
“*Pisidium zoctanum* Poli, 1876” (Mollusca, Bivalvia) – a ghost-taxon from the Crimean Karani-Koba Cave

Robert S. VARGOVITSH¹, Vitaliy V. ANISTRATENKO²

^{1, 2} I. I. Schmalhausen Institute of Zoology of NAS of Ukraine, 15, B. Khmel'nitsky Str., Kiev, 01601, UKRAINE

¹ Corresponding author. E-mail: arete@izan.kiev.ua

ABSTRACT. The nomen “*Pisidium zoctanum* Poli, 1876” was ambiguously used for some bivalve mollusk of the family Sphaeriidae inhabiting Karani-Koba Cave (Crimean Mountains, Karabi Massif). Literature and analysis of available museum material has shown that the nomen is not valid. This is due in part to the fact that this species has never been described and thus appears to be a ghost-taxon. To date, *Euglesa crimeana* Stadnichenko, 1980 is the only correctly established name for the sphaeriids from Karani-Koba Cave.

The name “*Pisidium zoctanum* Poli” first appeared without mentioning the year of species description in the 3rd volume of Animalium Cavernarum Catalogus by B. Wolf [1938: 695]. The name was used for the miniature bivalve mollusk of the family Sphaeriidae from Karani-Koba Cave¹. There are no literature references for this species mentioning in Wolf’s monograph, and thus it should be recognized as the original authorial. The next mentioning of this nomen in the combination “*Pisidium zoctanum* Poli, 1876” can be found in the book by V. Kniss [2001: 56, 104] with the reference to Wolf’s Catalogue. Moreover, it is stated that this species is a troglophilic inhabitant of the Karani-Koba Cave. Lastly, “*Pisidium zoctanum* Poli, 1876” appeared in the publication of V. Anistratenko [2004: 45, 46] with the reference to V. Kniss [2001] but this time it was classified as a troglobiont species. No other publications with the name “*Pisidium zoctanum*” have been found.

The first step in the search for the origin of the nomen “*Pisidium zoctanum*” was an attempt to find the original description of this species in the works of Giuseppe Saverio Poli (years of life: 1746-1825) as his authorship was claimed by above cited re-

searches. The work of G. Poli was published in four volumes, devoted to Sicilian mollusks, between 1791-1827. “*Cardium casertanum*” (currently belonging to the genus *Pisidium* Pfeiffer, 1821²) appeared in the first volume, within the explanation of plate 16 [Poli, 1791: 68]; proper description was provided in the second volume [Poli, 1795: 65]; illustration was given in plate 16 of the Atlas (1791-1796), which was arranged as a separate fourth volume. No other names spelled similarly to “*zoctanum*” are present in this monograph. The combination “*Pisidium zoctanum* Poli, 1876” is obviously erroneous as a publication as “Poli, 1876” does not exist.

Taking into consideration that neither original description nor correct introduction of the nomen “*Pisidium zoctanum*” into taxonomic use have been found we explored other literature sources containing data on bivalves from Karani-Koba Cave. We found two relevant publications.

Firstly, in I. Pusanow’s article on Crimean mollusks it is noted that the sample from Karani-Koba Cave was identified by V.A. Lindholm, but only as *Pisidium* sp. [“Сбор из Карани-Хоба, определен В.А. Линдхольмом лишь как *Pisidium* sp.”] [Pusanow, 1926(1925): 118]; thus no species name of sphaeriids from this cave was given. Secondly, and much later, the new species *Euglesa crimeana* Stadnichenko, 1980 was described. The author informs (page 31): “Holotype under No. 1 is kept in the collection of Zoological Institute of Academy of Science of the USSR. Type locality: Karani-Khoba Cave. Collected by V.A. Lindholm” [“Толотип под No. 1 хранится в коллекции Зоологического института АН СССР. Типовое местонахождение: пещера Карани-Хоба. Сбор В.А. Линдхольма”] [Stadnichenko, 1980].

¹ Karani-Koba (old spelling Karani-Khoba) is situated on the northern part of Karabi Massif. According Kruber [1915] it is located at 985 m a.s.l., has a huge hall 64 x 30 m and up to 25 m in high. There are some pools there from which mollusks could be collected.

² Some systematics arrange the group of minute sphaeriids similar to “*casertanum*” to the genus *Euglesa* Leach in Jenyns, 1832, where subgenus *Casertiana* Fagot, 1892 with type species *Cardium casertanum* Poli, 1791 is detached [e.g. Pirogov, Starobogatov, 1974; Korniushev, 1996].

