

FRESHWATER MOLLUSCS IN THE CZECH REPUBLIC

CURRENT STATUS AND RED LIST

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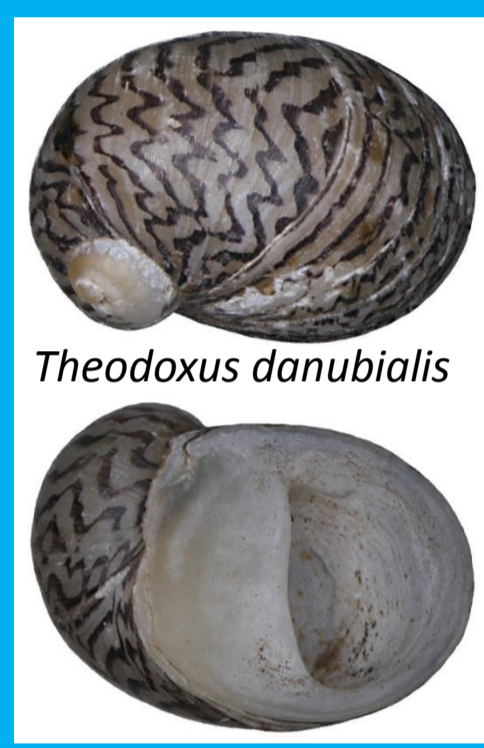
The Czech Republic is situated in the upper parts of the large river basins therefore there are no large watercourses with extensive lowlands or natural lowland lakes rich in habitats suitable for diverse freshwater molluscan assemblages. Nevertheless, the mollusc research in the Czech Republic has a long (ca 150 years) tradition. The intensive research of aquatic molluscs is under progress for last 25 years. Currently, the occurrence of 51 freshwater gastropods and 28 bivalves in the Czech Republic is known. The data amount allowed to assess a current species status and assembled Red Lists of threatened species. The first proposal of the mollusc Red List of the Czech Republic was created in 1995, while the last version of the Red List processed by IUCN criteria was published in 2017. In this last version **24 freshwater gastropods and 15 bivalves are listed in six categories – Regionally Extinct (2), Critically Endangered (8), Endangered (12), Vulnerable (10), Near Threatened (5) and Data Deficient (2)**. The rest of the species is considered as of Least Concern or Not Evaluated in the case of non-native species (8). The reasons 49% of all Czech freshwater species being listed there are especially in lack of natural rivers and their floodplains in lower altitudes.

For the protection of many species, sites of European interest have been announced within the Nature 2000 network and a nature reserves have been established. The national action plan for critically endangered freshwater pearl mussel (*Margaritifera margaritifera*) is being solved. There are currently two actual projects running to support its populations in the South Bohemian rivers – the Teplá Vltava River and the Malše River. The additional action plans for *Unio crassus* and *Anisus vorticulus* are considered. Other species of freshwater molluscs are protected rather locally or regionally in small nature reserves or within large protected areas.

BERAN L., JUŘIČKOVÁ L. & HORSÁK M., 2017: Mollusca (měkkýši). – In: *Red list of threatened species in the Czech Republic, Invertebrates*, HEJDA R., FARKAČ J. & CHOBOT K. (eds), Agentura ochrany přírody a krajiny ČR, Příroda, Praha, 36: 71–76.

