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# THREE NEW GENUS RECORDS OF THE SPIDER FAUNA OF TURKEY (ARANEAE: SALTICIDAE)

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ABSTRACT

New records of 3 genera and 3 species of Salticidae from Turkey are presented for *Bianor albobimaculatus* (Lucas, 1846), *Dendryphantes rudis* (Sundevall, 1833) and *Hyllus insularis* Metzner, 1999. Their morphology is briefly described and illustrated. Current knowledge on diversity of Salticidae in Turkey is also reviewed. Total number of Salticidae species recorded from Turkey now is 102.

Key Words: *Bianor albobimaculatus*, *Dendryphantes rudis*, *Hyllus insularis*

RESUMEN

Se presentan nuevos registros de 3 géneros y 3 especies de Salticidae para Turquía, *Bianor albobimaculatus* (Lucas, 1846), *Dendryphantes rudis* (Sundevall, 1833) y *Hyllus insularis* Metzner, 1999. Se describe e ilustra brevemente su morfología. También, se revisa el conocimiento actual sobre la diversidad de Salticidae de Turquía. El número total de especies de Salticidae registradas en Turquía es ahora 102.

Palabras Clave: *Bianor albobimaculatus, Dendryphantes rudis, Hyllus insularis*

Salticidae is the most species rich family in Araneae and currently represented by 5570 species belonging to 591 genera in the world (Platnick 2013). In Europe, it is the third richest with around 400 nominal species (Helsdingen 2012), after the Palaearctic megadiverse Linyphiidae (Tanasevitch 2013) and Mediterranean diverse Gnaphosidae (Chatzaki 2008). This pattern is similar in Turkey by considering the available data, but current knowledge on spiders of Turkey may not represent the complete picture. Knowledge on Turkish Salticidae could be considered as in a preliminary state. Relevant literature is composed of studies presenting results of occasional surveys, in which complementarity have rarely been considered as a crucial component; and field surveys directed to address Salticidae are scarce. Consequently, new records are still easy to find during inventory studies.

Currently, the Salticidae is known by 99 species in 36 genera in Turkey (Bayram et al. 2013), which clearly is an underestimation. The majority of these species are broadly distributed, but mostly limited to the Palaearctic. Only one tenth of Turkish Salticidae show distributions beyond the Palaearctic, however; while around a quarter of the species have known distributions that mainly lie within the West Palaearctic or Mediterranean. Although not expected, there are also 5 endemics known from Turkey, all known only from close vicinities of their type locations. 2 of them were described many years ago and lack any further records, i.e., *Euophrys fucata* (Simon, 1868) and *Habrocestum nigristernum* Dalmas, 1920. The other three are recently described species, i.e., *Heliophanus feltoni* Logunov, 2009, *Heliophanus konradthaleri* Logunov, 2009 and *Yllenus zaraensis* Logunov, 2009. However by

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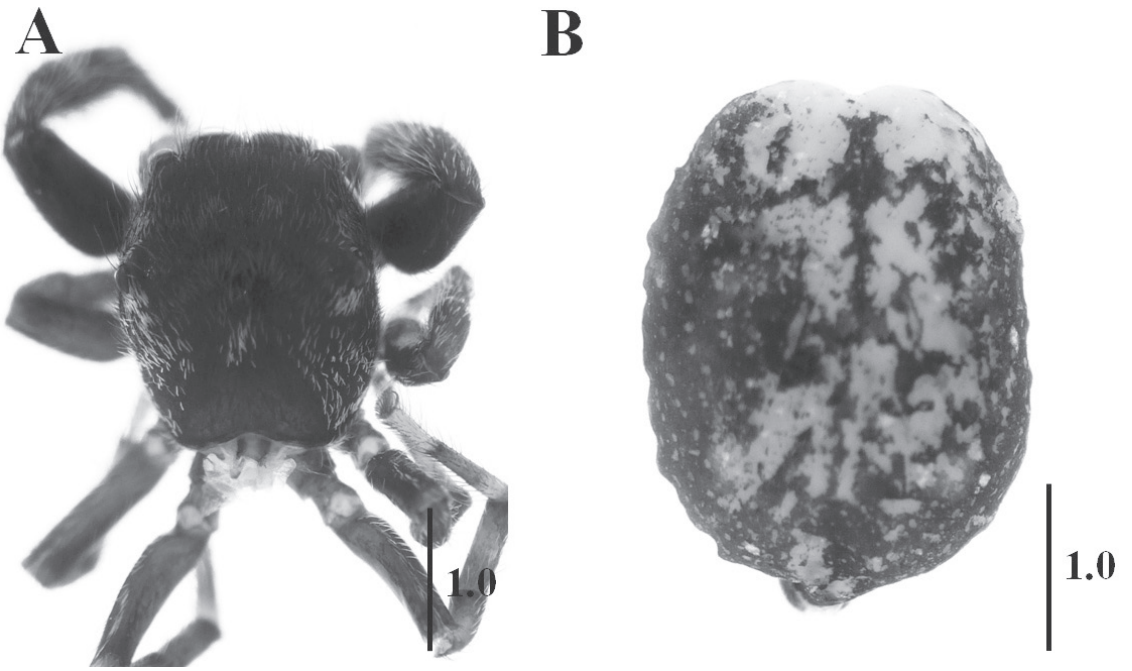



