

## Designation of a neotype for *Gobius liechtensteini* KOLOMBATOVIC, 1891 (Teleostei: Gobiidae)

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### Abstract

Four collections of *Gobius liechtensteini* are housed at the Naturhistorisches Museum Wien, Vienna. They were obtained from J. Kolombatovic, author of this small gobiid species, in 1892, 1895 and 1902. At least two of them were collected years after the original description of *Gobius liechtensteini*. To all four collections a type status was attributed. Only one of these four collections corresponds closely with the original description, but there is no absolute proof that the specimens of this collection are the syntypes. Because the original description of *Gobius liechtensteini* is based on two species and to avoid possible nomenclatorial problems, a neotype for *Gobius liechtensteini* is designated.

Key words: Gobiidae, *Gobius liechtensteini*, *Corcyrogobius*, *Odondebuenia*, types, neotype, Adriatic Sea.

### Zusammenfassung

Am Naturhistorischen Museum Wien befinden sich vier Kollektionen von *Gobius liechtensteini*. Sie wurden in den Jahren 1892, 1895 und 1902 von G. Kolombatovic, Autor dieser kleinen Meergrundel, erworben. Zumindest zwei dieser Kollektionen wurden erst Jahre nach der Veröffentlichung der Originalbeschreibung von *Gobius liechtensteini* gesammelt. Dennoch ist allen vier Kollektionen ein Typenstatus zugesprochen worden. Nur eine der vier Kollektionen entspricht der Originalbeschreibung, aber auf Grund der zum größten Teil fehlenden Originaldaten gibt es keine absolute Gewähr, dass es sich bei diesen Exemplaren tatsächlich um Syntypen handelt. Da die Originalbeschreibung von *Gobius liechtensteini* auf zwei Arten basiert, und um daraus möglicherweise resultierende nomenklatorische Probleme zu vermeiden, wird ein Neotypus für *Gobius liechtensteini* designiert.

### Introduction

KOLOMBATOVIC (1891) regarded the two small gobiid species *Corcyrogobius liechtensteini* (KOLOMBATOVIC, 1891) and *Odondebuenia balearica* (PELLEGRIN & FAGE, 1907) as juveniles and adults respectively of the same new species, *Gobius liechtensteini*. The systematic status for both species was discussed by MILLER & TORTONESE (1968) and MILLER (1972).

MILLER (1972) regarded as syntypes of *Gobius liechtensteini* KOLOMBATOVIC, 1891 a collection from Korcula (Croatia) which Steindachner had obtained from Kolombatovic 1902. However, the acquisition and catalogue sheets of Steindachner prove that no type status can be assigned to these specimens.

The Naturhistorisches Museum Wien houses four collections labelled as *G. liechtensteini* which were all obtained from Kolombatovic. One of these collections corresponds

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closely with the original description. There is no absolute proof that these specimens represent the syntypes. To avoid nomenclatorial problems a neotype for *G. liechtensteini* is designated from this collection.

### Material and methods

The material listed below represents the four collections of *Gobius liechtensteini* which were sent to the Naturhistorisches Museum Wien by Prof. Juraj Kolombatovic between 1892 and 1902. All specimens were identified by him as *Gobius liechtensteini* and regarded as juveniles and adults respectively of the same species, but actually represent two different species (MILLER & TORTONESE 1968, MILLER 1972). Subsequently collections containing both species were separated. If necessary new register numbers were given to the specimens identified as *O. balearica*. This is the case for the following two collections of Kolombatovic. The specimens of the first collection are registered as NMW 37536 – 37547 and are now separated in NMW 37536 – 37543 (eight specimens of *Corcyrogobius liechtensteini*) and NMW 37544 – 37547 (four specimens of *Odondebuenia balearica*). The specimens of the second collection are separated in two samples registered as NMW 78460 (20 specimens of *C. liechtensteini*) and NMW 78461 (4 specimens of *O. balearica*). The two other collections of Kolombatovic are registered as NMW 78879 and 78800 and represent two and seven specimens respectively of *O. balearica*. Therefore the four collections of Kolombatovic are separated in six samples which are listed as follows:

#### *Corcyrogobius liechtensteini*

NMW 37536 - 37543: 2 males, 17.5 - 20.0 mm SL, 6 females, 14.5 - 17.5 mm SL; Croatia, Korcula; coll. Kolombatovic, August 1901; don. Steindachner, 1902. MILLER (1972) regarded these eight specimens as syntypes of *G. liechtensteini*. Subsequently he designated the largest male as lectotype and the other seven specimens as paralectotypes. But having been collected ten years after the publication of the original description no type status can be attributed to them.

