Ägypten (Araneae: Salticidae). Die Springspinnenart *Rudakius ludhianaensis* (Tikader, 1974) wurde während einer Studie zur Rolle von Spinnen bei der Kontrolle von Insektenschädlingen auf Mangobäumen im Gouvernement Giza (Ägypten) gefunden. Dieser Nachweis stellt einen Erstnachweis für Ägypten dar.

الملخص: التسجيل الأول لجنس *Rudakius* فى مصر (Araneae: Salticidae). تم تسجيل النوع *Rudakius ludhianaensis* (Tikader, 1974) الذى يتبع فصيلة العناكب القافزة أثناء دراسة دور العناكب فى مكافحة الآفات الحشرية على أشجار المانجو فى محافظة الجيزة ، وبهذا تم تسجيل هذا النوع والجنس الذى ينتمى له لأول مرة فى مصر.

The family Salticidae Blackwall, 1841 contains 6634 species in 677 genera (World Spider Catalog 2024). In Egypt there are 74 species in 33 genera (El-Hennawy 2017). The genus *Rudakius* was erected by Prószyński (2016), with *Menemerus cinctus* O. Pickard-Cambridge, 1885, as its type species. *Rudakius* consists of seven species (previously in the genus *Pseudicius*) that were previously recorded from Iran to India (Prószyński 1979, 1992, Prószyński & Żochowska 1981, Andreeva, Hęciak & Prószyński 1984).

The species *Rudakius ludhianaensis* is known from Iran, Pakistan and India (World Spider Catalog 2024). Caleb et al. (2019) argued that the Indian material provides evidence that this species could be distributed across various altitudes, ranging from near sea level in eastern India (11 m a.s.l.) to higher mountain regions (1850 m a.s.l.) in northern Pakistan. The spiders were collected from a variety of plants, including trees (*Mangifera*, *Pinus*, *Zea*, *Eucalyptus*, *Plumeria* and *Jasminum*). The aim of the present paper is to report *Rudakius ludhianaensis* for the first time from Egypt, here collected from mango trees.

Material and methods

Spiders were collected in two months, January and May 2023, from mango trees belonging to two varieties: Keitt and Naomi. Specimens were hand-collected from leaves and bark fissures of the mango trees and preserved in 70% ethyl alcohol. Slides of the female copulatory organs and other specimens are deposited in the spider collection of the Department of Fruit Acarology, the Plant Protection Research Institute of the Agriculture Research Centre, Egypt. Female copulatory organs were dissected and mounted in Berlese's fluid (Walter & Krantz 2009) on microscopic glass slides for identification. Digital photographs were taken using a Galaxy S 20 FE phone camera attached to a stereomicroscope.

Rudakius ludhianaensis was identified by D. Logunov based on Tikader (1974), Logunov (2007: sub *Pseudicius admirandus*) and Caleb et al. (2019). The epigynes of two females were removed for study, and one subadult male was reared in the laboratory until maturity, being fed on fruit flies, *Drosophila melanogaster* Meigen, 1830. The map was created using Shorthouse (2010).

Results and discussion

Taxonomy

Family Salticidae Blackwall, 1841
Genus *Rudakius* Prószyński, 2016
Rudakius ludhianaensis (Tikader, 1974)

Specimens examined. EGYPT, Giza, mango orchard planted at the agricultural research centre (30.045708°N, 31.205698°E, 20 m a.s.l.). 12. Jan. 2023: 2 ♀♀, bark of mango trees. The same locality, 7. May 2023: 1 ♀, 3 juvs, 1 subadult ♂, matured on 13. May 2023, leaves of mango tree, leg. D. Abdel-Ghani.

