

**DATA REGARDING THE PRESENCE OF *Cybister (Scaphinectes) lateralimarginalis* (DEGEER 1774) (INSECTA: COLEOPTERA: DYTISCIDAE) IN THE ENTOMOLOGICAL FAUNA OF DOLJ COUNTY (ROMANIA)**

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**Abstract.** This paper introduces in the scientific informational circuit new data regarding the presence of the species *Cybister (Scaphinectes) lateralimarginalis* (DEGEER 1774) (Insecta: Coleoptera: Dytiscidae) in the entomological fauna of Dolj county, Oltenia area (Romania). It also provides new data on food regime of captive-bred species. We studied 24 specimens collected from April to June 2012 in Pond Obedin (village Obedin, Breasta village, Dolj county). The 24 specimens (20 males and 4 females) were kept for observation in aquarium. The specimens analyzed in this material and those that will be collected in the fall will be investigated in order to identify potential parasites.

**Keywords:** new data, spreading, *Cybister (Scaphinectes) lateralimarginalis*, Obedin, Romania, dimensions, food.

**Rezumat. Date preliminare privind prezența speciei *Cybister (Scaphinectes) lateralimarginalis* (DEGEER 1774) (Insecta: Coleoptera: Dytiscidae) în fauna entomologică a județului Dolj (România).** Lucrarea de față introduce în circuitul informațional date noi privind prezența speciei *Cybister (Scaphinectes) lateralimarginalis* în fauna entomologică a județului Dolj. De asemenea, aduce noi date privind regimul trofic al speciei crescută în captivitate. Au fost studiați 24 indivizi colectați în perioada aprilie – iunie, 2012 din Balta Obedin (satul Obedin, comuna Breasta, județul Dolj). Cei 24 de indivizi (20 masculi și 4 femele) au fost ținuți în acvariu pentru observații. Exemplele analizate în prezentul material și cele care vor fi colectate în toamnă (2012) vor fi investigate în vederea depistării eventualelor paraziți.

**Cuvinte cheie:** date noi, răspândire, *Cybister (Scaphinectes) lateralimarginalis*, Obedin, România, dimensiuni, hrană.

### INTRODUCTION

This paper aims at introducing the scientific information new data on the presence of species *Cybister (Scaphinectes) lateralimarginalis* in Dolj county fauna. The species belongs to the family Dytiscidae, superfamily Dytiscoidea. The work aims at bringing new data regarding the trophic regime of the species grown in captivity.

The species *C. (Scaphinectes) lateralimarginalis* is one of water beetles, which is an important part of aquatic food chains and it is a significant bioindicator of the quality of water and quality of the ecosystem (ŠTASTNÝ & TRÁVNÍČEK, 2000).

*Cybister (Scaphinectes) lateralimarginalis* beetle is a native Palearctic species (including Europe), Middle East and North Africa (Table 1). In Europe, it is found only in Austria, Balearic Islands, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Corsica, Crete, Croatia, Cyprus, Czech Republic, Denmark continental Dodecanese Islands, mainland France, Germany, Greek mainland, Hungary, Italy mainland, Kaliningrad, Latvia, Luxembourg, Macedonia, Poland, mainland Portugal, Romania, Russia (excluding North and North-West), Sardinia, Sicily, Slovakia, Slovenia, mainland Spain, Sweden, Switzerland, Netherlands, Ukraine, and Yugoslavia (ŠTASTNÝ & TRÁVNÍČEK, 2000).

Table 1. The worldwide distribution of *Cybister (Scaphinectes) lateralimarginalis*. /  
Tabel 1. Răspândirea speciei *C. (Scaphinectes) lateralimarginalis* la nivel mondial.

No.	Absent
1	Afro-tropical region
2	Australian region
3	Nearctic region
4	Neotropical region
5	Oriental region

The analysed specimens were collected from Obedin pool situated in the village Obedin, Breasta commune, Dolj County, Romania. Obedin village is located 20 kilometres from Craiova and the geographical coordinates are 44°21'55"N 23°41'23" E. The aquatic ecosystem from which specimens were collected is outside the village and dislocated on the right of the road to the village. On the right side of pond, there is located the farmland and forest Geanovu, and on the left, it is Obedin Hill covered by a forest of *Quercus* species (*Quercus robur*, *Q. cerris*, *Q. frainetto*). The pond is covered with floating vegetation and has flooded the depression areas with fixed hydrophilic vegetation (*Typha angustifolia*) with reduced waterflow partially covered with fixed vegetation and plant species, such as *Iris pseudacoccus*, *Potamogeton nutans*, *Spyrogyra*, etc. (Fig. 2).

