

Contributions of Grigore Antipa, of His Predecessors and Successors to the Knowledge of the Inland Fish of Romania

Petru M. BĂNĂRESCU

Grigore Antipa (1867-1944) was the founder of ichthyology in Romania, better to say in the pre-1918 Romania. Still several authors published contributions earlier, the first of them being A.F. Marsigli, military engineer in the Austrian army; he recorded, in his monumental work *Danubius ponticomysicus*, 37 species of bony fishes and five sturgeons. Several contributions were published during the late years of the 18th century and during the 19th on the fishes from the Romanian provinces, then in the Austrian Empire. Most referred to Transylvania proper which was, prior to 1967, a distinct great principality. The most important were the three successive monographs of E.A. Bielz in 1853, 1856 and 1888 (BIELZ, 1888). In the last monograph he listed two species of lampreys (wrongly identified by him; the only lamprey present in Transylvania actually is *Eudontomyzon danfordi*), two sturgeons (one now extinct from Transylvania) and 29 bony fishes, among *Gobio uranoscopus* recorded by Karoli in 1877 from the Strei River, but possibly on the base of misidentified *Gobio kessleri* specimens. In the meantime, Hermann recorded three other species (*Rutilus pigus*, *Chalcalburnus chalcoides mento*, *Cobitis elongata*) from lakes of the central Transylvanian Plain (Câmpia Ardealului), again on the base of misidentifications. Finally, the English ichthyologist T. Regan described in 1911 the lamprey species from Transylvania as a new genus and species, *Eudontomyzon danfordii*.

Much fewer species have been recorded prior to 1918 from the three other western Romanian provinces: 28 from the Maramureş out of the 44 actually present in the province, 38 from Crişana (9 still are present), 27 from the Banat, none of them reported from more than three rivers; 21 others presently known to be native in the province.

Antipa had the major contribution to the knowledge of the inland fish fauna of Romania. His "*Fauna ihtiologică a României*" (1909) was one of the best ichthyological monographs published in that period in Europe. It deals with the fish fauna of the pre-1918 Romania, which corresponds to slightly more than half the present day Romania and less than half of its territory of 1918-1940. The book describes two lampreys, six sturgeons, 60 bony fishes besides marine intruders of Mugilidae. Both lampreys were misidentified (before 1918 the only species occurring in Romania is *Eudontomyzon mariae*).

The six sturgeons were thoroughly studied; Antipa was the first who recorded the occurrence of the western European sturgeons, *Acipenser sturio* in the Danube and in the Black Sea basin. From 60 listed bony fishes (i.e. 78%), 47 were correctly identified; the names under which they were listed correspond each to a single species. Three were misidentified, while fewer than five names Antipa confounded two or more species (five species as *Cobitis taenia*). Others 15 species present in the area investigated by Antipa are not listed; seven of them were confounded with listed species, while most of the eight others are very small or have quite restricted ranges. It is worth mentioning that the species confounded by Antipa were confounded also by all other authors of that period; their status was established only during the middle and late 20th century.

The contributions on the fish fauna of the western Romanian provinces belonging then to the Austrian or Austro-Hungarian monarchies published before the appearance of Antipa's 1909 book, include only enumeration of species, few data on their distribution and habitat and no illustrations at all. On the contrary Antipa's book contains descriptions, data on the biology (feeding habits, migrations etc), economical use and excellent illustrations. Vutskits' record on the occurrence of *Gobius* (now *Ponticola*) *kessleri* in the southern Banat was in large measure based on Antipa's book.

The earlier contributions on the fish fauna of Romania after 1909 were those of Ion Borcea who revised the Gobiidae from the fresh and brackish waters of Romania (BORCEA, 1933 [1934]), recording 11 species, seven of which were not listed by Antipa. The occurrence of six exotic, not native fish species, were recorded between 1920 and 1940. Motas and Anghelescu (1944) published a hydro biological monograph of the Bistrița Moldovenească River, with valuable remarks on the fish fauna.

The modern period in the study of the fresh water fish fauna of Romania began with the first record of two loaches in the country (Băcescu, 1943 and the 1946 contribution of Bănărescu on the fishes of the Timișoara area, with first record of two *Gobio* species in Romania). Numerous contributions by several authors, especially by Bănărescu and Nalbant followed during the second half of the 20th century.

Following new taxa have been described during that period: the genus *Romanichthys* Dumitrescu, Bănărescu & Stoica, 1957; with the species *R. valsanicola*; the subgenera *Romanogobio* Bănărescu and *Rheogobio* Bănărescu, 1961; the species *Sabanejewia romanica* Băcescu, 1945 – as *Cobitis caspia romanica*; *Scardinius racovitzai* Muller, 1958; *Cobitis danubialis* Băcescu and Nalbant, 1993 (new name for *Cobitis taenia* var. *elongatoides* Băcescu and Maier, 1969); *Cobitis megaspila* Nalbant, 1993; *Knipowitschia cameliae* Nalbant and Oțel, 1995; the subspecies *Sabanejewia aurata*

radnensis Jaszfalui, 1951 (as *Cobitis aurata balcanica* natio *radnensis*), *Gobio kessleri antipai* Bănărescu, 1953; *Gobio kessleri banaticus* Bănărescu, 1943; *Sabanejewia aurata vallachica* Nalbant, 1957, *Zingel streber nerensis* Bănărescu and Nalbant, 1979.

Several species were recorded from the first time in Romania: *Gobio albipinnatus*, *G. kessleri*, *Gymnocephalus baloni* throughout the country, *Leuciscus* (now *Telestas*) *souffia* in the Maramureș, *Cobitis elongata* in the Mara River, *Leuciscus borysthenicus* in the Danube Delta, the lamprey *Eudontomyzon mariae* in eastern and southern Romania, *E. vladykovi* in the Banat and in a tributary of the Olt River.

Many exotic species were introduced after 1955 in the Romanian inland waters: two species of *Coregonus*, four valuable Chinese Carps (*Ctenopharyngodon idella*, *Hypophthalmichthys molitrix*, *H. nobilis*, *Mylopharyngodon piceus*), the gudgeon – like *Pseudorasbora parva*, the guppy (*Poecilia reticulata*) and more of recently a second species of catfish (*Ictalurus melas*) and the sleeper *Odontobutis glehni*.

A comprehensive book on the fish fauna of Romania was published in that period: "Pisces – Osteichthyes", tome 13, in „Fauna of Romania” (BĂNĂRESCU, 1964), followed, five years later, by a short issues on the lampreys.

Numerous contributions have also been published in the same period on the distribution and biology of the fish in the riverine net and in the standing waters of Romania.

Unfortunately, the anthropic impact had negative effects on the fish fauna of the country: as a consequence of the draining of the Danube floodplain, shallow lakes, the carp and other variable species underwent a strong numerical decline; salmonids, sturgeons and other rheophilic species disappeared or became very rare on long sectors rivers because of damming of river and reduction of the water flow, over-fishing contributed to the decline especially of sturgeons, huchen and grayling. Two sturgeons (*Acipenser sturion* and *A. nudiiventris*) became extinct, possibly also *Stizostedion volgense* and *Rutilus pigus*; critically endangered are *Romanichthys valsanicola*, *Thymallus thymallus*, *Chalcalburnus chalcoides*, both *Zingel* species and *Carassius carassius* (the crucian carp).

It is worth mentioning that during recent years several young biologists began to work actively on our fish species.

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Petru M. Bănărescu
Institutul de Cercetări Biologice
Str. Frunzei nr. 2
București
Tel. 021-2239072