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ARTICLE

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REDESCRIPTION AND NEW DATA ON THE DISTRIBUTION OF A POORLY KNOWN PIRATE SPIDER *ERMETUS INOPINABILIS* (ARANEI: MIMETIDAE)

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A poorly known species of pirate spider belonging to a monotypic genus, *Ermetus inopinabilis* Ponomarev, 2008, is redescribed in details based on types and other material. Digital photographs and SEM micrographs are provided to illustrate its specific features. The species and genus are reported for the first time from Altai and Tuva. *Key words: Araneae, pirate spiders, Ukraine, Kazakbstan, Altai, Mongolia, Tuva, distributional records, illustrated redescription.*

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INTRODUCTION

Mimetidae Simon, 1881 is a small family comprised of 146 species placed in 11genera (WSC, 2016). The family has worldwide distribution but the majority of the species and genera occur in the tropical and subtropical areas. Only three genera, *Ermetus* Ponomarev, 2008, *Ero* C.L. Koch, 1836 and *Mimetus* Hentz, 1832 penetrate into temperate regions of the Palaearctic and are primarily confined to its southern parts (Mikhailov, 2013; WSC, 2016). Until recently, only five species from two latter genera were known from the Northern Asia (Mikhailov, 2013). A monotypic genus *Ermetus* was established by Ponomarev (2008) for the new species *E. inopinabilis* Ponomarev, 2008, which occurs in arid southeastern regions of the Russian Plain and in the Caucasus. The original description of *E. inopinabilis* was supplied with sketchy drawings of the male palp (only retrolateral view), epigyne, carapace and leg I. Specific features of habitus, chelicerae and details of the male palp were not illustrated. Later, this species was found in the Central and Eastern Ukraine (Polchaninova & Prokopenko, 2013), and in Western Kazakhstan (Logunov et al., 2012). Quite recently, *E. inopinabilis* was recorded from South-Western Mongolia based on a single male (Fomichev, 2016). At the same time, the species was never redescribed. While studying the material collected in Altai, Tuva and Mongolia, we found several specimens of both sexes belonging to this species. Here, we provide an illustrated redescription of *E. inopinabilis* and discuss its distribution based on the new and literature records.

MATERIAL AND METHODS

Specimens were photographed with a Canon EOS 7D camera attached to an Olympus SZX16 stereomicroscope at the Zoological Museum, University of Turku. Digital images were montaged using Combine ZP or "Zerene Stacker" image stacking software. Epigyne was cleared in a KOH/water solution until soft tissues were dissolved. Photographs were taken in a dish with paraffin on the bottom to hold the specimens in right position. Microphotographs were made with a Jeol JSM-5200 SEM in the Zoological Museum (University of Turku, Finland). All measurements are in millimetres. Abbreviations used are as follows: Fe – femur, Pt – patella, Mt – metatarsus, Ti – tibia, Ta – tarsus, d – dorsal, p – prolateral, r – retrolateral, v – ventral. Data about spination are based on examination of one specimen of each sex (one side of the body).

TAXONOMY

Ermetus Ponomarev, 2008

Type species. Ermetus inopinabilis Ponomarev, 2008, from the Rostov Oblast of Russia.

Diagnosis. The genus is close to *Ero* C.L. Koch, 1837 but differs from it by the lack of tubercles on the dorsal side of the abdomen, shorter legs, and also by a simple paracymbium composed by one cymbial extension (2 extensions in *Ero*). From another genus of Mimetidae occurring in the Northern Asia, *Mimetus* Hentz, 1832, *Ermetus* can be distinguished by a less extended cephalic part of the prosoma, arrangement of median eyes and by absence of retrolateral longitudinal row of spine-like setae on proximal parts of femora I and II.

Composition. Monotypic.



Figures 1–6. Habitus, leg I and male palp of *Emetus inopinabilis*. 1 female, dorsal; 2–3 male, dorsal and lateral; 4 male leg I, dorsal; 5 female leg I, dorsal; 6 palp, prolateral. Scale: 1, 3 = 1 mm; 2, 4–5 = 0.5 mm; 6 = 0.2 mm.



Figures 7–12. Somatic characters of the male of *Ermetus inopinabilis*.
7 right leg I, dorsal; 8 right tarsus I, showing erected setae, dorsal; 9 right tibia I, dorsal; 10 right chelicera, ventral; 11 epiandrus, ventral; 12 spinnerets, ventral.
Abbreviations: *Cl* clusters of spigots, *Cs* cheliceral seta, *Pt* peg teeth, *Ss* strong seta, *Tt* teeth triplet. Scale = 0.1 mm (if indicated).

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Figures 13–18. Male of Ermetus inopinabilis.

13 abdomen, ventral; 14–15 left chelicera, anterior and mesal; 16–17 terminal part of palp, dorsal and retrolateral;
18 whole male palp, retrolateral. Abbreviations: *Cf* cymbial furrow, *Ss* strong seta.
Scale = 0.1 mm (if not otherwise indicated).

Ermetus inopinabilis Ponomarev, 2008

Ermetus inopinabilis Ponomarev, 2008: 50, f. 1, 4–7 (\mathcal{F}^{\square}).