Status of selected species from the Czech Red List of Molluscs 2017

| Species | Red List 2017 | Red List 2005 | IUCN Red List |
|-----------------------------------------------------|---------------|---------------|---------------|
| Gastropoda | | | |
| <i>Theodoxus fluviatilis</i> (Linné, 1758) | RE | RE | LC |
| <i>Theodoxus danubialis</i> (C. Pfeiffer, 1828) | CR | CR | |
| <i>Viviparus acerosus</i> Bourguignat, 1862 | EN | EN | LC |
| <i>Viviparus contectus</i> (Millet, 1813) | VU | VU | LC |
| <i>Alzoniella slovenica</i> (Ložek et Brtek, 1964) | VU | EN | LC |
| <i>Bythinella austriaca</i> (Frauenfeld, 1857) | NT | VU | LC |
| <i>Lithoglyphus naticoides</i> (C. Pfeiffer, 1828) | EN | EN | LC |
| <i>Bithynia leachii</i> (Sheppard, 1823) | EN | CR | LC |
| <i>Bithynia transsilvanica</i> (Bielz, 1853) | CR | RE | |
| <i>Valvata macrostoma</i> Mörch, 1863 | CR | CR | LC |
| <i>Stagnicola palustris</i> (O. F. Müller, 1774) | DD | VU | LC |
| <i>Ladislavella terebra</i> (Westerlund, 1885)* | CR | | |
| <i>Radix ampla</i> (Hartmann, 1821) | VU | NT | |
| <i>Myxas glutinosa</i> (O. F. Müller, 1774) | RE | RE | DD |
| <i>Aplexa hypnorum</i> (Linné, 1758) | VU | VU | |
| <i>Physa fontinalis</i> (Linné, 1758) | NT | NT | LC |
| <i>Planorbis carinatus</i> O. F. Müller, 1774 | EN | EN | |
| <i>Anisus septemgyratus</i> (Rossmässler, 1835) | EN | CR | |
| <i>Anisus spirorbis</i> (Linné, 1758) | VU | VU | |
| <i>Anisus vorticulus</i> (Troschel, 1834) | CR | CR | DD |
| <i>Gyraulus acronicus</i> (Férussac, 1807) | VU | EN | |
| <i>Gyraulus laevis</i> (Alder, 1838) | DD | NT | LC |
| <i>Gyraulus rossmaessleri</i> (Schmidt, 1852) | EN | CR | LC |
| <i>Segmentina nitida</i> (O. F. Müller, 1774) | VU | VU | |
| Bivalvia | | | |
| <i>Margaritifera margaritifera</i> (Linné, 1758) | CR | CR | EN |
| <i>Unio crassus</i> Philipsson, 1788 | EN | EN | EN |
| <i>Unio tumidus</i> Philipsson, 1788 | VU | VU | |
| <i>Anodonta cygnea</i> (Linné, 1758) | VU | VU | |
| <i>Pseudanodonta complanata</i> (Rossmässler, 1835) | EN | EN | VU |
| <i>Sphaerium nucleus</i> (Studer, 1820) | EN | EN | |
| <i>Sphaerium rivicola</i> (Lamarck, 1818) | NT | NT | VU |
| <i>Pisidium amnicum</i> (O. F. Müller, 1774) | EN | EN | |
| <i>Pisidium globulare</i> Clessin, 1873 | EN | CR | |
| <i>Pisidium hibernicum</i> Westerlund, 1894 | VU | VU | |
| <i>Pisidium milium</i> Held, 1836 | NT | NT | LC |
| <i>Pisidium moitessierianum</i> (Paladilhe, 1866) | EN | EN | |

