

Brief Communication

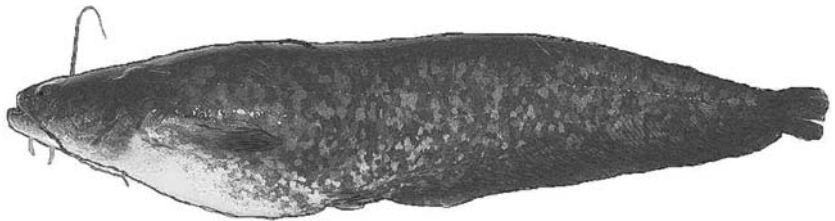
Threatened fishes of the world: *Silurus aristotelis* (Agassiz 1856) (Siluridae)

Leonardos Ioannis^a, Kagalou Ifigenia^a & Alexandros Triantafyllidis^b

^a*Biological Applications and Technology Department, University of Ioannina, 45110 Ioannina, Greece (e-mail: ileonard@cc.uoi.gr)*

^b*School of Biology, Department of Genetics, Development and Molecular Biology, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece*

Common names: Aristotle's catfish (E), glanidi (G), Aristotelis derived from the ancient Greek philosopher Aristotle (384–322 BCE) who was the first described the reproductive strategy and parental care of the species. **Conservation status:** Listed as endangered in the EU Habitat Directive 92/43/EEC (Annexes



II, IV). Strictly protected by the Bern Convention (Appendix II). Protected by Presidential Decree No. 67/1981 of the Greek State. **Identification:** D 3, A 73 (70–74), C 17, P 1, 12 (10–13), V 10 Vertebrae 56. The hard ray of the pectoral fin has 12–14 serrations, males have wider ray with more serrations than females. Body elongate, cylindrical anteriorly, compressed posteriorly, males are more slender than females. Head large and depressed, two pairs of barbells, one in each maxilla, the maxillary pair are especially long. Gape very wide, the lower maxilla is prolonged. The dorsal fin is very small, caudal fin is distinct from the anal fin, anal fin-base very long. Colouration variable; usually fairly dark, the upper side dark brown olive-green to blue-black and the flanks paler. Underside, especially the belly, pale to white. Upon this ground colour are imposed cloudy or spotted marblings. The skin is scaleless, max TL = 40 cm, maximum age 10 years. **Distribution:** Endemic to the lower Acheloos River system (W Greece) which includes the lakes Trichonis, Lysimachia, Ozeros, Amvrakia. Two nonnative populations were established by translocation of fish from Trichonis Lake to Pamvotis Lake (NW Greece) and Volvi Lake (N Greece) between 1950 and 1955 (Leonardos 1996). **Abundance:** Was originally abundant in the distribution area. In recent years most populations exhibit tendencies to decline due to high mortalities occurring from the pollution and fishing pressure. Healthy populations in the Lysimachia and Pamvotis Lakes, small populations in Trichonis and Amvrakia Lakes, and very rare in Volvi Lake. **Habitat and Ecology:** Occurs in the slow flowing reaches of rivers with turbid water, streams and canals, in lakes especially with dense weed-bed and muddy bottoms. It feeds at night predominantly on fish live and dead, and secondarily on crustaceans, gastropods, aquatic insects, small frogs and snakes (Iliadou & Ondrias 1986). **Reproduction:** Females mature at 2–3 year, extended breeding period with ripe gonads from April to July (Iliadou & Ondrias 1986). Eggs are laid near the shore in nest-building with pieces of aquatic plants, part of woods. Artificially fertilized eggs have diameter around 2.7 mm, and hatch after 5 days at 23°C. The newly hatched larvae have 7 mm NL (Economou et al. 1994). **Threats:** Major threats are connected with habitat loss or degradation caused by human activities. The main threats are habitat degradation (Pamvotis Lake, Volvi Lake), runoffs from agricultural (Amvrakia, Ozeros, Lysimachia), municipal effluences (Lysimachia and Pamvotis Lakes), water level fluctuations (Amvrakia, Pamvotis). Over fishing and use of illegal fishing methods is widely practiced in Trichonis Lake. **Conservation action:** At present, no actions are implemented for the conservation of the species. **Conservation recommendations:** Pollution from agricultural and sewage effluent should be reduced. The ecology and life traits of *S. aristotelis* need to be further studied so as to quantify the impact of habitat loss and fragmentation on its survival. The reproductive biology and the artificial reproduction of the fish must be studied with an emphasis in reintroduction programs wherever the species is extinct or rare. **Remarks:** Genetic (mitochondrial and microsatellite DNA) analyses revealed the clear differentiation of the native Trichonis and Amvrakia populations. (Triantafyllidis et al. 2002). Consequently, populations should be managed and conserved separately. Enhancement stockings, with translocations of individuals from one site to another, are not recommended. Although the introduction of *S. aristotelis* in the Lake Volvi is considered successful based on genetic (microsatellite) variability estimates (Triantafyllidis et al. 2002).

- Iliadou, K. & I. Ondias. 1986. Biology and morphology of *Parasilurus aristotelis* (Agassiz, 1856) (Pisces Cypriniformes, Siluridae) in Lakes Lysimachia and Trichonis of western Greece. *Biol. Gallo-Hellenica* 11: 207–238 (in Greek).
- Leonardos, I. 1996. The Biology of Fishes from the Lakes Trichonis and Lysimachia. Project “Hydrobiological Studies of Lysimachia and Trichonis Lakes, West Greece” Funded by the Ministry of Development, G. S. R. T. 52 pp. (in Greek).
- Triantafyllidis, A., T.J. Abatzopoulos, J. Leonardos & R. Guyomard. 2002. Microsatellite analysis of the genetic population structure of native and translocated Aristotle’s catfish (*Silurus aristotelis*). *Aquat. Living Res.* 15: 351–359.