

Status of *Kessleria* Bogdanov 1882 (Actinopterygii: Acipenseridae), with comments on the original description

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Abstract

Kessleria Bogdanov 1882 is here considered as a nomen nudum. The history of Bogdanov's manuscript, and the name in the literature, is discussed. Bogdanov never published an available description of his genus *Kessleria*, and it only appeared in a single mention in a caption of his Figure 3 in an 1882 publication. As he otherwise classified the species in *Scaphirhynchus*, we do not consider this as an available genus description. In 1905, Jordan was the first author to use the name *Kessleria* in a fashion that satisfies the conditions of the ICZN Code, so it would be available as *Kessleria* Jordan (ex Bogdanov) 1905, although still preoccupied by *Kessleria* Nowicki 1864 in Lepidoptera. The oldest available name for the genus is *Pseudoscaphirhynchus* Nikolskii 1900.

Keywords: Shovelnose sturgeon, Acipenseridae, Russia, Taxonomic status, Availability.

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Introduction

The genus *Scaphirhynchus* was described by Heckel (1836: 71) for North American shovelnose sturgeons, based on *Scaphirhynchus rafinesquii* Heckel 1836 (Heckel 1836: 72) as the only included species, which was an unneeded replacement name for *Scaphirhynchus platorynchus* (Rafinesque 1820). Later, representatives of the genus were discovered from rivers in the Asian part of the Russian Empire: *S. fedtschenkoi* Kessler, 1872 (Kessler 1872: 70, pl. 12) from Syr Darya River, *S. hermanni* Kessler (ex Severtzov) 1877 (Kessler 1877: 190, pl. 8) from Amu Darya River, *S. kaufmanni* Kessler (ex Bogdanov) 1877 (Kessler 1877: 194), also from Amu Darya River, and finally *Pseudoscaphirhynchus rossikowi* Nikolskii, 1900 (Nikolskii 1900: 258) from Amu Darya River. Nikolskii (1900) was the first author to notice significant differences between the Asian and North American species, and therefore classified the Asian species in genus *Pseudoscaphirhynchus* Nikolskii 1900 (Nikolskii 1900: 257). However, despite the actual differences between the genera *Scaphirhynchus* and *Pseudoscaphirhynchus*, he mistakenly compared his genus *Pseudoscaphirhynchus* with the North American *Acipenser cataphractus* Gray (ex Rapp), 1835 (now a synonym for *Acipenser fulvescens* Rafinesque 1817), which he classified in genus *Scaphirhynchus*. Several other contemporary authors also used the name *Scaphirhynchus cataphractus* (Gray 1835) (Gray 1851: 18 as *S. cataphractes*; Günther 1870: 345; Anonymous 1879: 245; Martens 1883: 557; Claus 1892: 761; Braus 1901: 239; Goodrich 1909: 303).

As an alternative name for *Pseudoscaphirhynchus* Nikolskii 1900, the name *Kessleria* Bogdanov, 1882 was mentioned in the literature. The whereabouts of the Bogdanov publication were unclear, and the paper could not be found for a long time (Fricke et al. 2021). The purpose of the present paper is the clarification of the status of the name *Kessleria* Bogdanov 1872.

Material and Methods

The classification follows Fricke et al. (2021); families follow Laan et al. (2014); the references follow Fricke (2021). In this paper, we refer to the ICZN Code (Ride et al. 2021), especially to Art. 12.1, which requires for taxa described before 1931 to be available that they "must be accompanied by a description or a definition of the taxon that it denotes, or by an indication." The indication is defined in Art. 12.2.1 as "...a bibliographic

reference to a previously published description or definition . . ." For being published, a work must comply with the conditions of Art. 8.1.1., i.e. "it must be issued for the purpose of providing a public and permanent scientific record."

Results and Discussion

The generic name *Kessleria* Bogdanov 1882 was mentioned in the *Nomenclator Zoologicus* (Neave 1940: 825) as follows: "**Kessleria** Bogdanow 1882, *Obzor. Eksp. Aralo-Kasp. 1720-1874*, **2**, 3. - Pisces." In his *Genera of fishes*, Jordan (1920) cited the reference as "Bogdanov (1882). Sketch of the Expeditions and Natural History Investigations in the Aral-Caspian Region from 1720 to 1874 [not verified]." This was the reference still provided by Fricke et al. (2021), but the paper could not be located in libraries.

Jordan (1920: 418) noted that "Bogdanov's species, *S. fedtschenkoi* Kessler, was described in 1872 and was a well-known species. *Kessleria* should therefore be preferred to *Pseudoscaphirhynchus* Nikolski." However, Myers (1940: 35) observed that *Kessleria* Bogdanov 1882, although it was available despite of its appearance without description, was preoccupied by *Kessleria* Nowicki 1864 in Lepidoptera. Therefore, *Pseudoscaphirhynchus* Nikolskii 1900 was considered to be the valid name for the genus. However, very recently the name *Kessleria* Bogdanov 1882 was mentioned in Kessler's biography (Sideleva 2017: 482).

In the literature, it was assumed that Bogdanov had described the new genus in honour of his colleague and former teacher, and that the genus included a single species, *Kessleria fedtschenkoi* (Kessler 1872). In searching Bogdanov's publication, the second author was finally able to locate another mentioning of the unpublished manuscript by Bogdanov (1882), in which the history, geology and fauna of Khiva Oasis and Kizylkum Desert was described. Chapter five (pp. 106-110) was devoted to the description of the new species *Scaphirhynchus kaufmanni*. Besides of this chapter, the "new" species was mentioned as "*Scaphirhynchus Kaufmanni* Bogd." on pp. 63, 64, 90, 152, and in addition "*Scaphirhynchus fedtschenkoi*" on page 152. In the description of *S. kaufmanni*, the new species is compared with *Scaphirhynchus rafinesquii* Heckel and *S. fedtschenkoi* Kessler. Only in the second appendix with figures the caption appeared: "Fig 1-2 *Scaphirhynchus kaufmani* Bogd, Fig. 3 *Kessleria fedtschenkoi* (Bogd) Kessl, Fig. 4 *Scaphirhynchus rafinesquii* Heckel". For technical reasons, the whole appendix cannot be shown here because of its large size; however, we show its lower right part extending on Bogdanov's Figure 1.

