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## A new species of the genus *Mycterodus* Spinola (Hemiptera: Auchenorrhyncha: Issidae) from Iran defining southern boundary of generic distribution

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*Mycterodus meridionalis* sp. n. is described from Kerman Province of southern Iran. This is one of the most southern species of the genus *Mycterodus* Spinola known from between 29° and 30° of northern latitude.

**Key words:** distribution, morphology, new species, Palaearctic Kingdom.

*Mycterodus* Spinola is one of the largest issid genera, divided into six subgenera, with around 80 species described, distributed in Central and southeastern Europe, Eastern Mediterranean, Anatolia, Caucasus, Middle Asia, Iran and Iraq (Gnezdilov *et al.* 2014). Iranian fauna of *Mycterodus* currently comprises 13 species (Mozaffarian & Wilson 2011), 10 of which belongs to the subgenus *Mycterodus* s. str. and three—to the subgenus *Aconosimus* Dlabola, 1987 (Gnezdilov *et al.* 2014).

During my research in the National Museum of Wales (United Kingdom) a new species of the genus *Mycterodus* Spinola was discovered within the materials collected by R. Linnavuori in southern Iran. This new species belongs to the subgenus *Mycterodus* s. str. according to well developed phallobase completely covering adeagus, with few dentate margins and long ventral lobe. The holotype of the new species was collected in Raviz rural District of Kerman Province and together with *Mycterodus* (*Mycterodus*) *hezarmeshedi* Dlabola, 1997 are the most southern species of the genus known from between 29° and 30° of northern latitude.

### Material and methods

Morphological terminology follows Gnezdilov *et al.* (2014) and taxonomy of the family Issidae—Gnezdilov *et al.* (2020). Photographs were taken using Canon EOS 5D Mark IV camera with the lens Canon-MP-E-65mm f/2,8 1-5x Macro and the flash Canon Macro Twin-Lite MT-26EX-RT. Images were produced using Helicon Focus v. 7.6.4 and Adobe Photoshop CC 2019 software. The genital segments of the specimen examined were macerated in 10% KOH and figured in glycerine jelly (Brunel Micro Ltd, UK) using Leica MZ9.5 stereomicroscope with a camera lucida.

The holotype of the species described below deposited in the National Museum of Wales, Cardiff, United Kingdom.

### Taxonomy

**Family Issidae Spinola, 1839**

**Subfamily Hysteropterinae Melichar, 1906**

**Genus *Mycterodus* Spinola, 1839**

Type species: *Issus nasutus* Herrich-Schäffer, 1835, by original designation.

### *Mycterodus meridionalis* sp. n. (Figs 1–11)

**Description (Figs 1–3).** Metope slightly longer than wide, with weakly concave upper margin and distinct median and sublateral carinae (Fig. 3). Median carina of metope crossing metopoclypeal suture and slightly entering postclypeus. Sublateral carinae of metope not reaching metopoclypeal suture. Metopoclypeal suture wedge-shaped. Rostrum reaching

hind coxae, apical segment narrowing apically. Ocelli rudimentary. Pedicel barrel-shaped. Coryphe weakly transverse, anterior margin quadrangular, posterior margin obtusely angulate (Fig. 1). Pronotum slightly longer than coryphe, with weak median carina, anterior margin strongly convex, posterior margin nearly straight. Paradiscal fields of pronotum rather wide behind the eyes. Paranotal lobes of pronotum wide, with bent lower margins. Mesonotum as long as pronotum, without carinae. Forewings nearly oval (Fig. 2), with wide precostal area, pressed to thorax in its basal halves, without hypocostal plate. Forewing vein sequence: R 2, furcating in wing basal fourth, M 3, firstly furcating after radius and  $M_1$  furcating apically; CuA 1. Clavus is 2/3 of wing length. Hind wings apparently rudimentary (not visible after abdomen dissection). Hind tibia with two lateral spines in its distal half and with eight apical spines. First metatarsomere with two latero-apical and six intermediate spines in entire row; each intermediate spine with a long subapical seta. Arolium of pretarsus with straight hind margin not exceeding claw apices (in dorsal view); dorso-lateral plates narrow.