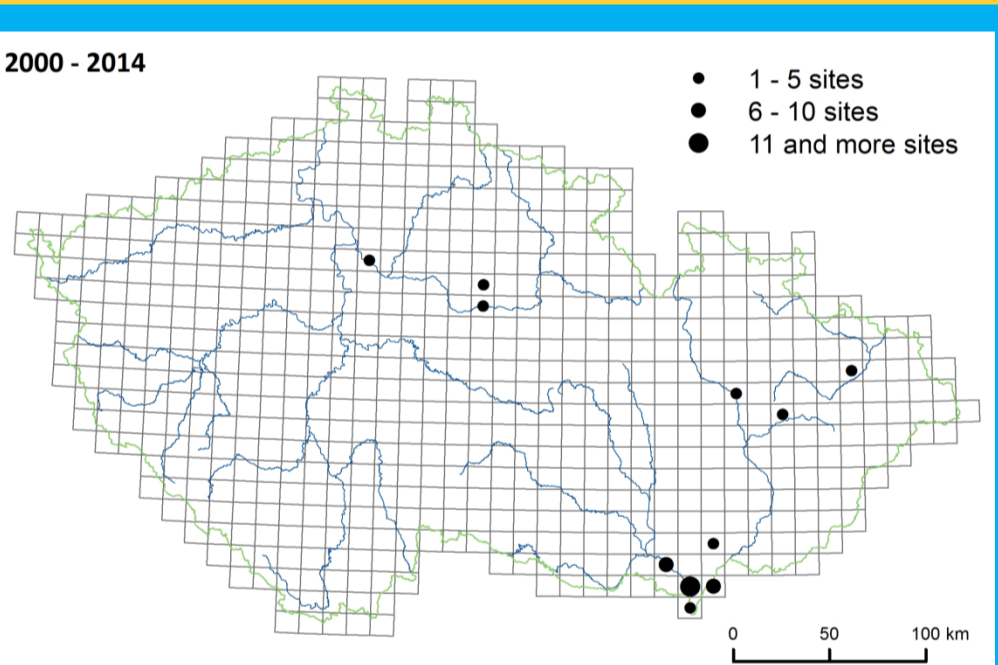


Theodoxus danubialis, *Viviparus acerosus*, *Lithoglyphus naticoides*, *Bithynia leachii*, *B. transsilvanica*

These species originally occur within the Czech Republic only in South Moravia (SE part of the Czech Republic). It is the main reason for their regional rareness. They are also threatened by pollution, eutrophication, regulation of watercourses and proposal of artificial canals connecting the Elbe River with the Odra River and Morava River.

Anisus vorticulus

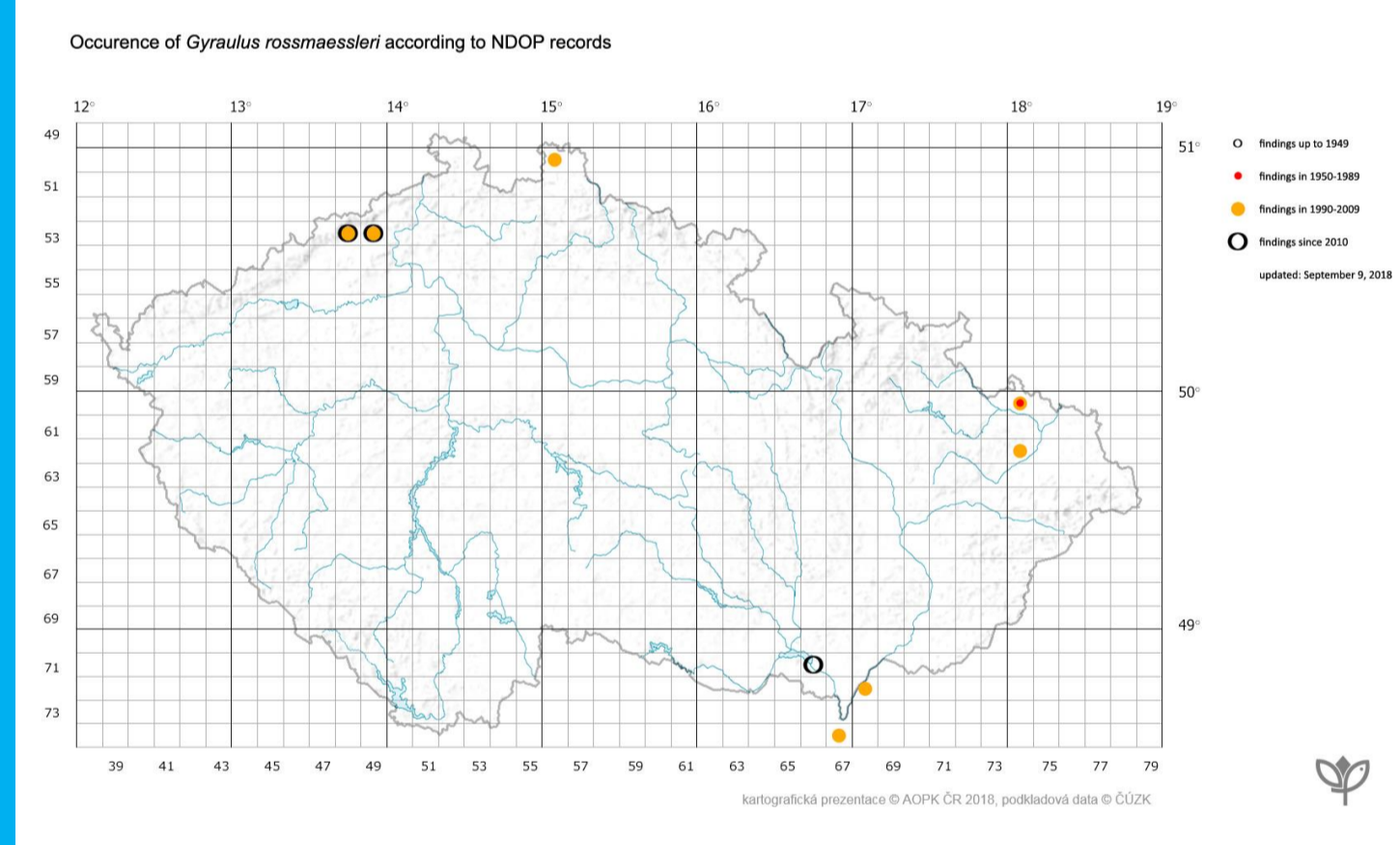
This gastropod has always been rare and in the Czech Republic. In most cases it inhabits smaller pools and oxbows mostly on the floodplains of the biggest Czech rivers. Stream regulation, eutrophication and the destruction of sites have gradually caused a considerable decrease in its population (Beran 2015). In the western part of the Czech Republic (Labe River basin) it has been near extinction.



