

New species of Filistatidae, Palpimanidae and Scytodidae (Arachnida: Araneae) from southern Iran

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Abstract — Three new species of spiders are described from southern Iran: *Filistata balouchi* sp. n. (♂, Filistatidae; Sistan & Baluchistan Province), *Levymanus dezfulensis* sp. n. (♀, Palpimanidae; Khuzestan Province) and *Scytodes kumonga* sp. n. (♀, Scytodidae; Hormozgan Province). This is the first record of the genus *Levymanus* in Iran, and the easternmost record of the genus *Filistata* globally.

Key words — Aranei, Middle East, new record, spiders.

Introduction

The first checklist of Iranian spiders by Mozaffarian & Marusik (2001) listed the occurrence of only 141 species. Afterwards, many taxonomic revisions and large-scale faunistic contributions resulted to the current number of 784 species in 301 genera and 52 families being known from this country (Zamani et al. 2020). Still, the araneofauna of Iran is far from being well-studied, as many families are still awaiting local revisions and most areas of the country are not well-sampled. In this paper, we aim to contribute to the knowledge on this group in this region, by describing three new species and recording one genus in Iran for the first time.

Materials and Methods

Specimens were photographed using an Olympus Camedia E-520 camera attached to an Olympus SZX16 stereomicroscope or to the eye piece of an Olympus BH2 transmission microscope at the Zoological Museum of University of Turku. Digital images were prepared using CombineZP image stacking software. Illustrations of internal genitalia were made after clearing them in a 10% KOH aqueous solution. Lengths of palp and leg segments were measured on the dorsal side; they are listed here as: total length (femur, patella, tibia, metatarsus [not on palp], tarsus). All measurements are given in millimetres. Studied material will be deposited in the Muséum d'histoire naturelle, Genève, Switzerland (MHNG).

Taxonomy

Family Filistatidae Simon 1864

Genus *Filistata* Latreille 1810

Filistata balouchi sp. n.

Figs. 1A–F

Type material. Holotype ♂ (MHNG), IRAN: *Sistan & Baluchistan Province*: Sarbaz County, 26°35'35"N, 61°13'09"E, 24.11.2017 (A. Zamani).

Etymology. The specific epithet is a noun in apposition and refers to a tribe of people living in Baluchistan, the type locality of the new species.

Diagnosis. The new species is most similar to *F. insidiatrix* (Forsskal 1775) by its large size and distinct pattern of carapace, but can be distinguished by broken and wider dark marginal stripes of carapace (*vs.* thinner and not broken). Male palp of the new species is most similar to those in *F. insidiatrix* and *F. albens* Zonstein & Marusik 2019 and can be distinguished by swollen distal part of tibia (*vs.* unswollen, Zonstein & Marusik 2019: figs. 7E, H), bulb longer than cymbium (*vs.* cymbium longer or subequal to bulb), and blunt and unbent tip (*vs.* pointed and bent posteriorly).

Description. Male. Habitus as in Figs. 1A–C. Total body length 4.92. Carapace 2.20 long, 1.86 wide. Eye sizes and interdistances: AME 0.11, ALE 0.20, PME 0.14, PLE 0.22, AME–AME 0.06, ALE–ALE 0.17. General coloration pale yellowish brown. Carapace covered with a few short setae, with deep inverted Y-shaped fovea, a discontinuous black marginal zone and a dark stripe from ocular area to fovea; clypeus dark brown with light median band. Abdomen covered with dense, long black setae, and with distinct cribel-