Apart from the literature sources we reviewed labels and museums catalogues concerning bivalve mollusks collected in Karani-Koba Cave. Such materials are preserved in the collections of Zoological Institute of RAS (St.-Petersburg) and V.I. Vernadsky University (Simferopol).

The content of labels and corresponding catalogue cards from Zoological Institute of RAS is given below (hand-writing is marked in **bold**; translated version in square brackets; strikethroughs are given accordingly to the original catalogue cards; no any spelling corrections were made by authors):

1) *Pisidium*

Label

“Collectio W. A. Lindholm. *Pisidium*. **Karani-Choba (Höhle)**. Fauna Taurica. **Krim**.”

2) *Pisidium casertanum*

Label

“№ 359-1935 г. Зоол. Инст. АН. № 268. *Pisidium casertanum* (Poli). Опр. **Куйпер**. Сбор. **Линдгольм. Крым. Пещера Карани-Хоба**”.

[“No 359-1935 Zool. Inst. AS. No 268. *Pisidium casertanum* (Poli). Det. **Kuiper**. Leg. **Lindholm**. **Crimea. Karani-Khoba Cave**”].

Catalogue card

“Зоол. Инст. А. Н. Пресноводн. жив. *Pisidium casertanum* (Poli). Лист № 21. №№ по порядку: 268. Число экз. Сухих: 1/2. Место сбора: **Крым. Пещера Карани-Хоба**. Коллектор: **Линдгольм**. Кто определил: **Куйпер**. Отметка: 359-1935 г.”.

[“Zool. Inst. AS. Freshwater animals. *Pisidium casertanum* (Poli). Sheet No 21. No: 268. Number of specimens. Dry: 1/2. Locality: **Crimea. Karani-Khoba Cave**. Leg.: **Lindholm**. Det.: **Kuiper**. Note: 359-1935.”]

3) *Euglesa crimeana*

Label

“Зоол. Инст. АН. №1. *Euglesa crimeana*. Опр. **Я.И. Старобогатов**. Сбор **В.А. Линдгольма. Крым. Пещера Карани-Хоба**”.

[“Zool. Inst. AS. No 1. *Euglesa crimeana*. Det.: **Ya.I. Starobogatov**. Leg.: **V.A. Lindholm**. **Crimea. Karani-Khoba Cave**”].

Catalogue card

“Зоологический институт АН СССР. Морек и пресноводн. жив. *Euglesa crimeana* Stadn. Лист № _____. №№ п/п: Лектотип 1. Число экз. Сухих: 1/2. Место сбора: **Крым, пещера Карани-Хоба**. Коллектор: **В.А. Линдгольм**. Кто определил: **А.П. Стадниченко**. №№ р/р: Паралектотип 2. Число

экз. Сухих: 1/2. Место сбора: -//-/. Коллектор: -//-/. Кто определил: -//-”.

[“Zoological Institute AS USSR. Freshwater animals. *Euglesa crimeana* Stadn. Sheet No _____. No: Lectotype 1. Number of specimens. Dry: 1/2. Locality: **Crimea, Karani-Khoba Cave**. Leg.: **V.A. Lindholm**. Det.: **A.P. Stadnichenko**. No: Paralectotype 2. Number of specimens. Dry: 1/2. Locality: -//-/. Leg.: -//-/. Det.: -//-”].

4) *Euglesa eichwaldi*

Label

“359-1935. Зоол. Инст. А. Н. №4. *Euglesa eichwaldi* Stad. et Star. Опр. **Корнюшин А., Старобогатов**. Сбор **Линдгольм. Крым. Пещера Карани-Хоба**”.

[“359-1935. Zool. Inst. A. S. No 4. *Euglesa eichwaldi* Stad. et Star. Det. **Korniushin A., Starobogatov**. Leg. **Lindholm**. **Crimea. Karani-Khoba Cave**”].

Catalogue card

“Зоологический институт АН СССР. Морек и пресноводн. жив. *Euglesa eichwaldi* Stadnichenko. Лист № _____. №№ п/п: 2. Число экз. Сухих: 1/2. Место сбора: **Крым, пещера Карани-Хоба**. Коллектор: **В. Линдгольм**. Кто определил: **А.П. Стадниченко**. Отметка: **Материал стоит на E. crimeana N2**. №№ п/п: 4. Число экз. Сухих: 2. Место сбора: **Крым, пещера Карани-Хоба**. Коллектор: **Линдгольм**. Кто определил: **Корнюшин А., Старобогатов Я.** Отметка: 359-1935”.

