

***Melanimon inermus* Picka, 1983 – a new species in the fauna of Ukraine and the first record since the original description (Coleoptera: Tenebrionidae)**

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New country record is presented for a poorly known darkling beetle species *Melanimon inermus* Picka, 1983 which was previously only known from the type series collected in Bulgaria.

Keywords. Darkling beetles, Melanimonini, Black Sea biogeographic region, Steppic biogeographic region, faunistic.

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INTRODUCTION

Melanimon Steven, 1828 is a small genus of tenebrionine Melanimonini Seidlitz, 1894 distributed in the Palaearctic Region and represented by five species and subspecies (Lillig 2015; Iwan & Löbl 2020a). The most widespread taxon of the genus, *M. tibialis tibialis* (Fabricius, 1781), is distributed from western France, Great Britain (UK) and the Western Sahara (Morocco) to the Yenisei River in southern-western Siberia and Central Asian countries of Kazakhstan, Turkmenistan and Uzbekistan (Reichardt 1936; Angelov & Medvedev 1981; Abdurakhmanov & Nabozhenko 2014;

Sergeeva 2014; Iwan & Löbl 2020a). The subspecies *M. tibialis subaereus* Reitter, 1904 is known from Kazakhstan, Kyrgyzstan (Iwan & Löbl 2020a) and Karakum and Kyzyl-Kum deserts in Turkmenistan (Angelov & Medvedev 1981, Abdurakhmanov & Nabozhenko 2011), the latter country record is omitted in the most recent catalogue of Palaearctic tenebrionids (Iwan & Löbl 2020b). As of Nabozhenko (pers. comm. xi.2025), *M. tibialis subaereus* in Turkmenistan reaches as far southwards as the foothills of Kopet Dag. Of the taxa with more restricted distribution there are *M. amalitae* J. Ferrer & Castro Tovar, 2010 from Portugal and Spain (Ferrer & Castro

Tovar 2010) (the former country record is omitted in the most recent catalogue of Palaearctic tenebrionids, Iwan & Löbl (2020b)), *M. inermus* Picka, 1983 from the Black Sea coastal area of Bulgaria (Picka 1938) and *M. kiritshenkoi* Reichardt, 1936 from Azerbaijan, Georgia and northeastern Turkey (Reichardt 1936; Abdurakhmanov & Nabozhenko 2014; Iwan & Löbl 2020a). For *M. kiritshenkoi* we ignore an apparently erroneous record from Ashgabat, Turkmenistan, by Ferrer & Castro Tovar (2010) and consider it a misidentification of *M. tibialis subaereus*, which has already been recorded from that country and considering the fact that Ashgabat is located at the foothills of Kopet Dag, likely the southern distribution limit of this subspecies in Turkmenistan (see above). Out of the *Melanimon* taxa, *M. inermus* appears the only species hitherto known exclusively from one (= type) locality.

Here we provide a new country record for *Melanimon inermus* from Ukraine and briefly discuss on its morphological features and biogeography.

MATERIAL AND METHODS

The Black Sea Region is a biogeographic unit consisting of two coastal bands encompassing the western and southern portions of the Black Sea. The western part, approximately 530 km long, stretches from the Danube Delta through the Dobrouja Plateau extending southeast towards the Bosphorus. This stretch is and its width varies between 20 and 60 km. The other part, ~ 1400 km long, stretches from east of the Bosphorus along the southern coast of the Black Sea to the Caucasus Mountains (Sundseth & Barova 2009).

The Steppic Region is a biogeographic unit characterized by a vast band of xeric vegetation that stretches out over eastern

Romania, southern Moldova, southern and southeastern Ukraine and continues all the way across Asia to the foothills to the Altai Mountains on the borders of Mongolia. The region is characterised by low-lying plains and hills or plateaus of an average height of 200–300 metres. In the west, the region is crossed by the lower reaches of the Danube, Dniester, Dnieper and Don and numerous smaller rivers (Sundseth 2009).

Our study area, the northern Black Sea region of Ukraine, encompasses the Black Sea coast of the Odesa, Mykolaiv, and Kherson regions, as well as the Sea of Azov coastal area and Crimea. The northwestern part of the Black Sea in Ukraine is a classic estuary coast. Here, the lower courses and deltas of most rivers are represented by large estuaries (Vykhovanets 2010). The estuaries are separated from the Black Sea by accumulative coastal-marine formations – bars with a distinctive sand and shell cover and coastal psammophyte vegetation. A striking example of such a formation is the bar (spit) of the Dniester Estuary, where *Melanimon inermus* was collected (Fig. 4). Some coastal habitat types likely overlap and occur both in the Black Sea and Steppic regions.