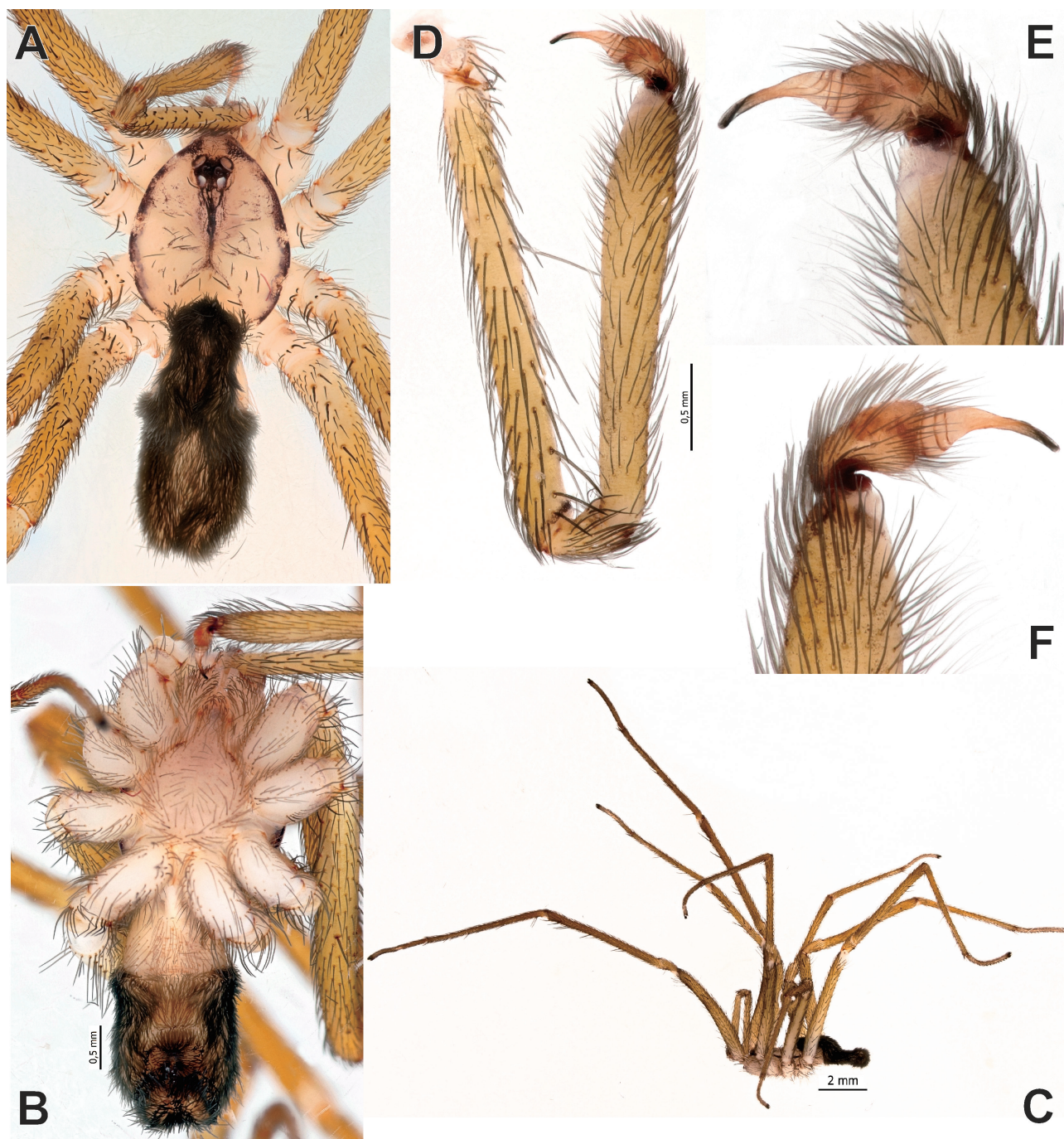


Fig. 1. *Filistata balouchi* sp. n., holotype male. A–C, habitus, dorsal, ventral and lateral; D–F, left palp, retro-and prolateral.

lum. Legs slightly darker than carapace, without any annulations. Measurements of palp and legs: palp: 6.73 (2.77, 0.57, 2.58, 0.8); I: 18.86 (4.87, 0.82, 5.46, 5.13, 2.58); II: 14.55 (3.78, 0.82, 3.90, 4.13, 1.92); III: 12.47 (3.37, 0.69, 3.14, 3.62, 1.65); IV: 16.42 (4.60, 0.96, 4.32, 4.58, 1.96).

