



# **PYGOPLEURUS TRISTIS (PETROVITZ, 1968) NEW RECORD FOR THE IRAQI KURDISTAN AND NOTES ON GLAPHYRIDAE (COLEOPTERA, SCARABAEOIDEA) FROM THE REGION**

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## **Abstract**

*Pygopleurus tristis* (Petrovitz, 1968) (Glaphyridae: Coleoptera) recorded and illustrated for the first time from Iraq in Duhok Province of Kurdistan Region and a checklist of the 16 Glaphyridae species for Iraq is provided. Their diversity is concentrated in the Palaearctic region Near and Middle East: in the area spanning from Turkey Syria to Iran and from Caucasus to Azerbaijan, Armenia to Russia and south European. The specimens characterized by shining hairy oval body, shape of genitalia illustrated, plant host and localities of collection mentioned. The species lives in mountain area at high more than 800m in Iraq in Duhok province. The specimens were hand collected while resting inside *Ranunculus asiaticus* L. flowers. The material examined were deposited in plant protection department museum, Khabat technical institute, Erbil Technical University-Iraq and in collection of Guido Sabatinelli, (Prévessin, France: g.sabatinelli@hotmail.com).

**Key words:** Systematic, New Species, Checklist Glaphyridae, Iraq, Kurdistan, Male Genitalia.

## **Introduction**

Glaphyridae (MacLeay, 1819) is a small family of Scarabaeoidea comprising about 200 species-level taxa in 6 genera (Nikolajev *et al.*, 2011). The adults are living near of foliage flowers, larvae living in sandy soil areas (Carlson, 2002). Most of their diversity is concentrated in the Palaearctic region (Medvedev, 1960), especially near and Middle East: in the area spanning from Turkey to Iran and from Caucasus to Sinai over 140 species-level taxa are currently recognized but only 15 species-level taxa belonging to 4 genera (*Eulasia* Truqui, 1848, *Amphicoma* Latreille, 1807, *Pygopleurus* Motschulsky, 1860 and *Glaphyrus* Latreille, 1802) are recorded so far within Iraq administrative boundaries (Abdul-Rassul, 1976, Al-Ali, 1977, Baraud, 1989, Derwesh, 1963 and 1965, Khalaf A.N., Al-Omer M.A. (1974), Mawlood *et al.*, 2016, Mudhafar, 2011, Shalaby *et al.*, 1966).

In spite of their attractive habitus and populations often abundant, taxonomic and faunistic knowledge of Glaphyridae are far from being satisfactory, even in areas considered well explored. The study of material directly

collected, or submitted us in recent years by several colleagues and combined with the taxonomical use of new characters such as the everted endophallus, revealed unexpected novelties and spotted several inconsistencies in the current taxonomy of Iraq Glaphyridae populations.

Since 2016, in collaboration with Guido Sabatinelli (Natural History Museum, Geneva Switzerland), we undertook a large-scale sampling of Glaphyridae from Kurdistan Region, with the aim to define taxa and their variability, investigate their distributions and collect information on their ecology and phenology, the latter so far neglected.

As a result, the fauna of *Pygopleurus* of Kurdistan Region raised in the number of species and we are here reporting for the first time about the presence of *Pygopleurus tristis* (Petrovitz, 1968) for Iraq with its re-description.

## **Materials and Methods**

Three ♂♂ and 1 ♀ from: Iraq, Kurdistan Region, Duhok Province, Akre District, Grbish village, 36°49' N

43°54' E, about 800-1000m, 26 April 2018, Mudhafar Ismael Hamad leg., 4 ♂♂ and 2 ♀♀ Atrish, about 900m, 1 April 2018, Mudhafar Ismael Hamad leg., All specimens in collection Guido Sabatinelli, (Prévessin, France: g.sabatinelli@hotmail.com).