NMW 78460: 9 males, 19.6 - 24.5 mm SL, 11 females, 14.5 - 20.0 mm SL; [Croatia, Split]; coll. Kolombatovic; [acquired August 1892]. AHNELT & al. (1994) regarded these specimens as possible syntypes of *G. liechtensteini*.

#### *Odondebuenia balearica*

NMW 37544 - 37547: 3 males, 17.1 - 25.0 mm SL, 1 female, 18.6 mm SL; Croatia, Korcula; coll. Kolombatovic, August 1901; don. Steindachner, 1902. These specimens are "adults" of *G. liechtensteini sensu* KOLOMBATOVIC (1891). MILLER (1972) believed that they represent a part of the syntype series. ESCHMEYER & al. (1998) and ESCHMEYER (2004) list these specimens as syntypes of *Eleotris balearicus*, but no type status, neither for *G. liechtensteini* nor for *E. balearicus*, can be attributed to them.

NMW 78461: 4 males, 16.4 - 25.3 mm SL; [Croatia, Split]; coll. Kolombatovic; [acquired August 1892]. These specimens are "adults" of *G. liechtensteini sensu* KOLOMBATOVIC (1891) and were regarded as possible syntypes of this species by AHNELT &

al. (1994). No type status, neither for *G. liechtensteini* nor for *E. balearicus* PELLEGRIN & FAGE, 1907 can be attributed to them with certainty. The largest part of the original label is lost.

NMW 78879: 1 male, 23.7 mm SL, 1 female, 20.0 mm SL; Croatia, Split; coll. Kolombatovic, August 1894; acquired August 1895. These two specimens were obtained from Kolombatovic as "adults" of *G. liechtensteini sensu* KOLOMBATOVIC (1891) and represent *O. balearica*.

NMW 78880: 3 males, 18.8 - 28.6 mm SL, 4 females, 18.2 - 28.3 mm SL; Croatia, Split; coll. Kolombatovic; acquired March 1895; [catalogue sheet of Steindachner: five specimens].

These seven specimens were obtained from Kolombatovic as "adults" of *G. liechtensteini sensu* KOLOMBATOVIC (1891) and represent *O. balearica*.

Comparative material: *Corcyrogobius liechtensteini*: University of Vienna, uncatalogued: 9 males, 14.5 - 23.8 mm SL, 8 females, 13.8 - 22.5 mm SL; Spain, Balearic Islands, Ibiza. *Odondebuenia balearica*: MNCN 107993 - 108042: 13 males, 15.2 - 22.2 mm SL, 32 females, 14.9 - 22.6 mm SL, 4 juveniles, 12.9 - 13.9 mm SL; Spain, Balearic Islands, Ibiza.

Additions to the label data are added in square brackets. In the nomenclature of *Corcyrogobius liechtensteini* I follow MILLER (1972). Institutional abbreviations follow KOTELAT *et al.* (1993).

## Results

### *Corcyrogobius liechtensteini* (KOLOMBATOVIC, 1891)

*Gobius liechtensteini* Kolombatovic, 1891: 25 (part)

*Corcyrogobius liechtensteini* (Kolombatovic, 1891): MILLER 1972: 396, figs. 1-6; 1973: 493; 1986: 1030; AHNELT & al. 1994: 170, figs. 1-2; AHNELT & PATZNER 1996: 535, figs. 1-3.

*Gobius* (*Corcyrogobius*) *liechtensteini* (Kolombatovic): SOLJAN 1975: 295, 468.

The NMW houses four collections of *Gobius liechtensteini* obtained from Kolombatovic in the years 1892, 1895 and 1902. According to the acquisition sheets of the ichthyological collection of the NMW the first collection arrived in 1892. This sheet includes additional information: (1) the collection includes juveniles and adults and (2) the number of individuals. The latter was corrected from "ca. 25" to "ca. 20" specimens. Only one collection comes close to these data. It contains 24 individuals, 20 "juveniles" (NMW 78460) and four "adults" (NMW 78461) *sensu* KOLOMBATOVIC (1891). The former are all *C. liechtensteini*, the latter *O. balearica*. 1895 two other collections were obtained by the NMW from Kolombatovic as adults of *G. liechtensteini*: The first in March 1895 (NMW 78880), the second in August 1895 (NMW 78879). All specimens of these two collections represent *O. balearica*. A third collection from Kolombatovic, collected in August 1901, arrived in Vienna July 1902. It contains 12 specimens, eight "juveniles" (NMW 37436 - 37443) and four "adults" (NMW 37544 - 37547) *sensu* KOLOMBATOVIC (1891). The former are all *C. liechtensteini*, the latter *O. balearica*. Except for the first collection (NMW 78460) which arrived in Vienna in the year after the publication of the

original description of *G. liechtensteini* all three other collections have to be excluded to be syntypes of this species. Two samples (NMW 37536 – 37543, NMW 78880) were collected years after the publication of the original description of *G. liechtensteini*, the third (NMW 78879) consists of *O. balearica* only.