Palp as in Figs. 1D–F; femur slightly longer than tibia, 10.3 times longer than wide; tibia swollen on distal 1/3, about 1.5 times wider than in the proximal part; cymbium

relatively short, shorter than bulb; embolus smoothly roundly bent, with blunt and slightly twisted around the axis tip; sperm ducts not compact.

Female. Unknown.

Distribution. Known only from the type locality in Sistan & Baluchistan Province, southeastern Iran. This is the easternmost known record of the genus *Filistata* globally.

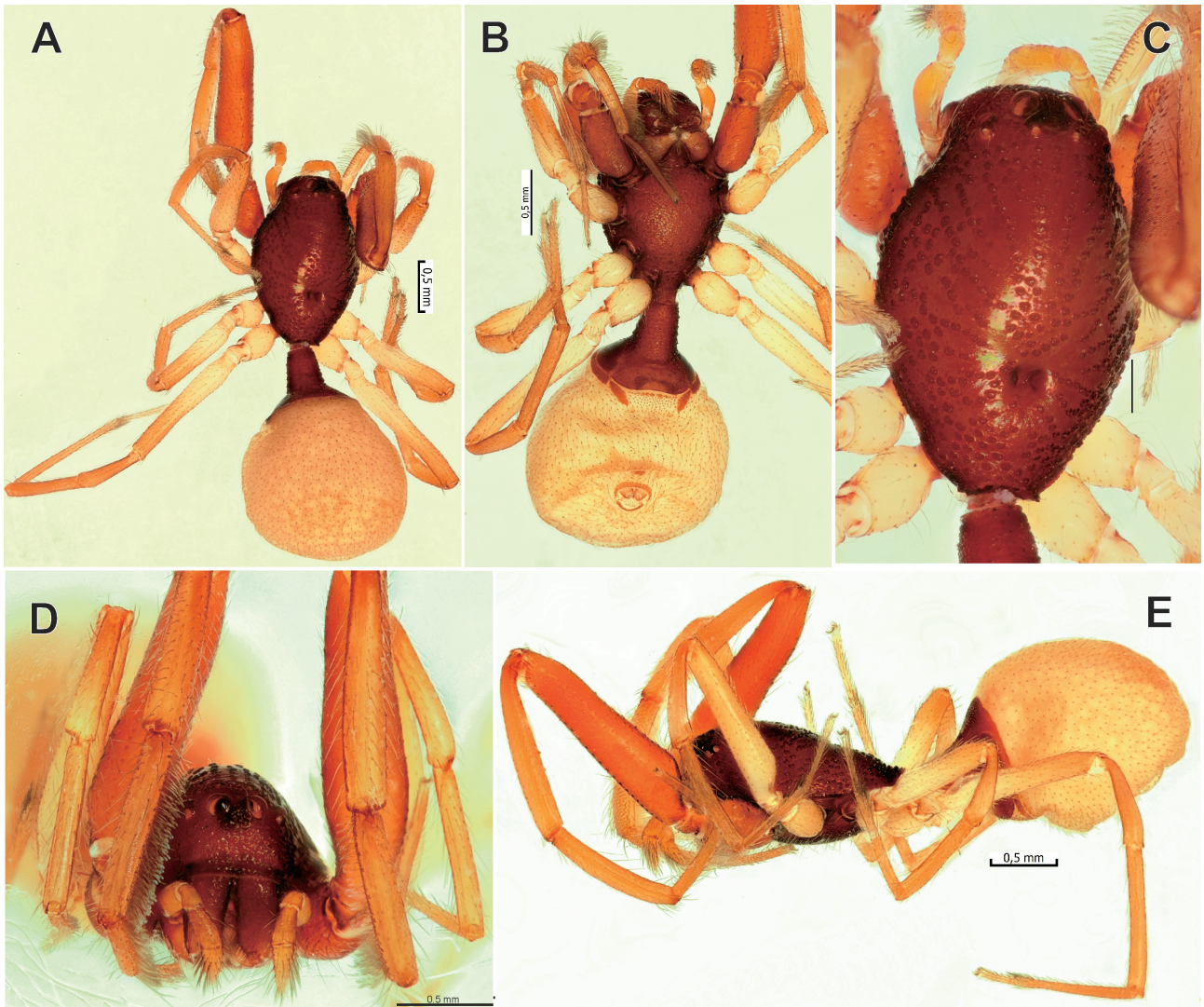


Fig. 2. *Levymanus dezfulensis* sp. n., holotype female. A–B, E, habitus, dorsal, ventral and lateral; C–D carapace, dorsal and frontal. Scale bar on C = 0.2 mm.

