

## Complementary description of *Catops hanusi* (Coleoptera: Leiodidae: Cholevinae), with notes on its bionomy and occurrence in Turkey

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RŮŽIČKA, J., JANSSON, N. & COSKUN, M. 2006. Complementary description of *Catops hanusi* (Coleoptera: Leiodidae: Cholevinae), with notes on its bionomy and occurrence in Turkey. *Entomol. Probl.* 36(2): 43–46. – The adult external morphology of *Catops hanusi* RŮŽIČKA, 1995 is complemented (including the characters of female terminalia), based on newly collected material. The species, known so far only from Bulgaria, is reported for the first time also from southern Turkey. The species is probably closely associated with old tree hollows, it was found in hollows of at least three *Quercus* and one *Fraxinus* species.

**Key words:** Taxonomy, morphology, female genitalia, bionomy, *Quercus*, *Fraxinus*, hollow, Coleoptera, Leiodidae, *Catops*, Turkey, Palearctic region.

### Introduction

Most representatives of the tribe Cholevini (Coleoptera: Leiodidae) are unspecialized scavengers, usually found in cool temperate, moist and shaded or dark environments (PECK & COOK 2002). Exceptions are formed by several species of the *Catops fuscus* species group, which are usually found associated with burrows of different mammals, from lowland steppes to alpine mountains (JEANNEL 1936, ZWICK 1981).

The majority of the specimens of Cholevinae collected by N. Jansson and M. Coskun, during their 2005–2006 survey of the saproxylic beetle fauna of oak and ash forests in southern Turkey, turns out to belong to *Catops hanusi* RŮŽIČKA, 1995. This species, belonging to the *C. fuscus* species group, has unknown bionomy, as it has been known only from the male holotype, an old museum specimen collected in 1923 in Bulgaria, without available bionomical information (RŮŽIČKA 1995). In the present paper, the morphology of the previously unknown female terminalia is described, the morphological variability of the species is evaluated and some bionomical notes concerning this species, previously unknown from Turkey (GIACHINO & VAILATI 2000), are summarized.

### Material and methods

The study is based on examination of 85 specimens of *Catops hanusi*, including the holotype. The following abbreviations are used for institutions and private collections in which the material is deposited: JRUC – private collection of Jan Růžička, Praha; JVAC – private collection of Jiří Vávra, Ostrava; LULC – Linköping University, Linköping, Sweden; NMPC – Národní muzeum, Praha (J. Hájek).

All the specimens have been determined by the senior author. Exact label data are cited only for the type material,

separate lines on labels are indicated by “/”, separate labels by “//”. Author’s remarks and complementary notes are found in square brackets. Female terminalia were studied after brief clearing in hot KOH, mounted in a temporary glycerine mount on a slide and examined under a dissecting microscope (Olympus SZX9) under magnification up to  $\times 100$  and a compound microscope (Meopta) under magnification up to  $\times 150$ . In the line drawings, margins of weakly sclerotized sclerites are drawn by dotted lines, transparent structures by dashed lines. Terminology of female abdominal sclerites follows DEUVE (2001).

### Systematic part

#### *Catops hanusi* RŮŽIČKA, 1995

(Figs 4 – 9)

*Catops hanusi* RŮŽIČKA, 1995: 127, figs 7–13 (description).

*Catops hanusi*: PERREAU 2000: 121 (catalogue).

*Catops hanusi*: PERREAU 2004: 138 (catalogue).

**Material examined. Type material:** holotype  $\sigma$  (NMPC), labelled “Orechovice [= Orekhovitsa, ca. 43°35'N 024°23'E] VIII / Bulgaria / Inž. Hanuš [leg.] 1923 [printed] // CATOPS / HANUSI sp. n. [handwritten] / HOLOTYPUS / J. Růžička det. 1995 [printed, red label]”.

