

Watching Angels

These piscatorial prizes of many a living-room were graced with good looks by intricate evolutionary processes in their homeland

BY HERNÁN LÓPEZ-FERNÁNDEZ



Even for those who have never owned an aquarium, freshwater angelfish such as this *Pterophyllum altum* are among the most readily recognizable aquarium fishes. Although we often think of this fish as a beautiful and ethereal pet, its elegant and unusual form and long fins are gracefully adapted to maneuvering among the submerged vegetation of the Orinoco and Amazonian flooded forests.

Often living in black waters—those stained a tea-colour by fallen forest leaves—angelfish probably appear to possible predators as a series of silvery specks, their black bars simply blending with the dark background. As predators themselves, angelfish combine maneuverability with stealth and jaws adapted to feeding on small insects and other prey. Hidden among the submerged leaves and roots, they aggressively care for their eggs and fry until the young are big enough to fend for themselves.

Ultimately, this familiar beauty is the exquisite result of a long and elaborate evolutionary process that gave origin to one of the largest families of freshwater fishes. Angelfish are but one of more than 600 species in the family of cichlids that inhabit the rivers of South and Central America. With an uncanny ability to adapt to their environments, cichlids have become specialists in using the many ecological opportunities available in the vast expanses of the American tropics. Whether in the sluggish lowland rivers of the Orinoco and Amazon basins, the rapids-ridden tributaries in the Brazilian and Guianan shields, or the blue waters of the Yucatán Peninsula, cichlids have found a niche almost everywhere.

But cichlids are not alone in their remarkable adaptations. They are just one family in a region with perhaps 7,000 fish species—the largest diversity of freshwater fishes anywhere on Earth. Here at the ROM's Department of Natural History, we are working hard at understanding how cichlids and other fishes in the Americas have been able to diversify in such an incredible way. More importantly, we are trying to learn how to protect these marvellous fishes from a world that increasingly challenges their survival even before we have been able to discover them all.

Watch for an in-depth look at the ROM's work on cichlids and other South American fishes in the Summer 2012 issue of *ROM* magazine. o

HERNÁN LÓPEZ-FERNÁNDEZ is associate curator of freshwater fishes in the ROM's Department of Natural History.