Description of male (Figs 1-2)**.** Total length: 6 mm. Carapace with a white median longitudinal stripe and two similar orange lateral stripes (as seen in fresh specimens after moulting to adult). Opisthosoma creamy-coloured, with an orange median longitudinal stripe and two similar lateral stripes (as seen in fresh specimens after moulting to adult). Four transverse broad blackish streaks (in alcohol-preserved speci-

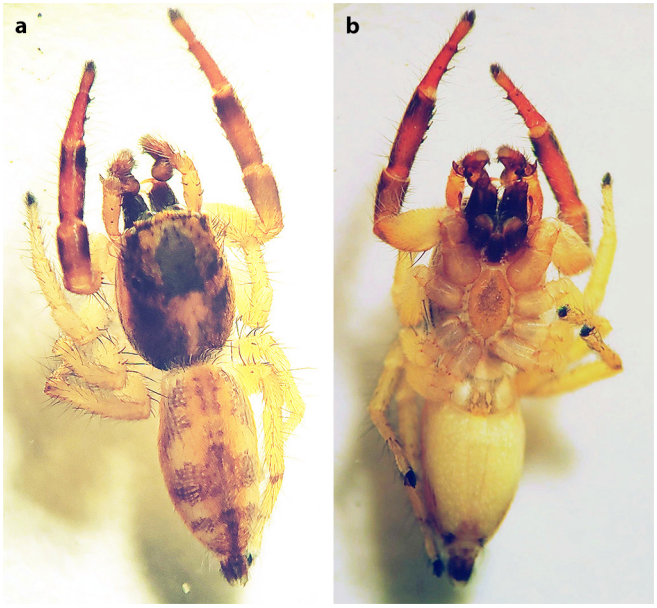

Fig. 1: *Rudakius ludhianaensis*, male. **a.** dorsal view; **b.** ventral view

Doaa Mahmoud ABDEL-GHANI, Plant Protection Research Institute, Agriculture Research Center Dokki, Giza, Egypt; E-mail: abdelghani_doaa@hotmail.com

Academic editor: Petr Dolejš

submitted 9.5.2023, accepted 9.1.2024, online 14.6.2024

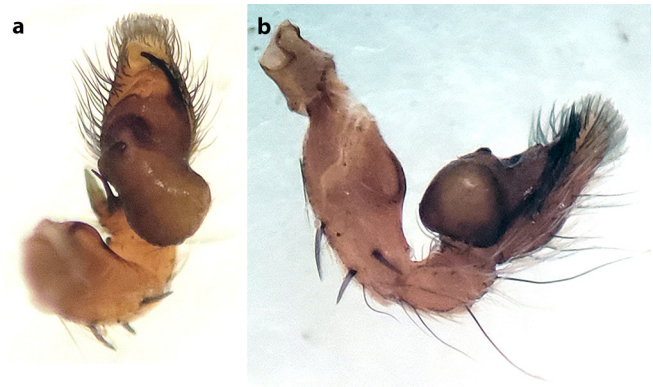

Fig. 2: *Rudakius ludhianaensis*, palp. **a.** ventral view; **b.** prolateral view

mens) (Fig. 1a). Legs yellowish, except from brownish patella, tibia, metatarsus, and tarsus of leg I (Fig. 1b). Palp with a long and flat femur, the ventral tibial branch of the apophysis long and slender, the dorsal tibial branch short and flattened (Fig. 2a-b).

Description of female (Figs 3-4)**.** Total length: 5.3 mm. Prosoma longer than wide, carapace covered with white, black and orange hairs, longitudinal stripes along the eye field (Fig. 3a), posterior portion of the prosoma slightly sloping behind (Fig. 3c). Sternum oval with white dense hairs on the margin, narrowed in front. Chelicerae with one tooth on the inner margin and two on the outer margin (Fig. 3d). Opisthosoma covered with white and orange hairs forming a distinct pattern, posterior end with three black and a pair of white spots (Fig. 3a). Legs strong and stout, leg formula 4132 (Fig. 3b); tibiae, and metatarsi I with three spines and two pairs of ventral spines (Fig. 3e), metatarsi II with one spine and two pairs of ventral spines (Fig. 3f). Epigyne with large, oval fossae separated by median septum (Fig. 4a-b); copulatory openings in the posterior medial area. Female copulatory organs variable (possibly an artefact of slide preparation) (Fig. 4a-b).

