

**Arabian wolf spiders: description of the unknown female
of *Hippasa sinai* Alderweireldt & Jocqué, 2005
(Araneae: Lycosidae)**

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Abstract

In spider material collected in Saudi Arabia, the unknown female of *Hippasa sinai* Alderweireldt & Jocqué, 2005 (Araneae: Lycosidae) was discovered. It is described here together with some notes on its zoogeography of the Arabian subcontinent.

Keywords: Araneae, Lycosidae, *Hippasa*, Arabia

Samenvatting

In spinnenmateriaal verzameld in Saoedi-Arabië werd het onbekende wijfje van *Hippasa sinai* Alderweireldt & Jocqué, 2005 (Araneae: Lycosidae) ontdekt. De beschrijving is hierbij toegevoegd naast een aantal zoögeografische overwegingen met betrekking tot het Arabische subcontinent.

Résumé

La femelle jusque-là inconnue de *Hippasa sinai* Alderweireldt & Jocqué, 2005 (Araneae: Lycosidae) a été découverte dans du matériel récolté en Arabie Saoudite. La description et quelques considérations zoogéographiques de la péninsule arabe sont données.

Introduction

The spider fauna of the Arabian Peninsula is poorly known. The number of systematic collections is very low. However the Arabian peninsula forms a crucial zoogeographical "bridge" between the African and Asiatic spider faunas.

The geographical distribution of animals in the Arabian Peninsula and its neighbouring countries was studied by WARNECKE (1934). Other studies conducted by BODENHEIMER (1937) showed that the geographical distribution of species depends on many factors and he created a specific Eremic zoogeographical region, in addition to the seven basic zoogeographical regions of the world (FARAGALLA, 2002; MATTINGLY & KNIGHT, 1956).

During the last years we were able to study samples from different regions within Arabia. Important collection efforts were made for instance by Antony Van Harten in Yemen and the island of Socotra. The Lycosidae collection proved to contain very valuable material (ALDERWEIRELDT & VAN HARTEN, 2004). The same collector provided us with very interesting material from the United Arab Emirates, a collection containing several wolf spider species new to science (ALDERWEIRELDT & JOCQUÉ, 2017).

An occasional collection of Lycosidae was made in Oman by Johan Mertens and Henri Dumont in 1990. However, a major collecting effort was carried out during many years by the last two authors in Saudi Arabia and the lycosid material was processed and identified by the first author. This contribution is a first result of this sampling campaign.

Wolf spiders (Lycosidae) make up a considerable part of the soil dwelling invertebrate fauna both in numbers and in biomass. Despite their numbers, their alpha-taxonomy is still far from complete. The taxonomy was seriously complicated by the meristic approach of ROEWER (1959, 1960) and the apparently recent speciation processes that seem to occur in several groups (ALDERWEIRELDT & JOCQUÉ, 1992; JOCQUÉ & ALDERWEIRELDT, 2006; WUNDERLICH, 2004).

During the last decades, quite some effort in revisionary work on generic level was demonstrated worldwide. In this flow of revisions on generic level, the African representatives of the genus *Hippasa* Simon, 1885 were treated by ALDERWEIRELDT & JOCQUÉ (2005). The genus *Hippasa* is, based on our current knowledge, restricted to the Old World with a distribution range from the African continent, over Arabia to as far east as central and eastern Asia.

Hippasa species are characterised by the combination of a two-segmented elongated posterior pair of spinnerets and a specific palpal (male) and epigynal (female) morphology. In contrast to most wolf spiders, they construct a funnel web at ground level. The web is clearly agelenid like and constructed in low vegetation or between roots.

Material and methods

Spiders were collected at the university farm that belongs to the college of Meteorology, Environment and Arid Land Agriculture which is located at Hada Al-sham valley, 125 km NE of Jeddah (Fig.1).



Fig 1. Map of Saudi-Arabia showing the capture locality of *Hippasa sinai* at the Hada Al-Sham Valley (red triangle) and the type locality at Sinai (black circle).

