



**NASE (*CHONDROSTOMA*) (CYPRINIDAE, PISCES) FROM  
OHRID-DRIM-SKADAR SYSTEM**

**Drago S. MARIĆ<sup>1</sup> and Vitko M. ŠORIĆ<sup>2</sup>**

<sup>1</sup> University of Montenegro, Faculty of Sciences, Department of Biology, P.O. Box 211,  
20000 Podgorica, Montenegro. E-mail: dragomrc@yahoo.com,

<sup>2</sup> University of Kragujevac, Faculty of Sciences, Department of Biology, P.O. Box 60,  
34 000 Kragujevac, Serbia.

**SYNOPSIS**

**Key words:**

*Chondrostoma  
ohridanum*,  
*Chondrostoma  
scodrensis*,  
morphology,  
parasites,  
diseases,  
Ohrid-Drim-Skadar  
system.

In this work the following have been analysed: morphology, distribution, ecology, important parasites and diseases, economic importance and basic habitat requirements of two species from the genus *Chondrostoma* (*C. ohridanum* and *C. scodrensis*) from Ohrid-Drim-Skadar sistem. Species *C. scodrensis* has so far been recorded only from Lake Skadar and from the Crnojevića River a northwestern tributary of that lake, only once time by F. Steindachner, August, 1981 (specimens deposited in the Natural Museum of Wiena).

**INTRODUCTION**

Work on publishing of the edition **The Freshwater Fish of Europe** has been discontinued due to the lack of financial resources (8 volumes have been published). Publishing of papers (publisher-AULA-Verlag, Wiesbaden) was planned for each species from the genus *Chondrostoma* described by that time (2003) and accepted by the editor (separately) in Vol. 5 Cyprinidae 2/II the editor of which is Piter M. Banareescu. All the papers on mentioned edition have a unique concept of data presenting. As the financial obstacles occurred already then, the authors were suggested to present the literature data in a sublime form as well as the new data, without separate presentation. Since the papers on species *Chondrostoma ohridanum*

and *Ch. scodrensis* have already been submitted for press and their review made it has been decided to publish these data here together, in their original form and to add photographs, new data from the literature and data on parasitic fauna. In addition to all available data from the literature presented in these papers, other unpublished data have also been given.

Abbreviations used according to Holčík (1989).

***Chondrostoma ohridanum* KARAMAN, 1924**

E=Ohrid nase; F=nase de Ohrid; D= Ohrid'sche nase;



Fig.1. Specimen (TL-218.0 mm) from the River Zeta (Skadar Lake) Photo. S. Marić

**Synonyms:**

*Chondrostoma nasus ohridanus* Karaman, 1924: 71 (typical locality: Lake Ohrid and its tributaries, FYROM)

*Chondrostoma nasus lumi* Poljakov, Filipi and Basho, 1958:88

*Chondrostoma nasus ohridanus* Grupče and Dimovski, 1977:15 (4), 77-121

*Chondrostoma nasus ohridanus* Kottelat, 1997: 52 (5), 55.

**Holotype:** A holotype and syntype were not deposited; 55 specimens from the Beli Drim River are deposited at the Faculty of Science, the University of Kragujevac (FSUK), and 24 specimens from Lake Skadar are deposited at the Faculty of Science, the University of Montenegro.

**Etymology:** The name *ohridanum* is derived from the name of Ohrid Lake from which the author first described it.

**Description**

**Diagnosis:** Du (2) 3 (4), Db (7-8) 9 (10) ; Au 3 (4), Ab 9-10 (11); Pu 1, Pb (13-14) 16-18 (19); Vu 2, Vb (7) 8 - 9; I.l. (54-55) 56-64 (65); Squ. sup. (8) 9-10; Squ. inf. (4) 5-6; Sp. br. (20-24) 25-32 (33) ; Vert. 44-47 (48); D.ph. 6-6 (5-6, 6-5) Karaman, 1924;

Vladikov & Petit, 1930; Filipi, 1962; Ivanović, 1973; Grupče & Dimovski, 1977; Šorić, 1983; Rakaj, 1995.