### Description of male

**Body:** oval and size. Length 11-19 mm.

**Color of integuments:** head, pronotum and scutellum copper red with golden shining. Elytra dark brown, with a thin black edge along both outer and sutural edges. Propygidium and pygidium orange. Antennal articles 1 and 2 black, article 3 and 4 dark with a thin orangish brown outer edge, the rest of the antenna orangish brown. Legs metallic, with bronze shining.

**Hairs:** head with dense, erect, soft, yellowish light brown hairs, with black hairs mixed to light hairs on the canthus. Antennal article 1 with dense black hairs, article 2 with few black hairs. Pronotum with black setae at anterior angles, yellowish light brown hairs mixed with some black setae along lateral edges, yellowish light brown hairs on dorso-lateral surfaces and black setae on discal area. Scutellum with yellowish light brown hairs. Elytra with adpressed black hairs, erected black hairs on basal parasutural portion, yellowish hairs along remnant parasutural area, long erect stout black setae are present along the lateral, apical and inner apical third of the edge, denser at apex. Abdomen with hairs of axillary sclerites black, those along the edges of sternites orangish yellow, pre-pygidium and pygidium covered by orangish-yellow adpressed hairs. Ventrally, mouth parts, proepisternum, prosternum, fore-and meso-coxae, fore-and meso-femora densely covered by black hairs, mesepisternum, metasternum, meta-coxae, meta-femora and ventrites covered with yellowish hairs. Fore-tibiae with a row of black hairs along the dorsal midline. Meso and meta legs with long yellowish hairs, spines light yellow, meso apical spurs dark brown, meta ones brown with lighter apex.

**Head:** clypeus subquadrangular, slightly narrowed basally, anterior angles rounded, with a slight medial bulge. Integument of the clypeus and of the rest of the head covered by fine and dense piliferous punctuation, microreticulation clearly visible through the punctuation, especially on frons.

**Pronotum:** larger (4.30mm) than long (3.4mm), with anterior angles visible, rounded and obtuse, posterior angles rounded but well visible, pronotal surface with an alveolar appearance, densely covered by small notches, each one with a thick edge which separates it from adjoining notches, along an approximately 0.15-0.20 mm wide sagittal line the notches are progressively less

marked, being substituted by a vermiculated surface toward the base.

**Scutellum:** triangular, about as long as wide, with a sculpturing similar to that of the pronotum in the central portion.

**Elytra:** slightly dehiscent at apex, more rounded at the external side than along the suture, apex regularly rounded, surface without depressions, piliferous punctuation fine, well visible.

**Legs:** foreclaws long and moderately curved, fore tarsi short (combs of articles 1 to 5 respectively 13, 11, 9, 7, 4 toothed). Claws of meso- and meta-legs similar to that of forelegs, but a bit longer and slightly slender. Mesotarses about 1.6 time longer (5.10mm) than mesotibiae (3.25mm).

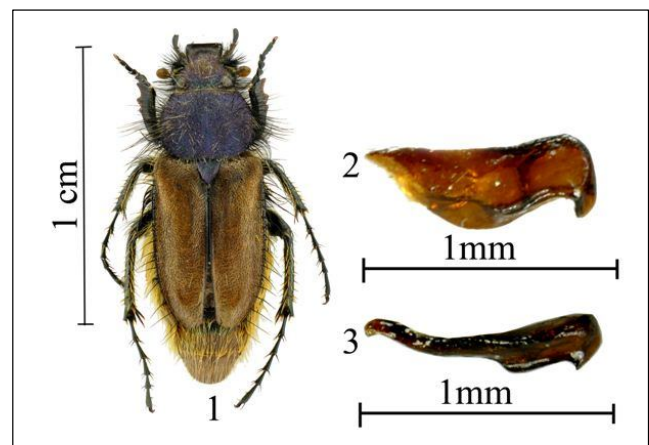
### Description of female

**Body size:** 12.80-14.30mm from the margin of the clypeus to the apex of the elytra, 13.50-16.00mm including the apex of the abdomen. Width across the humeri: 4.80-5.60mm. Colour: forebody green to copper red with golden shining. Androchrome, abdomen completely black. Females differ from males in having clypeus with a longitudinal carina, abdomen and pygidium with soft yellowish hairs and mesotarses shorter.

