



Asprete (*Romanichthys valsanicola*)

Order: Perciformes - Family: Percidae (Dumitrescu, Bănărescu & Stoica, 1957)



Also known as: Local names include: asprete, poprete, storete.

Type: Freshwater - Egglayer

Origin: It was scientifically discovered and described in 1957 by the Romanian scientists M. Dumitrescu, P. Bănărescu and N. Stoica.

Description: *Romanichthys valsanicola* is the scientific name of the fish known as the sculpin-perch, asprete, or Romanian darter, the only member of the *Romanichthys* genus of the fish family Percidae. Endemic to a very restricted area in southern Romania, it was found in the upper reach of the Argeș river and in two of its tributaries: Râul Doamnei and Valsan. Due to hydrotechnical constructions and deterioration of its habitat, it survived only in the tributary Valsan. This species is an endangered freshwater fish and is found on the red list of IUCN. Its area of distribution has drastically diminished and is now considered the European fish genus with the most restricted area. A Romanian NGO is working to preserve this species with the financial support of the Regional Environmental Center.

Physical Characteristics: Body slender, subcircular cross-section in the front, gradually progressing laterally compressed towards the tail. Head stout, flattened dorsally, relatively large, almost entirely devoid of scales. Muzzle rounded in top view inclined downward in side view. Mouth relatively small, subterminal in position, for oral aperture in the shape of a horseshoe. Eyes large, slightly protruding beyond the upper edge of the head. Ctenoid scales of medium size. Lateral line incomplete. No swim bladder. Two dorsal fins close together. Caudal fin biloba. Background color of the plumage brownish gray with yellowish or reddish brown on the back and top of head, progressively lighter towards the sides of the belly whitish gray. The upper parts of the body and sides are covered with dark melanophores, aggregated to form patches of irregular size and shape. The intensity and the number of spots decreases ventrally. Fins with translucent membranes, translucent, light yellowish gray. Dorsal fin on the membranes of the spots are organized in more or less regular transverse bands. Pectoral yellowish transparent with greenish white and black spots. Ventral fins and anal fin translucent, opaque white, with only a few dark spots. Caudal fin translucent, colored like the dorsal, and black spots irregularly arranged in transverse bands or just regular.

Size: Scales in longitudinal series: 58 - 68. First dorsal fin: VIII - IX. Second dorsal fin: I - II, 15 - 16. Pinna an ale: I, 7 ½.

Color Form:

Sexual dimorphism: - not clear.

Lifespan: In theory, the minimum population doubling time would be high: less than 15 months, actually its small population size and its restricted distribution area do not permit such a pace of recruitment. Reported maximum length: 110 mm SL.

Behavior: Although the species is described as primarily nocturnal, the analysis of movement patterns in 24 hours shows that the specimens are moving very well during the day. The fish lives hidden almost all the time under stones (daytime), or moves over gravel banks (especially at night). The species is territorial, with the exception of the period of spawning, the adults living in isolated stretches of the river defined. As a sedentary disposition, movement analysis suggests that for most of the time the specimens are not moving at all, or moving along the bed of the river, going from hut to hut. From time to time may make short trips to move into other areas, usually located downstream (Ionascu, 2004).

Habitat: reofila benthic species, typical of hilly streams and fresh-water currents, a hard substrate or mixed with rock, sand, and gravel. Once widely distributed Palearctic, survives only as a relict preglacial stream Valsan, in a long narrow area of approximately 7 to 9 km. Valsan The creek is a typical mountain stream medium range, with average width of the river bed between 4 and 12 m. In the section where the species is present, the river bed is covered with rocks, gravel, sand, and clay, has an average width of about 8 m, and sinuous. The average depth is 12 to 20 cm, ranging between 1.5 m of the deepest pools, and the few inches of the lower rays. The sediment is made for 54 - 86% rock and clay, for the 14 to 45.99% of gravel and sand, and small amounts of silt (0.01 - 0.20%). The water clarity is generally excellent, and 'omocromia livery of the specimens makes extremely difficult to observe even in shallow water.

Predators, parasites and diseases: Species susceptible to viral and bacterial diseases, and host of several species of parasitic worms such as roundworms, tapeworms and crustaceans. *R. valsanicola* ichthyophagous is prey to birds and predatory fish, especially trout.

Diet: *Romanichthys valsanicola* only eats insect larvae reofili. The investigation of the stomach contents of 34 specimens captured after 1961, showed that the diet consisted of fish for 54% of larvae *Rhithrogena semicolorata*, for 13.2% of other mayfly larvae, for 10.9% of larvae stonefly, for the 6.5% dli larvae of caddisflies, and for 4.7% of larvae of chironomids and small percentages of other Diptera (Galdean *et al.*, 1997).

Breeding: The reproduction generally takes place during the second half of May. The spawning occurs in shallow water, currents, and well oxygenated, with substrate composed of sand and pebble gravel. Eggs are laid under stones or other elements of the substrate, to which they belong until they hatch. The fertility rate is low, the female lays about 120 to 150 eggs per season. The broods are very sensitive to water turbidity, full episodes of sudden they can affect an entire breeding season.

Status: *Romanichthys valsanicola* species is currently considered the highest risk of extinction throughout the European ichthyofauna. When the species was described (in 1957) was present in the upper basin of the Argeș River and its tributaries, and Raul Doamnei Valsan. Following the construction of several hydroelectric reservoirs, destruction of habitat for extensive logging, road building, pesticide pollution, and uncontrolled development of agro-industrial, is extinct in most of the original distribution. During the construction of large artificial reservoir on the Argeș River (1965) a long section downstream of the structure was left without water for long periods, so the species has disappeared from the basin, and now *R. valsanicola* survives only in a stretch of about 6 to 7 km in the river Valsan. The main identified threats to the survival of the species are represented by the low flow rate delivered by the dam built in 1967, from multiple sources of pollution affecting the river (domestic sewage, waste from hospitals, lead mines, use of poison for poaching, etc.), for building purposes and extraction of stones and boulders from the river. The survival of *Romanichthys valsanicola* depends now from the EU LIFE program, already operating on site.

Protection: - *Romanichthys valsanicola* is listed in Annex II of the Bern Convention, and the stream Valsan received the status of legal protection since 1994. Since Romania joined the Union, the species was added as a priority in Annex II of the Habitats Directive. IUCN Red List (International Union for Conservation of Nature and Natural Resources), *Romanichthys valsanicola* species is listed as critically endangered (CRB1ab (ii, iii) + 2ab (ii, iii), Critically Endangered).

Economic value: - None. Species of importance itiofaunistica (rare Balkan endemic).

Fishing: - The species has no interest in sports and professional fishing. Previously he was captured by poachers through illegal means.