Fig. 1. *Bianor albobimaculatus*, prosoma dorsal view (A), abdomen dorsal view (B).

considering that members of Salticidae are usually widely distributed species, it is not certain whether these species are truly endemic or not, and further field surveys are necessary to address this problem.

In this paper, we present new records of 3 species of the spider fauna of Turkey, which also represent three new genus records that we encountered during recent field surveys from different regions of Turkey. These are *Bianor albobimaculatus* (Lucas, 1846), *Dendryphantes rudis* (Sundevall, 1833) and *Hyllus insularis* Metzner, 1999; which are all relatively widely distributed species. *B. albobimaculatus* have a known distribution from South Africa to Europe, Middle East, and Middle Asia (Logunov 2000; Proszyński 2003; Wesolowska & Van Harten 2007); and *D. rudis* has a wider distribution in Palaearctic (Almquist 2006), while *H. insularis* is known from a slightly narrower area from Greek islands to Iran (Metzner 1999, Logunov 2001).

## Materials and Methods

This study is based on the materials collected in 2011 and 2012 from different regions of Turkey. Specimens were collected by sweeping of herbaceus plants or by means of hand aspirators under stones and on plants. Identifications were made by use of Leica S8APO Stereomicroscope. Well known identification keys used for species identifications are those of Heimer & Nentwig (1991), Proszyński (2003) and Almquist (2006). Specimens were preserved in 70% ethanol. All measurements are given in millimeters. Abbreviations used in the text are as follows; Cx: coxa, Tr: trochanter, Fe: femur, Pa: patella, Ti: tibia, Mt: metatarsus, Ta: tarsus. Pictures were taken, using a Leica S8APO microscope by means of a Leica DC 160 camera. SEM microphotographs were made with a JEOL JSM-5600 instrument at the University of Kırıkkale. Specimens are deposited in the collection of the Arachnological Museum of Kırıkkale University (KUAM).

## Results

### *BIANOR* PECKHAM & PECKHAM, 1886

*Bianor albobimaculatus* (Lucas, 1846)

#### Material

One ♀, TURKEY, Şanlıurfa Province, Siverek District, (N 37° 43' 59" E 39° 18' 16"), 04-V-2012. It was collected from stony ground.

#### Description

Prosoma (Fig. 1) dark brown, covered with yellow hairs; posterior median eyes (Fig. 2A) surrounded with white hairs and anterior eyes surrounded by yellow hairs. Clypeus covered by dense long white hairs. Chelicera dark brown.