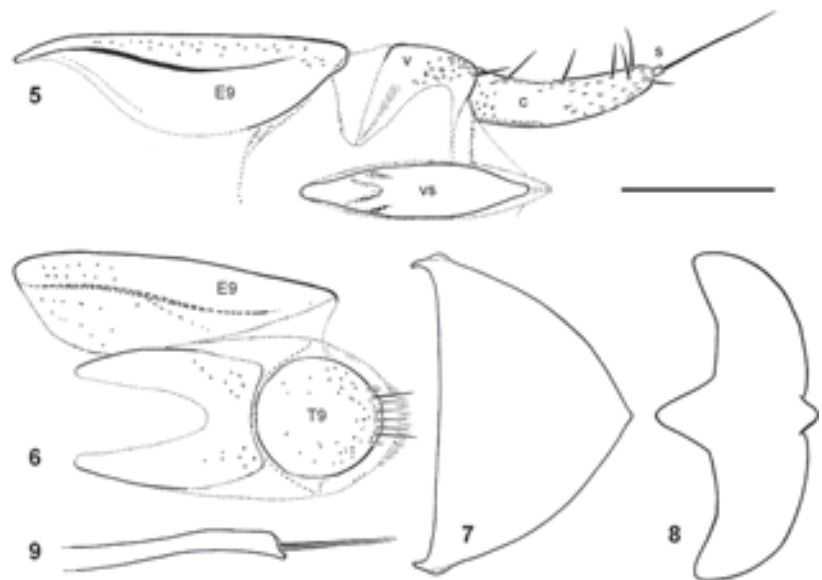
**Additional material.** 41  $\sigma\sigma$  and 43  $\text{♀♀}$  as follows: 2  $\sigma\sigma$ , 2  $\text{♀♀}$  (JVAC): Turkey, Mersin vil., Erdemli env., 8 km NW Arsanli, 24.-26.V.1995, J. Mertlík leg.; 1  $\text{♀}$  (JVAC): Turkey, Mersin vil., 30 km N Erdemli, 25.-28.V.1995, T. Kopecký leg.; 1  $\text{♀}$  (LULC): Turkey, Mersin vil., 30 km N Erdemli, Devrent, 36°42'38.5"N 034°09'58.3"E, 1139 m, 10.IV.-4.V.2005, N. Jansson & M. Coskun leg., window trap in front of a hollow in the trunk of old, large *Quercus ithaburensis macrolepis* (#11W); 1  $\sigma$  (LULC): same data, but window trap in front of a hollow in the trunk of *Quercus cerris* var. *cerris* (#19W); 1  $\sigma$  (LULC): same data, but 4.V.-23.V.2005, pitfall trap in the wood mould inside a hollow in the trunk of an old *Quercus infectoria boissieri* (#12P); 1  $\text{♀}$  (LULC): same data, but pitfall trap in hollow of old,



Figs 1 – 3. 1) Habitat of the sparsely distributed oak forest at Kizilen (spring aspect, April 10, 2005); 2) window trap in front of a hollow in the oak trunk; 3) pitfall trap in the wood mould inside a hollow in the trunk of an old oak.



Fig. 4. Habitus of the female of *Catops hanusi* RŮŽIČKA. Body size 4.6 mm.



Figs 5 – 9. *Catops hanusi* RŮŽIČKA: 5) female genitalia, ventrally; 6) female genitalia, dorsally; 7) female tergum VIII, dorsally; 8) female ventrite VIII, ventrally; 9) male, apex of paramere, laterodorsally. Scale 0.5 mm for Figs 5, 6, 9 and 0.7 mm for Figs 8, 9. Abbreviations: T9 – tergite IX, E9 – epipleurite IX, v – valvifer, c – coxite, s – stylus, vs – ventral sclerite.

large trunk of *Quercus cerris* var. *cerris* (#15P); 1 ♂, 1 ♀ (LULC): same data, but pitfall trap in the wood mould inside a hollow in the trunk of an old *Quercus cerris* var. *cerris* (#19P); 1 ♂ (LULC): same data, but pitfall trap in the wood mould inside a hollow in the trunk of an old *Quercus cerris* var. *cerris* (#20P); 1 ♀ (LULC): same data, but window trap in front of a hollow in the trunk of an old *Quercus ithaburensis macrolepis* (#11W); 1 ♀ (LULC): same data, but window trap in front of a hollow in the trunk of *Quercus infectoria boissieri* (#12W); 1 ♀ (LULC): same data, but window trap in front of a hollow in the trunk of an old *Quercus infectoria boissieri* (#17W); 1 ♂ (LULC): same data, but window trap in front of a hollow in the trunk of an old *Quercus cerris* var. *cerris* (#20W); 1 ♂ (LULC): same locality and collectors, but 23.V.-17.VI.2005, M. Coscun & N. Jansson leg., pitfall trap in the wood mould inside a hollow in the trunk of an old *Quercus ithaburensis macrolepis* (#11P); 1 ♀ (LULC): same data, but pitfall trap in the wood mould inside a hollow in the trunk of an old *Quercus infectoria boissieri* (#12P); 1 ♂ (LULC): same data, but pitfall trap in the wood mould inside a hollow in the trunk of an old *Quercus infectoria boissieri* (#18P); 1 ♀ (LULC): Turkey, Mersin vil., 50 km N Erdemli, Kizilen, 36°41'47.3"N 034°03'03.4"E, 1250 m, 10.IV.-4.V.2005, M. Coscun leg., pitfall trap in the wood mould inside a hollow in the trunk of an old *Quercus cerris* var. *cerris* (#2P); 1 ♀ (LULC): same locality and date, but N. Jansson & M. Coscun leg., pitfall trap in the wood mould inside a hollow in the trunk of an old *Quercus cerris* var. *cerris* (#3P); 4 ♀♀ (JRUC, LULC): same data, but 4.V.-23.V.2005, pitfall trap in the wood mould inside a hollow in the trunk of an old *Quercus cerris* var. *cerris* (#1P); 1 ♂, 1 ♀ (LULC): same data, but pitfall trap in the wood mould inside a hollow in the trunk of an old *Quercus cerris* var. *cerris* (#3P); 2 ♂♂ (LULC): same data, but pitfall trap in the wood mould inside a hollow in the trunk of an old *Quercus cerris* var. *cerris* (#4P); 1 ♂ (LULC): same data, but pitfall trap in the wood mould inside a hollow in the trunk of an old *Quercus cerris* var. *cerris* (#5P); 1 ♂, 1 ♀ (LULC): same data, but pitfall trap in the wood mould inside a