BERAN L., 2015: Changes in the distribution of *Anisus vorticulus* (Troschel, 1834) (Gastropoda: Planorbidae) in the Czech Republic, monitoring and notes on habitat requirements – Folia Malacologica, 23(3): 211–223.
<http://dx.doi.org/10.12657/fofmal.023.020>

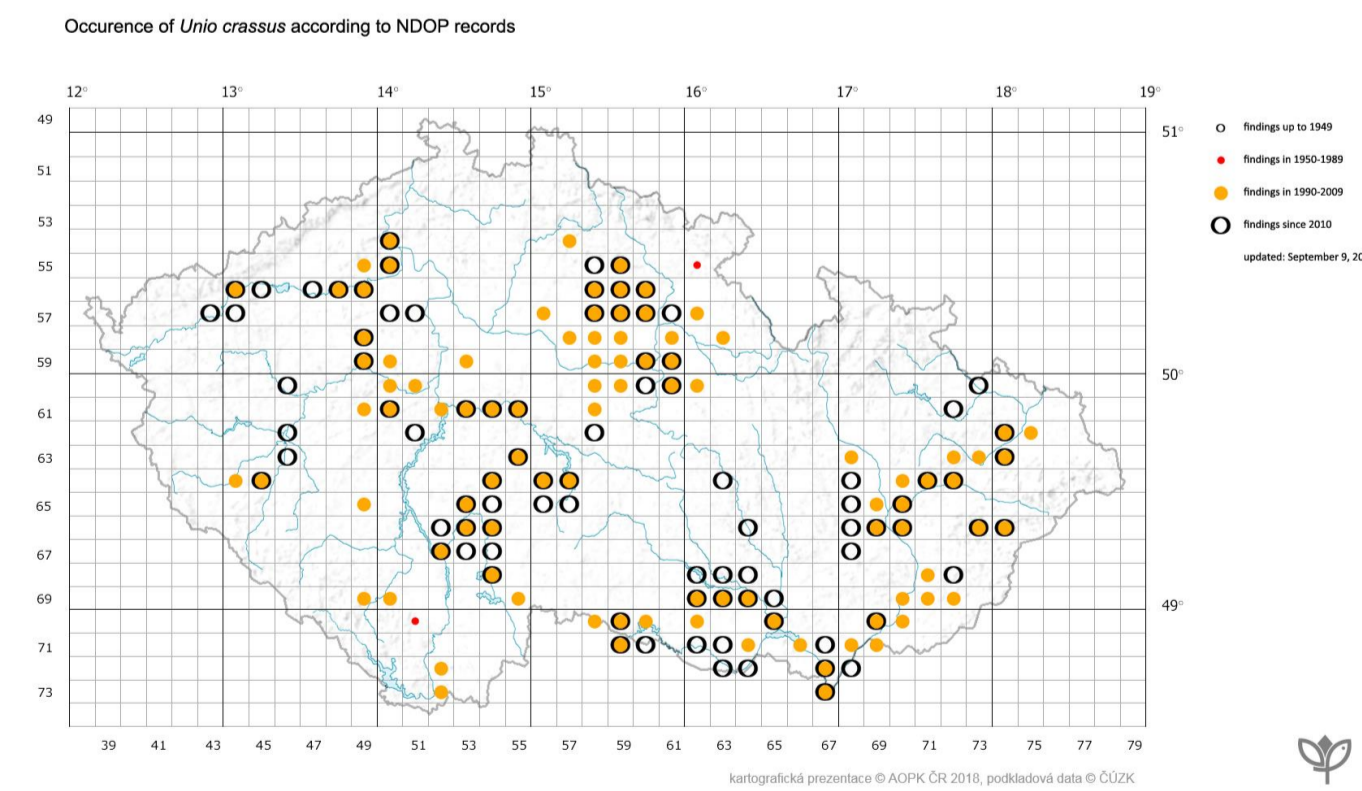
Gyraulus rossmaessleri

The European species that inhabits temporary wetlands. In the Czech Republic it is disappearing and rare species. Temporary wetlands are endangered habitats that have been changed or destroyed in last decades.



