**Kruger Magazine**

**(article by P. Kotze)**

**Main Title**: FISHES OF THE KRUGER NATIONAL PARK

**Introduction**:

Driving through the thatched arch of a Kruger National Park entrance gate, evokes deep anticipation and excitement in any tourist. Topping the wish list of animals hoping to be seen, is usually 'Africa's Big 5'. Meandering their way deeper into the Park, beautiful landscapes unfold, and to the tourists' delight, several creatures other than just the Big 5, emerge and contribute to enhancing their bushveld experience. Whilst not everyone is open to searching for, and appreciating the diversity of vibrant birds, iconic trees or intricate insect species, those that are able to transform their mindset from 'Big 5 to bigger diversity', find their experience in the Park is enhanced and so much more rewarding.

Apart from the visually spectacular animal and plant species in the Park, there's also a whole spectrum of biodiversity that is, in most cases, not regularly, or easily observed by visitors. One of these elusive, and somewhat invisible animal groups, is the freshwater fishes of the Kruger National Park. Some may be lucky enough to come across a Pied kingfisher or a Saddle-billed stork, busy tenderising their sushi on a rock or tree stump and get a quick glimpse of the fish before it is swallowed. Most tourists will, however, not see one fish during their visit, unless they know when, and where to look for them. Guests are permitted to alight from their vehicles on some of the high-water bridges over the major rivers, such as at the high-water bridges over the Crocodile River (at Malelane Gate), Sabie River, Olifants River, Letaba River, Shingwedzi River and Luvuvhu River (stay between the yellow lines for your own safety!). These vantage points offer tourists the best opportunity to add one or more fish species to their Kruger Park animal checklists and make for good conversation topics around the camp fire at night.

The fact that fish species are elusive and difficult to observe by the average tourist, takes nothing away from the fact that the rivers of the Kruger National Park are home to many interesting freshwater fish species, and that the Park plays a critical role in the conservation of freshwater fish in Southern Africa as a whole. The Kruger National Park boasts with the highest diversity of freshwater fish species amongst all the national parks in South Africa, with an estimated 49 fish species naturally occurring in the Park.

The aim of this range of articles on the Freshwater Fishes of the Kruger National Park, is to introduce the readers to the amazing and prolific diversity of fish species in the Lowveld Rivers. Although they may not in general be visible to the tourists, it is important

to recognise their presence and importance in the overall ecological processes and conservation value of the Park.

**Sub-Title 1: DO YOU GET TIGERS IN KRUGER?**

A question that is often asked, mostly by curious international visitors to the Kruger Park, is "Do you get tigers in Kruger?" Well, the answer is no .... and yes! One of the most charismatic and most spectacular fish species found in the rivers of the Park is the Tigerfish (*Hydrocynus vittatus*). If there was to be a 'Big 5 Fishes' classification, the Tigerfish will most definitely be on the top of the list. The genus name of the Tigerfish, *Hydrocynus*, means "water dog", an appropriate description for these active, brightly striped, streamlined predatory fishes, with their formidable interlocking teeth. This species is renowned amongst fishermen as being probably one of the most exciting freshwater angling species. They are veracious predators caught by anglers using bait or spinners, and when caught, often leap out of the water (like a marlin) in an attempt to free themselves, often with great success. If one manages to keep them on the line, they will guarantee a very exciting and challenging tug-of-war, and only the most seasoned of anglers will get the overhand on them.

In the Kruger Park, Tigerfish are not often observed but can sometimes be spotted from the highwater bridge viewpoints. One should be on the lookout for fast swimming, streamlined fish with their red fins often visible in clear water. They are spectacularly fast, often seen chasing other fish species around (hunting almost like wild dogs). A tell-tale sign of Tigerfish activity is increased activity in the water, such as fish suddenly breaking the surface and jumping out of the water, to evade the razor-sharp teeth of Tigerfish on the hunt.

The Tigerfish is a bright, silvery fish with a bluish sheen, and a series of parallel, longitudinal black stripes along the body. Characteristic features include the pointed red fins, small black adipose fin on the back, and, of course, the jaw with piranha-like protruding, sharply-pointed and formidable teeth. An interesting fact about the teeth is that they are replaced at intervals throughout the life of the Tigerfish..., something us humans can only dream of.

Male Tigerfish may reach lengths of approximately 700 millimetre and can live for up to 20 years in the wild, while females may grow to approximately 500 millimetres and attain ages of up to 16 years in the wild. The South African Tigerfish angling record is only 5.88kg, which is notably lower than the Zimbabwean record of 16.1kg. Its big brother, the Goliath Tigerfish (*Hydrocynus goliath*), not present in the Kruger Parks' rivers, but found further north in the Congo River system, is known to reach lengths of up to 1.5 metres, and weighs in at around 50kg when fully grown.

Tigerfish prefer warm, well-oxygenated water, mainly in larger rivers and lakes, tending to frequent the surface layers where it often falls prey to the swooping African Fish Eagle. Tigerfish are predators throughout their life, initially feeding on invertebrates or zooplankton, progressively taking larger plankton and insects, and finally becoming exclusive fish feeders. Tigerfish have even been filmed catching Barn swallows flying low over the water, a rare and probably isolated occurrence.

