

***Hydraena testacea* Curtis, new to Bayern
(Coleoptera: Hydraenidae)
by J. G. M. CUPPEN and F. HEBAUER**

ABSTRACT

Hydraena testacea CURTIS is finally reported from Bayern (Germany). The species was collected near Schwandorf (Oberpfalz) and near Aschaffenburg (Unterfranken).

ZUSAMMENFASSUNG

Hydraena testacea CURTIS wurde nun auch in Bayern nachgewiesen. Die Art wurde bisher in der Nähe von Schwandorf (Oberpfalz) und Aschaffenburg (Unterfranken) festgestellt.

INTRODUCTION

The genus *Hydraena* (Coleoptera: Hydraenidae) is represented in Europe (including Turkey) with more than 150 species of which most species occur in the mediterranean area (IENISTEA 1978; JÄCH, 1988). The number of species increases strongly from North Europe towards the south. Most species are restricted to running waters in mountainous areas where they live in gravel beds, on aquatic Bryophyta on stones and boulders, and on stream banks. A limited numbers of species lives mainly on the banks of stagnant waters; most of these lentic species have large distribution areas in Europe.

A survey of the water beetles of Bayern is represented by HEBAUER (1994), which comprises 18 species of *Hydraena*. *Hydraena testacea* CURTIS is lacking in this list though *H. testacea* is generally considered a common species in West and Central Europa (HORION, 1949). The discovery of *H. testacea* by the first author near Schwandorf is, however, not a great surprise, as the species is known from surrounding areas.

IDENTIFICATION

Hydraena testacea can be identified with the key of LOHSE (1971) with use of the additional remarks by HEBAUER (1989). The almost parallel sides of the anterior half of the pronotum in combination with the four shining ridges on the metasternum and the enlarged punctures (outer row) in the apical part of the elytra separate *H. testacea* from most other central European species. Confusion is possible with *Hydraena atrata* DESBROCHERS des LOGES and *Hydraena paganettii* GANGLBAUER. These species, however, clearly differ in their male genitalia from *H. testacea* and are, in Central Europe, confined to Austria.

DESCRIPTION OF THE SAMPLING-LOCALITY

Hydraena testacea (1 male, 3 females) was collected on 13 August 1996 in a recently excavated sandpit east of Irrenlohe near Schwarzenfeld, Kreis Schwandorf in Ostbayern (12°07'E 49°23'N, altitude 360 m). The sandpit is one of many quarries in the valley of the river Naab. The soil of the pit, with an extent of 600 x 250 m and a depth of > 1 m, consisted of bare yellowish sand with some gravel. Its very steep southern bank consisted of herbaceous grassland with a small, recently planted, hedgerow of mainly *Alnus glutinosa* and *Salix cinerea* offering some shade to the borders. The vegetation at the foot of the bank (in the water) was poorly developed consisting of *Juncus effusus*, *Lythrum salicariae* and *Carex* sp. In the shallower parts of the pit submerged plants as *Elodea canadensis*, *Ranunculus cf. trichophyllus* and *Potamogeton* were present with low abundancies. The water had a pH of 6.5, an electrical conductivity of 350 µS/cm, a chlorinity of 30 mg/l and a total hardness of 5°D.

One hour of collecting yielded 25 species of water beetles of which the noterid *Noterus clavicornis*, the dytiscids *Laccophilus hyalinus* and *Graptodytes pictus*, the haliplid *Haliphus fluviatilis* and the hydrophilids *Anacaena limbata*, *Laccobius minutus* and *Coelostoma orbiculare* were the most abundant. *Hydraena testacea* and most Hydrophilidae were collected under the organic debris of water plants washed ashore just above the waterline. The only other representative of the Hydraenidae was *Hydraena riparia* (1 male and probably 2 females, the identification of the females is not certain).

This recent record initiated an inquiry in the water beetle collections of native coleopterists and effected a few further records and some data of this interesting species as follows:

- Aschaffenburg, Große Bulau (pond in riverwood after winter inundation; between moss and *Ceratophyllum*), 8.IV.1983, 3 ex. and 30.3.1983, 3 ex. leg. Flechtner.
- Rottenberg NE Aschaffenburg (See am Grafenberg) 17.IX.1993, 13 ex. and 18.X.1987, 1 ex. leg. G.. Hofmann, Stockstadt.