### Biology

The specimens were hand collected while resting inside *Ranunculus asiaticus* L. in sheep grazing where (*Quercus infectoria* Oliv. and *Quercus aegilops* L.) two widespread species in mountain area of Iraqi Kurdistan region, more than 70% of the oak trees, were the most dominant woody plants. (Shahbaz, 2010).

### Result and Discussion



**Fig. 1:** *Pygopleurus tristis* (Petrovitz, 1968) form Iraq, Kurdistan region, Akre district: 1 Habitus male, 2. Right paramere in lateral view, 3 Right paramere in dorsal view. Photos Maurizio Bollino (Lecce, Italy).

Here below the checklist of the Glaphyridae so far recorded from Iraq with their relative distribution according to Nikodým and Bezdek (2016).

<i>Eulasia (Rudeulasia) carinata</i> Baraud, 1990	Iraq, Iran
<i>Eulasia (Rudeulasia) genei</i> Truqui, 1848	Iraq, Iran, Jordan, Lebanon, Syria, Turkey
<i>Eulasia (Rudeulasia) papaveris</i> (Sturm, 1843)	Iraq, Iran, Jordan, Lebanon, Syria, Turkey
<i>Eulasia (Rudeulasia) pietschmanni</i> (Breit, 1920)	Iraq, Jordan, Syria
<i>Eulasia (Rudeulasia) straussi</i> (Ganglbauer, 1905)	Iraq, Iran, Turkey
<i>Eulasia (Trichopleurus) vitatta lineata</i> (Faldermann, 1835)	Iraq, Iran, Jordan, Lebanon, Syria, Turkey, Armenia, Egypt
<i>Amphicoma hirani</i> Mawlood, Ahmed and Kadir, 2016	Iraq
<i>Pygopleurus cirrius</i> (Petrovitz, 1958)	Iraq, Saudi Arabia
<i>Pygopleurus cyanescens</i> (Reitter, 1890)	Iraq, Iran, Syria, Turkey, Azerbaijan, Armenia
<i>Pygopleurus basalis</i> (Reitter, 1890)	Iraq, Iran, Turkey
<i>Pygopleurus distinctus</i> (Falderman, 1835)	Iraq, Iran, Turkey, Azerbaijan, Armenia, Russian South European Territory
<i>Pygopleurus rufovillosus rufovillosus</i> (Reitter, 1907)	Iraq, Iran, Syria, Turkey, Azerbaijan, Armenia
<i>Pygopleurus tristis</i> (Petrovitz, 1968)	Iraq, Iran, Turkey
<i>Glaphyrus (s.str.) micans micans</i> Faldermann, 1835	Iraq, Iran, Syria, Turkey, Azerbaijan, Armenia
<i>Glaphyrus (s.str.) onopordi</i> Reitter, 1903	Iraq, Iran
<i>Glaphyrus (s.str.) pubescens</i> Schweiger, 1949	Iraq

*Pygopleurus tristis* was described by Petrovitz (1968) as a species of the genus *Amphicoma* subgenus *Pygopleurus* on specimens collected in Turkey at Yüksekova (Hakkari Vilayet), 24 May 1966. Baraud (1989) in its revision of the genus *Pygopleurus* recognized *Pygopleurus* as valid genus and assigned the species *tristis* to this genus. He indicated *P. tristis* also present in Cilician Taurus. In 2008, Keith and Uliana, reported for the first time the presence of this species in Iran, Azarbijan-e-Garbi (33Km W. Mahabad, 1700m and Urmiya lake, Mts Mahabad) and Kurdistan (15-20km, S. Kamyaran) provinces.

So far regarded as present in Turkey (Baraud, 1989, Carpaneto *et al.*, 2000) and west Iran, the occurrence of *P. tristis* in Kurdistan Region of Iraq is not surprising, since its type locality is relatively close to the Iraqi border. Nevertheless, this new record extends its distribution between Taurus and Zagros Mountains.

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