Family Palpimanidae Thorell 1870
Genus *Levymanus* Zonstein & Marusik 2013
Levymanus dezfulensis sp. n.
Figs. 2A–E, 3A–F

Type material. Holotype ♀ (MHNG), IRAN: *Khuzestan Province*: Dezful, 32°23'N, 48°24'E, 2.2.2020 (A. Dezfuli).

Etymology. The specific epithet refers to the type locality of the new species in southwestern Iran.

Diagnosis. *Levymanus dezfulensis* sp. n. differs from the congeners by longer carapace (1.47 vs. 1.22–1.34), relatively longer femur I (femur I/carapace length ratio 1.16 vs. 1.01–1.06); well sclerotized and longer postgastral scuta (3 times longer than wide) and presence of 3 unpaired small scuta (*Us*) between lateral scuta (vs. lateral scuta less developed, not 3 times longer than wide, and no additional scuta).

The new species has higher clypeus (=smaller diameter of AME), about 2.7 diameter of AME (vs. 2.3 in *L. gershomi* Zonstein & Marusik 2013). *Levymanus dezfulensis* sp. n. have endogyne similar to those in *L. ras* Zonstein, Marusik & Kovblyuk 2017, but differs by relatively smaller grape-shaped glands (*Gg*) (cf. Figs. 3E and 3G) and wider than long receptacles (vs. longer than wide). The new species differs from *L. ras* also by having distinct book-lung opercula (cf. Figs. 3F and 3H).

Description. Female. Habitus as in Figs. 2A–E. Total body length 3.65. Carapace 1.47 long, 1.09 wide. Scutum 0.71 long. Eye sizes and interdistances: AME 0.13, PME 0.03, AME–AME 0.1, PME–PME 0.14, AME–PME 0.06. Carapace, sternum, labium, and chelicerae dark red; maxilla yellowish. Carapace with numerous rows of granules. Pedicel tube and ventral parts of abdominal scutum as shown