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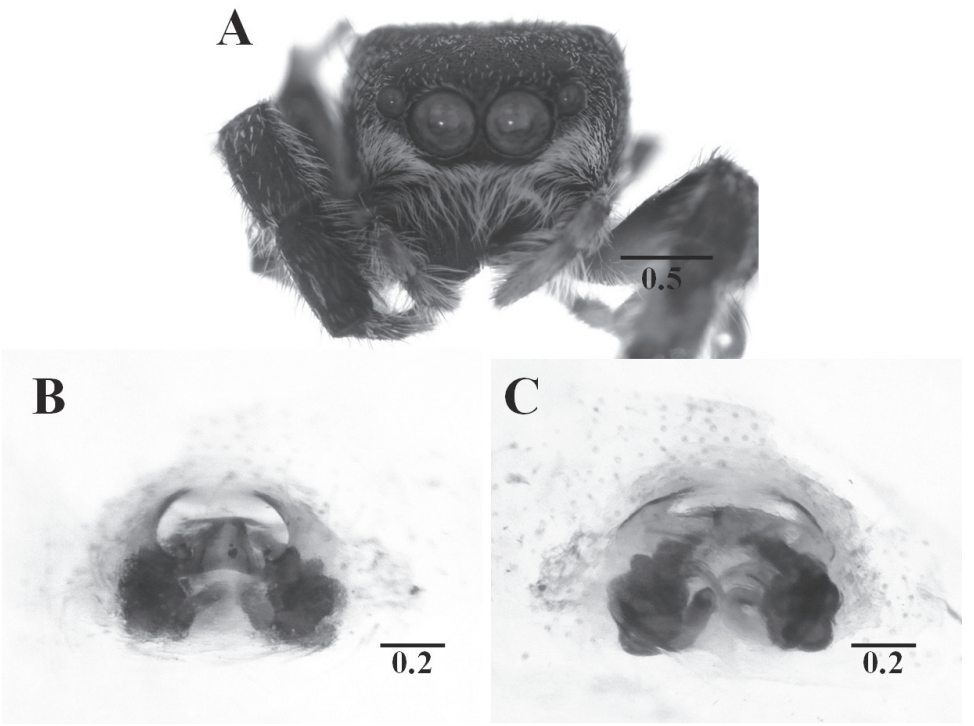



Fig. 2. *Bianor albobimaculatus*, ocular area, frontal view (A), epigyne ventral view (B), epigyne dorsal view (C).

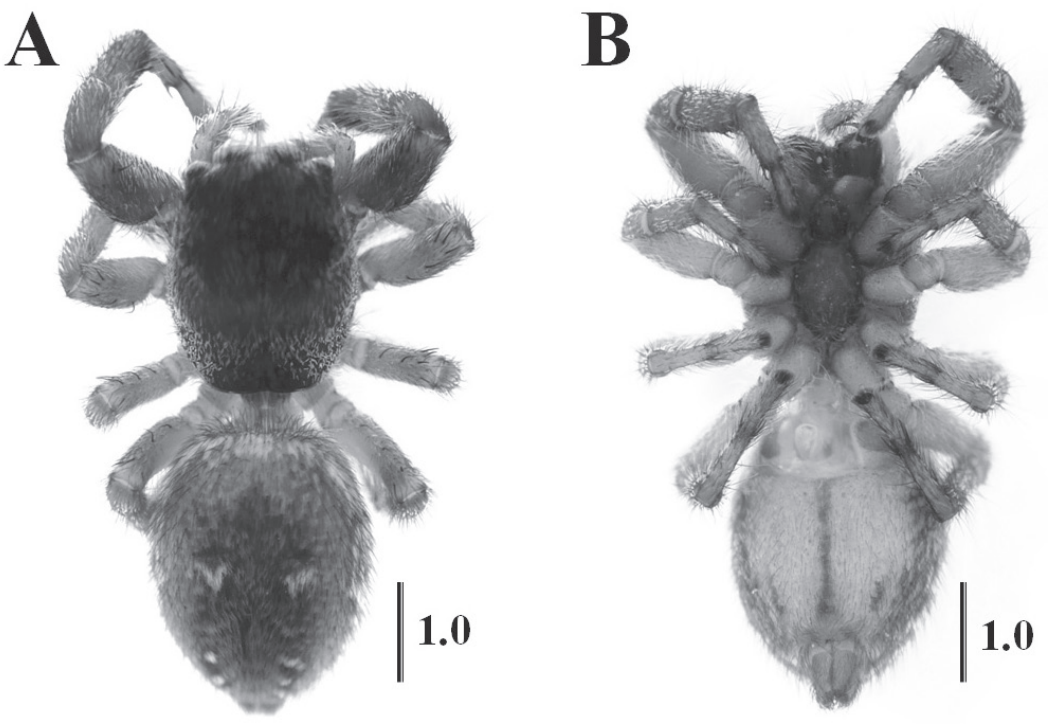



Fig. 3. *Dendryphantes rudis*, dorsal view (A), ventral view (epigyne macerated) (B).

