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Suborder Percoidei

Family Repropcidae Bannikov, Fam. Nov.

Type Genus. -*Repropca* gen. nov., from Oligocene Carpathian Mountains and Caucasus Mountains.

DIAGNOSIS - Percoid with relatively elongated body and a single dorsal fin, whose margin is hollowed out from the hard and soft parts [=falcate dorsal fin]. Spiny part of the dorsal fin is more elevated and longer than the soft dorsal. In it there are XIII spines, the 3rd and 4th are the most elevated. There are 2 predorsal bones. Anal fin there are III anal spines, (the median or central one is the strongest [robust]) and usually 7 to 8 soft rays. Operculum is spiny in the lower part of the preopercle there are 4-6 strong spines, the posterior border of the operculum carries 2 spines. Vertebrae 30-31, 18 are postabdominal. Caudal skeleton has primitive percoid type, caudal fin forked. Scales tiny.

CONTAINS: Type Genus.

Comparison. Because it has 30-31 vertebrae it differs from all other families of percoids (*sensu* Johnson, 1984) except Acanthoclinidae (which has comparatively much more spines in the median fins), Bathyclupeidae (which has a dorsal fin without spines), Owstoniidae (which has much less spines on the unpaired median fins), Coryphaenidae (which has median fins without spines). Echeneididae (which has the first dorsal fin appears to be a sucker), Opistognathidae (which has dorsal fin without much of a hollowed margin, and there are more soft rays in the anal fin), Percidae (which has less predorsal bones and less spines in the anal fin), Pseudochromidae (which has much less dorsal fin spines), and also from the freshwater Centrarchidae, Percichthyidae and the genus *Siniperca* (*incertae sedis* family). From the last 3 the first differs from the last 3 freshwater forms in having much stronger spines on the preopercle, but also has less than number of predorsal bones than Centrarchidae and *Siniperca* and very numerous spines in the dorsal fin than the Percichthyidae.

REMARKS. Morphologically similarities between the marine family Repropcidae and freshwater Percichthyidae and Centrarchidae shows possible new family not close to the marine ancestral forms of recent freshwater families of percoids

Genus *Repropca* Bannikov, *gen.nov.*

Genus name from an anagram *Properca*

Type species - *R. sumgaitica* sp. nov.

Diagnosis. Head relatively large with elongated rostrum and big mouth. Neurocranium without visible spines. Dorsal fin with 13 spines (10? by *R. paucai*) and 8-14 soft rays. Anal fin situated beneath soft dorsal fin, having 7-8 (12? by *R. paucai*) soft rays. First interhaemal large. In the caudal skeleton the hypurals are not united with each other, there are three epurals. Ribs moderately long, small epipleurals are fixed to the basal part of the anterior ribs. Basis of the pectoral fins are not very wide, ventral fins are situated beneath them; the latter have one long spine and five branching rays each.

Content. *R. sumgaitica* sp. nov., Upper Oligocene of the Caucasus; *R. sabbai* (Pauca). Oligocene (ichthyofaunal zone IPM-2: see [#4, #9]) of the Carpathian (Rumania, Poland); maybe also *R. paucai* (Jonet) from the Oligocene of Rumania.

Comparison. In the family Repropcidae includes one genus.

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Fig. 1. *Repropca sumgaitica* Bannikov, sp.nov. a.) No. 2180-261(x1.8); b.) No. 2180-263 (x2.4)

Remarks. *R. (?) paucai*(...) has been conditionally included in the genus *Repropca* because of numerical characters of unpaired fins, this species strongly differs from two other species of the same genus. For the final decision of the question about the systematical position of *R. (?) paucai* more material about this species and restudy of the single specimen which was as a base for the establishing of *R. paucai* are needed.

It is possible that an undescribed species from the upper Paleocene (or lower Eocene) of Denmark belongs to or closely related to *Repropca*. This fish is illustrated in H. Bonde (6).

*Repropca sumgaitica* Bannikov, sp. nov.

Species name from the locality near the river Sumgait

Holotype - PIN, No. 2180-261; mold of the articulated skeleton, part and counterpart; Apsheron Peninsula, Mount Islamdag near the river Sumgait; Upper Oligocene, beds analogous to the Roshnenskogo Stage .