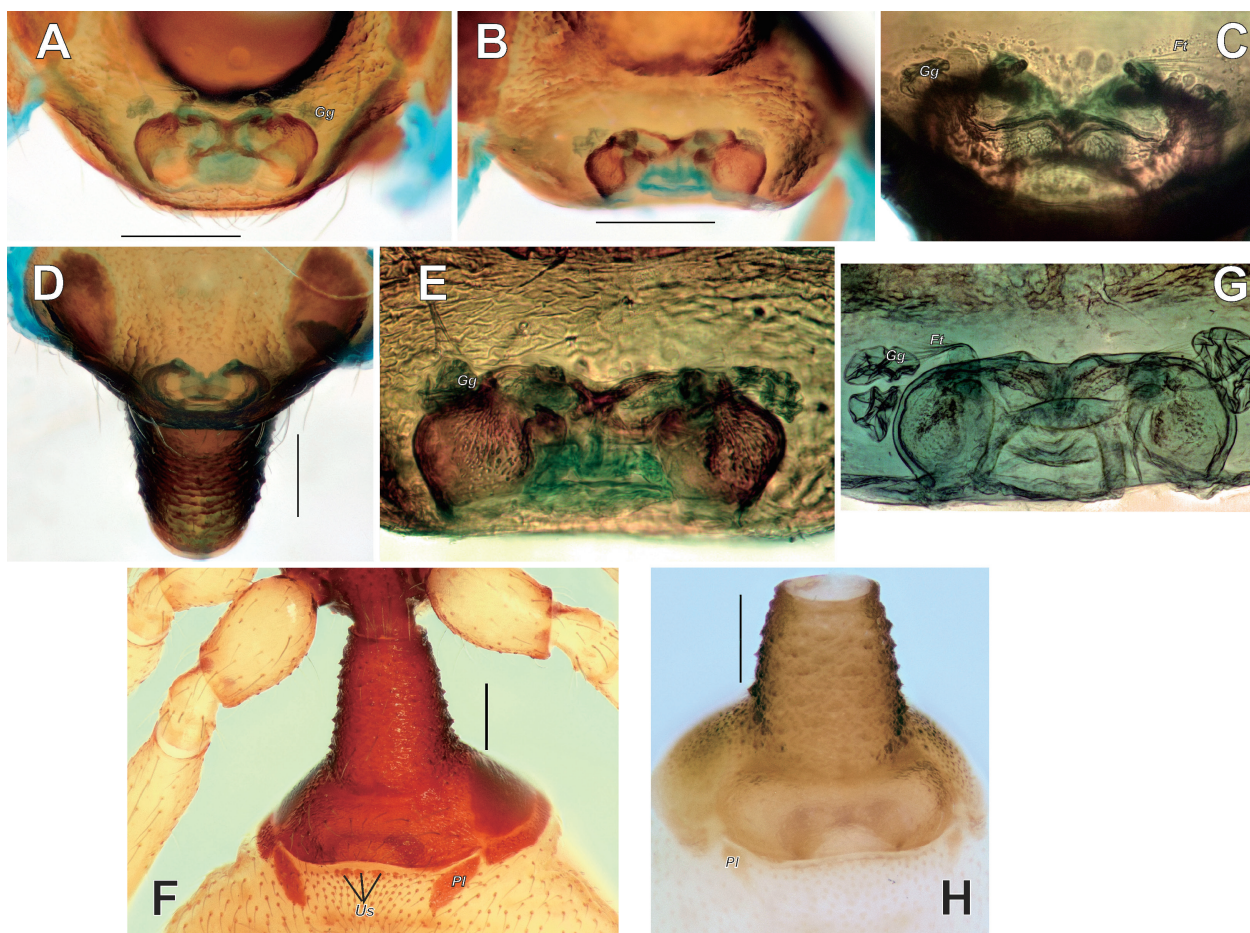


Fig. 3. Female copulatory organs and pedicel tube of *Levymanus dezfulensis* sp. n. (A–F) and *L. ras* (G–H). A, E, G endogyne, dorsal; B same, dorso-posterior; C same, posterior; D epigastral scutum, posterior; F, H anterior part of prosoma, ventral. Scale bar = 0.2 mm, if indicated. G–H after Zonstein et al. (2017). Abbreviations: *Ft*, fine threads; *Gg*, grape-shaped glands; *Pl*, postgastral lateral scutum; *Us*, unpaired scuta.

in Fig. 3F; margins of book-lung opercula well delimited, opercula with smoother surface than the rest of epigastral scutum. Abdomen pale, coated with light short setae. Legs pale to light reddish brown, lighter in hind legs. Measurements of legs: I: 5.25 (1.71, 1.36, 1.03, 0.66, 0.76); II: 4.52 (1.36, 0.86, 0.87, 0.83, 0.6); III: 3.92 (1.07, 0.63, 0.81, 0.91, 0.5); IV: 5.36 (1.54, 0.79, 1.14, 1.36, 0.53).

Copulatory organs as in Figs. 3A–E. Postgastrum with pair of elongate lateral scuta (*Pl*), 3 times longer than wide and with several weakly developed small median scuta; endogyne with 2 pairs of grape-shaped large glands; receptacles wider than long, spaced by one width.

Male. Unknown.

Note. Considering the size of the material (only one female) and the general rarity of *Levymanus* specimens, we were not able to access variations in somatic and copulatory characters and it is possible that the specimen described in this paper could belong to *L. ras*. Further collection of male specimens (of both populations) could resolve this problem

in future. Nevertheless, we have provided comparison of different proportions in three *Levymanus* species in Table 1 which would help with better diagnosis.

