

## ISOPODA: ONISCIDEA

### B. SKET\*

Oniscidea are essentially a terrestrial group. Most troglobitic species belong to the family Trichoniscidae, the only family whose representatives also occur more or less regularly in cave waters.

Some epigean (or troglphilous) species are amphibious. However, in caves they have been found only in moist entrance habitats and never in water basins (*Ligidium* spp. e.g.). All species, found in cave waters, are completely depigmented and eyeless, true troglobites apparently bound to cave habitats. Unfortunately deciding which species are truly aquatic can be problematic. Only two (*Cantabroniscus primitivus*, *Typhlotricholigioides aquaticus*) seem to be completely bound to aquatic habitats. They belong to the most primitive type of the family (Vandel 1966). The *Mexiconiscus* spp. apparently live on land only as juveniles and are aquatic as adults. The same should be true for some *Brackenridgia* spp., meanwhile other *Brackenridgia* spp. and *Bureschia bulgarica* enter water just slightly more regularly than some trichoniscids of the Dinaride caves. The listed *Titanethes* spp. and *Illyrionethes* spp. are true terrestrial animals, but they are often found in water, where they sometimes even seek refuge when disturbed. *Brackenridgia bridgesi* can remain submerged "indefinitely" (Reddell) and *Titanethes albus* survived underwater for 9 months, when forced so (Potočnik). Only in

Mexico do the Oniscidea seem to be sometimes important as biomass in water habitats.

No study has been carried out up till now on the ecology or distribution of Oniscidea in cave waters. It is very probable that some data are still hidden in descriptions of caves and in other similar papers. In taxonomic papers the habitat is unfortunately seldom described. Since the epigean members of the family Ligiidae show some apparent tendency towards an amphibian life, it is very probable that their troglobitic relatives from Krym (Crimea) and from Kavkaz (Caucasus) have the same amphibiotic habits.

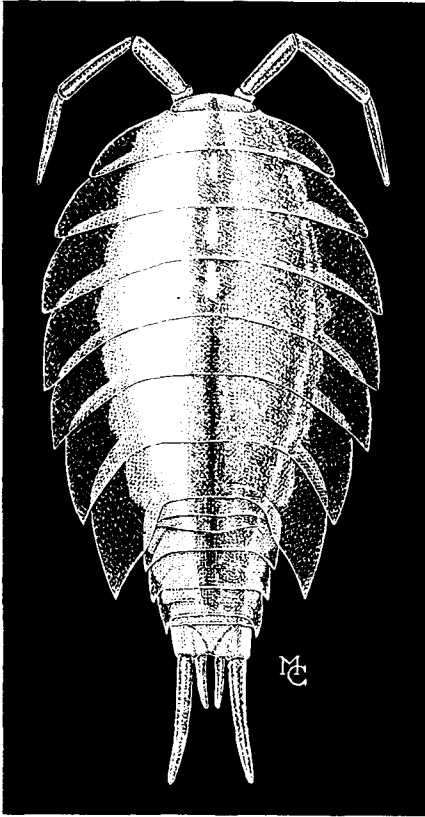
This compilation could not have been realized without personal communication with J. Reddell (Austin), F. Potočnik (Ljubljana), and R. Argano (Roma).

#### KEY REFERENCES

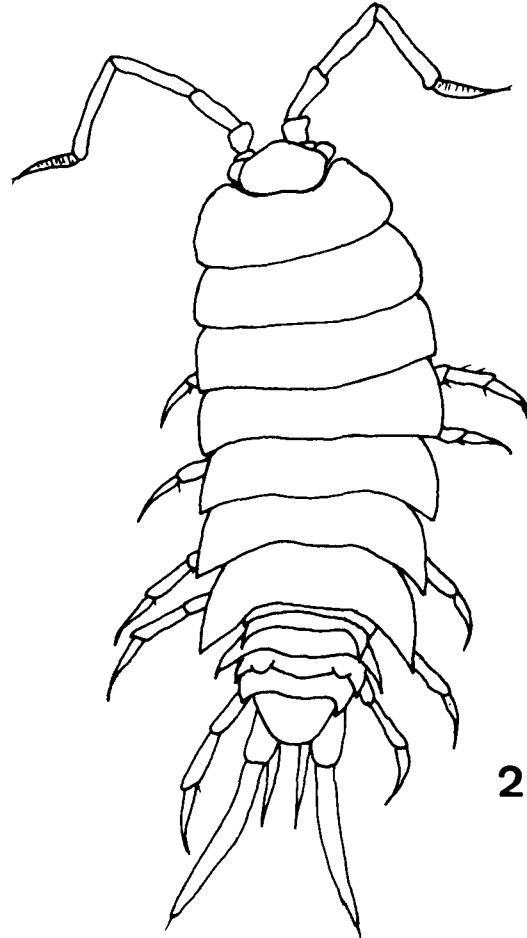
- There are no comprehensive papers concerning the amphibiotic species. Vandel (1965) deals with the two known true aquatic species.
- Vandel A., 1965. Sur l'existence d'Oniscoides très primitifs menant une vie aquatique et sur le polyphylétisme des Isopodes terrestres. — Ann. Spéléol., 20 (4): 489-518.
- , 1970. Un troisième Oniscoïde cavernicole menant une vie aquatique: *Mexiconiscus laevis* (Rioja). — Ann. Spéléol., 25 (1): 161-171.

