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A new species of *Cottus* from the Onega River drainage, White Sea basin (Actinopterygii: Scorpaeniformes: Cottidae)

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Abstract

Cottus gratzianowi, a new cottid species, is described from material collected in the Ukhtomitsa River in the Onega River drainage, White Sea basin. It differs from its congeners in Europe east of the Meuse except *C. koshewnikowi* by having no transverse dark bands on the pelvic fin, a single chin canal pore, an incomplete lateral line not reaching behind the anal-fin insertion, and the position of the lateral line which is located considerably above the mid-line of the flank. From *C. koshewnikowi* distributed in the Volga (Caspian basin), Pechora, and Northern Dvina rivers (Arctic basin), *C. gratzianowi* sp. nov. can be distinguished by a combination of character states, the most differentiating are as follows: a larger eye (horizontal diameter 23–28% HL, equal to or exceeding snout length vs. 16–25% HL, less than snout length), a rounded caudal fin (vs. commonly truncated), frequent presence of one to three branched rays in median part of the pectoral fin (vs. usual absence), an interrupted supratemporal canal commissure with 4 pores (vs. non-interrupted, with 3 pores), abdominal vertebrae commonly 10 (vs. 11), and contrasting black blotches on all fins including pelvic and anal fins (vs. no blotches on pelvic and anal fins).

Key words: Freshwater sculpin, taxonomy, morphology, *Cottus gratzianowi*, *Cottus koshewnikowi*, Arctic basin

Introduction

Three species of the genus *Cottus*—*Cottus gobio* Linnaeus, 1758, *Cottus poecilopus* Heckel, 1837, and *Cottus koshewnikowi* Gratzianow, 1907b—are distributed in fresh waters of Eastern Europe (Baltic, Caspian, Barentz, and White Sea basins) (Kontula & Väiniölä 2004; Freyhof *et al.* 2005). *Cottus poecilopus* is the typical representative of the *C. poecilopus* species group now considered as consisting of seven species (Fujii *et al.* 2005; Yokoyama *et al.* 2008; Sideleva & Goto 2009, 2012). *Cottus poecilopus* is distributed in the Baltic Sea basin only while six other species of the group inhabit waters of Siberia and East Asia from the Ob' River to rivers of Sakhalin Island and Korean Peninsula. *Cottus gobio* is the most typical representative of another species group, consisting of 15 species, 14 from which are distributed in rivers and lakes of Western Europe from the Garonne to the Rhine (Freyhof *et al.* 2005). In Eastern Europe (the Danube excluded), only two species of the group, *C. gobio* and *C. koshewnikowi*, occur. In the north of European Russia and in Finland, *C. gobio* has a narrow range along the coasts of the Gulf of Finland and the Gulf of Bothnia of the Baltic Sea (Kontula & Väiniölä 2004). *Cottus koshewnikowi* has a broader range inhabiting lakes and river systems belonging to the Baltic, Barents, White, and Caspian sea basins (Freyhof *et al.* 2005). In each river system, *C. koshewnikowi* is distributed rather fragmentary forming local populations with different degree of isolation; this determines a considerable variability of some morphological characters (Koli 1969; Korolev & Reshetnikov 2004).

Type locality of *C. koshewnikowi* is located in the Volga River (the Caspian Sea basin): the Goredva River in

White Sea basin: ZIN 41256 (1, SL 77.0 mm), Northern Dvina River at town of Arkhangelsk; ZIN 52124 (2, SL 75, 74.6), Yavzora River, tributary of Pinega, Northern Dvina drainage; ZIN 55688 (2, SL 63, 71 mm), Dvinitza River, Northern Dvina river system.

Cottus gobio. ZIN 13510 (1, SL 58.5 mm), Sillamae; ZIN 41255 (1, SL 62.0 mm), Baltic Sea, Svybiriken Bay, Aland Islands: Gradeso.

Cottus poecilopus. Syntypes: NMW 78816 (1, SL 84.5 mm) Ober-Ungarn, Karpaten; NMW 78816 (2, SL 88, 92 mm) same locality; NMW 6729 (3, SL 82–92 mm); non type: ZIN 315 (1, 90 mm), Vistula River, ZIN 37661 (1, SL 66 mm), Teresva River, Danube drainage, Ukraine.

Cottus metae. NMW (3, SL 75–79 mm), Krupa River, Sava system, Danube.

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