Distribution. Known only from the type locality in Khuzestan Province, southwestern Iran. This is the first record of the genus *Levymanus* in Iran.

Family Scytodidae Blackwall 1864

Genus *Scytodes* Latreille 1804

Scytodes kumonga sp. n.

Figs. 4A–H

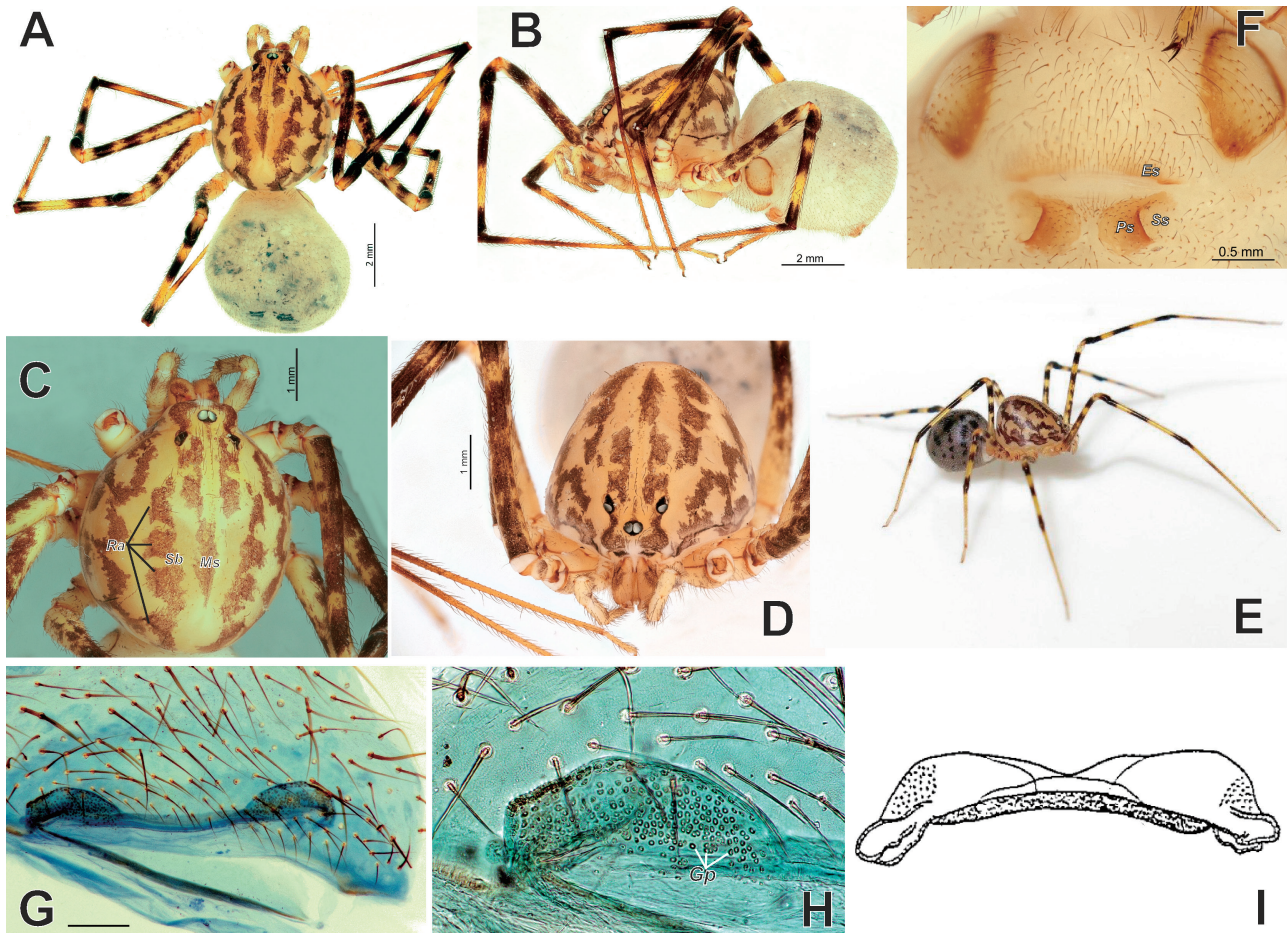
Type material. Holotype ♀ (MHNG), IRAN: *Hormozgan Province*: 75 km N Bandar Abbas, Siahu, 27°33'N, 55°38'E, 31.1.2020 (A. Zamani).