hollow in the trunk of an old *Quercus ithaburensis macrolepis* (#10P); 1 ♂ (LULC): same data, but window trap in front of a hollow in the trunk of an old *Quercus cerris* var. *cerris* (#5W); 1 ♂ (LULC): same data, but window trap in front of a hollow in the trunk of an old *Quercus ithaburensis macrolepis* (#9W); 1 ♂, 2 ♀♀ (LULC): same locality and collectors, but 23.V.-17.VI.2005, pitfall trap in the wood mould inside a hollow in the trunk of an old *Quercus cerris* var. *cerris* (#4P); 10 ♂♂, 8 ♀♀ (LULC, JRUC): Turkey, Mersin vil., 50 km N Gülnar, Köseçobalı & Tasdüstü, 36°30'22.5"N 033°07'43.3"E, 1480 m, 26.IV.-24.V.2006, M. Coscun & N. Jansson leg., pitfall in the wood mould inside a hollow in the trunk of an old *Fraxinus* sp. (#1P); 14 ♂♂, 15 ♀♀ (LULC, JRUC): same data, but pitfall trap in the wood mould inside a hollow in the trunk of an old *Fraxinus* sp. (#16P).

**Complementary description.** Total body length (with protracted head) 4.1 – 4.8 mm.

Male (see RŮŽIČKA 1995: 127). Paramere with oblique, sharp apex; bearing two closely situated, very long setae (Fig. 9).

Female. Similar to male, without widened protarsi and basal mesotarsomere (Fig. 4). Apex of each elytron with distinct rectangular angle, only rarely sub-rounded.

Tergum VIII roundly triangular, with slightly projecting apex (Fig. 7). Ventricle VIII with posterior margin interrupted by distinct, round median projection (Fig. 8); spiculum ventrale widely triangular, rounded anteriorly (Fig. 8). Tergite IX oval, with narrow basal sclerotization distinctly delimited only laterally; and round apical sclerotization, with 9 posteriorly situated setae of unequal length (Fig. 6). Epipleurite IX elongate, without separate postero-lateral region, with distinctly sclerotized ventro-lateral lamina (Figs 5, 6). Valvifer with a single postero-