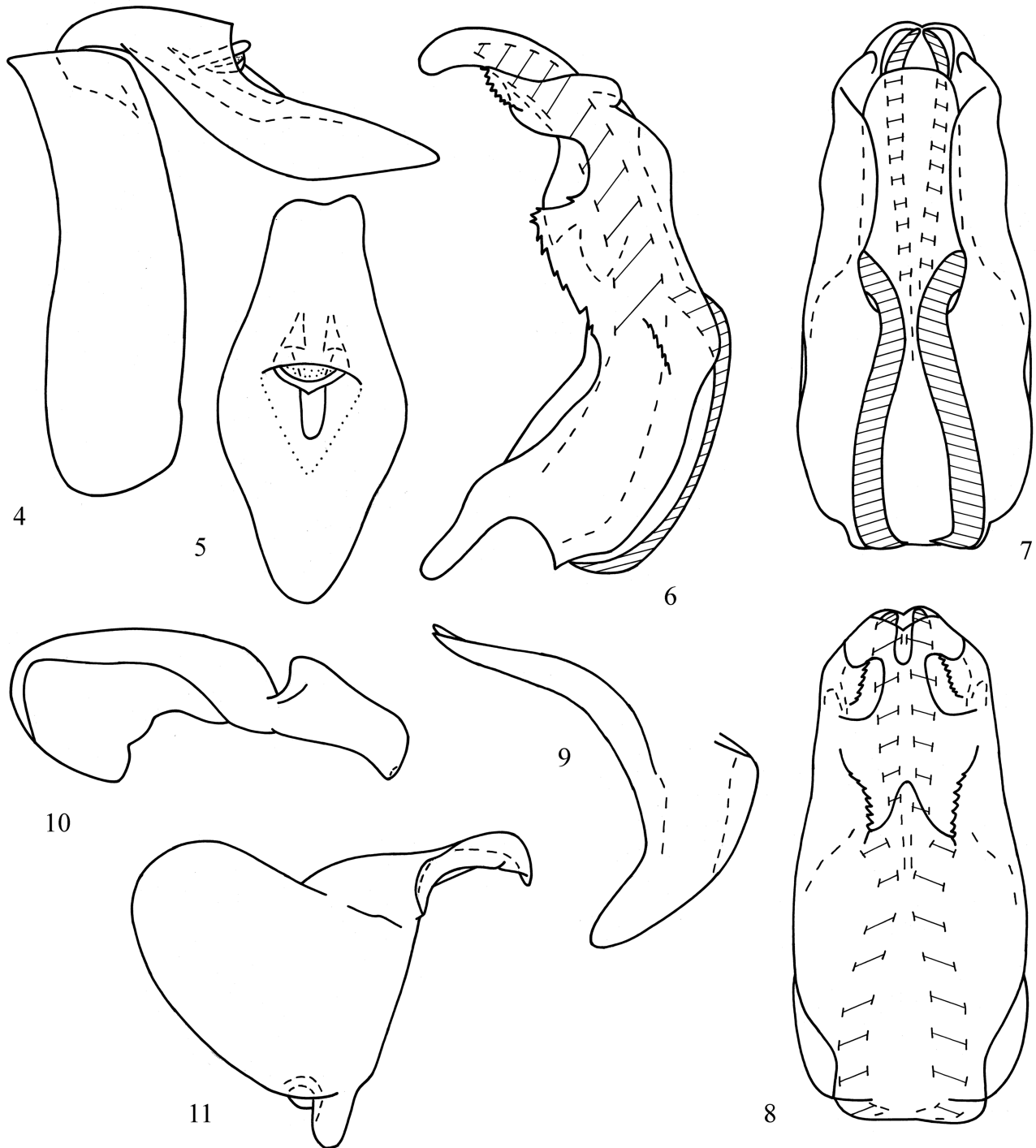
**Coloration (Figs 1–3).** Metope dark brown, with brown yellowish carinae. Postclypeus dark brown, with yellow basal angles and median line. Coryphe dark brown, with brown yellowish median line. Pronotum brown yellowish, except dark brown to black median part, with brown yellowish median line, and dark brown traces of larval sensory pits. Paranotal lobes yellowish brown to dark brown on its lower margins. Forewings brown, with yellow precostal area and brown to dark brown clavus. Legs brown yellowish, except brown posteriorly hind femora. Claws brown. Apices of rostrum and leg spines and dorso-lateral plates of arolium black.



**FIGURES 1–3.** *Mycterodus meridionalis* sp. n., holotype, external view. 1—dorsal view; 2—lateral view; 3—frontal view. Scale bar—1 mm.

**Male genitalia (Figs 4–11).** Anal tube rhomb-shaped, narrowed basally and apically (in dorsal view) (Fig. 5); lateral margins without processes (in lateral view) (Fig. 4). Anal column short, 0.2 as long as anal tube. Pygofer narrow, with almost straight hind margins and straight upper angles (Fig. 4). Phallobase narrow, slightly curved (in lateral view), completely covering the aedeagus, dorso-lateral lobes narrowing apically, with dentate margins; ventral margins of the lobes without processes above ventral aedeagal hooks (Figs 6, 7). Phallobase dorsally with large triangular lobe near to its middle between two dentate margins (Fig. 8). Ventral phallobase lobe long and wide, widely rounded apically (Fig. 7). Apical aedeagal process narrow, narrowing apically, not visible above upper phallobase margin. Aedeagus with a pair

of long ventral hooks, acute, rising at its middle and directed downwards. Connective with wide cup (Fig. 9). Style with angularly concave hind margin and widely rounded caudo-dorsally (Fig. 11). Capitulum of style without neck, lateral tooth wide, apical tooth distinct. Capitulum of style wide, not narrowing apically (in dorsal view) (Fig. 10).



**FIGURES 4–11.** *Mycterodus meridionalis* sp. n., holotype, male genitalia. 4—pygofer and anal tube, lateral view; 5—anal tube, dorsal view; 6—penis, lateral view; 7—penis, ventral view; 8—penis, dorsal view; 9—connective, lateral view; 10—style, dorsal view; 11—style, lateral view.

**Total length.** 4.0 mm.

**Etymology.** Species name derived from the Latin for “southern”.

**Type material.** Holotype, male, Iran, Kerman Province, Rafsanjan county, Raviz rural District, Shahabieh village, 1800 m, 24.V.1996, R. Linnavuori leg.

**Differential diagnosis.** The new species has no close relatives within Iranian species of the genus *Mycterodus* and

well differs from all known species of the genus by forewings with wide precostal area, pressed to thorax in its basal halves and the details of phallobase and style structure illustrated here. Forewing characters mentioned above make this species similar to the members of Iranian genera *Iranodus* Dlabola and *Cavatorium* Dlabola, however, well distinguished by the structure of male genitalia (Gnezdilov, in press).

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