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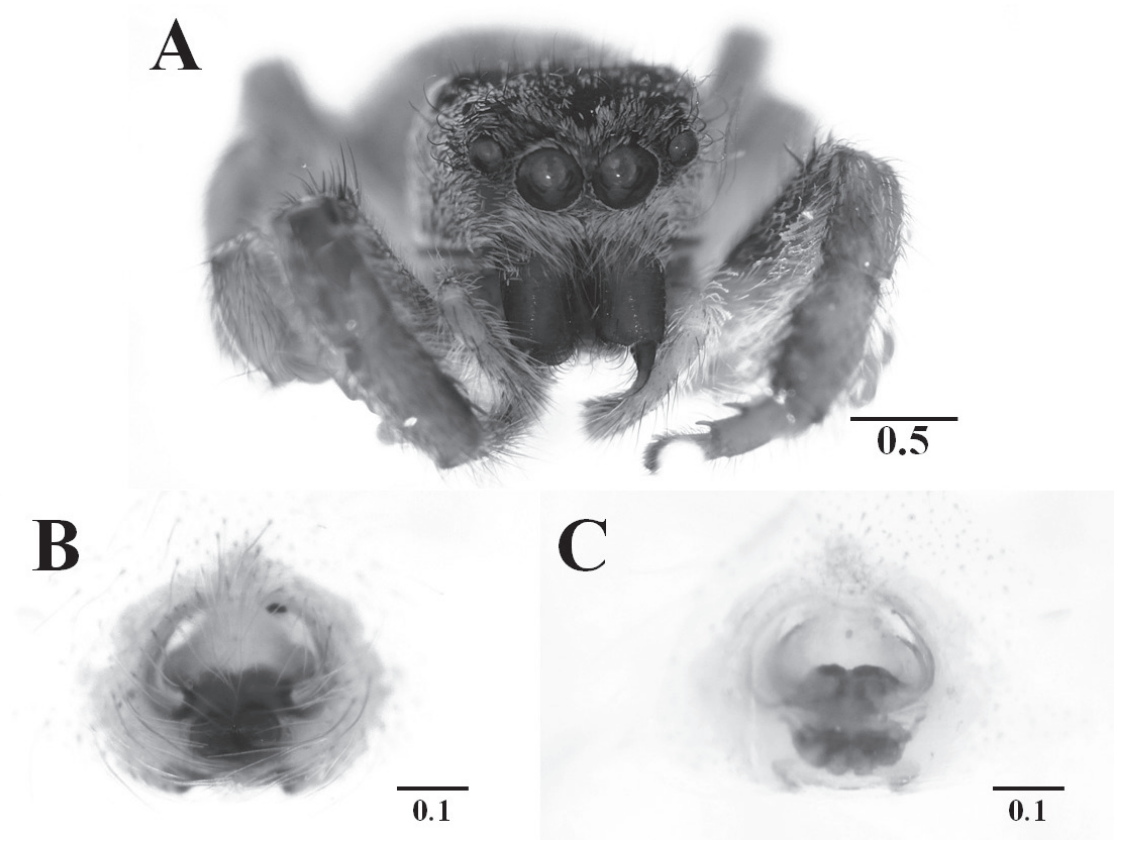



Fig. 4. *Dendryphantes rudis*, ocular area, frontal view (A), epigyne ventral view (B), epigyne dorsal view (C).

Abdomen light brown, folium not apparent on this specimen. Legs; tarsus I yellow, remaining segments dark brown, with white hairs. Tarsi on other legs yellow, remaining segments light brown and covered by few white hairs. Leg formula: IV-I-III-II. Epigyne (Fig. 2A, AB) typical within the genus and corresponds well with the previous description of Proszyn´ ski (2003), by all characters.

Female total length: 4.80, prosoma length 2.10, prosoma width 1.80, opisthosoma length 2.70, opisthosoma width 2.0. Lengths of legs: I leg. Cx: 0.60, Tr: 0.30, Fe: 1.10, Pa: 0.60, Ti: 0.80, Mt: 0.50, Ta: 0.40, Total: 4.30. II leg. Cx: 0.40, Tr: 0.30, Fe: 0.90, Pa: 0.50, Ti: 0.60, Mt: 0.50, Ta: 0.40, Total: 3.60. III leg. Cx: 0.30, Tr: 0.30, Fe: 1.10, Pa: 0.50, Ti: 0.60, Mt: 0.60, Ta: 0.50, Total: 3.90. IV leg. Cx: 0.40, Tr: 0.40, Fe: 1.20, Pa: 0.50, Ti: 0.80, Mt: 0.70, Ta: 0.50, Total: 4.50.