Etymology. The specific epithet is a noun in apposition and refers to a fictional, mutated, enormous “spitting” spider first appearing in Toho’s 1967 movie *Son of Godzilla*.

Diagnosis. The new species can be distinguished from

Table 1. Comparison of proportions in female specimens of three *Levymanus* species. Abbreviations: *Cl*, carapace length; *Fe*, femur; *Tl*, total length; *w*, width.

	<i>L. dezfulensis</i> sp. n.	<i>L. gershomi</i>	<i>L. ras</i>
Tl	3.65	2.5–3.0	3.3
Cl/w	1.47/1.09=1.34	1.34/0.92=1.45	1.5/0.98=1.53
Leg I	5.52	4.37	4.61
Fe I	1.71	1.36	1.5

**Fig. 4.** Female habitus and copulatory organs of *Scytodes kumonga* sp. n. (A–H) and endogyne of *S. lawrencei* (I). A–B habitus, dorsal and lateral; C–D carapace, dorsal and frontal; E live habitus, lateral; F epigastral area, ventral; G, I endogyne, dorsal; H left spermatheca, dorsal. Scale bars = 0.2 mm, unless stated otherwise. I after Brignoli (1976). Abbreviations: *Es*, epigynal scutum; *Ms*, median stripe; *Ps*, postgastral scutulum; *Ra*, rames; *Sb*, submedian band; *Ss*, sulcus.

most of the species occurring in the Middle East by having median dark stripe (*Ms*) in posterior part of carapace. Such stripe is present only in *S. thoracica* (Latreille 1802). It differs from all species by having dark submedian band (*Sb*) with 4 rames (*Ra*, or diverticula). The endogyne of the new species is most similar to those in *S. lawrencei* Lessert 1939

from Central and East Africa. Both species lack distinct ducts or globular structures but have elongate receptacles covered with glandular pores (*Gp*). The new species differs by receptacles spaced by 1.5 times of their width (vs. 0.5, cf. Figs. 4G and 4I). The new species differs from almost all species known in the Palearctic also by the shape of closely

spaced postgastral scutula (*Ps*) and weakly sclerotized epigastral epigynal scutum (*Es*).

Description. Female. Habitus as in Figs. 4A–E. Total body length 9.50. Carapace 4.25 long, 4.0 wide, 2.90 high. Carapace, sternum, labium and maxillae light brown. Carapace with distinct dark patterns: zigzag wide bands in the margins, and trilobed converging bands around the dark colored midline; two bilobed straight bands extending from ocular area to 1/3 length of carapace. Abdomen grey with numerous dark patches, coated with short light setae. Legs the same color as carapace, with numerous annulations and patches. Measurements of legs: I: 20.25 (5.25, 1.1, 5.5, 7.5, 0.9); II: 16.55 (4.5, 0.8, 4.35, 6.0, 0.9); III: 12.4 (3.5, 0.8, 3.2, 4.1, 0.8); IV: 11.85 (4.5, 1.05, 5.0, 5.4, 0.9).

Copulatory organs as in Figs. 4F–H; epigynal scutum weakly sclerotized, appears like a pair of lateral scuta; endogyne with a pair of wide receptacles which are 3 times wider than long, evenly covered by glandular pores, and spaced by 1.5 width; postgastral scutula deeply notched, margin of sulci (*Ss*) form right angle; scutula spaced by 1/3 width; margins of sulci spaced by about 2.5 their lengths.

Male. Unknown.

Distribution. Known only from the type locality in Hor-

mozgan Province, southern Iran.

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