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## LENGTH-WEIGHT RELATIONSHIPS AND FULTON'S CONDITION FACTOR FOR NINE SPECIES OF FISH CAPTURED FROM THE BASIN OF RIVER CASIN INCLUDING SOME OF ITS TRIBUTARIES

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### Abstract

Length-weight relationships (LWR) and Fulton's condition factor (k) were estimated for *Salmo trutta fario*, *Squalius cephalus*, *Phoxinus phoxinus*, *Alburnoides bipunctatus*, *Gobio obtusirostris*, *Barbus petenyi*, *Barbatula barbatula*, *Sabanejewia balcanica*, and *Cottus gobio*, sampled from Casin River basin and some of its tributaries from Romania in October 1998, September 1999, August and September 2004, and September 2008. Three fish zones (Brown Trout Zone (A), Mediterranean Barbel Zone (B) and Chub Zone (C)) were found depending on the majority of identified species of fish. This group is in line with the numerical stock and weight stock carried out for fish populations in the sampling sites of the basin of River Casin and some of its tributaries. The allometric scaling of the length-weight relationship ranged between 2.698 and 4.931. The lowest value was attributed to Mediterranean Barbel (*Barbus petenyi*) in 2008, in C zone and the highest value to Eurasian Minnow (*Phoxinus phoxinus*) in 2008, in B zone. All of the studied species show isometric growth (allometric scaling (b) ~ 3) except *Phoxinus phoxinus*, *Alburnoides bipunctatus*, *Barbatula barbatula*, and *Sabanejewia balcanica* with b ~ 3.7, 3.4, 3.5 respectively 3.8 that exhibited positive allometric growth. The condition factor computed for each species varies between 0.126 (corresponding to *Sabanejewia balcanica*) and 1.143 (corresponding to *Barbus petenyi*). Low values of condition factor (k=0.126 corresponding to *Sabanejewia balcanica*, k=0.317 corresponding to *Barbatula barbatula*, and k=0.319 corresponding to *Phoxinus phoxinus*) suggested no good health condition during the experiment and indicated an allometric growth, which is undesirable for fish. Condition factors of *Salmo trutta fario*, *Squalius cephalus*, *Gobio obtusirostris*, *Barbus petenyi*, and *Cottus gobio* around “1” showed a good level of nutrition of this fish in the basin of River Casin including some of its tributaries.

**Key words:** allometric scaling, fish, Fulton's condition factor, River Casin

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