Recent studies have revealed two movement patterns in Tigerfish, namely a *sedentary pattern* with localised movement of up to a few kilometres within a home range, and a *high mobility pattern* where individuals move up to several hundred kilometres along a river. Barriers, such as weirs, can pose serious obstacles to such movement. This is one of the reasons why there is an international drive to make more rivers free flowing (no barriers), a conservation objective also implemented by the Kruger National Park, when and where possible.

The Tigerfish is classified by the IUCN as Least Concern (LC), and although it occurs widespread and is still common in certain areas, they have declined in some rivers due to pollution, water abstraction and migration barriers (dams and weirs). Illegal gill-net fishing in tropical floodplain rivers is a major threat to this species. Protected areas, such as the Kruger National Park, play an important role in the conservation of this species. One of the major challenges in the management of the rivers of the Kruger National Park however, remains the fact that the catchment areas of the larger rivers lie upstream of the Park, and hence only holistic management approaches, by all role players will ensure the continued presence of this iconic species in the Parks' rivers.

**Sub-title 2: The two dwarfs.**

Tigerfish are classified in a group of fish called the Characins (Order: Characiformes), a sister group to the catfishes and South American electric fishes, with over 200 characin species found in Africa, of which 12 species occur in the waters of southern Africa (from the Zambezi River southwards). Although the Tigerfish is the most well-known of these species, two smaller characin species also exist in the rivers of the Kruger National Park and are often referred to as Dwarf Tigerfish. These are the Imberi (*Brachyalestes imberi*) and Silver Robber (*Micralestes acutidens*).

The Imberi (*Brachyalestes imberi*) is a small, silvery fish species, attaining lengths of up to 140mm,and can potentially live for up to five years. Characteristic features include the orange top half of the eye, yellowish fins, orange adipose fin, distinct black spot behind the head and a large black dash on the base of the tail fin. It occurs in a wide variety of habitats including large rivers, floodplain pans and lagoons, but favours habitats with flowing water. It feeds on aquatic and terrestrial invertebrates, as well as various seeds and plant materials. The main predator of the Imberi is the Tigerfish (*Hydrocynus vittatus*). The official IUCN conservation status of this species is Least Concern (LC), but

this species is also threatened by catchment degradation, including pollution and river regulation.

The smallest of the 'Tigerfish group of species' occurring in the rivers of the Kruger National Park is the Silver Robber (*Micralestes acutidens*), which attains lengths of up to 80 millimetres and lives to an age of approximately three years. This is also a small silvery fish, with characteristics including a broad iridescent strip along the body with pale yellow or orange fins. The dorsal (back) fin has a distinctive black tip and a small orange adipose fin on the back, just before the tail fin.

The Silver Robber is a shoaling species found in both flowing and standing waters, where it feeds from the surface waters on winged insects and also zooplankton. Shoals of this species are often observed migrating upstream to breed after the first summer rains have fallen.

The official IUCN conservation status of this species is also Least Concern (LC), but threats include general catchment degradation, illegal netting by subsistence fisheries (outside the Kruger Park), pollution and water abstraction.

So now you know, the next time a fellow tourist stops to ask you if there are tigers in the Kruger Park, you can give an informed answer!

**Author**: Dr. Piet (Vis) Kotze is an independent environmental consultant at Clean Stream Biological Services. His initial introduction to the freshwater fishes of Kruger was gained during his postgraduate studies, under the watchful eye of the then aquatic ecologist of the Kruger National Park, Dr. Andrew Deacon. Together they spent many days together doing monitoring surveys on the rivers of the Park, where he aptly received the nickname 'Piet Vis' (*English translation: Piet Fish*), a name that has stuck to this day. As an aquatic ecologist, he is currently involved in many freshwater monitoring and research studies, and has a special interest in the overall biodiversity that the Kruger National Park offers.

**PHOTOS**

**Photo 1:** Tigerfish (*Hydrocynus vittatus*), an iconic freshwater fish species in the rivers of the Kruger National Park (Photo credit: Bronwyn Kotze).

**Photo 2:** The genus name of the Tigerfish (*Hydrocynus)* means “water dog”, an appropriate description for these active, brightly striped, streamlined fishes with characteristic large, ferocious, widely-spaced interlocking teeth (Photo credit: Bronwyn Kotze).

**Photo 3:** Tigerfish are not often observed, but can sometimes be seen from the high-water bridge viewpoints. Be on the lookout for fast-swimming streamlined fish, often hunting in small groups. Their reddish fins are often visible in clear water, (Photo credit: Bronwyn Kotze).

**Photo 4:** The Imberi (*Brachyalestes imberi*), a small silvery fish species, is one of the 'Dwarf Tigerfish' found in the rivers of the Kruger National Park. (Photo credit: Piet Kotze).

**Photo 5:** The smallest of the 'Tigerfish species' occurring in the rivers of the Kruger National Park is the Silver robber (*Micralestes acutidens*), attaining lengths of up to 80mm and lives to an age of approximately three years. (Photo credit: Piet Kotze).

**Additional photo options:**

*Brachyalestes imberi* (Photo credit: Dr. Andrew Deacon)

Juvenile Tigerfish (Photo credit: Dr. Andrew Deacon)