Description (Fig.1-3). Trunk elongated with relatively high caudal peduncle. Maximum height of the trunk at the beginning of the dorsal fin is 3.3 times smaller into its standard length (up to the end of the hypurals). Head is large, relatively high, and is not less that 35 % from the length of the trunk. Eye not big, diameter of the orbit about 1.6-1.7 times smaller than the length of the rostrum and about 2.3 times smaller than postorbital length. Articulation of lower jaw is situated on the vertical line through the center of the orbit or behind that vertical. Neurocranium moderately high, ridge of the supraoccipital developed, its postero-dorsal angle rounded. Frontals relatively narrow. Straight thin parasphenoideum projects into the lowest part of the orbit. Ethmoidal part of the neurocranium relatively elongated, Hyomandibular elongated, thin, slightly inclined anteriorly. Fossa of hyomandibular subdivided into three joint facets. Quadrate nearly in the shape of an isosceles triangle, in its lower angle there is a small joint . Jaw region is not preserved well in our material.

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Figure 2. *Repropca sumgaitica* sp. nov.,

Figure 3. *Repropca sumgaitica* sp. nov.,a.) preopercle No. 2180-262; b.) No. 2180-261 *pop* = preopercle, *qu* = quadrate.

Premaxillary long, narrow with a low ascending process anteriorly, along the lower margin it carries very fine teeth. Maxillary narrow, nearly straight, Fossa bent down to form joint with premaxillary. Lower jaw preserved only in holotype. Its preservation here is very poor, the margins of the bones of the lower jaw are not visible. Preopercle in relatively larger specimens is bent relatively weakly, in smaller - much stronger (Fig.3). Free margin of the ascending branch of preoperculum has not preserved and it is not clear whether it carries spines or not. Preopercle carries two (by small fish) or one (by relatively big fish) very big posteriorly directed spine on the curve. Anterior to that spine, lower branch of preopercle carries additionally four or five smaller spines. Free margin of suboperculum also has two posteriorly directed spines. Branchiostegal rays thin, specimen No. 2180-262 shows four posterior branchiostegal rays, elongated posteriorly.

Posttemporals forked, the dorsal and ventral branch more or less of the same length. Elongated supracleithrum unites the posttemporale with cleithrum. Cleithrum large, nearly straight in the lower half, the upper end bent anteriorly. Posterodorsal projection of the cleithrum forms two backwards and upwards directed short spines above the place where the pectoral fin is fixed. Coracoid is narrow, its lower end does not reach the ventral margin of cleithrum. Ventral postcleithrum are small, rib-like, directed posteroventrally. Radials relatively large, elongated, thinner in the middle, threadlike, there are more than four of them. Pelvic bones of moderate length, wide wedge shape, approaching cleithrum near the lower end of coracoid. Vertebrae shortened: subsquare or their height exceeds their length. There are 13 trunk vertebrae and 18 - tail. Vertebrae constricted in the middle and carry longitudinal medial ridges. Last four trunk vertebrae carry small parapophysals. Bony processes short. About six anterior neural processes are thickened, wedge-shaped, remainder neuralpophysals are fine, very weakly curved.

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Neural processes of the trunk part of the vertebral column start at the posterior part of the vertebrae, but those of the tail - at the medial part.

Hemal processes (except by preural vertebrae) proceed from the anterior part of the vertebral centrum. Zygapophysys small, from them, in the middle part of the vertebral column, the pre-epizygapophysys are the best developed. Foramina inferior are not seen. Three last vertebrae support the rays of the caudal fin. The second preural vertebra slightly shortened, carries low neural crest. Terminal vertebra has been formed from the first preural and ural ones; it carries autogenous hypurals and parhypurals. Three epurals become shorter posteriorly. Ribs fine and of moderate length, bent backwards. Anterior pleural ribs have very fine short epipleurals in the upper part.