The examined specimen of *M. inermus* was collected manually (by hand) by the second author during the daytime in the microdunes (now widely destroyed due to the continuous “development” of the coastline - remark by the second author), together with tenebrionids *Ammobius rufus* (Lucas, 1846), *Trachyscelis aphodioides* Latreille, 1809, and some other beetle species (see Blinsein (1978) for some ecological and faunal composition notes on tenebrionids of this habitat type).

All label text of the specimens collected by the second author is reproduced *verbatim*, with no corrections or additions. The label text of the specimens collected by Znoyko is

transcribed from the second author's notebook and not pretend to be precisely correct. Labels, if more than one in the same specimen, are separated by double slash (//). Authors' comments are placed in square brackets.

The specimens were studied using a Leica S6D (Leica Microsystems, Wetzlar, Germany). Digital images were produced by the first author with a Canon 5D SLR camera (Canon Co., Tokyo, Japan) and a Canon MP-E 65 mm macro lens (Canon Co., Tokyo, Japan). Helicon Focus 7 software (Helicon Soft, Kharkiv, Ukraine) was used for image stacking. Further image manipulations were performed using the GNU Image Manipulation Program (GIMP).

RESULTS

Tenebrionidae Latreille, 1802

Tenebrioninae Latreille, 1802

Melanimonini Seidlitz, 1894 (1854)

Melanimon inermus Picka, 1983 (Figs 1–3) Picka (1983: 265 original description); Picka (1987: 309 additional record from the type locality); Dobrev & Dimitrov (1997: 74 list of species recorded from or supposedly endemic to the Ropotamo area in Bulgaria). The species is also subsequently listed in the checklists for Bulgaria, Europe and the Palaearctic Region, which are not repeatedly mentioned here.

Morphology. We compared the discussed Ukrainian specimen with the holotype of *M. inermus* deposited at the Musée des Confluences in Lyon, France (holotype ♂ (Fig. 1): Bulgaria or. Ropotamo/Arkutino/J.Picka lgt.6.74. [printed] // Holotypus [printed, label red] // *Melanimon inermus* n. sp. m. [handwritten] J. Picka det., 19 [printed] 80 [handwritten] // Musée des Confluences MHNL 47026435 [printed]) and found them conspecific. The Ukrainian specimen, presumably a male but not

dissected to prevent any possible damage, exhibits the diagnostic features of the species, in particular, the non-denticulate or tuberculate outer edge of protibia and the tarsi lacking ventral processes, spines, or setae (as of Picka 1983) (Figs 1, 3A, C). Additional useful features, as confirmed in the examined Ukrainian specimen (Figs 1, 3C) and in part also highlighted in the original description, are the short, thickened and apically not pointed tibial terminal spurs (Picka 1983) (Fig. 3A, C) and the distally slightly binodose (medially impressed, slightly bulged both sides of the impression) mesothoracic tarsomeres 1–4 and metathoracic tarsomeres 1–3 (Fig. 3C), the outer edges of meso- and metathoracic tibiae appear tuberculate and not acutely spinose as those in *M. tibialis*. We cannot confirm the differences in the shape of aedeagus (cf. Figs 3, 5, 12 in Picka 1983), since the only available Ukrainian specimen was not dissected.



Fig. 1. *Melanimon inermus* Picka, 1983, specimen from Karolino-Buhaz, southern Ukraine, habitus, dorsal view.