The largest number of specimens is with 9 soft rays in the dorsal fin (93% of the specimens from Ohrid Lake, 92% from Skadar Lake and 86.5% from the Beli Drim River). As for the anal fin the specimens with 10 soft rays are predominant (from Ohrid Lake 78.1%, 96% from Skadar Lake and from the Beli Drim River 75.0%). Lower mouth in young and aged specimens are in the form of arch, relatively small. At the Ohrid nase from the Beli Drim River 97.4 to 112.7mm in SL, the size of the mouth varies from 25.0 to 27.6% in Lc, while at the specimens of *Ch. nasus* of the same sizes from the Velika Morava River they range from 30.0 to 32.3% in Lc. The lower mouth broad with thick and strong layer whose lateral parts are rounded off and the upper edge is very sharp. Its length is almost equal to the length of the snout. With the age the snout becomes increasingly flatter. Karaman (1924) states that the Ohrid nase differs from *Ch.nasus* for its longer and larger head and longer caudal peduncle.

**Coloration:** The color of this species varies with age, sexual maturity and the place of residing. The small specimens are yellowish with splendid silvery sides, especially when they live on the places with developed vegetation. The great specimens, and especially males, have a greenish back with black nuance and the reflection to blue. The sides have gray light color and shine like silver, and the abdomen is whitish (Filipi, 1962).

**Morphology:** The body of Ohrid nase is elongated and laterally flattened (Fig.1). It grows up to 500 mm in TL. The length of head shows a negative correlation with the size of fish; its length is 18.2 to 23.4. of SL, while the height of the head grows with the increase of body length and amounts 15.1 to 19.3% of SL. The maximal body height ranges 20.1 to 26.5% of SL, minimal one 8.4 to 12.1%. The dorsal fin begins somewhat before ventral fins. Its upper brim is weakly concave. The height of the dorsal fin consists of 16.2 to 19.5% of SL, and the length 10.0 to 16.4% of SL. The anal fin is also with the concave upper brim, with the length of 8.5 to 11.6% and height of 12.5 to 14.9% of SL. The even fins are well rounded at the end. The length of ventral fins diminishes with the growth of fish; their length is 12.7 to 16.6% of SL. The length of pectoral fins amounts 15.0 to 19.8% of SL. The horizontal diameter of eye varies from 17.1 to 21.9% of cl, preorbital 31.6 to 40.6%, and postorbital 44.9 to 51.4% of cl. These measures of Ohrid population to a certain extent differ from the measures of the population from the Beli Drim River (tab.1) (Grupče & Dimovski, 1977; Šorić, 1983).

**Karyotype:** Not determined.

**Protein specificity:** No information available.

**Osteologic characteristics:** Not separately investigated.

**Sexual dimorphism:** Filipi (1962) points out that the pectoral fins, and specially the first ray, are thicker in males than in females, as well as that the basic ventral part of these fins in males finishes roundly, while in females it is under a certain angle. The other essential differences are almost two times greater distance between the end of ventral fins and anus in females than in males. These differences are present both in males and females from the Beli Drim River. Besides, as sexual dimorphism in females is 138.3 to 147.8 mm and males 142.3 to 147.2 mm males have greater head (lc. in SI: 21.5 to 22.5% ♂, 15.7 to 17.3% ♀ ; ch in SI: 20.7 to 21.9% ♂, 15.6 to 16.2% ♀), whereas females have greater maximal body height ( H in SI : 25.7 to 27.1% ♀, 25.3 to 25.6% ♂) ( orig. data).

**Table 1. Morphometric characters of *Chondrostoma ohridanum* from the Ohrid Lake (n=100 Grupce and Dimovski, 1977) and the Beli Drim River (n=70 Soric,1983)**