It is basically an isolated enclave, surrounded from three sides by a series of rugged terrain of low mountains, and represents a green oasis in the hot semi-desert of the Hejaz region in western Saudi Arabia. It is characterized by a relatively rich sandy loamy soil where date palm grooves, citrus orchards and alfalfa fields occur. All these plants are supported by water from underground water aquifers to supplement the low annual rainfall. The landscape is also characterized by many patches of hardy desert grasses and herbs including *Cynodon dactylon* (L.) and *Cyprus rotundus* (L.) in addition to thorny *Acacia* bushes scattered all over the valley.

Pitfall traps were used to monitor the spider species of three agroecosystems where in each of them a rectangular trapping grid of 0.75 hectare was established and eight pitfall traps were installed. Each trap was made of a funnel (24 cm diameter) inserted into a wide-mouth half a liter glass bottle assembled with masking tape and buried level with soil surface. About 150 ml of 70% ethylalcohol was poured in as a killing and a preserving agent. The traps were emptied weekly.

Study of this material revealed males and females of the rare *Hippasa sinai*, a species only recently described from the relatively nearby Sinai Desert (Egypt) (ALDERWEIRELDT & JOCQUÉ, 2005).

Description of the unknown female of *Hippasa sinai* Alderweireldt & Jocqué, 2005

MATERIAL EXAMINED. 6♂♂, 2♀♀, SAUDI ARABIA, Hada Al-sham valley, 125 km northeast of Jeddah, leg. A. Faragalla & K.M. Al-Ghamdy (Private collection M. Alderweireldt 1267).

DIAGNOSIS. After removing the quite dense cover of thick hairs on the epigyne (also present in other *Hippasa* species), the simple epigyne and transparent vulva becomes visible (Fig. 2). It consists of a subcircular, oval central pocket from which typical and quite large, straight spermathecae emerge.

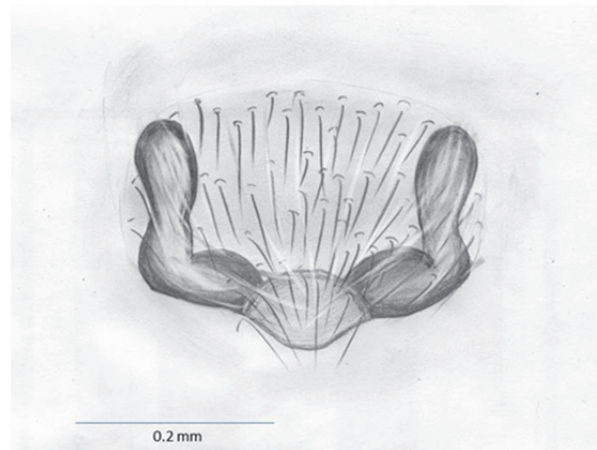


Fig. 2. *Hippasa sinai*, female epigyne/vulva (Saudi Arabia), scale bar = 0,2 mm.

DESCRIPTION.

Measurements (n=2): carapace width = 4.36 mm, carapace length = 5.54 mm, total length = 1.12 mm.

Carapace mainly yellowish grey with faint darker radiating striae emerging from the fovea. Lateral, irregular markings present.

Sternum pale yellow with some median black markings but far less obvious than in male.

Chelicerae brown with black mottling. Inner margin with 3 equally large teeth.

Abdomen ventrally uniform pale yellow. Dorsally mainly yellowish grey with some dark central blotches.

Female palp mainly yellow with some dark spots. Tarsus just a little darker than other segments. Spinnerets pale yellowish grey.

Legs yellow with some irregular dark spots and markings that however cannot be defined as blotches, stripes nor clear annulations.

Epigyne quite densely covered with long, pale hairs and with a subcircular central pocket.

Vulva: consisting of two large, straight and simple spermathecae.

DISTRIBUTION. Egypt Sinai desert and Saudi Arabia.

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