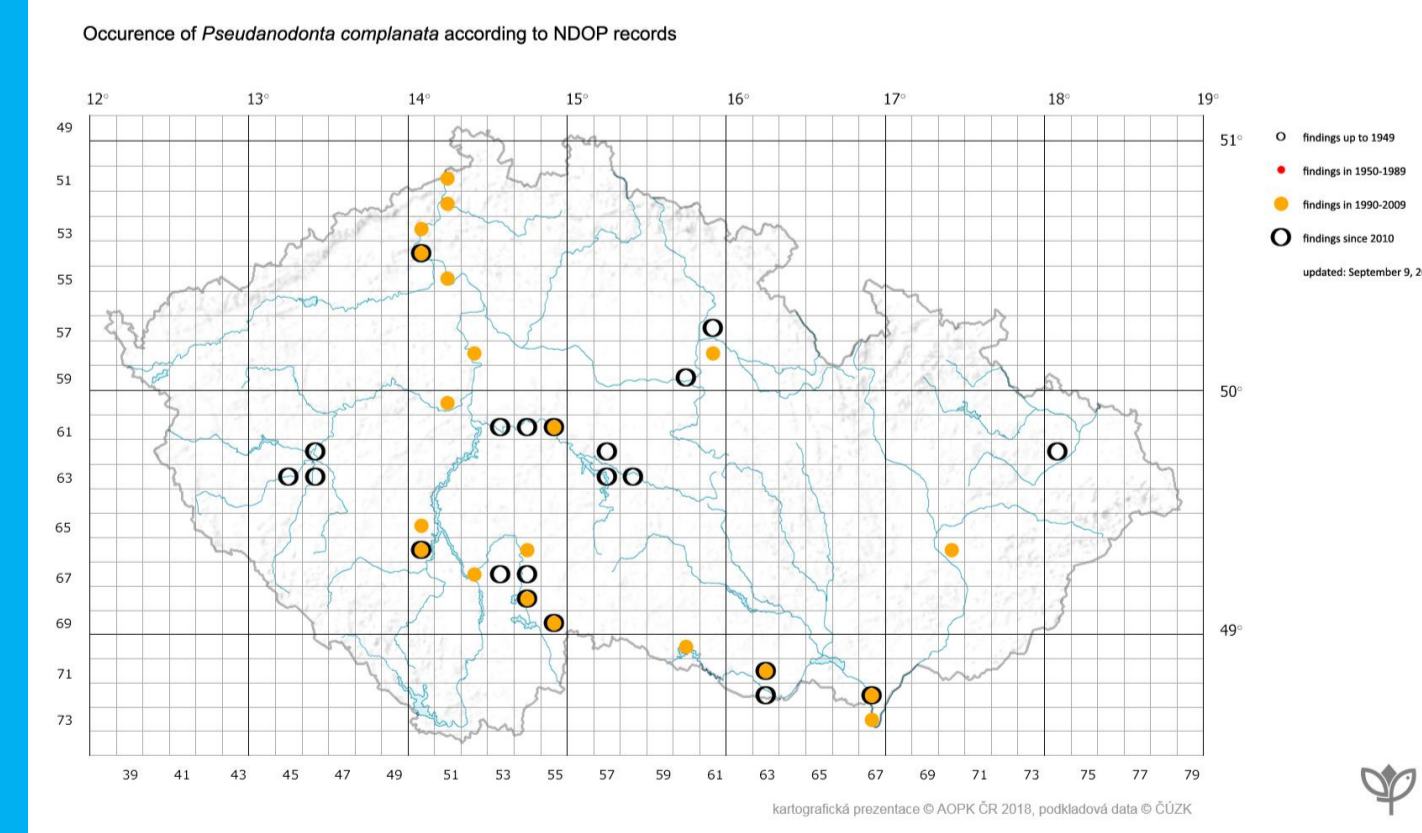
Unio crassus

Thick-shelled river mussel was the most common and widespread species of genus *Unio* in the past and farmers used this species as livestock feed (Uličný 1892–95). Drastic regulation, fragmentation and pollution of the watercourses are the main reasons for its decrease in the Czech Republic. More abundant populations exist only at several rivers, brooks and canals or their parts only. The predation by non-native mammals has negative impact especially on populations in smaller brooks.



Pseudanodonta complanata

Depressed river mussel is a bivalve with the most restricted area of distribution from all autochthonous species of family Unionidae in the Czech Republic. Its occurrence has been known in many rivers or their parts e. g. Elbe, Vltava, Radbuza, Úhlava, Berounka, Sázava, Orlice, Otava, Morava, Dyje, Odra and others (Beran 2013). Its