Characters	Ohrid Lake			The Beli Drim River			CD
	Ranges	Mean	V	Ranges	Mean	V	
TI (mm)	205-340			86-257			
SI (mm)				71-215			
% of SI							
lc	18.20-23.40	21.29	2.44	20.95-25.00	22.75	4.51	0.92
hc	15.10-19.30	16.30	3.68	13.74-17.65	15.60	6.04	0.45
H	20.10-26.50	23.00	4.43	21.95-26.55	24.00	6.00	0.41
h	8.40-12.10	9.46	2.43	8.58-10.67	9.90	6.06	0.53
Lpc	18.60-21.60	20.05	3.74	17.76-23.77	20.32	5.71	0.14
ID	10.00-16.40	11.87	6.25	9.57-13.39	10.88	6.60	0.65
hD	16.20-19.50	17.70	3.60	16.56-20.19	18.38	5.18	0.37
IA	8.50-11.60	10.45	5.69	9.43-12.45	10.41	6.08	0.03
hA	12.50-14.95	13.69	3.43	13.68-16.48	15.41	4.76	1.43
IP	15.00-19.80	17.22	3.37	15.74-18.68	17.08	4.84	0.01
IV	12.70-14.70	13.62	3.16	13.34-16.62	15.50	4.43	1.68
In % of P-V							
IP	51.30-63.90	55.81	5.64	55.04-66.84	60.47	3.98	0.84
% of lc							
pro	31.60-40.60	37.06	3.37	29.41-37.14	33.82	6.07	0.92
Oh	17.10-21.90	19.43	5.25	16.00-26.16	19.28	6.50	0.07
poO	44.90-51.40	48.06	2.43	41.66-50.00	46.32	2.31	0.78

**Variability:** The variability of morphological characters expressed as a coefficient of the standard deviation (V) shows that from meristic characters I.I. and Vb have the

greatest stability, while Sp. Br has the greatest variability. Among the morphometric characters  $l_c$ , H, IP and  $poO$  (tab.1) show greater stability. From the same table it is obvious that all analysed characters are more stable in Ohrid's population than in the population from the Beli Drim River. The CD coefficient shows that the specimens from the Beli Drim River have a considerably greater IA and IV in %SI, somewhat greater  $l_c$  in %SI, and lower  $prO$  in %lc.

**Age and size variability:** The greatest number of body proportions ( $l_{pc}$ ,  $h_{pc}$ , ID, hD, IP, P-V, in %SI;  $poO$  in %  $l_c$ ) has a steady growth at specimens from the Beli Drim River. However, one number ( $l_c$ ,  $prD$ ,  $poD$  in % SI; Oh in %lc) has negative and others (H in %SI;  $prO$  in %lc) positive allometry with age and growth of a body.

**Subspecies:** No subspecies are known.

**Hybrids:** There are no data on hybridization.

**Distribution:** This species has a limited area of distribution in the Ohrid Lake, the Crni Drim River and its tributaries, the Radika River, the Beli Drim River and the Skadar Lake (Fig.2). *Ch ohridanum* populates a small number of the tributaries of Ohrid Lake: the Grošnica River, the Doljan River, the Čerava River, the Sateska River (Macedonia), and the tributaries Piskupat Brook, Pojske Brook, and then the Mat River, the Ishm River, the Erzen River, tributaries of Adriatic Sea (Albania); The Beli Drim and its tributaries the Istočka River, the Klina River, the Pećka Bestrica River, the Dečanska Bistrica River, the Erenik River, the Topluga River; In the drainage basin of Skadar Lake: the Bojana River, the Morača River and its tributaries, the Cijevna River, the Zeta River, the Sitnica River, and in Šasko Lake. *Ch. ohridanum* penetrates in Skadar Lake, when periodic communication between the Drim system and the Skadar Lake is established (Karaman, 1924; Apostolski et al. 1956; Filipi, 1962; Drecun, 1962; Ivanović, 1973; Grupče & Dimovski, 1977; Šorić, 1981a; Marić, 1995; Rakaj, 1995).

**Introductions:** No data.

## Ecology

**Biotope:** *Ch ohridanum* requires pure water rich in oxygen. It prefers stony and pebbly ground. In lakes, it mostly takes up residence in a littoral area. The temperature of water in lakes ranges from 6.0 to 26.0° C, while the content of oxygen ranges from 9.2 to 13.0mg/l in Ohrid Lake and 6.2 to 13.1 mg/l in Skadar Lake. In potamological systems it populates more frequently lower rhithron, upper and middle potamon (Filipi, 1962; Stanković, 1959; Nedeljković, 1959; Šorić, 1981a and 1983).