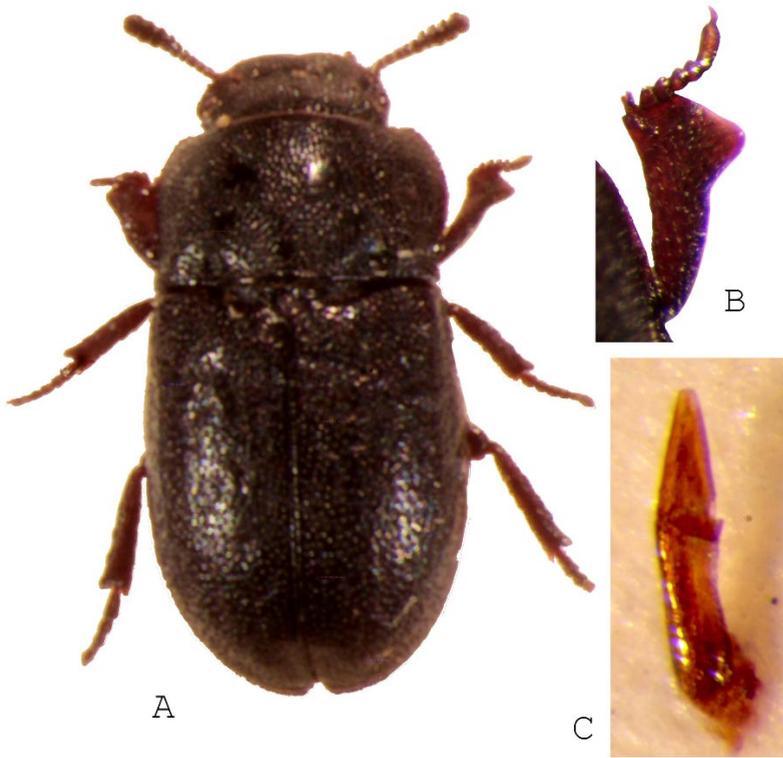


Fig. 2. *Melanimon inermus* Picka, 1983, ♂ holotype from the Musée des Confluences, Lyon, France. A – Habitus, dorsal view; B – Right protibia, dorsal view; C – Aedeagus, dorsal view [not to scale; images courtesy Harold Labrique].

New material examined. 1 specimen, presumably a male [Natural History Museum London, UK]: UKRAINE, 46°06'59"N, 30°30'25"E, North Black Sea region, bay-bar of the Dniester estuary, S. Blinsein leg. 26.08.1972 // coastal sand dunes among the roots of *Salsola kali* // *Melanimon inermus* Picka S. Blinsein det. [all labels are printed].

Biogeography. The species was described from three specimens (one male, two females) (Picka 1983) from near Arkutino in

Ropotamo River valley 'not far from the mouth' (translated from German). The area is located at the western extent of the Black Sea biogeographic region as of Sundseth & Barova (2009). The new Ukrainian locality (Fig. 4) is located at the western extent of the Steppic Region as of Sundseth (2009). The chorotype of the species, as presently known, can be described as North-West Pontic.

Note. First country record for Ukraine, first record since the original description.