Distribution

Africa, Mediter.ranean to Central Asia (Platnick 2013).

*DENDRYPHANTES* C. Proszyński L. KOCH, 1837

*Dendryphantes rudis* (Sundevall, 1833)

Material

One ♀, TURKEY, Çankırı Province, Ilgaz District, Kadınçayırı Park (N 41° 02' 17" E 33° 47' 21"), 16-IX-2011. It was collected from shorter plants on a wetland area.

Description

Prosoma reddish-brown (Fig. 3). Posterior ocular area black (Fig. 4). Area around anterior eyes black and with dense yellow hairs. Lateral part of prosoma with white hairs. Clypeus densely covered with white hairs. Chelicerae dark brown. At the end of chelicerae there is one retrolateral tooth and 2 promarginal teeth. Sternum dark brown, with long white hairs at the edges. Abdomen, with longitudinally dark brown pattern on yellowish-brown background and with white hairs at the peripheries from dorsal view. Leg I dark brown, others yellowish-brown. Legs with white hairs. Leg formula IV-I-III-II. Epigyne

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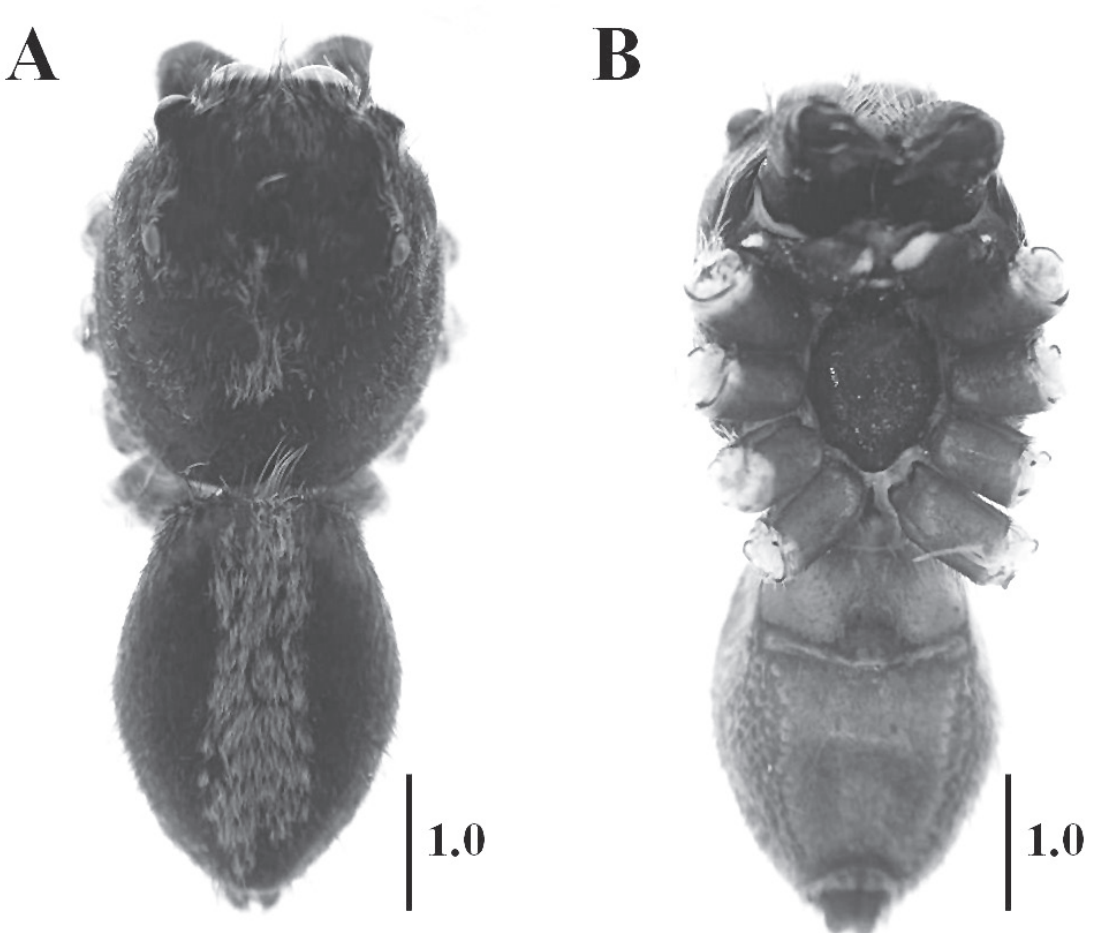



Fig. 5. *Hyllus insularis,* male, dorsal view (A), ventral view (B).