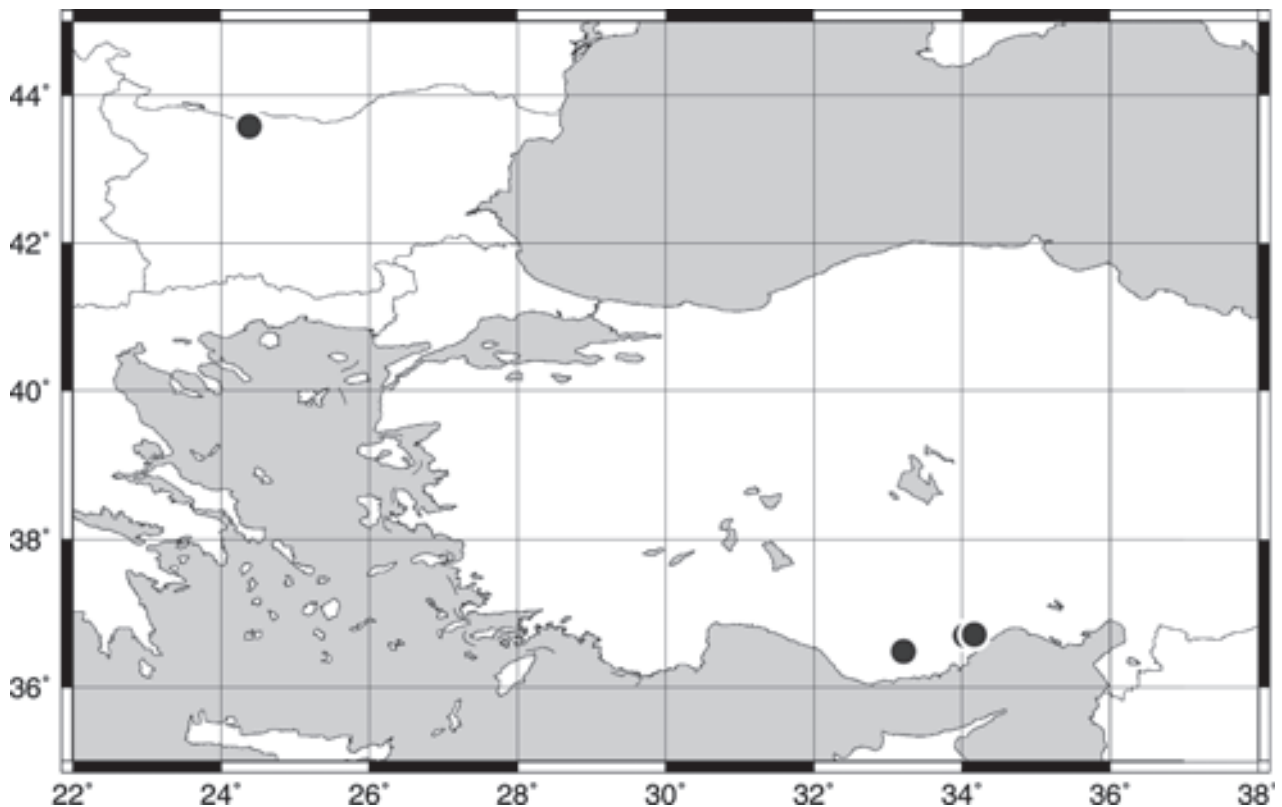


Fig. 10. Distribution of *Catops hanusi* RŮŽIČKA in Bulgaria and Turkey.

laterally situated seta, widely desclerotized medially (Fig. 5). Coxite with 6 larger setae (one basal, one medial, four subapical) and numerous very fine setae (Fig. 5). Ventral sclerite elongate, with lanceolate sclerotization (Fig. 5).

**Bionomy.** The species seems to be closely associated with hollows of old oak and ash trunks, in remnants of sparsely distributed oak forests at altitudes between ca. 1140 and 1480 m (Fig. 1). 71 specimens (35 ♂♂ and 36 ♀♀) were collected by unbaited pitfall traps placed in the wood mould inside the hollows (Fig. 3); only 8 specimens (4 ♂♂ and 4 ♀♀) were collected outside the trunks using window traps placed in front of the hollow entrances (Fig. 2).

In 2005, three oak species were surveyed. Most of the specimens of *C. hanusi* were found associated with hollows of *Quercus cerris* var. *cerris* (18 specimens in pitfall traps, 3 in window traps). The abundance of *C. hanusi* was lower in hollows of the other two oak species, 6 specimens (3 in pitfall traps, 3 in window traps) were found in *Q. ithaburensis macrolepis* and 5 specimens (3 in pitfall traps, 2 in window traps) in *Q. infectoria boissieri*. In 2006, *C. hanusi* was also collected at a different (but close) locality, by pitfall traps inside the hollows of two old trunks of *Fraxinus* sp.

Generally, the pitfall traps which caught *C. hanusi* were situated from ground level up to 2.2 m and the trunks of the trees were 1.8–3.2 m in circumference, at breast height. Other beetle species common in the same pitfall traps as *C. hanusi* were: *Procrustes anatolicus* CHAUDOIR, 1857 (Carabidae), *Merohister ariasi* (MARSEUL, 1864) (Histeridae), *Protaetia mirifica* (MULSANT, 1842) (Scarabaeidae), *Dorcus parallelipedus* (LINNAEUS, 1758) (Lucanidae), *Mulsantheus manuelae* (PLATIA et GUDENZI, 1998), *Limoniscus violaceus* (P.W.J. MÜLLER, 1821), *Ischnodes sanguinicollis* (PANZER, 1793) (all Elateridae), *Ptinus bidens* OLIVIER, 1790 (Ptinidae), *Hypebaeus senaci* (ABEILLE, 1890) (Malachiidae), *Cryptophagus pallidus* STURM, 1845 (Cryptophagidae), *Mycetophagus quadriguttatus* P.W.J. MÜLLER, 1821 (Mycetophagidae), *Aderus populneus* (CREUTZER, 1796) (Aderidae), *Alphitophagus bifasciatus* (SAY, 1823), *Neatus inaequalis* (REITTER, 1920), *Tenebrio obscurus* FABRICIUS, 1792 and *Allecula striata* (SEIDLITZ, 1895) (all Tenebrionidae).

**Distribution.** The type locality is situated in northern Bulgaria (RŮŽIČKA 1995), the species is reported herewith for the first time from four closely located sites in southern Turkey (Fig. 10). A wider distribution of *C. hanusi* can be expected, probably also in remnants of old oak forests in north-western Turkey.

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