[“Zoological Institute AS USSR. Freshwater animals. *Euglesa eichwaldi* Stadnichenko. Sheet No _____. No: 2. Number of specimens. Dry: 1/2. Locality: **Crimea, Karani-Khoba Cave**. Leg.: **V. Lindholm**. Det.: **A.P. Stadnichenko**. Note: **Material placed on E. crimeana N2**. No: 4. Number of specimens. Dry: 2. Locality: **Crimea, Karani-Khoba Cave**. Leg.: **Lindholm**. Det.: **Korniushin A., Starobogatov Ya.** Note: 359-1935”].

5) *Pisidium personatum* *Euglesa eichwaldi*

Label

“№ 359-1935. Зоол. Инст. АН. №17. *Pisidium personatum* Malm. Опр. **Куйпер**, Сбор. **Линдгольм. Крым. Пещера Карани-Хоба**. [Добавлено карандашом]: *Euglesa eichwaldi*”.

[“No 359-1935. Zool. Inst. AS. No 17. *Pisidium personatum* Malm. Det. **Kuiper**, Leg. **Lindholm**. **Crimea. Karani-Khoba Cave**. [Added with pencil]: *Euglesa eichwaldi*”].

Catalogue card

“Зоол. Инст. А. Н. Пресноводн. жив. *Pisidium personatum* Malm. Лист № 2. №№ п/п:

порядку: 17. Число экз.: Сухих: 2. Место сбора: Крым. Пещера Карани-Хоба. Коллектор: Линдгольм. Кто определил: Куйпер. Отметка: 359-1935 г. См. в *eichwaldi* Stad. N4 – 2 экз.”.

[“Zool. Inst. A. S. Freshwater animals. *Pisidium personatum* Malm. Sheet No 2. No. 17. Number of specimens. Dry: 2. Locality: Crimea. Karani-Khoba Cave. Leg.: Lindholm. Det.: Kuiper. Note: 359-1935 г. See in *eichwaldi* Stad. N4 – 2 ex.”].

The content of labels for two sphaeriids samples from the collection of the V.I. Vernadsky University (Simferopol) (two labels per each sample):

Labels of sample 1

a) “Карани-Хоба пещера 22.VI.914.”; b) “N3 *Pisidium* sp.? det. В. Линдгольм”.

[a] “Karani-Khoba Cave 22.VI.914.”; [b] “N3 *Pisidium* sp.? det. V. Lindholm”].

Labels of sample 2

a) “Карани-Хоба 25.VI.914” [“Karani-Khoba 25.VI.914”]; b) “Legit W. Pliguinskii”.

Sphaeriid material from Karani-Koba Cave has been deposited in the ZIN collection, and are labeled and catalogued as those which were collected by V.A. Lindholm. However, it is possible they were not collected by V.A. Lindholm, and rather just belonged to his collection. This is possible as the original label is marked: “Collectio W. A. Lindholm. *Pisidium*. Karani-Choba (Höhle). Fauna Taurica. Krim.”. On this label Lindholm is indicated as the owner of the collection but not necessarily as the collector. The name of collector is visibly absent here. It seems that all other labels and cards from ZIN, mentioned above, are derived from this original one and contain mistaken data about collector. Furthermore, it is of interest to note that one of the sphaeriid samples from the same cave (Karani-Koba), kept in the Simferopol University, is labeled as collected by V. Pliginsky in 1914. Additionally another sample is labeled as identified (but not collected) by V. Lindholm. It is possible that among the samples mentioned above, from the ZIN collection, at least not all (or even none of them) were collected by Lindholm, but we can not confirm this for sure. The suggestion corresponds with the opinion of other researches. For example, M. Vinarski [2010: 56] indicated that Lindholm’s collection, containing some Siberian mollusks, but these samples are not accompanied with information regarding the collector or the year of sampling. The name Lindholm in the case only points out the origin from the “collection of Lindholm” which came to ZIN funds in 1935 after his death.

According to the literature cited above, as well

as voucher labels from museum collections, “*Pisidium zoctanum* Poli” has never been registered. Furthermore, it is absent even in the field labels. Moreover, a species with such a name does not exist at all besides Wolf’s Catalogue and the subsequent publications which cite Wolf’s work. These publications thus have no justified ground to the use of the name. The species “*Pisidium zoctanum*” has never been described and appears to be a ghost-taxon or nomen nudum in terms of International Code of Zoological Nomenclature.