(Fig. 4B, 4C) correspond well with the previous description of Almquist (2006). Epigynal plate wider than long. Atrium divided by broad septum. Atria narrow, elongated longitudinally. Copulatory openings at the anterior end of atria. Ducts are curved. Each receptacle has 3 sections.

Female's total length: 4.90, prosoma length 2.30, prosoma width 1.80, opisthosoma length 2.60, opisthosoma width 2.10. Lengths of legs: I leg. Cx: 0.55, Tr: 0.45, Fe: 1.40, Pa: 0.70, Ti: 0.95, Mt: 0.60, Ta: 0.55, Total: 5.20. II leg. Cx: 0.45, Tr: 0.30, Fe: 1.10, Pa: 0.60, Ti: 0.70, Mt: 0.55, Ta: 0.45, Total: 4.15. III leg. Cx: 0.40, Tr: 0.30, Fe: 1.15, Pa: 0.65, Ti: 0.60, Mt: 0.70, Ta: 0.45, Total: 4.25. IV leg. Cx: 0.50, Tr: 0.45, Fe: 1.50, Pa: 0.70, Ti: 0.95, Mt: 0.90, Ta: 0.50, Total: 5.50.

Distribution

Palearctic (Platnick 2013).

*HYLLUS* C. L. KOCH, 1846

*Hyllus insularis* Metzner, 1999

Material

One ♀, TURKEY, Muğla Province, Milas District, Kıyıkşlacık Village (N 37° 16' 38.80" E 27° 33' 47.97"), 09-IV-2011, collected on the ground during day time; 1♀, same location, 13-V-2011, collected during beating sampling of shrubs. Both specimens were collected in semi natural olive groves.

Description

Prosoma (Fig. 5) dark brown, centrally covered with white hairs, lateral parts covered with yellowish hairs. Posterior eyes (Fig. 6A) surrounded by black markings. Anterior eyes with some white hairs in the surroundings. Sternum dark brown. Clypeus brown, with few white hairs. Chelicerae

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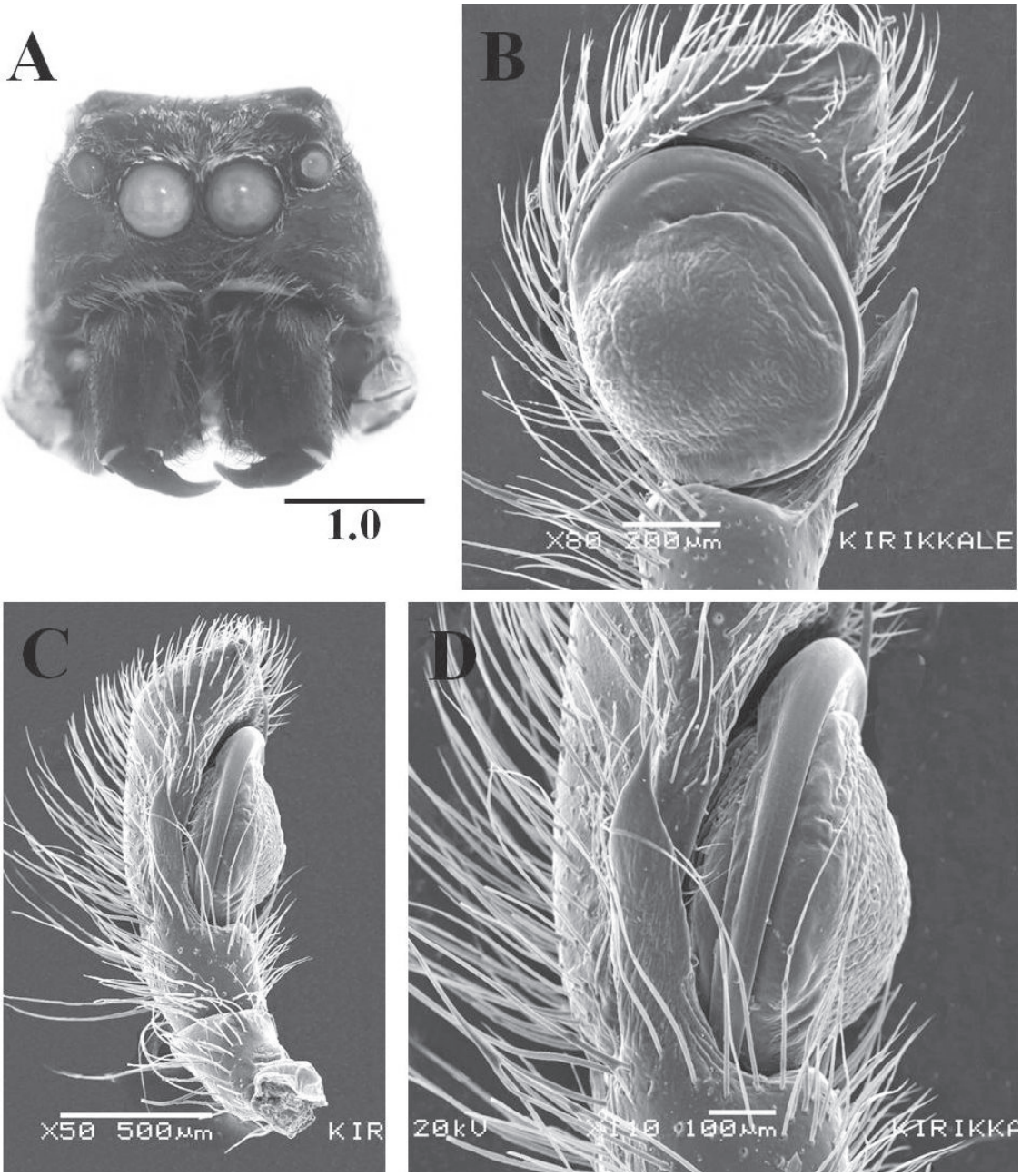