So far, the distribution (occurrence) of this species within Dolj has not been studied. The species was first mentioned in Dolj county fauna in 1928 (MARCUS, 1928). Subsequently, it was mentioned sporadically in specialty papers (FIRU, 1982; BOBÎRNAC *et al.*, 1999; CHIMIȘLIU, 2008).



Figure 1. Obedin Pond (Google Earth). / Figura 1. Balta Obedin (Google Earth).



Figure 2. Obedin Pond. / Figura 2. Balta Obedin (original).

The first work of synthesis on the family that centralized Dytiscide references in the literature and data processing the heritage preserved in the Department of Natural Sciences Museum of Oltenia Craiova MOGOȘEANU was published (2010). The Heritage Section of Natural Sciences identified 25 specimens that were collected between 1951 and 2001 from five collecting sites in Dolj County – Bistreț, Ciuperceni, Craiova, Desa and Rast.

### MATERIAL AND METHODS

The material was collected from Obedin Pond in the period March-June 2012. Collectings began in the second half of March 2012, during which the average water temperature reached 9°C and air temperature ranged between 17 and 23°C. The water temperature in the four months had different values (Table 2).

In the month with lower temperatures (March), individuals were active throughout the day, while in the months with higher temperatures, they were more active in the morning and evening; they came to feed (~ 5.30-9.00 am and ~5.00-8.00 pm). The pond water temperature ranged between 9 and 23°C. Since July, the vegetation has greatly increased which made it very difficult to detect and collect specimens, as adults were hiding under the leaves of cattail (*Typha angustifolia*).

Samples were collected using fishing net and by hand (rare); most of the samples were collected in April as the water front vegetation was less developed and specimens could be easily observed (Table 3).

Table 2. Water temperature in the months of sampling months. / Tabel 2. Temperatura apei în lunile de colectare.

No.	Month	Temperature
1	March	9°C
2	April	16°C
3	May	18°C
4	June	23°C

Table 3. Numerical variation of specimens during March-June 2012. / Tabel 3. Variația numerică a exemplarelor în perioada lunilor martie-iunie 2012.

No.	Months (2012)	Frequency
1	March	2
2	April	12
3	May	6
4	June	4
	<b>Total</b>	<b>24</b>

Samples collected were transported in plastic containers with water and transferred into the aquarium with water from Obedin Pond. The water was changed twice a week during the colder period and every two days during the warmer period. In the last period (June 11-30) I used tap water, bugs adapting easily. Tap water temperature is between 24 and 26°C.

The determination was made according to REITTER (1908). The used nomenclature and the systematics are according to Fauna Europea.

To observe the feeding behaviour of the individuals, the collected adults were brought to the aquariums where they were fed with aquatic gastropods (*Lymnaea stagnalis*, *Cepaea* sp., *Viviparus* sp.), a species of terrestrial gastropods (*Helix pomatia*) and bits of pork sausage.

### RESULTS

A total of 24 individuals were collected in spring 2012, mostly in April. A few specimens were collected in March and most in April (Fig. 3). In total 24 specimens were collected, of which twenty males and four females (Fig. 4).

From measurements made from the collected material, we found that male body length is between 3.0 and 3.4 cm, while females are smaller with body length ranging from 2.9 to 3.0 cm (Tables 3 and 4, Fig. 5). In the consulted literature (IONESCU & LĂCĂTUȘU, 1964) general dimensions of specimens are between 3 and 4 cm.

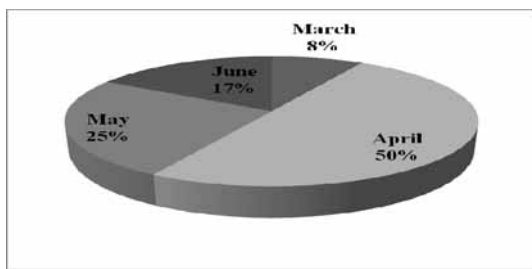


Figure 3. Variation of the number of individuals collected in 2012. /  
Figura 3. Variația numărului de indivizi colectați în 2012.