We conclude that confusions of this kind sometimes lead to serious taxonomic difficulties. To avoid such errors researchers should be responsible and accurate in nomenclature application.

Acknowledgements

Authors are cordially thankful to Dmitry Palatov for copying and providing labels and cards data from the collection of Zoological Institute RAS (St.-Petersburg), to Sergey Leonov for the copies of labels from collection of zoological materials of Department of ecology and zoology of the V.I. Vernadsky University (Simferopol) and also to Igor Balashov and Dmitry Palatov for the help in search for appropriate literature. The comments and linguistic corrections of the final version by Arthur F. Sands are kindly appreciated. Authors much appreciate useful comments of reviewers Maxim Vinarski and Yuri Kantor.

References

- Anistratenko V. 2004. Molluscs (Mollusca). In: Zagorodniuk I. (ed.). *Cave fauna of Ukraine*. Kiev: 45-46 [In Ukrainian, summary in English].
- Kniss V.A. 2001. *Cave fauna of Russia and adjacent countries*. Ufa, Izdanie Bashkirsk. gos. un-ta, 238 p. [In Russian].
- Korniushin A.V. 1996. *Bivalve molluscs of the superfamily Pisidioidea in the Palaearctic region: fauna, systematics, phylogeny*. Kiev, Institute of Zoology NAS of Ukraine, 176 p. [In Russian, Appendix in English].
- Kruber A.A. 1915. *Région karstique des montagnes de Crimée*. Moscou, 319 pp. [in Russian, summary in French].
- Pirogov V.V., Starobogatov Ya.I. 1974. Small bivalvian molluscs of the family Pisidiidae from the Bolshoj Karabulak bayou in the Volga delta. *Zoologicheskij Zhurnal*, 53(3): 325-337 [In Russian].
- Pusanow J. 1926 (1925). Die Landmolluskensammlung des Naturhistorischen Museums zu Simpheropol. *Bulletin de la Société des Naturalistes et des Amis de la Nature en Crimée*, 8: 111-120 [In Russian, summary in German].
- Stadnichenko A.P. 1980. New species of freshwater molluscs (Bivalvia, Cycladidae) of the fauna of the USSR. *Vestnik Zoologii*, 6: 29-34 [In Russian].
- Poli I.X. [G.S.]. 1791. *Testacea utriusque Siciliae eorumque historia et anatome tabulis aeneis illustrata. Tomus primus*. Parmae, Ex Regio Typographeio, iv + x + 90 + 50 + 74 + lxxiii p.
- Poli I.X. [G.S.]. 1795. *Testacea utriusque Siciliae eorumque historia et anatome tabulis aeneis illustrata*.

- Tomus secundus*. Parmae, Ex Regio Typographeio, ii + 264 + lxxvi p.
- Vinarski M.V. 2010. A historical outline of study of Siberian freshwater malacofauna (end of XVIII — middle of XX centuries). *Ruthenica*, 20(1): 45-67 [In Russian, abstract in English].
- Wolf B. 1938. *Animalium Cavernarum Catalogus. III: Animalium Catalogus*. Junk Verlag für Naturwissenschaften. 's-Gravenhage. Wien (1934-1938), 918 p.

“*Pisidium zoctanum* Poli, 1876” (Mollusca, Bivalvia) – таксон-призрак из крымской пещеры Карани-Коба

ВАРГОВИЧ Р.С.¹, АНИСТРАТЕНКОВ В.В.²

^{1,2} Институт зоологии им. И.И. Шмальгаузена НАН Украины, ул. Б. Хмельницкого, 15, Киев, 01601, УКРАИНА

¹ E-mail: arete@izan.kiev.ua

РЕЗЮМЕ. Название “*Pisidium zoctanum* Poli, 1876” по неясным причинам было использовано для какого-то двустворчатого моллюска из семейства Sphaeriidae, обитающего в пещере Карани-Коба (Крым, Караби-Яйла). Анализ литературы и доступных музейных материалов показывает, что это название невалидно: такой вид никогда не был описан и представляет собой название-призрак. Единственным корректно установленным названием для сфериид из пещеры Карани-Коба является пока только *Euglesa crimeana* Stadnichenko, 1980.