**Migrations:** This species lives in lakes and rivers during the whole year. In April and May it migrates to the small brooks and rivers because of reproduction (Filipi, 1962; Ivanović, 1973; Šorić, 1981b).



**Fig. 2. Map of the distribution of *Chondrostoma ohridanum*.**

**Hardines:** Laid eggs attach easily. They attach to each other forming smaller and greater piles. In natural conditions, the eggs are fertilized to the extent of 70% because of limited reproduction space, insufficient water depth and flow exceeding approximately 1m/s, due to which the water tears off the eggs and carries them away (Filipi, 1962; Točko, 1987).

**Feeding habits:** Ohrid nase feeds intensively during the whole year. The young individuals feed on plankton whereas the diet of aged ones is predominated by the plant component (Filipi, 1962). The animal components of diet at larvae and young individuals are *Protozoa* (*Infuzoria sp.*), *Rotatoria* with dominant *Triclocera capucina* and *Cladocera* (*Chydorus sphaericus*), the following being less represented: *Copepod*, *Ostracoda* and *Diptera*. Plant component of food is dominated by *Chlorophyceae*, and *Desmidiaceae* and *Cianophyceae* are quantitatively equally represented. *Diatomeae* (Petković, et al. 1970; Točko, 1987) are represented in an insignificant quantity.

**Longevity:** Filipi (1962) observed females in the 8 years age class and males in the 6 years age class.

**Growth:** The rate of growth of *Ch. ohridanum* has been studied in the two populations from the Ohrid Lake and the Beli Drim River (Tab. 2)

Tab. 2. The growth of *Ch. ohridanum* in Ohrid Lake (Filipi, 1962) and the Beli Drim River (Šorić, 1981b)

Age class	Ohrid Lake		The Beli Drim River	
	Length in mm		Length in mm	Weight in g
	♂	♀	♂♀	♂♀
1	105.0	95.0	77.6	6.0
2	181.0	187.0	151.7	36.7
3	260.0	261.0	219.0	98.8
4	311.0	308.0	270.3	174.6
5	350.0	332.0	313.5	260.5
6	367.0	355.0	352.8	358.4
7	379.0	-	383.2	448.0
8	387.0	-	-	-

It is obvious that there are no essential differences in growth in length between females and males and that this species has somewhat greater growth in length in Ohrid Lake than in the Beli Drim River (Filipi, 1962; Šorić, 1981b).

**Population dynamics:** These years-old fish show that males live shorter (6 years) and females longer (8 years), from which it is noticed that the data about the relation of sexes greatly depend on age of analysed individuals. Not taking this into account in Ohrid Lake the ratio between sexes was 54: 46% in favour of males. On the spawning place, there are 4 to 7 years old individuals. The most numerous (64.0%) are the individuals of 5 and less numerous being those (6.5%) aged 7 years (Filipi, 1962). In the sample from the Beli Drim River, the 3<sup>+</sup> years old fish prevail (from 11 July 1974) the ratio between sexes was 75% ♀: 25% ♂ (Šorić, orig. data).

### Reproduction biology

**Maturity:** In Ohrid Lake the spawning occurs for the first time at the age of individuals from 3 to 4 years. In the Beli Drim, and Skadar Lake the first sexual maturity occurs in 4<sup>th</sup> year of age (Filipi, 1962; Ivanović, 1973; Šorić, 1981b).

**Gonads:** The ohrid nase has the asynchronic type of gonads growth and portions maturation and laying of eggs (Ivanović and Knežević, 1978). In the western part of Ohrid Lake the fertility from 10 to 20,000 eggs was noted (Filipi, 1962; Rakaj, 1995).

**Spawn:** The diameter of mature eggs of the Ohrid nase varies from 2.7 to 3.28 mm, (M=3.07mm) and they are of light –yellow color (Točko, 1977).

**Spawning period:** In Ohrid Lake the spawning occurs from 15 April to 15 May. However, in the eastern parts of the Lake a small number of individuals spawn in May and June. The spawning period lasts 10 to 15 days (Filipi, 1962; Točko, 1977). In Skadar Lake spawning occurs on 15 February to 30 March, rarely in April (Ivanović and Knežević, 1978).

