

The distribution and habitat of *Calomera littoralis mandli* (Mandl, 1967) (Coleoptera: Cicindelidae) on the coastal margin of Lake Van in Turkey

by Mehmet Salih Özgökçe, Remzi Atlıhan, İsmail Kasap, Fevzi Özgökçe, Şükran Yıldız, Murat Demir and Evin Polat

Abstract. The tiger beetle *Calomera littoralis mandli* was found at Lake Van in eastern Anatolia at 20 out of 47 localities surveyed during 2004-2005. It occurs in open habitats with fine sand mixed with clay or in salt-marshes and with little plant cover. Three groups of larval burrows were determined, with average openings of 1.54 mm, 2.46 mm and 3.80 mm. These correspond to the 1st, 2nd and 3rd larval instars.

Kurzfassung. Der Sandlaufkäfer *Calomera littoralis mandli* wurde um den Vansee in Ostanatolien an 20 von 47 Örtlichkeiten gefunden, die dort 2004-2005 untersucht wurden. Die Art kommt in offenen Habitaten vor, die aus feinem Sand bestehen, der mit Lehm vermischt ist, oder in Salzmarschen mit schütterer Vegetationsdecke. Es wurden drei Gruppen von Larvenhöhlen bestimmt, deren Öffnungen im Durchschnitt 1,54, 2,46 bzw. 3,80 mm messen. Sie entsprechen dem 1., 2. bzw. 3. Larvenstadium.

Key words. Cicindelidae, habitat, tiger beetle, larval instars, Turkey, Lake Van, Middle East.

Introduction

There are 2328 known species of tiger beetles worldwide (CASSOLA & PEARSON 2000). Accurate knowledge of their range, numbers and population dynamics is important for biodiversity conservation and because of their use as bioindicators in monitoring environmental change (PEARSON & CARROLL 1998, RODRIGUEZ et al. 1998, CASSOLA & PEARSON 2000, NIEMELA 2000). Currently there are 26 recognised species in Turkey (CASSOLA 1999, CASSOLA & PEARSON 2000). This number, however, may increase with more detailed investigations of suitable habitats.

Our knowledge of tiger beetle distribution in Turkey stems largely from the work of CASSOLA (1999). He reported *Calomera littoralis mandli* (Mandl, 1967) from many different regions of Turkey, including Central Anatolia, the Mediterranean and Black Sea regions, south-east and eastern Anatolia including the Van region. The first record of *C. l. mandli* in the Van region dates from 1966 (Van-Özalp, 27.5.1966, CASSOLA 1999). However, details on its distribution and habitat have not been known. We therefore investigated the distribution and habitat characteristics of this species on the coastal margin of Lake Van.

Material and methods

The study was carried out between May 2004 and September 2005 around Lake Van in eastern Turkey. Monthly surveys were carried out at 21 localities and an additional 26 localities were searched on an irregular basis. At 12 of these localities where *C. l. mandli* was regularly found we