Fig. 6. *Hyllus insularis*, male, ocular area, frontal view (A), palp ventral view (B), palp lateral view (C), lateral tibial apophysis (D).

dark brown, base parts with dense white hairs. Cheliceral teeth unidentat. Abdomen gray-brown, with a longitudinal stripe covered with white hairs; yellowish-brown at the ventral and with brown spinnerets. Legs dark brown, covered with white and black hairs. Leg formula I-IV-III-II. Palpal tibial apophysis (Fig. 6B, 6C, 6D) long and thick, pointed at the end portion. Tegular knob at the upper position. Embolus long, wrapped with more than 1 repeat around bulbus. End portion of embolus is not curled.

Male total length: 6.71, prosoma length 3.40, prosoma width 2.98, opisthosoma length 3.31, opisthosoma width 2.42. Lengths of legs: I leg. Cx: 0.90, Tr: 0.50, Fe: 2.20, Pa: 1.20, Ti: 2.0, Mt: 1.10, Ta: 1.0, Total: 8.90. II leg. Cx: 0.80, Tr: 0.40,

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Fe: 2.0, Pa: 1.20, Ti: 1.50, Mt: 1.0, Ta: 0.70, Total: 7.60. III leg. Cx: 0.80, Tr: 0.40, Fe: 2.30, Pa: 1.60, Ti: 1.0, Mt: 1.30, Ta: 0.70, Total: 8.10. IV leg. Cx: 1.0, Tr: 0.40, Fe: 2.0, Pa: 1.0, Ti: 1.80, Mt: 1.40, Ta: 0.80, Total: 8.40.

Distribution

Lesbos Island (Greece), Iran (Metzner 1999, Logunov 2001)

## Discussion

The new records presented here are not particularly surprising and actually the presence in Turkey of these 3 genera was within expectations, especially for the widely distributed *B. albobimaculatus* and *D. rudis*. The discovery of *H. insularis* is perhaps the most interesting, which previously had been known only from Lesbos Island, Greece and from several localities in Iran. By the discovery of this species in Turkey, an important gap in the distribution of *H. insularis* has been filled. Furthermore, the new locality record presented here is in very close proximity to the type locality, Lesbos Island near the Aegean coast of Turkey. Previously males had not been reported from anywhere close to the type locality, and so, the identity of the two separate populations from Greece and Iran is substantiated in a manner.

For the achievement of a better understanding of the Salticidae in Turkey and in the West Palaearctic area, further field surveys and taxonomic research are necessary to reveal currently unknown novel records and unknown species. It seems certain that the number of species will continue to increase rapidly in subsequent years with the continuing studies.

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