

# On the Miocene Centranchidae (Teleostei, Perciformes) from the Eastern Paratethys

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Received March 1, 2005

**Abstract**—A new genus, *Naslavcea*, is erected for the Middle Miocene species *Spicara fundata* Bannikov, 1990 (Centranchidae) from the Lower Sarmatian of northern Moldova. This genus is characterized by the relatively small number of rays in the dorsal and anal fins. At the same time, *Pelates islamdagicus* Prokofiev, 2001 from the Lower Miocene of the Apsheron Peninsula (Azerbaijan) is transferred from the family Terapontidae to Centranchidae and referred to the genus *Spicara*.

**DOI:** 10.1134/S0031030106010114

**Key words:** Centranchidae, Perciformes, new taxa, Miocene, Eastern Paratethys.

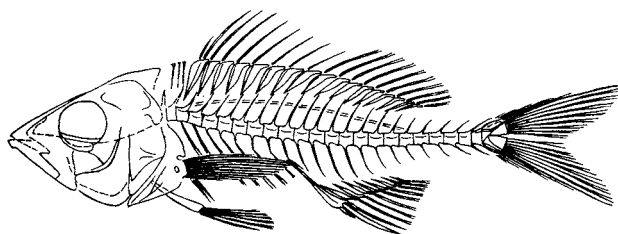
## INTRODUCTION

In 1990, the author described a centranchid fish (Perciformes, Centranchidae) *Spicara fundata* from the Lower Sarmatian (upper part of the Middle Miocene) of northern Moldova (Bannikov, 1990). This species, generally sharing diagnostic characters of the family Centranchidae, nevertheless possesses fewer spines in the dorsal fin (9–10) than extant centranchids (11–13 in both *Spicara* Rafinesque and *Centranchus* Rafinesque). According to Nelson (1984, 1994), the family Centranchidae includes only these two genera, although Eschmeyer (1998) does not exclude the validity of the genus *Pterosmaris* Fowler. Extant Centranchidae have 9–10 (Nelson, 1984) or up to 16 soft rays (Nelson, 1994) in the anal fin, whereas the Early Sarmatian species has only eight soft rays in the anal fin (Fig. 1). The assignment of the Moldovian species to the genus *Spicara* requires revision of the diagnosis of this genus. However, the genus *Spicara*, with eight extant species (Nelson, 1994), is a compact group in which fewer than 11 spines in the dorsal fin have never been recorded even as a rare variation. Therefore, it seems appropriate to establish a new centranchid genus, *Naslavcea* gen. nov., for the Middle Miocene species from Moldova (see diagnosis below).

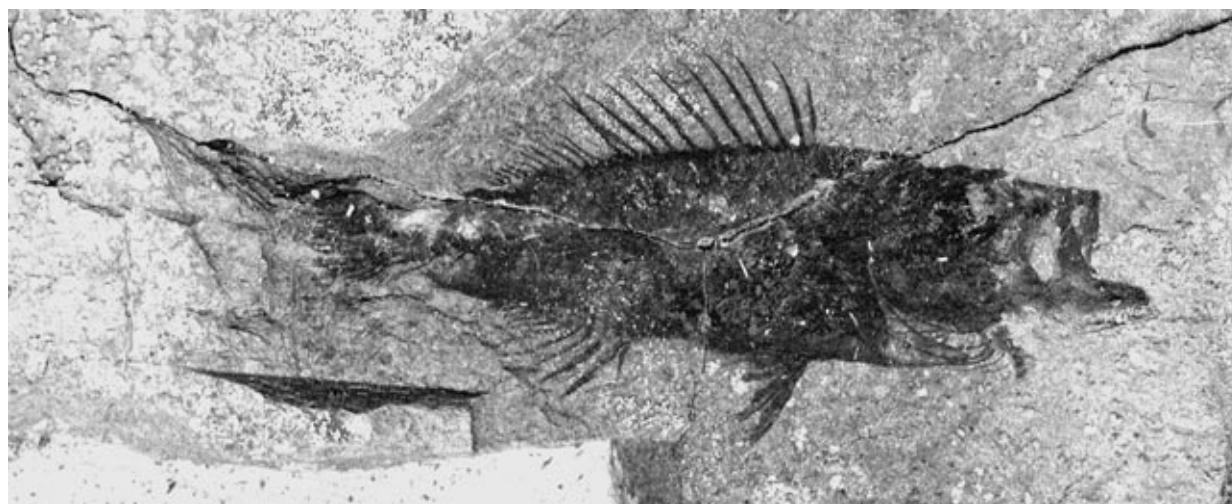
Fossil Centranchidae are generally known from otoliths (for a review, see Bannikov, 1990). Skeletal remains of *Spicara dionysii* are known from the Upper Miocene in the vicinity of Oran (Algeria) (Arambourg, 1927). A fish belonging to the family Terapontidae, *Pelates islamdagicus*, was recently described in the poorly known periodical (Prokofiev, 2001) based on two specimens from the “Upper Oligocene” of the Apsheron Peninsula (Islamdagh Mountain). Later, the age of this

locality was specified as “Upper Oligocene or Lower Miocene” (Prokofiev, 2002). According to the data of labels (collectors A.A. Switchenskaya and P.G. Danilshenko, coll. PIN), the two nontype specimens of the same species from the type locality come from the Lower Miocene. This confusion in the age determination in Prokofiev (2001) was noted by Popov *et al.* (2004, pp. 667, 695).