Habitat. *Rudakius ludhianaensis* builds small silk retreats between leaves, which are open on one side. Along with this species, the following spider species were found in the same foliage: *Cheiracanthium isiacum* O. Pickard-Cambridge (1 ♂, 11 juvs), *Euryopis episinoides* (Walckenaer, 1847) (4 ♂♂, 1 ♀), *Kochiura aulica* (C. L. Koch, 1838) (4 ♂♂, 6 ♀♀), *Latrodectus geometricus* C. L. Koch, 1841 (1 ♀, 3 juvs), *Poecilochroa pugnax* (O. Pickard-Cambridge, 1874) (1 ♀), *Theridion incanescens* Simon, 1890 (2 ♂♂, 3 ♀♀), *T. spinitarse* O. Pickard-Cambridge, 1876 (2 ♂♂, 4 ♀♀) and *Uloborus plumipes* Lucas, 1846 (1 ♀, 2 juvs). The most abundant species was *C. isiacum*, followed by *K. aulica*.

Distribution. As noted above, *Rudakius ludhianaensis* has been recorded from Iran, Pakistan, India (World Spider Catalog 2024) and now also Egypt (present data); it is thus reported from Egypt here for the first time (Fig. 5).

Note. *Rudakius ludhianaensis* can be distinguished from *R. afghanicus* using the following characters. In males of *R. ludhianaensis*, the embolus is thick and short and seems partially fused with the tegulum, a narrow cleft separates the embolus from the retrolateral hump of the tegulum. In females, differences are observed in the shape of the median septum, which is narrower anteriorly and widens medially and narrows posteriorly again in *R. ludhianaensis*. By contrast, it is wide anteriorly and medially, and narrows posteriorly in *R. afghanicus*.

Fig. 3: *Rudakius ludhianaensis*, female. **a.** dorsal view; **b.** ventral view; **c.** lateral view; **d.** ventral view of prosoma; **e.** leg I spination; **f.** leg II spination

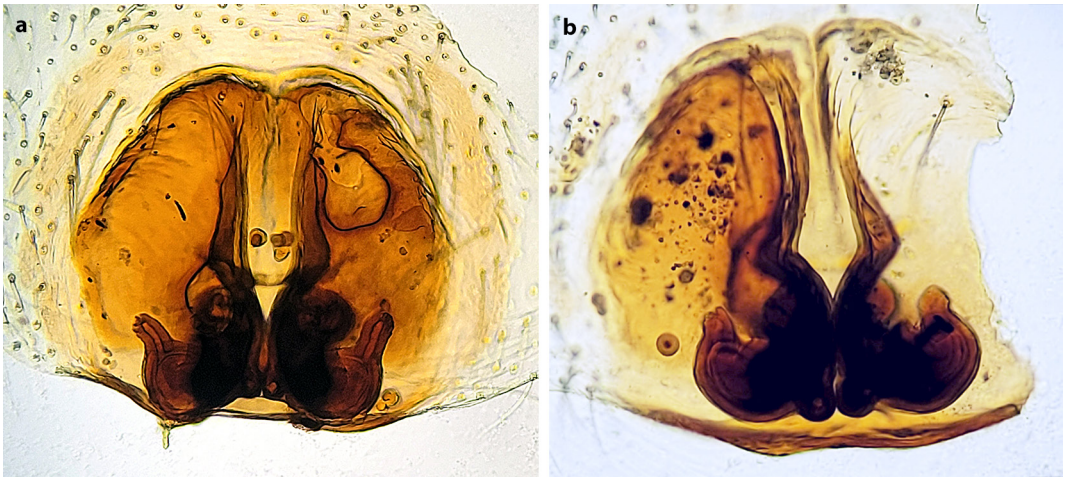

Fig. 4: *Rudakius ludhianaensis*, female variability. **a-b.** epigynes of two specimens, ventral view