Material examined. RUSSIA: *Rostov Oblast.* ♂ holotype, 1♀ paratype (ZMMU), Ust'-Donetsk District, Razdorskaya Stanitsa, Pukhlyakovskiye slopes natural limit, sandy place with steppe vegetation, 24.06.–8.07.2003 (A.V. Ponomarev). *Altai Republic*: 1♂ (ISEA), Chulyshman River Valley, near Kendir River mouth, 51°00'N, 88°01'E, stony steppe slope with rocks, 620–780 m, 7.07.2013 (A.A. Fomichev). *Tuva Republic*: 1♀ (ISEA) near Ubsunur Lake, Irbitei River Valley, 50°44'N, 93°08'E, 1000 m, 13–16.06.1995 (Y.M. Marusik). MONGOLIA: *Khovd Aimag*: 1♂ (ISEA) Ikh-Khavtag-Uul Mt. Range, near Yargaityn-Sair Gorge, 45°03'N, 92°09'E, mountain stony steppe with rocks and screes, 1900–2150 m, 30–31.05.2015 (A.A. Fomichev). *Töv Aimag*: 1♂ 5juv. (ZMMU), Bayankhangai Somon, 47°20'N, 105°24'E, near camp, screes and cliffs in canyon, 1200 m, 21– 25.05.1997 (Y.M. Marusik).

Diagnosis. Same as for genus.



Figures 19–24. Copulatory organs of *Emetus inopinabilis*. 19–21 male palp, dorsal, ventral and retrolateral; 22–23 intact epigyne, ventral and caudal; 24 macerated epigyne, posterior. Scale = 0.2 mm (if indicated).



Figures 25. Distribution records of Emetus inopinabilis (dot). Open circle refers to record "Western Kazakhstan".

Description. Male (from Khovd Aimag). Carapace: 1.78 long, 1.45 wide. Abdomen 2.05 long. Coloration. Carapace pale-yellow with two gray stripes running from posterior lateral eyes to fovea and two gray spots near its posterior edge (Fig. 2).

Labium and maxillae pale-yellow. Sternum yellow with unclear gray spots. Chelicerae light-brown. Legs pale-yellow with vague gray rings. Palps pale-yellow. Abdomen cream-colored with white spots forming a pattern dorsally. Chelicera with peg teeth arranged in three triplets (Tt) on the outer margin and 2 strong setae (Ss), each triplet consist of 2 teeth (Pt) and one seta (Cs) (Figs 10, 14–15). Tibia with 3 trichobothria. Tarsus with numerous

fine erected setae (Figs 7–8) lacking in metatarsus and tibia. Epiandrus (Fig. 11) with 3 clusters (*Cl*) of spigots, each composed by 7–8 spigots. Spination of leg I: Fe d2, p2, r1; Pt d2; Ti d2, p12, r2, v2; Mt p18, r2.

Leg measurements in male										
	Fe	Pt	Ti	Mt	Та	Total				
Ι	1.85	0.75	1.58	1.43	1.2	6.81				
II	1.68	0.68	1.3	1.25	1.03	5.94				
III	1.45	0.55	1.0	1.03	0.83	4.86				
IV	1.95	0.65	1.58	1.63	1.0	6.81				

Palp as in Figs 6, 16–21. Tibia relatively short (two times longer than width); cymbium anteriorly wider than at the base, with deep retrolateral furrow (*Cf*); paracymbium simple, composed by one part (= cymbium without additional outgrowth).

Female (from Tuva). Carapace: 2.48 long, 1.83 wide. Abdomen 3.35 long. Carapace pale yellow, with two light-brown stripes running from posterior lateral eyes to fovea and two light-gray spots along its edges. Labium and maxillae yellow-brown. Sternum yellow with unclear brown spots. Chelicerae brown. Legs pale yellow with light-brown rings. Abdomen as in male. Spination of leg I: Fe d2, p2, r1; Pt d2; Ti d2, p14, r3; Mt p16. Spinnerets as in Fig. 12.

Leg measurements in female									
	Fe	Pt	Ti	Mt	Та	Total			
Ι	2.18	0.95	1.68	1.68	1.18	7.67			
II	2.03	0.83	1.43	1.5	1.1	6.89			
III	1.83	0.7	1.2	1.3	0.93	5.96			
IV	2.45	0.85	1.93	2.0	1.2	8.43			

Epigyne as in Figs 22–24; septum almost perpendicular to the ventral surface of the abdomen, posterior plate with 2 fine pits; receptacles round, copulatory ducts short, shorter than radius of receptacle.

Distribution. The species and the genus is known from Ukraine (Dnipropetrovs'k, ca 35°E) to Central Mongolia (105°24'E) (Fig. 25). So far the known range is disjunct because *E. inopinabilis* is unknown from the area between Daghestan and the Altai; most likely, this disjunction is due to the lack of data from the steppe zone of Kazakhstan.

Biology. In the European part of its range, the species inhabits mainly steppe habitats: steppified meadows, sandy steppes, etc. (Polchaninova & Prokopenko, 2013; Ponomarev, 2008). In Kalmykia this species was collected in a burrow of little ground squirrel (*Spermophilus pygmaeus* (Pallas, 1778)) (Ponomarev, 2008). In the Asian part of the range *E. inopinabilis* inhabits mountain stony steppes (Fomichev, 2016; present data). This species occurs in a wide altitude range: from the sea level to 1400 m in the European part, and from 620 m to 2150 m in the Asian part of the range.

Comments. The species was recorded from Mongolia (Marusik & Logunov, 1999) as *Ero* sp.

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