**Spawning sites:** The spawning sites are shallow littoral waters or the rivers and brooks with the stony and pebbly bottom. The eggs are laid on the depth of 10 to 40cm (Filipi, 1962; Točko, 1977). Skadar's population lays eggs on pebbly and stony terrain situated mainly on river mouths on depth of 20 to 80 cm. (Sekulović and Ivanović, 1971; Ivanović and Knežević, 1978).

**Mating habits:** The fish arrive on the spawning places when water temperature is 7.5°C to 10.5°C (Sekulović & Ivanović, 1971) and the spawning begins at 7 to 14°C - the temperature of the tributaries of Ohrid Lake range from 9.3 to 10.5°C. Fish lays eggs on the places where the mean water velocity is 0.5m/s. The spawning develops in portions, 2 to 3 portions in intervals of 7 days (Filipi, 1962; Točko, 1977; Rakaj, 1995).

**Early ontogeny:** Fertilized eggs develop relatively slowly, because of low temperature in Ohrid Lake. Four hours after the fertilization, the animal and vegetative sexes are visible. Eleven hours later, the fertilized egg has 8 blastomers. After consecutive divisions on the first day the morula arises, during the third day the blastula, and fourth day the gastrula. The organogenesis follows after that. The animal sex is visible on the embryo. On the eighth day the process of the organogenesis is completed and the embryo breaks off from vitellus. On the ninth day, the skin folds differentiate. At the end of the twelfth day the embryo has 51 to 52, rarely 53 to 64 miomers. During the sixteenth day, the pectoral fins differentiate. At that time, certain number of embryos is hatched, and in 33 to 34 days the incubations period is finished and prelarval phase begins, when the head is completely free with the black eyes, the intestinal tract is developed, the body is pigmented. The resorption of vitellus is finished in 44 to 45 days, when the prelarval phase is completed and the larval phase begins. The rays in fins differentiate in 70<sup>th</sup> day. Larva has the length of about 3.0cm and then the juvenile phase begins (Točko, 1977).

**Important parasites and diseases:** According to Kažić (1970), the following parasites of this nase have been identified: Trematoda - *Crowcrocaecum skrjabini*, *Crowcrocaecum* sp., *Sphaerostomum globiparum*, *Asymphylodora markewitschi*, *A. kubanicum*, *Cotylurus pileatus* (in the intestine), *Pseudochetosoma salmonicola* – (in gall-bladder), *Clinostomum complanatum* (gill arch); Nematoda – *Raphidascaris* sp. larv., *Contracecum squalii*.

**Economic importance:** The local population uses Ohrid nase as the fresh, dried on sun and fumigated fish (Ivanović, 1973; Stein et al. 1975; Rakaj, 1995).