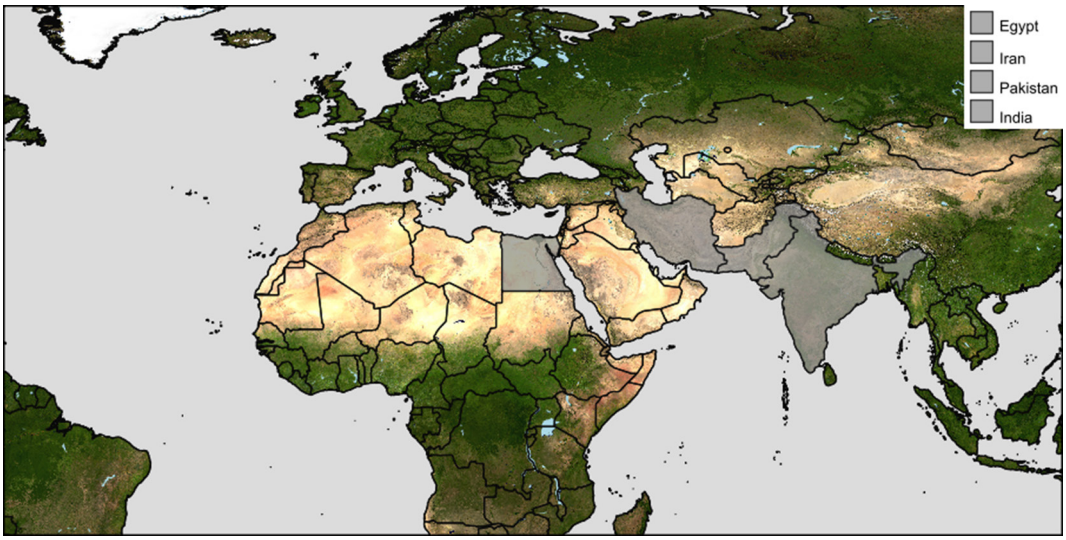

Fig. 5: World distribution of *Rudakius ludhianaensis*

Acknowledgment
I wish to thank Dr. Dmitri Logunov (Manchester, UK) for the help with identification and for editing the English of the first draft.

References

Andreeva EM, Hęciak S & Prószyński J 1984 Remarks on *Icius* and *Pseudicius* (Araneae, Salticidae) mainly from central Asia. – Annales Zoologici, Warszawa 37: 349-375

Caleb JTD, Prajapati DA & Ali PA 2019 Redescription of *Rudakius ludhianaensis* (Tikader, 1974) (Aranei: Salticidae), with notes on its synonymy and distribution. – Arthropoda Selecta 28: 417-423 – doi: 10.15298/arthsel.28.3.06

El-Hennawy HK 2017 A list of Egyptian spiders (revised in 2017). – Serket 15: 167-183

Logunov DV 2007 A new species of the genus *Pseudicius* Simon 1885 (Araneae: Salticidae) from SW Iran. – Acta Arachnologica. 56: 21-23 – doi: 10.2476/asjaa.56.21

Prószyński J 1979 Systematic studies on East Palaearctic Salticidae III. Remarks on Salticidae of the USSR. – Annales Zoologici, Warszawa 34: 299-369

Prószyński J 1992 Salticidae (Araneae) of the Old World and Pacific Islands in several US collections. – Annales Zoologici, Warszawa 44: 87-163

Prószyński J 2016 Delimitation and description of 19 new genera, a subgenus and a species of Salticidae (Araneae) of the world. – Ecologica Montenegrina 7: 4-32 – doi: 10.37828/em.2016.7.1

Prószyński J & Żochowska K 1981 Redescriptions of the O. P.-Cambridge Salticidae (Araneae) types from Yarkand, China. – Polskie Pismo Entomologiczne 51: 13-35

Shorthouse DP 2010 SimpleMappr, an online tool to produce publication-quality point maps. – Internet: https://www.simplemappr.net (8. Jan. 2024)

Tikader BK 1974 Studies on some jumping spiders of the genus *Marpissa* from India (family-Salticidae). – Proceedings of the Indian Academy of Science 79: 204-215

Walter DE & Krantz GW 2009 Collecting, rearing, and preparing specimens. In: Krantz GW & Walter DE (eds.) A manual of acarology. Third edition. Texas Tech University Press, Lubbock. pp. 83-96

World Spider Catalog 2024 World spider catalog. Version 24.5 Natural History Museum, Bern. – Internet: https://wsc.nmbe.ch (7. Jan. 2024) – doi: 10.24436/2