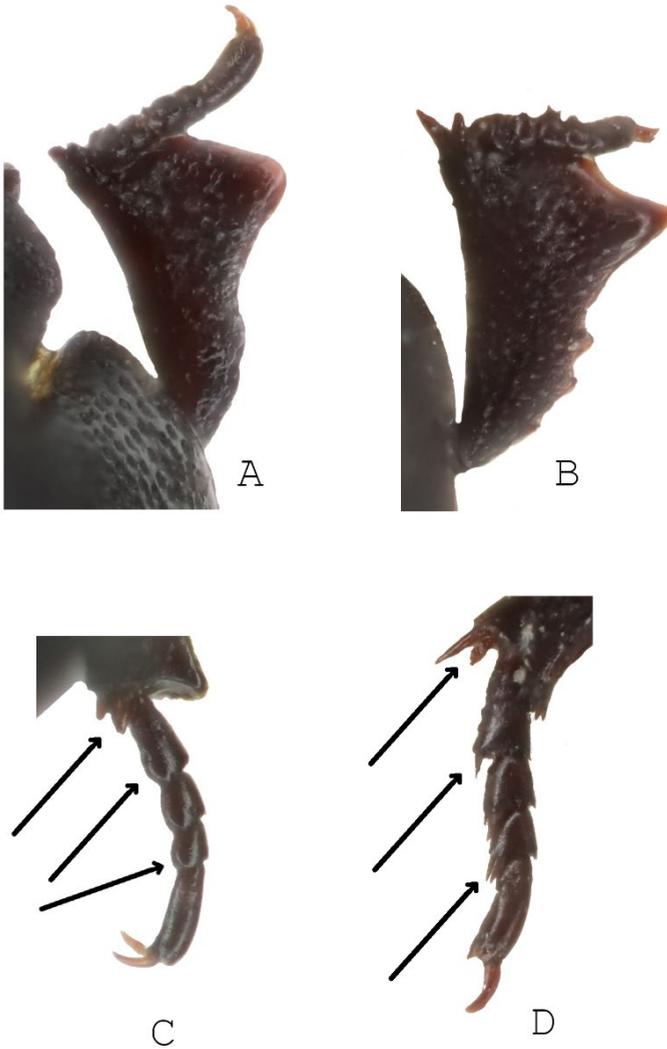


Fig. 3. Morphology of *Melanimon* species. A – *M. inermus* Picka, 1983, specimen from Karolino-Buhaz, Ukraine, right protibia, dorsal view; B – *M. tibialis tibialis* (Fabricius, 1781) ♀ from United Kingdom, ditto; C – *M. inermus* from Ukraine, right metatarsus, lateral view; D – *M. tibialis tibialis* ♀ from United Kingdom, ditto [not to scale]. The arrows indicate ventral processes / spines or ventral impressions on metatarsomeres of *M. tibialis* / *M. inermus*, respectively.

***Melanimon tibialis tibialis* (Fabricius, 1781)**

New material examined. 2 specimens [Zoological Institute RAS, St. Petersburg, Russia]: окрестности Одессы, Пересыпь,

прибрежные пески, 19.08.1920, Знойко leg.; 1 specimen [Natural History Museum London, UK]: Ukraine, Odesa Region, Tuzly village, Kurortnoe 45°52'7.8096"N 30°5'26.9088"E S.Blinshtein leg. 18.6.69 // salt marsh on a spit in the sea; 5 specimens

[Natural History Museum London, UK]: 45°23'57"N 29°35'37"E, at light, S.Blinstein Ukraine, Lower Danube, Wilkow, leg. 10.viii.1971.



Fig. 4. The sandspit at Karolino-Buhaz, the collecting locality of the Ukrainian specimen of *Melanimon inermus* Picka, 1983 [image courtesy Edward Blinsein].

Notes. This taxon was already mentioned from the Black Sea coastal area of the Steppic Region (present-day Ukraine - Odesa, Peresyp district) by Kulikovski (1897). However, we could not verify the identification of the published material and unable to confirm that it is truly referring to *M. tibialis* and not to *M. inermus*. In GBIF and iNaturalist, we found only a single record of *M. tibialis* from southern Ukraine from Mykolaiv, 08.vi.2019, by a naturalist nicknamed “Roman” (iNaturalist 2019). The identification of this specimen as *M. tibialis tibialis* can be confidently confirmed, since the processes or spines on ventral sides of the meso- and metathoracic tarsi are visible in the available images. Noteworthy, there is a recent record of *M. tibialis tibialis* from

westwards of Varna in Bulgaria, iii.2025, by a naturalist Alexandru Pintilioaie (iNaturalist 2025). This specimen also can be confidently identified as belonging to this taxon based on the clearly denticulate outer edges of the protibiae and the presence of the processes of spines on the ventral sides of all tarsi. This locality is not on the seacoast and is situated approximately 100 km northwards of the Arkutino, the type locality of *M. inermus*, providing no evidence of a sympatric distribution of both taxa.

DISCUSSION

The type series of *M. inermus* was collected in 1974 (Picka 1983), over 50 year ago. The

Ukrainian specimen was collected in 1972, earlier than the type material. The new record therefore not reconfirms the status of the species as extant in the wild. But it significantly expands the known distribution range of *M. inermus* by approximately 480

km direction northeast (Fig. 5). The new record links the Black Sea and Steppic biogeographic regions even more and demonstrates that the habitats and fauna overlap and there is no fixed line separating the two biogeographic units.

