

**NEW RECORDS OF THE DUNE TIGER BEETLE  
*CICINDELA MARITIMA MARITIMA* DEJEAN, 1822  
(COLEOPTERA, CARABIDAE) FROM THE BALTIC SEA COAST**

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**Abstract**

New records of rare Dune Tiger Beetle *Cicindela maritima maritima* Dejean, 1822 are presented from the Baltic Sea coast of North Poland, NE Germany, Latvia, W and NW Russia.

**Key words:** Coleoptera, Carabidae, faunistics, new records, Baltic Sea coast

**INTRODUCTION**

In Europe 17 species and 83 subspecies of the subgenus *Cicindela* s. str. have been recorded so far (Vigna Taglianti 2016). According to Burakowski et al. (1994) five species occur in Poland: *C. campestris* Linnaeus, 1758; *C. hybrida* Linnaeus, 1758; *C. maritima* Dejean, 1822; *C. sylvatica* Linnaeus, 1758 and *C. sylvicola* Dejean, 1822. All they are represented by nominative subspecies.

The Dune Tiger Beetle (*Cicindela maritima*) is extremely endangered in a whole Western Europe. According to Irmeler (2010) populations of this species have been decreasing for several decades and now it is collected seldom and sporadically.

There is no recent information on distribution of *C. maritima* in Poland. Most of records summarized by Burakowski et al. (1973) are more than 60 years old. The last information was added by Wolender and Zych (2006) but without precise localisation – as Uznam Island only.

The aim of this paper is to summarize data on the distribution and habitat preferences of *C. maritima* in the Middle Pomeranian Baltic coast.

## MATERIAL EXAMINED

Vistula Spit, ad Krynica Morska, Baltic shore, (UTM CF92) N54.34°, E19.49°, white dune, 15/06/2002, 1 ♀, by hand, O. Aleksandrowicz leg.

Słowiński National Park, ad Rąbka, (UTM XA67) N54.76°, E17.51°; Baltic shore, white dune, 2/06/2012, 1 ♀, by hand, O. Aleksandrowicz leg.

Słowiński National Park, ad Smołdzino, Baltic shore, (UTM XA45) N54.70°, E17.18°, sand beach, 17/07/2002, 1 ♀; N54.71°, E17.20°, white dune, 6/07/2003, 1 ♀, 54.72°, 17.22°, white dune, 1 ♀, by hand, O. Aleksandrowicz leg.

All the collected specimens have been deposited in the collection of the Pomeranian University in Słupsk.

In point of view of the rarity of the species in the whole its range, we provide previously unpublished data from museum collections of Zoological Institute of Russian Academy of Science (Sankt Petersburg) (coll. ZIN RAN) and I.I. Schmalhausen Institute of Zoology of National Academy of Sciences of Ukraine (Kyiv) (coll. IZNASU).

Coll. ZIN RAN:

NW Russia, Leningrad reg., B. Izhora env., 09/06/1903 (1 ex.).

Latvia, Riga env. (1 ex.).

W Russia, Kaliningrad Reg., Rybachyi env., 05/07/1958 (2 ♂ 5 ♀).

NW Russia, Sankt Petersburg, Yamburg (= Kingisepp, now Kuressaare) env. [Luga riv.], 26/06/1904 (2 ♂ 1 ♀).

Coll. IZNASU:

W Russia, Kaliningrad Reg., Rybachij vil. env., 24/06/1958, O. Kryzhanovskij leg., 2 ♂ 1 ♀.

Germany, Meklenburg [Mecklenburg], env., beach of sea, 07/1979, Schmitt leg. (2 ♂), Hiddensee, 24/05/1983, Schniher leg.; 1 ♀.

Germany, S. Pommeran. Umgb., Greeifswald, Spfa. Spandowerhagen, 17/06/1985, leg. J. Stegner, 1 ♀.

Germany, S. Pommeran. Umgb., Greeifswald, Strandwampeven Riff, 06/1984, leg. J. Stegner; 2 ♂.

## RESULTS AND DISCUSSION

The Dune Tiger Beetle is an Euro-Central Asian species, with the area from Great Britain to Mongolia. Up to now, three subspecies of *C. maritima* were distinguished (Matalin 2002a, b). The nominal subspecies occurs along the sea coasts of western, northern and central Europe, inland river banks in northern and western Belarus; northern and central Russia (from the European part to the Yenisei River and the Altai Mountains); north-eastern Kazakhstan. *C. maritima kirgisica* Mandl, 1936 occurs in Moldova, Ukraine, south-eastern Belarus, southern Russia, Caucasus and north-western part of Kazakhstan. *C. maritima impercepta* Matalin 2002 occurs in the western and south-western Mongolia only (Matalin 2002a, b, Putschkov and Matalin 2003). The transition zone between the nominate subspecies and *C. m. kirgisica* in-

cludes south-eastern Poland, southern Belarus, northern Ukraine, the centre of European Russia, southern Ural, and the northern Kazakhstan.