Between occiput and the beginning of the dorsal fin there are two small predorsal bones (=supraneuralia, see /12/) of nail-like shape. Dorsal fins meet at the base, between hard and soft one is a distinct hollow (or CUT). In the dorsal fin there are 13 spines and 12-13 soft rays. The first spine of the dorsal fin is short, more posterior spines become longer up to the fourth, the longest spine. The 5th spine is a little shorter than the 4th one; spines situated more posteriorly of it become much shorter, and one from the end is about 4.5 fold shorter than the 4th. The last spine is a little longer than the one from the end and situated closer to the first soft ray than to the hard spine before it. Anterior soft rays of the dorsal fin are relatively long, posteriorly the rays become continuously shorter. The longest soft ray a little less than 1.5 fold shorter than the longest dorsal spine. The base of the soft part of the dorsal fin 1.7-1.8 fold shorter than the base of the hard part of it. The dorsal fin begins nearly at the vertical line of the 4th vertebra, and ends above the 9th caudal vertebra. Interneurals strongly bent anteriorly, these of the hard part of the fin relatively wider, lancet-like, its base is bent posteriorly. Pterygiophores of the dorsal fin spines usually single but interneurals of the soft rays - by 1 or 2 - are situated between neural processes of the vertebrae. The first and the last interneurals carry each two rays, all others - one.

Anal fin is composed of three spines and eight soft rays. Anal fin starts below the 3-4th caudal vertebra, and ends at the vertical line where the dorsal fin ends. The first anal spine small but the second - the longest and strongest, a little longer than the 3rd spine. The length of the 2nd spine of the anal fin exceeds the length of the base of the fin and is 1.25-1.5 fold shorter than the length of the largest spine of the dorsal fin. The first soft ray of the anal fin is a little shorter than the last spine, posteriorly the rays continuously become shorter. Two first anal spines are sitting on a strongly enlarged wedge-shaped pterygiophores, directed askew (ASLANT) anteriorly towards the hemal process of the first caudal vertebra. All other pterygiophores much weaker, narrow, posteriorly shorter, and their slant (INCLINATION?) caudally is becoming stronger so that the last pterygiophore nearly parallel to the body axis. The last pterygiophore carries two rays; the number of pterygiophores - 9.

Pectoral fins moderately wide at the base, not very long and contain about 19 rays. Pectoral fins are attached not very high on the sides of the body, about in the middle between the line of the vertebral column and ventral profile of the trunk. The base of the pectoral fin is situated posterior to the vertical line at the beginning of the dorsal fin.

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Pelvic fins are situated below the pectoral ones and are slightly anterior to them, they contain a spine and 5 soft rays each. The spine is very strong, longer than the largest spine of the anal fin, and in some fish even exceeds the length of the longest spine of the dorsal fin. Soft ray of the ventral fin adjacent to the spine is the longest; medially the rays become shorter.

Caudal fin forked, small. Its largest rays are a little longer than caudal peduncle. In the caudal fin there are 17 main rays (1+8-7+1), and also not less than 12 upper and about 11 lower procurent caudal rays.

Scales small, in the middle part of the body of the fish between the neighbouring spinal processes of vertebrae there are 3 - 4 oblique rows of the scales. Lateral line goes parallel to the dorsal margin of the body.

Measurements. Standard length of the body of the holotype - 47 mm.

Comparison. It differs from the Carpathian (Oligocene) species *R. sabbai* in the larger number of soft rays in the dorsal (12-13 against 8 in *R. sabbai*) and anal (8 against 7) fins. Besides, *R. sabbai* has 30 vertebrae and not 31. Latter character, but also large number of spines in the dorsal fin (13 against 10) and much smaller number of the soft rays in the anal fin (8 against 12) it differs from *R. (?) paucal* from the Oligocene of Romania. Material. 1 complete and 7 incomplete specimens of different degree of preservation from the type locality.

#### Literature Cited

#1-#18.

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#19-#20.

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#### A New Family of Oligocene Perciform Fishes

*Properca sabbai* from the Oligocene of the Carpathians is assigned to the new genus *Repropca*. The type species of this genus, *R. sumgaitica*, is described from the Upper Oligocene of Azerbaijan. A new family of percoids, *Reprocidae*, is erected for the genus *Repropca*.

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