Prokofiev (2001) did not provide any support for the assignment of “*Pelates*” *islamdagicus* to Terapontidae. The assignment was apparently based on the vertebral formula (11 + 14 = 25) and the predorsal formula (0/0 + 0/2/1 + 1/) specified by Prokofiev, which are quite typical of Terapontidae. However, “*Pelates*” *islamdagicus* shows none of the specializations of the family (Vari, 1978), and there are no grounds to regard the vertebral and predorsal formulae as correct. The material from the Lower Miocene of the Apsheron Peninsula is not perfectly preserved (Fig. 2), and the limits of the vertebral centra are unclear. Nevertheless, direct observations of the type and additional materials of “*Pel-*



**Fig. 1.** *Naslavcea fundata* (Bannikov, 1990), Middle Miocene of Moldova, reconstruction of the skeleton (after Bannikov, 1990).



**Fig. 2.** *Spicara islamdagica* (Prokofiev, 2001), holotype PIN, no. 4773/134, general appearance,  $\times 3$ ; Azerbaijan, Apsheron Peninsula, Islamdag Mountain; Lower Miocene, Upper Maikopian.

*ates*” *islamdagicus* show the vertebral formula  $10 + 14 = 24$ . According to our observations, the predorsal formula in the holotype is  $0/0 + 0/2 + 1/1$ . Both of these formulae separate the Early Miocene species from the Terapontidae (Vari, 1978; Johnson, 1984).

In the species description, Prokofiev noted the long ascending process of the premaxilla; however, in the skeletal reconstruction of “*Pelates*” *islamdagicus*, this process is shown as much shorter than what is actually present in the material (Prokofiev, 2001, text-fig. 2b; Prokofiev, 2002, text-fig. 6). The preopercular serration mentioned by Prokofiev was not found. The long ascending process of the premaxilla, meristic characters, body proportions and the predorsal formula of “*Pelates*” *islamdagicus* suggest the assignment of this species to the family Centranchidae. Moreover, all the characters available for study in this form fit the diagnosis of the extant genus *Spicara*. As the figure of the holotype in the original description (Prokofiev, 2001, text-fig. 2a) is unclear and the published reconstruction of the skeleton is incorrect in many respects, a photograph of the holotype of *Spicara islamdagica* is presented here (Fig. 2).

The adjustment of the generic assignment of *Spicara islamdagica* influences our understanding of the paleogeography of the fish assemblage of the Upper Maikopian of the Caucasus. Substitution of a member of the primarily freshwater Indo-West-Pacific family Terapontidae by the genus *Spicara*, which is characteristic of the modern East Atlantic increases the Mediterranean character of the Late Maikopian Fish Fauna of the Eastern Paratethys.

The diagnosis of the new Middle Miocene genus of centranchid fishes is given below.

## SYSTEMATIC PALEONTOLOGY

### Family Centranchidae Gill, 1891

#### Genus *Naslavcea* Bannikov, gen. nov.

**E t y m o l o g y.** From the locality near the village of Naslavcea, northern Moldova; gender feminine.

**T y p e s p e c i e s.** *Spicara fundata* Bannikov, 1990.

**D i a g n o s i s.** Body moderately elongated, its depth approximately equal to head length and 3.0–3.7 times less than body length. Mouth moderate, strongly protractile. Ascending processes of premaxillae reaching occiput on closure of mouth. Vertebral formula  $24 (10 + 14)$ . Dorsal fin with 9–10 spines (third and fourth being longest) and 9–10 soft rays; notch between spiny and soft parts of fin hardly visible. Anal fin with three spines (second being thickest) and 8 soft rays. Pectoral fins with about 15 rays. Pelvic fins attached behind pectoral fins. Scales relatively large, with several basal grooves.

**S p e c i f i c c o m p o s i t i o n.** *Naslavcea fundata* (Bannikov, 1990) from the Middle Miocene (Lower Sarmatian) of Moldova.

**C o m p a r i s o n.** The new genus differs from other genera of the Centranchidae in the smaller number of spines in the dorsal fin (9–10 versus 11–13 in other genera) and smaller number of soft rays in the anal fin (8 versus 9–16 in other genera).

## ACKNOWLEDGMENTS

This study was supported by the Russian Foundation for Basic Research, project no. 05-05-65184.

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