According to Koch (1989) ecological preferences of imagines of *C. maritima* are defined as follows: stenobiont, psammophilous, ripicol and halotolerant. The beetles are found on sand banks and dunes along sea coasts, also on river banks (not only of large rivers!) (Matalin 2002a). In the Latvian Baltic beach the highest number of beetles was noticed between the wet margin of the lagoon and the foredune (Spungis 2001).

The Dune Tiger Beetle larvae bore their holes in the sand only in places where the depth of the ground water table does not exceed 20-30 cm. They occur in a wet stabilised sand close to the foredune and also behind that, but they are absent on the top of the foredune with dry and wind-transported sand (Putchkov 1990, 1993, Spungis 2001).

This tiger beetle species is included in Red Data Books in Poland, Germany, Lithuania, Latvia, Norway, Sweden, as well as Kaliningrad, Leningrad, Kaluga, Ryazan, Voronezh, Tambov Areas, Republic of Karelia, and Sankt Petersburg City (all in Russia), but so far the data have not been analysed in depth and the species' current conservation status has not been assessed. Since the beginning of the twentieth century, its numbers have decreased significantly in a considerable part of its range (Irmeler 2010).

Our results confirm the existence of populations of the Dune Tiger Beetle only in the protected areas of Polish Baltic coast: in the Słowiński National Park and the Vistula Spit Landscape Park (Fig. 1).

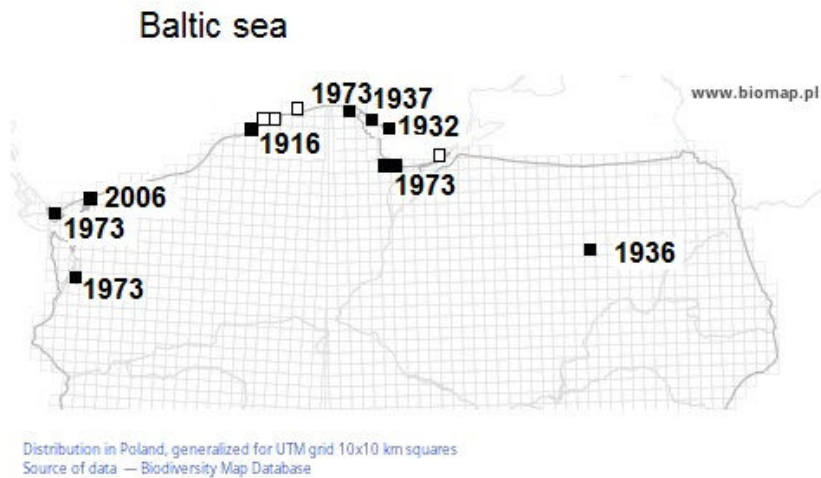


Fig. 1. Distribution of *C. maritima* in Polish Baltic Sea shore  
 Black squares – literature data: Lüllwitz (1916), Węgrzecki (1932), Mandl (1936), Bartoszyński (1937), Burakowski et al. (1973), Wolender and Zych (2006)  
 Empty squares – new localities

At present, *C. maritima maritima* inhabits the entire Baltic region; however, its populations in the eastern parts are more numerous and located closer to one another. Several new populations have been discovered in recent years (Tamutis et al. 2011).

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NOWE DANE O WYSTĘPOWANIU TRZYSZCZA NADMORSKIEGO  
*CICINDELA MARITIMA MARITIMA* DEJEAN, 1822  
(COLEOPTERA, CARABIDAE) NA WYBRZEŻU BAŁTYKU

**Streszczenie**

Przedstawiono nowe dane o występowaniu rzadkiego zagrożonego (kategoria NT) gatunku *Cicindela maritima maritima* Dejean, 1822 z rodziny biegaczowatych (Carabidae) na polskim wybrzeżu. Stwierdzono występowanie nielicznych okazów na plaży i wydmach w okolicy Smołdzina i Rąbki na terenie Słowińskiego Parku Narodowego oraz na plaży w pobliżu Krynicy Morskiej na terenie Parku Krajobrazowego Mierzeja Wiślana. Ponadto na podstawie danych ze zbiorów muzealnych Instytutu Zoologii Rosyjskiej Akademii Nauk (Sankt Petersburg) oraz Instytutu Zoologii Narodowej Akademii Nauk Ukrainy im. I.I. Schmalhausena (Kijów) podano niepublikowane dane o występowaniu tego trzyszcza w północno-wschodnich Niemczech, obwodach Kaliningradzkim i Leningradzkim Rosji i na Łotwie.

