

A New Occurrence of *Urnatella gracilis* Leidy (Kamptozoa) in Hungary

By

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On the shell of a freshwater mussel (*Anodonta cygnea* L.) found in the Öreg Lake near Bánhida (Tatabánya) on October 14, 1966, colonies of *Urnatella gracilis* LEIDY were observed in great masses (Table I, Fig. 1). These colonies covered the dorsal part forming a thick coating between the hinge ligamentum and the sypho, on the exposed surface sticking out of the mud.

As is well known, *Urnatella gracilis* was discovered in North America. In Europe it was first found in the Meuse River, Belgium (DAMAS, 1939) and nowadays is known to occur only in a few places: Roumania, Greaca swamp (BĂCESCU, 1954); Soviet Union, the lower reaches of the Dniestr (ZAMBRI-BORSHCH, 1958); Germany, Berlin-Spandau (LÜDEMAN and KAYSER, 1961); Soviet Union, the middle reaches of the Don (SKLYAROVA, 1962).

Its first occurrence in Hungary was described by KOLOSVÁRY and ABRI-COSSOV (1960) after finds in the river Tisza near the towns of Szeged, Szolnok and Tiszafüred. Recently (1964 a, b, 1966) KOLOSVÁRY reported some further occurrences from the water system of the river Tisza. Along the Hungarian Danube it was first observed by SEBESTYÉN (1962) in a waterworks connected with the river (Dunaújváros, Dunai Vasmű). The new discovery of the authors appears to be of great interest, not only for being a second occurrence along the Hungarian Danube, but rather for its turning up also in a lake used as industrial water. There is, however, a difference between the origin of these kinds of water; the water reservoir of Dunaújváros is supplied with pumped water from the Danube, while Öreg Lake of Bánhida is a natural lake with an outlet to the Danube.

It must be pointed out that the occurrence of *Urnatella gracilis* at Bánhida is the greatest distance from the Danube valley (therefore directly connected with the Black Sea) that this species is known to have travelled since Öreg Lake is located about 25 km from the Danube, its outlet being through the Által-ér (a reel, Fig. 1).

The Öreg Lake at Bánhida covers about 120 acres with reedy, shallow water

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along its banks. At places it measures 2 metres deep, its bottom being covered with mud containing a great amount of *Anodonta cygnea* L. Large quantities of phytoplankton found in the lake make the water look greenish. The lake is frequently visited by migratory birds too. It has been and is still considered an excellent water for angling. At present this water is used by the power station of Tatabánya for cooling. *Urnatella gracilis* settles in great masses not only on shells of freshwater mussels, but also on shells of *Viviparus*, reed, submerged objects (wood and iron piles) forming a coating together with freshwater sponge and Bryozoa. The sessoblasts of the latter may be found among the colonies. As with the occurrence at Dunaújváros described by SEBESTYÉN (1962), large quantities of *Dugesia tigrina* GERARD were found in this lake too.

As regards the morphology of colonies, it was found that one or two stalks arise from the basal disks (Fig. 2:2) which, in the great majority of cases, are straight, of 6—10 segments and with occasional branching. There were only a few calyces observed on freshly collected colonies. After keeping them at room temperature for some days a great number of calyces appeared on the stalks, two or three, even four on one stalk.

A number of young colonies were observed in the *Urnatella*-coating which, in their external morphology (length, segmentation, colour) manifest marked differences from the older ones. Stalks in most cases consist only of 1—3 segments with thin septum, and show no branching. Their cuticula is transparent and light in colour, their length only one fourth or one third of that of full-grown stalks. On the top of each stalk there is a fully developed calyx; always one calyx to one stalk (Fig. 2:3). The younger colonies showed great similarity of shape to those published by SKLYAROVA (1962, p. 1890). From this it may be assumed that the colonies discovered by SKLYAROVA were probably young, and it is for this reason that the stalks were not found to be segmented or showed only initial segmentation.

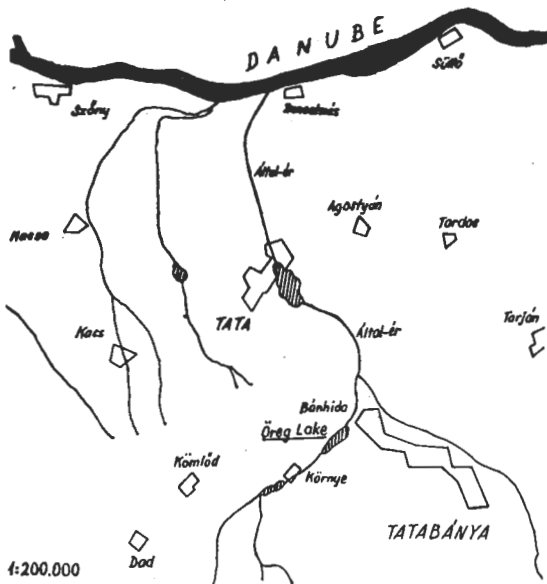


Fig. 1. Geographical site of Öreg Lake

It is interesting to note that when a mussel, with its shell covered with *Urnatella*, was placed into a glass basin filled with water from Lake Balaton, and was kept at room temperature (about 20 °C) for several days, the first stages of stalk-branching was observed (Fig. 2:4).