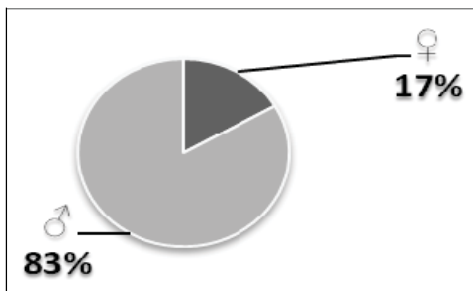


Figure 4. Percentage ratio between *C. lateralimarginalis* ♀ and ♂. /  
Figura 4. Raport procentual între *C. lateralimarginalis* ♀ și ♂.



Figure 5. The body length in *C. lateralimarginalis* ♂. /  
Figura 5. Lungimea corpului la *C. lateralimarginalis* ♂ (original).

Table 3. Variation of the body length of specimens of *C. lateralimarginalis*-♂. /  
Tabel 3. Variația lungimii corpului a exemplarelor de *C. lateralimarginalis*-♂.

No.	<i>C. lateralimarginalis</i> - male	Body size	<i>C. lateralimarginalis</i> - male	Body size
1	♂1	3.1 cm	♂11	3.3 cm
2	♂2	3.0 cm	♂12	3.1 cm
3	♂3	3.2 cm	♂13	3.2 cm
4	♂4	3.4 cm	♂14	3.1 cm
5	♂5	3.3 cm	♂15	3.3 cm
6	♂6	3.1 cm	♂16	3.1 cm
7	♂7	3.2 cm	♂17	3.3 cm
8	♂8	3.0 cm	♂18	3.0 cm
9	♂9	3.1 cm	♂19	3.0 cm
10	♂10	3.0 cm	♂20	3.2 cm
<b>Average size ♀: 3.0 – 3.4 cm</b>				

Table 4. Variation of the body length of specimens of *C. lateralimarginalis*-♀. /  
Tabel 4. Variația lungimii corpului la exemplarele de *C. lateralimarginalis*-♀.

No.	<i>C. lateralimarginalis</i> - female	Body size
1	♀1	3.0 cm
2	♀2	2.9 cm
3	♀3	2.9 cm
4	♀4	3.0 cm
<b>Average size ♀: 2.9 – 3.0 cm</b>		

In terms of food regime, beetles have consumed both aquatic (*Lymanea stagnalis*, *Cepaea* sp., *Viviparus* sp.) and terrestrial snails (*Helix pomatia*) (Fig. 5). Interestingly, although the species *Helix pomatia* is not an aquatic species, it represented the food for *C. lateralimarginalis* for a week. During four days, *C. lateralimarginalis* was fed on pieces of pork sausages and they accepted it without any problem (Fig. 6).



Figure 5. *C. lateralimarginalis* feeding on snails, *Viviparus* sp. /  
Figura 5. *C. lateralimarginalis* hrănindu-se cu melc acvatic (*Viviparus* sp.) (original).



Figure 6. *C. lateralimarginalis* feeding on pig sausages. /  
Figura 6. *C. lateralimarginalis* hrănindu-se cu o bucată de cârnaț de porc (original).

### CONCLUSIONS

A total of 24 individuals were collected in spring 2012, mostly in April, when aquatic vegetation is dry and less developed, and the individuals are easier to detect. A few specimens were collected in March and most in April.

The number of collecting sites known in Dolj rises to 5-6, our research bringing new data on the species occurrence in Dolj county, by signalling a new collecting site.

It also brings new data on the trophic regime of the species grown in captivity.

#### ACKNOWLEDGEMENTS

Thanks to Mrs. PhD. Chimişliu Cornelia for guidance and patience and Mr. Prof. PhD. Varvara Mircea and Mr. Prof. PhD. Derunkov Alexander for precious guidances. I would kindly thank to Ionică Sorin Daniel, who supported me and contributed consistently and continuously at all stages of the scientific observations.

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Received: March 28, 2012  
Accepted: August 20, 2012