On this occasion further new data from the adjacent area of western Hessen could be find out:

- Erlensee-Rückingen NE Hanau, south of Sandhof (wood ditch near river bank) 20.VI.1996, 1 ex. (between *Fontinalis*), leg. G. Hofmann.
- Messel NE Darmstadt 15.IX.1963, 1 ex. and 18.VIII.1963, 3 ex. (by car-catching) leg. Hansen, in coll. Böhme.
- Großgerau NW Darmstadt, Mönchbruch (fen drain) 16.VII.1959, 1 ex. in coll. Böhme.

DISTRIBUTION, HABITAT AND PHENOLOGY

Hydraena testacea is a widely distributed species in West and Middle Europe, and western North Africa (HORION, 1949; BERTHÉLEMY et al., 1991). In Scandinavia *H. testacea* is rare and known only from a few localities in Denmark and South Sweden (HANSEN, 1987). Along the Atlantic coast, in England, Ireland, The Netherlands, Belgium, France, Spain and Portugal this species is common and widespread (BALFOUR-BROWNE, 1958; CUPPEN, 1993; DERENNE, 1952; BERTHÉLEMY, 1986; VALLADARES, 1989; BERTHÉLEMY & WHYTTON da TERRA, 1977). In Italy the species is confined to the north of Sardinia (PIRISINU, 1981), in Switzerland to Geneva (HORION, 1949) and in Romania to the Banat (IENISTEA, 1968). We were not able to find original records from Austria and the former Czechoslovakia, though *H. testacea* was mentioned by HANSEN (1987) and HORION (1949), respectively.

The species is widespread and common in Germany west of the Elbe and in Holstein (HORION, 1949). South of the Main the species was only known from a few localities in Hessen (HORION, 1949). In the eastern direction the species is known from the Harz and Thüringen. BELLSTEDT (1993a) mentions *H. testacea* in Thüringen as rare and decreasing in numbers and incorporates the species in the Thüringian Red List as potentially threatened (BELLSTEDT, 1993b). In Niedersachsen and Bremen *H. testacea* is included in the Red List as strongly threatened in mountainous areas and threatened in lowland areas (HAASE, 1996). Probably *H. testacea* is rather common in lowland areas in the north of Germany, becoming rarer to the south and east, and in mountainous areas. *Hydraena testacea* probably has reached from a northwestern direction.

The above description of the sampling-locality corresponds with what is generally considered the normal habitat of *H. testacea*: meso- to eutrophic stagnant waters as pools, ponds and smaller lakes (d'ORCHYMONT, 1925; HORION, 1949; DERENNE, 1952; BALFOUR-BROWNE, 1958; CUPPEN, 1993) often with a well developed marginal vegetation. The lack of a marginal vegetation was also frequently encountered in The Netherlands on *H. testacea*-localities (CUPPEN, 1993). In running waters the species is much rarer and usually confined to slowly flowing stretches of normalised lowland streams. The observed physico-chemical variables are all within the 90% ranges mentioned by CUPPEN (1993) for The Netherlands, and are, for all variables, just below the median values.

Two of the three females from Schwarzenfeld were teneral and none of some carried ripe eggs. Probably all specimens belong to the generation produced in 1996. The data are in accordance with the life-cycle of *H. testacea* published by CUPPEN (1993): breeding in early spring, larval period in late spring and early summer, and appearing of the new generation in late summer and early autumn. Hibernation occurs only in the adult state.

The co-occurrence of *H. testacea* with *Hydraena riparia* was observed frequently in The Netherlands (CUPPEN, 1993).

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AUTHOR'S ADRESSES:

J. G. M. CUPPEN
Department of Water Quality Manegement and Aquatic Ecology,
Wageningen Agricultural University, Ritzema Bosweg 32a,
NL-6703 AZ Wageningen
The Netherlands

PD Dr. F. HEBAUER
Institut für Zoologie und vergleichende Anatomie FB 19
Universtität Kassel
Heinrich-Plett-Straße 40
D-34109 Kassel

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Autor(en)/Author(s): Cuppen Jan G. M., Hebauer Franz

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