It seems likely that *Urnatella gracilis* was introduced into Europe by trading ships. This is the way it appeared in the Black Sea too, where, as it has been suggested by SEBESTYÉN (1962), it developed a secondary centre. This theory seems to be corroborated by the fact, that occurrences of this species in Hungary, Roumania and the

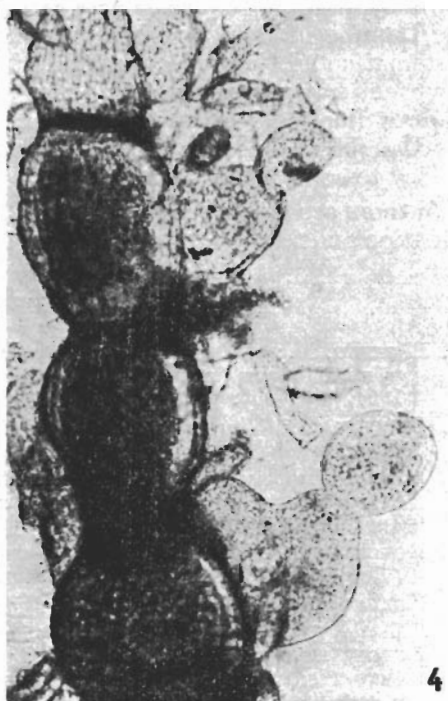
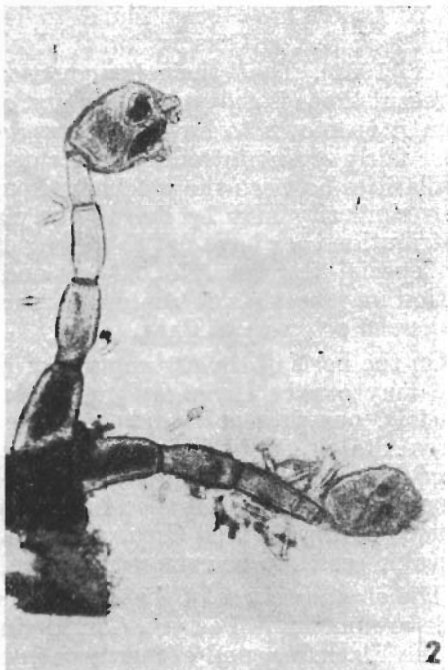
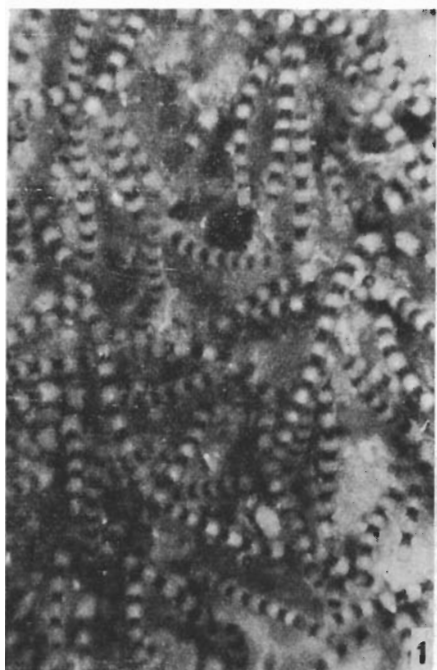


Fig. 2. *Urnatella gracilis* LEIDY. 1: the *Urnatella*-coating; 2: an isolated colony; 3: young stalk with calyx; 4: development of branches

Soviet Union have been found to be directly or indirectly connected with the Black Sea (BĂCESCU, 1954; KOLOSVÁRY and ABRICOSSOV, 1960; SEBESTYÉN, 1962). That their introduction into these countries took place only in recent times is shown by their first discovery by BĂCESCU in 1954 and since then it is known to have been found only in a few places. The probability of their fairly recent introduction seems to be strengthened also by the striking similarities between the specimens found as regards their external morphology. This similarity may be due to the circumstance that since the time of their distribution they have not lived long enough in the new environment to develop special features (KOLOSVÁRY and ABRICOSSOV, 1960). The other explanation may be that it represents such a cosmopolitan, euryoek species, as *Dreissena polymorpha* PALL.

On the basis of the assumption of KOLOSVÁRY and ABRICOSSOV (1960) that one may expect *Urnatella gracilis* to be found also in Czechoslovakia and Austria, our present finding may be considered as an intermediate report. Since Által-ér, supplying water for Öreg Lake, reaches the Danube near Dunaalmás and since *Urnatella gracilis* has been observed not only at Dunaújváros (SEBESTYÉN, 1962) but also in an upper part of the river, near the border between Hungary and Czechoslovakia, its occurrence in Austria and Czechoslovakia seems to be even more probable.

The circumstances of *Urnatella gracilis*'s appearance in Öreg Lake of Bánhida are not known as yet. Considering the existence of the secondary centre in the Black Sea, and occurrences in the Lower Danube and at Dunaújváros, one may suppose this river acts as a means of their spreading. In the bed of the Danube in Hungary, however, it has not so far been found in spite of systematic and thorough faunistic investigations (BERCZIK, 1966). As regards the exact way of the spreading of *Urnatella gracilis* it seems to be hazardous to draw final conclusions on the basis of the present three occurrences along the Danube at places so distant from each other, so further investigations are needed to solve the problem.

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