A neotype of *Gobius liechtensteini* is designated. It is selected from the 20 specimens with the register number NMW 78460. These specimens are part of a collection of 24 specimens representing "juveniles" (NMW 78460) and "adults" (NMW 78461) of *G. liechtensteini* and correspond closely with the original description of KOLOMBATOVIC (1891). The four specimens of the collection NMW 78461 are *O. balearica* and are excluded from the material from which the neotype is selected.

As neotype a female, 19.8 mm SL, out of NMW 78460 is designated. The neotype is deposited at the ichthyological collection of the Naturhistorisches Museum Wien, Vienna, Austria with the register number NMW 94906.

## Discussion

In his famous work on gobiid fishes from Dalmatia KOLOMBATOVIC (1891) mentions that the material described by him will be sent to Franz Steindachner (NMW). This included a collection of a new species, *Gobius liechtensteini*.

MILLER (1972) regarded as syntypes of *Gobius liechtensteini* KOLOMBATOVIC, 1891 a collection from Korcula (Croatia) (NMW 37536 - 37543) which Steindachner had obtained from Kolombatovic in 1902 and designated the largest male as lectotype. However, the acquisition and catalogue sheets of Steindachner prove that these specimens were actually collected in August 1901 and that no syntypic status can therefore be assigned to them. Consequently the designation of a lectotype is invalid.

This problem has been discussed by AHNELT & al. (1994), but these authors did not designate a specimen as neotype. Additionally, KOLOMBATOVIC (1891) based his description of the new species on individuals of *C. liechtensteini* and *O. balearica*. He regarded the former as juveniles and the latter as adult specimens of the same new species. To avoid nomenclatorial problems, a type had to be designated, most suitable from the syntype series or from a sample collected and identified as *G. liechtensteini* by Kolombatovic.

The Naturhistorisches Musuem Wien houses two other collections (NMW 78879, NMW 78880) obtained from Kolombatovic and labelled *Gobius liechtensteini*. Both collections have been referred to as types in the catalogue sheets of Steindachner, a status which cannot be accepted for them. Bought from Kolombatovic in March (five specimens) and August (two specimens) 1895 they all represent *O. balearica*. KOLOMBATOVIC (1891) did not give any indication that this material is part of the syntype series. Additionally in the catalogue sheet of Steindachner is noted that the specimens acquired in August 1895 (NMW 78879) were collected in August 1894, three years after the description of *G. liechtensteini*.

Nevertheless, there is a fourth collection of 24 specimens which Steindachner received from Kolombatovic. KOLOMBATOVIC (1891) based his description of *G. liechtensteini* on an unknown number of specimens. He did not establish a holotype or refer to a single specimen which can be designated as a holotype. This fourth collection is the only one

which corresponds to a sample of *G. liechtensteini* which arrived at the NMW in the year after the original description of the new species and include "juvenile" (NMW 78460) and "adult" (NMW 78461) specimens. As already mentioned by AHNELT & al. (1994) it is very likely that a part of this collection (NMW 78460) represents the syntypes or at least a part of the syntype series of *G. liechtensteini*, but there is no absolute proof. Consequently, these authors did not designate a lectotype but, on the other hand, failed to designate a specimen as neotype. Additionally it has to be noted that except for the above mentioned collections, no other material of *G. liechtensteini* has been located at the NMW prior to 1994.

### Acknowledgements

I thank J. Dorda Dorda (MNCN) for making material of *Odondebuena balearica* available.

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Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Annalen des Naturhistorischen Museums in Wien](#)

Jahr/Year: 2005

Band/Volume: [106B](#)

Autor(en)/Author(s): Ahnelt Harald

Artikel/Article: [Designation of a neotype for \*Gobius liechtensteini\* KOLOMBATOVIC, 1891 \(Teleostei: Gobiidae\). 35-39](#)