actual occurrence is scattered and usually is the rarest unionid in our country. The extinction in the central section of the Elbe River has been documented. Major threats are the similar as in the case of *U. crassus*.



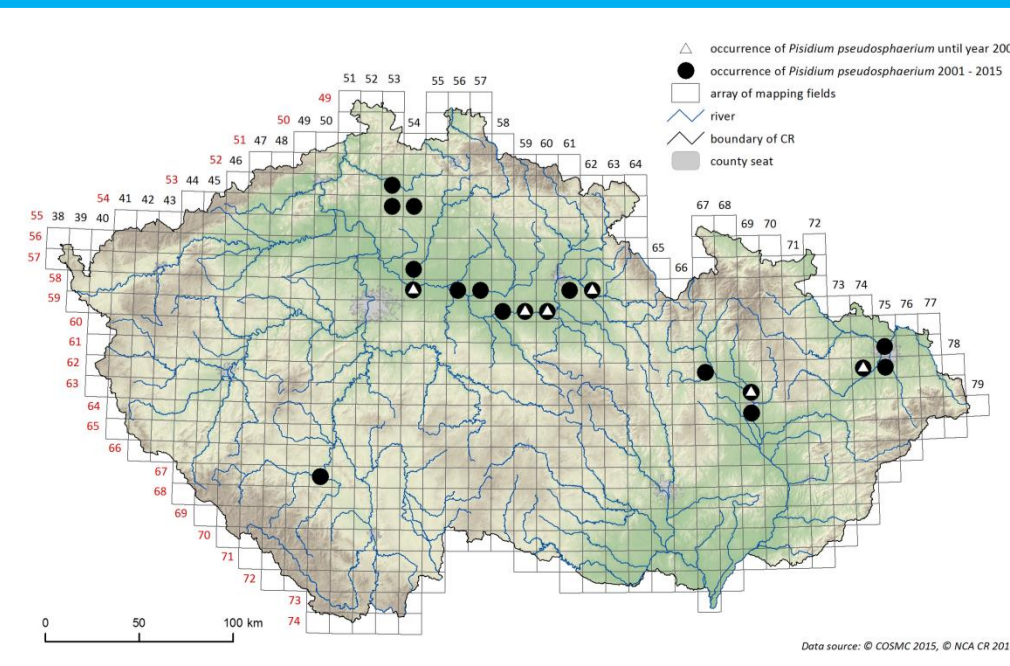
Pisidium amnicum

This pea mussel is still common and widespread in many European countries and was widespread probably also in the Czech Republic. Recently exist numerous populations only in several brooks, canals and smaller rivers and in many rivers it has been found only rarely and locally. Its rare occurrence shows poor status of our watercourses (drastic regulation, pollution, etc.).



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BERAN L. 2016: *Pisidium pseudosphaerium* Favre, 1927 (Bivalvia: Sphaeriidae) in the Czech Republic – rare or overlooked? – Folia Malacologica, 24(2): 57–62, DOI: 10.12657/fofmal.024.005