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1: *Cantabroniscus primitivus*, ♂, 12 mm (from Vandel 1966); 2: *Titanethes albus* (drawing by F. Potočník).

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	Trichoniscidae Sars, 1899		
	<b>Cantabroniscus</b> Vandel, 1965		
1	primitivus Vandel, 1965	I 3 (W): 13 caves in Cordillera Cantabrica (prov. Santander, prov. Vizcaya), Spain.	A (B)
	<b>Scotoniscus</b> Racovitza, 1908		
2	macromelos Racovitza, 1908	I 3: N slopes of Pyrenees.	A (amph.)
	<b>Titanethes</b> Schioedte, 1849		
	sg. <b>Titanethes</b> Schioedte, 1849		
3	albus Schioedte, 1849	I 5a: westernmost parts of Venezia Giulia; I 7a: S of Ljubljana; I 7b: around Trieste; I 7c: in NW (Tounj).	A (amph.)
4	dahli Verhoeff, 1926	I 5a: around Gorizia and Trieste; I 7a: extreme SW (N. Gorica — Divača); I 7b: northern parts; I 7c: NW parts (Gorski kotar).	A (amph.)
5	biseriatus Verhoeff, 1900	I 7d: SE parts.	A (amph.)
	sg. <b>Cyphonethes</b> Verhoeff, 1926		
6	hercegovinensis Verhoeff, 1900	I 7c: extreme E (Pelješac Peninsula is westernmost point). I 7d: extreme SE (Nevesinjsko polje is northernmost point).	A (amph.)
	<b>Alpioniscus</b> Racovitza, 1908		
	sg. <b>Illyrionethes</b> Verhoeff, 1927		
7	bosniensis Frankenberger, 1939	I 7c (SE): around Biokovo Mtn., and Vrgorac; I 7d (S): Duvno to Neretva River.	A (amph.)
8	heroldii Verhoeff, 1931	I 7c: extreme SE (near Dubrovnik); I 7d: extreme SE (Dabarsko polje is northernmost point).	A (amph.)
	sg. <b>Macedonethes</b> Buturović, 1955		
9	skopjensis Buturović, 1955	I 9b (W): Treska near Skopje.	T (amph.)

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	<b>Bureschia</b> Verhoeff, 1926		
10	bulgarica Verhoeff, 1926	I 9a (W): cave Temnata dupka, and cave Vodnata dupka (Bulgaria).	A (C) (amph.)
	<b>Typhlotricholigioides</b> Rioja, 1953		
11	aquaticus Rioja, 1953	VII 1: cave Cueva del Ojo de Agua Grande (at Cordoba, Veracruz).	A (B)
	<b>Brackenridgia</b> Eigenmann et Ulrich, 1902		
12	bridgesi (Van Name, 1942)	VII 1: in Sierra de El Abra and Sierra de Guatemala Mts. (San Luis Potosi and Tamaulipas).	A (amph.)
	undefined taxa	VII 1: Mexico.	A (amph.)
	<b>Mexiconiscus</b> Schultz, 1964		
13	laevis (Rioja, 1956)	VII 1: Xilitla and Aquismon regions (San Luis Potosi).	A (amph.)
14	sp.	VII 1: in Purificación area (Tamaulipas).	A (amph.)
	<b>Trichoniscoides</b> Sars, 1899		
15	mixtus Racovitza, 1908	I 4/II 4: caves in French Jura.	A (amph.)

## NOTES

In the tables "amph." means "amphibiotic".

2: numerous "subspecies".

*Brackenridgia*: incl. *Protrichoniscus*

*Mexiconiscus*: = *Xilitloniscus* Bowman, 1965.

14: Reddell, in litt.