## REFERENCES:

- APOSTOLOSKI, K., PETROVSKI, N., POPOVSKA, O. & SIDOROVSKI, M. 1956: Ribite na Makedonia (Fishes of Macedonia). - Zavod za ribarstvo na N.R.M., 5, 135 pp.
- DRECUN, Đ. 1962: Rasprostranjenje i popis slatkovodnih riba Crne Gore. - Hydrobiologija Montenegrina. 2, (1):1-8.
- FILIPI, N. 1962: Contribution a la connaissance de la morphologie et de la biologie du chondrostome du fleuve (*Ch. nasus ohridanus*) dans le lac de Podgradec. - Buletin i punimeve shkencore t,ekonomisë së peshkimit Stacioni i kërkimeve shkencore t,ekonomisë së peshkimit. 2 (1) : 117-168.
- HOLČIK, J. 1989: (ed.) The Freshwater Fishes of Europe. Vol. 1, Part II. General Introduction to Fishes – Acipenseriformes. AULA-verlag, Wiesbaden, 469 pp.
- GRUPČE, R. & DIMOSKI, A. 1977: Caractéristique morphologique des sous-especes de *Chondrostoma nasus* (Linnaeus, 1758) en Macedonie. - Acta Mus. Maced. Sci. Nat. 15 (4): 97-121.
- IVANOVIĆ, M. B. 1973: Ichthyofauna of Skadar Lake. Titograd, 146 pp.
- IVANOVIĆ, B. & KNEŽEVIĆ, B. 1978: Morfo-ekološke karakteristike ovogeneze *Chondrostoma nasus ohridanus* iz Skadarskog jezera (Morphological and Ecological Characteristics of Ovogenesis of the *Chondrostoma nasus ohridanus* from Skadar Lake). - Ekologija, 13 (2): 173-179.
- KARAMAN, S. 1924: Pisces Macedonie. Hrvatska štamparija, Split 90pp.
- KAZIC, M. 1970: Endohelmini ekonomski najznačajnih riba Skadarskog jezera (Endohelminths of Economically Most Important Fishes in the Lake Skadar). Titograd, 128 pp.
- KOTTELAT, M. 1997: European Freshwater Fishes. An Heuristic Checklist of the Freshwater Fishes of Europe (exclusive of Former USSR), with an Introduction for Non-systematists and Comments on Nomenclature and Conservation. – Biologia, 52 suppl. 5: 54-56.
- NEDELJKOVIĆ, R. 1959: Skadarsko jezero: studija organske produkcije u jednom karsnom jezeru (Skadar Lake – Study of Organic Production in One Karstic Lake). Posebno izdanje Biološki Institut, Beograd, 4, 156 pp.
- MARIĆ, D. 1995: Endemic Fish Species of Montenegro. Biol. Conservation, 72 (2): 187-193.
- PETKOVIĆ, Sm., SEKULOVIĆ, T. & PETKOVIĆ, St. 1970: Ishrana skobalja (*Chondrostoma kneri* H. 1843) Skadarskog jezera (Nutrition of the Nase (*Chondrostoma kneri* H. 1843) from Skadar Lake). Poljoprivreda i šumarstvo, 14 (4): 1-19.
- POLJAKOV, G.D., FILIPI, N. & BASHO, K. 1958: Peshqit e Shqipërisë. (The fishes of Albanie). Univ. Shtetëror in Tiranës :55 -57.

- RAKAJ, N. 1995: Ichthyofauna of Shqipërisë. Shtëpia botuese "libri Universitar"  
Tiranë, Tiranë 467 pp.
- SEKULOVIĆ, T. & IVANOVIĆ, B. 1971: Biologija razmnožavanja *Chondrostoma kneri*  
Hecker, 1943. Ekologija, 6 (1): 171-181.
- STANKOVIĆ, S. 1959: Ohrid Lake and its Living World. Kultura, Skopje. 175 pp.
- STEIN, A.R., MECOM, O. J. & IVANOVIĆ, B. 1975: Commercial Exploitation of Fish  
Stocks in Skadar Lake, Yugoslavia, 1947-1973. Biological Conservation, 8: 1-18.
- ŠORIĆ, V. 1981a: Prilog poznavanju strukture faune riba u potamološkom sistemu  
Metohije (The contribution to the knowledge of the structure ichthyofauna  
Metohia potamologic system). Zbornik radova PMF-a Kragujevac 2:79-86.
- ŠORIĆ, V. 1981b: Rastenje i vrijeme sazrije *Chondrostoma nasus* iz Belog Drima  
(Growth and Period of Sexual Maturity of *Chondrostoma nasus* in the Beli Drim).  
Ekologija, Beograd 16 (2):123-131.
- ŠORIĆ, V. 1983: Distribution and Biometrics Characteristics of *Chondrostoma nasus*  
*ohridanus* (Pisces, Cyprinidae). Biostatistika, Beograd 9 (2): 139-147.
- TOČKO, M. 1987: Development and Nutrition of the Young Cyprinids of Lake Ohrid.  
Hidrobiološki zavod Ohrid, Ohrid, 312 pp.
- VLADIKOV, V. & PETIT, G., 1930: Sur quelques poissons d'eau douce d'Albanie.  
Bull. Soc. Zool. Fr., 55 :401-403.

