S1. Ecological interpretation and description of the ecomorphological indices.

Ecomorphological indices	Formula	Preditor of	Ecological explanation
Compression index	CI = BMH/MBW	Habitat use	High values indicate laterally compressed fish, which could be related to fish that explore habitats with slower water velocity (Watson, Balon, 1984).
Depression index	DI = BMH/MBH	Habitat use	Low values indicate species associated with the exploration of environments close to the bottom of the water column (Watson, Balon, 1984).
Relative depth	RD = MBH/LS	Habitat use	It is inversely related to water velocity, low values could indicate fish occupying high velocity habitats (Watson, Balon, 1984; Gatz, 1979b).
Eye position	EP = EH/HH	Habitat use	Low values would indicate eyes located dorsally, expected from species with benthic habits. High values would be expected from nektonic habits with eyes located laterally (Watson, Balon, 1984).
Relative area of pelvic fin	$RAPv = PvA/(SL)^2$	Habitat use	High values are found in benthic fish, while low values are associated with pelagic habits (Gatz, 1979b)
Aspect ratio of pelvic fin	$ARPv = (PvL)^2/PvA$	Habitat use	It is related to habitat preference, large values indicate pelagic habits, while lower values could be related to benthic habits, where these serve as support on the substrate (Gatz, 1979b).
Relative area of pectoral fin	$RAPt= PtA/(SL)^2$	Locomotion / Habitat use	High values are presented in slow swimmers, which use the pectoral fins for maneuverability. However, pectoral fin area also can be high for benthic fish, in species that use them to deflect water flow upwards and stay close to the bottom of the water column, mainly in fast water habitats (Gatz, 1979b; Watson, Balon, 1984).
Aspect ratio of pectoral fin	$ARPt = (PtL)^2/PtA$	Locomotion	High values indicate long and narrow fins, expected in fish that swim continuously, have a higher swimming speed or do some type of migration (Watson, Balon, 1984; Wainwright *et al*., 2002; Breda *et al*., 2005).
Relative lenght of caudal peduncle	RLPd = CPdL/SL	Locomotion	It is directly related to swimming ability, large values could indicate good swimmers and fish that live in habitats of greater water flow (Gatz, 1979; Watson, Balon, 1984; Breda *et al*., 2005).
Caudal peduncle compression index	CIPd = CPD/CPW	Locomotion	High values indicate compressed peduncles, related with low swimming activity and possibly low maneuverability (Gatz, 1979b; Watson, Balon, 1984).
Relative height of caudal peduncle	RHPd = CPdH/MBH	Locomotion	Low values indicate greater maneuverability (Winemiller, 1991; Oliveira *et al*., 2010).
Relative width of caudal peduncle	RWPd = CPdW/MBW	Locomotion	Higher values indicate better continuous swimmers (Winemiller, 1991; Oliveira *et al*., 2010).

Relative area of dorsal fin	RAD = DA/(SL)²	Locomotion	High values could be related to a better capacity of stabilization (Breda *et al*., 2005).
Relative area of caudal fin	RAC = CA/(SL)²	Locomotion	This fin is related to acceleration, large areas are associated with active swimmers or benthic fish that use it to make fast start bursts (Watson, Balon, 1984; Breda *et al*., 2005).
Aspect ratio of caudal fin	ARC = (CH)²/CA	Locomotion	It is directly related to the swimming activity (Gatz, 1979b), low values are related to little forked fins and indicate fish that are possibly not good at continuous swimming at high speeds (Keast, Webb, 1966).
Relative area of anal fin	RAA = AA/(SL)²	Locomotion	High values are related to a greater maneuverability capacity and movement stabilization (Wolff, 2008)
Aspect ratio of anal fin	ARA = (AL)²/AA	Locomotion	Higher values indicate the capacity to perform rapid progression and regression movements (Wolff, 2008).
Relative lenght of head	RLHd = HdL/SL	Trophic	It is related to the prey size, high values indicate the capacity to consume large prey (Gatz, 1979b). Therefore, high values would indicate predatory species (Watson, Balon, 1984).
Relative height of head	RHHd =HdH/MBH	Trophic	High values indicate the capacity to feed on large prey, therefore the highest values would be expected from piscivores (Willis *et al*., 2005; Wolff, 2008).
Relative width of head	RWHd = HdW/MBW	Trophic	High values are expected from piscivores or fish that catch large prey (Willis *et al*., 2005; Soares *et al*., 2013).
Relative height of mouth	RHM = MH/MBH	Trophic	Mouth dimensions would indicate the relative size of prey, high values in this index would indicate fish which feed on larger prey (Watson, Balon, 1984).
Relative width of mouth	RWM = MW/MBW	Trophic	It is related to the size of the food consumed (Gatz, 1979b).
Relative area of eye	RAE = EA/(SL)²	Trophic	Eye size is an approximation to the vision of fish, a larger size is related to predatory activity (Pankhurst, 1989).
Presence of barbel	Pb = 0 (ausent) Pb = 1 (present)	Trophic /Habitat use	Presence of barbels indicate species that feed principally on the bottom of the water column (Hugueny, Pouilly, 1999).
Mouth position (MP)	1 = Superior 2 = Terminal 3 = Sub-Terminal 4 = Inferior 5 = Ventral	Trophic /Habitat use	Position of the mouth was coded according to the position of the opening of the mouth when closed. 1 = superior, when the lower jaw extended anterior to the upper jaw; 2 = terminal, if the jaws extend symmetrically; 3 = subterminal, if the lower jaw ended slightly posterior to the upper jaw; 4 = lower, if the mouth opening was clearly recessed from the anterior edge of the head; 5 = ventral, if the mouth was positioned along the ventral surface of the body. Mouth position indicated the location of the food in relation to the fish. That is, it indicated the location in the water column where the fish obtains the food (Gatz, 1979b).