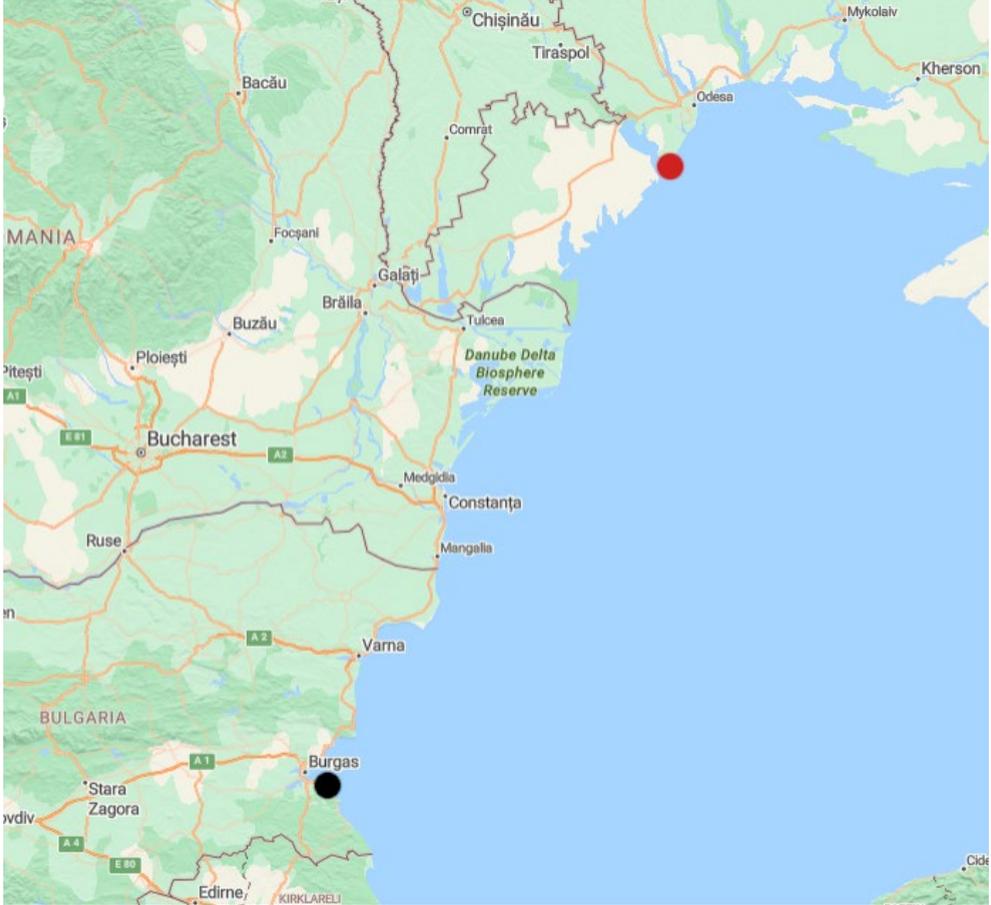


Fig. 5. Map of known records of *Melanimon inermus* Picka, 1983 (the type locality – black circle, the first Ukrainian locality – red circle). Produced using Bing Maps, Microsoft Corporation.

No information on the ecology or habitat of *M. inermus* is provided in the original description, except that the author mentions a river valley (Picka 1983). The Ukrainian specimen was found at the sea level on the Black Sea shore on a narrow spit of

Karolino-Buhaz, in coastal sand micodunes among the roots of Prickly saltwort *Salsola kali* L. The presence of this plant species points on the saline type of the soils at the collecting spot. Except the fact of the soil salinity, other habitat elements appear

similar to those considered typical also for *M. tibialis* (see below), with sparse vegetation on sandy soils and presence of dead plant material and other debris the larvae and adults of the species likely feeding on.

Melanimon tibialis inhabits wide range of open, xeric habitat types on dry sandy soils – deserts, steppes, coastal and inland dunes, open dry forests and forest edges, heathlands, open wasteland, agricultural (pastureland, fields) and urban environment (Koch 1989; Cherney 2005; Abdurakhmanov & Nabozhenko 2011; SLU 2025). In Ukraine, the species prefers sandy areas with *Ceratodon* spp. mosses, sparse Poaceae grasses and is “not rare on a seashore” (translated from Russian) (Cherney 2005). Koch (1989) describes *M. tibialis* as a stenotopic, psammobiotic and humicolous species; it is also found in sparse stands of *Corynephorus* grasses and under stones. The species can be described as detritophagous and saprotrophic (e.g., SLU 2025).

The second author spent over a decade researching Coleoptera in salt marshes and other coastal habitats in southern Ukraine in 1960–70s, from the Crimean Peninsula in the east to the Danube Delta in the west. Remarkably, among the approximately 50 000 coleopteran specimens collected and processed during this study, only a single specimen of *Melanimon inermus* was found and *M. tibialis tibialis* was represented by a handful of specimens only. These facts contradict the statement in Cherney (2005) that *M. tibialis* appears not uncommon on the Ukrainian seashore. However, the difference can be partially explained by the fact that Cherney (2005) was likely referring to the entire Ukrainian coastline, while the study by the second author was focused only on the western portion of the area.

The fact that *M. inermus* was only found at a single spot and a single individual in spite of a long-term, extensive research, might be reflecting a rarity of this species (other soil-dwelling groups and species of beetles are very well represented in the sampled material, e.g. Blinsein (1978)) or its short lifetime as an imago.

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