***Chondrostoma scodrensis* ELVIRA, 1987**

E= Scadar nase; F= nase de Skadar; G= Skadarsche nase; R= С к а д а р с к и й  
п о д у с т

**Synonyms:**

*Chondrostoma scodrensis* Elvira, 1987: 129 (type locality Skadar lake and the Crnojevića River, Montenegro).

**Holotype:** Elvira (1987) has described a holotype NMW 52099 from Skadar Lake (August 1981, Col. Steindachner), 8 paratypes NMW 52098: 1 (2 ex.) Skadar Lake, NMW 52285: 1-2 (2 ex.) the Crnojevića River, NMW 52287: 1-2 (2ex) the Crnojevića River, NMW 52289 : 1 (1 ex.) the Crnojevića River and MMW 52293: 1-2 (2 ex.) the Crnojevića River. Holotype : Sl 132.0 mm and TI 164.0 mm. These characteristics of the specimen include the following: I.l. 56, Squ. sup 9, Squ. inf. 4, Db 8, Ab 10, Pb 16, Vb 8, Cb 17, Sp.br. 16, D.ph. 6-5.

**Etymology:** *scodrensis*, after Scodra, Latin name of Skadar, the type locality.

**Description**

**Diagnosis:** Db 8 - 9, Ab 9 - 10, Pb 15-18, Vb 8, Cb 17, I.l. 51 - 59 Squ. sup. (8) 9 (10), Squ. inf. 4 (5), Sp. br. 14-17, D.ph.6-5, 5-5. The mouth is slightly arched. The horny layer of the lower lip is well developed but rather thin. Dorsal and anal fins concave in outline.

**Morphology:** Type series (holotype and eight paratypes), 95-135 mm in Sl. Meristic characteristics are given in Table 1. The mouth is slightly arched and the horny layer of the lower lip rather thin. Concave distal profiles of the dorsal and anal fins.

**Table 1 Meristics characteristics of *Chondrostoma scodrensis* (n=9 from Elvira, 1987)**

Characters	Ranges	Mean	s	V
Db	8 - 9	8.44	0.53	6.2
Ab	9 - 10	9.67	0.50	5.2
Pb	15 -18	16.22	0.83	5.1
Vb	8	8.00	-	-
Cb	17	17.00	-	-
I.l.	51 -59	55.67	2.74	4.9
Squ. sup.	8 – 10	-	-	-
Squ. inf.	4 – 5	-	-	-
Sp. br.	14 -17	14.44	1.01	6.6

The species differs from *Chondrostoma nasus* principally by the shape of the mouth and lips. The mouth is mildly vaulted and the horny layer of the lower lip is thinner.

Besides, they have also some different meristic characters, from which especially points out the difference in the number of Spina branchia (Elvira, 1987).

**Distribution:** This species is only known from Skadar Lake and from the Crnojevića River, a northwestern tributary of the lake (Fig.3), (Elvira, 1987). Šorić (1990) and Marić (1995) did not find in Skadar Lake and the Beli Drim.

In Marić's collections from Skadar Lake and the Crnojevića River deposited at the Faculty of Science, University of Montenegro (FSUM) and Šorić's collections from the Beli Drim deposited at the Faculty of Science, University of Kragujevac (FSUK) it is not found. Kottelat's (1997) opinion is that *Chondrostoma scodrensis* is probably extinct.

Other data not known.



**Fig. 3. Map of distribution of *Chondrostoma scodrensis*.**

**REFERENCES:**

- ELVIRA, B. 1987: Taxonomic Revision of the Genus *Chondrostoma* Agassiz, 1835 (*Pisces, Cyprinidae*). – *Cybium*, 11 (2): 111-140
- KOTTELAT, M. 1997: European Freshwater Fishes. An Heuristic Checklist of the Freshwater Fishes of Europe (exclusive of former USSR), with an Introduction for Non-systematists and Comments on Nomenclature and Conservation. – *Biologia*, 52, suppl. 5: 1-271
- MARIĆ, D. 1995: Endemic Fish Species of Montenegro. - *Biol. Conserv.* 72 (2): 187-193.
- ŠORIĆ, M.V. 1990: The Second Contribution to the Knowledge of the Metohija - Potamologic System. *Ichthyologia*, 24 (1): 33-42.

Received: February, 14. 2009.