Kessleria was only mentioned once in a figure caption; the species was else classified as *Scaphirhynchus*. We would not know why Bogdanov decided to place the previously described *Scaphirhynchus fedtschenkoi* Kessler in a new genus, but not his own new species. At the time, he wrote the text, Bogdanov was not familiar with the description of another species (*Scaphirhynchus hermanni* Kessler 1877), and he believed that he was describing only the second species known from Asia. This is due to the fact that the manuscript was written long before its publication, indicated by the inscription on the first appendix with figures that is bearing the caption "Permitted by the censorship on March 21, 1875 St. Petersburg". The fish was drawn by the artist Sevastyanov before the text have been written, as indicated by its mention in the description of the new species. It seems safe to date the unpublished manuscript to 1875; this was evidently the manuscript used for the description of *Scaphirhynchus kaufmanni* Kessler (ex Bogdanov) 1877, who also dated it to 1875.

Bogdanov (1882) mentioned that a complete monograph about these species would be published in the *Proceedings of the Aral-Caspian expedition*. Perhaps this was why these *Proceedings* sometimes appeared as the primary source of the description of the genus *Kessleria* Bogdanov, 1882. However, the monograph was never published. We can only guess the cause. At that time, Bogdanov was already seriously ill with a fever, and he remained very ill until his early death in 1888. We consider Bogdanov's manuscript as unpublished for

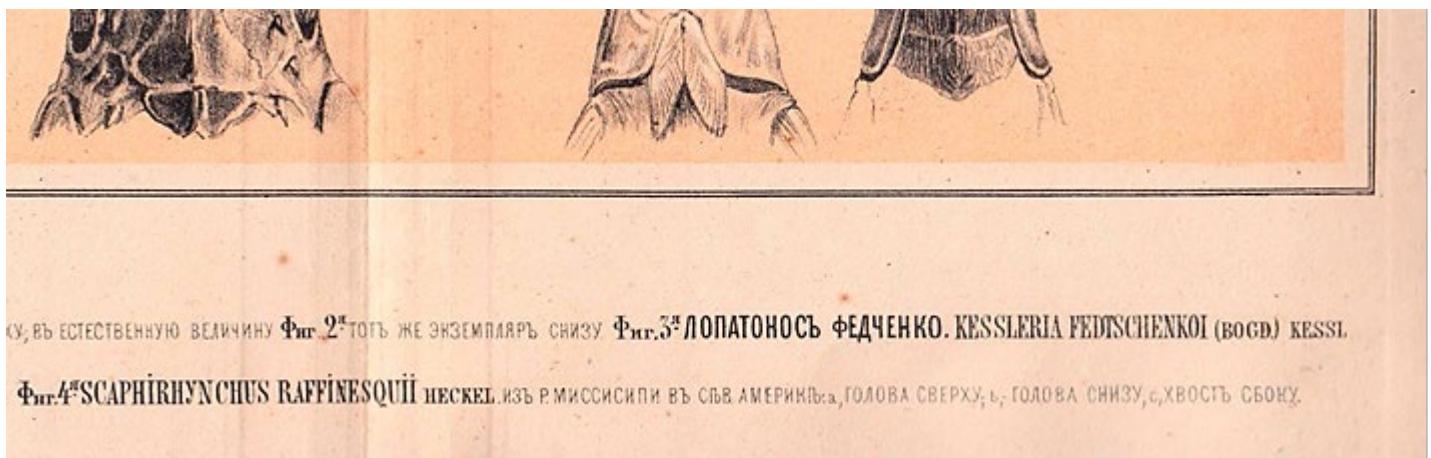


Figure 1. Lower right part of the second appendix in Bogdanov (1882), that shows the name *Kessleria fedtschenkoi*.

the following reasons:

1. The Proceedings of the Aralo-Caspian Expedition are available in several Russian libraries, but no volume could be located that includes a paper by Bogdanov, except Bogdanov (1875), which does not include any mention of the genera *Kessleria* or *Scaphirhynchus*.
2. This work (in the second volume of the Proceedings) is not mentioned in Bogdanov's biography and bibliography (Banina and Kovanko 1972).
3. Nikolskii (1900), who worked at Bogdanov's time and should have known the situation, did not mention any publication of *Kessleria* except as a nomen nudum.
4. Obviously, Kessler (1877) published the fish chapter on the Aralo-Caspian Expedition instead of Bogdanov.

Summarising the results, Bogdanov did not publish a description of genus *Kessleria*, and it only appeared in a single mention in a caption of his Figure 3 in Bogdanov (1882). As he otherwise classified the species in *Scaphirhynchus*, the usage was extremely inconsistent, so we do not consider this as an available genus description. Therefore, no available description of the genus has ever been published by Bogdanov. We therefore treat *Kessleria* Bogdanov 1882 as a nomen nudum. Kessler (1877), who published Bogdanov's findings, did not use the name *Kessleria*. Jordan (1905: 253) was the first author to publish the name *Kessleria* in a fashion that satisfies the conditions of the ICZN Code, so it would be available as *Kessleria* Jordan (ex Bogdanov) 1905, although still preoccupied. The oldest available name for the genus is *Pseudoscaphirhynchus* Nikolskii 1900.

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