

= Dark shyshark =

The dark shyshark or pretty Happy (*Haploblepharus pictus*) is a species of catshark , belonging to the family Scyliorhinidae , endemic to the temperate waters off southern Namibia and western South Africa . It is benthic in nature and inhabits shallow , inshore waters and favors rocky reefs and kelp forests . Growing to 60 cm (24 in) long , this small , stocky shark has a wide , flattened head with a rounded snout and a large flap of skin extending from before the nostrils to the mouth . Its dorsal coloration is extremely variable and may feature black @-@ edged orange to blackish saddles and / or white spots on a light brown to nearly black background .

When threatened , the dark shyshark curls into a ring with its tail covering its eyes , hence the name " shyshark " . It preys mainly on small crustaceans , bony fishes , and molluscs . Reproduction is oviparous and proceeds throughout the year . Females lay two egg cases at a time , which hatch after 6 ? 10 months . This harmless species is of little commercial significance due to its small size . It is frequently caught by recreational fishers and persecuted as a pest . The International Union for Conservation of Nature (IUCN) has listed the dark shyshark under Least Concern , as it is common and does not appear to be substantially threatened by fishing or habitat degradation .

= = Taxonomy and phylogeny = =

German physicians and biologists Johannes Peter Müller and Friedrich Gustav Jakob Henle originally described the dark shyshark in their 1838 ? 41 *Systematische Beschreibung der Plagiostomen* , based on five specimens caught off the Cape of Good Hope and deposited in the Rijksmuseum van Natuurlijke Historie in Leiden , The Netherlands . Because of the shark 's ornate coloration , they gave it the specific epithet *pictum* from the Latin for " painted " . Originally placed in the now @-@ obsolete genus *Scyllium* , subsequent authors moved this species to the genus *Haploblepharus* , coined by American zoologist Samuel Garman in 1913 .

The dark shyshark was often regarded to be the same as the puffadder shyshark (*H. edwardsii*) until 1975 , with the publication of A.J. Bass , Jeanette D 'Aubrey , and Nat Kistnasamy 's review of southern African sharks . It continues to be confused for the other three shyshark species because of its extremely variable coloration . The common name " pretty Happy " (" Happy " refers to the genus name *Haploblepharus*) was recently introduced to the public as an easily remembered alternative to the colloquial names " shyshark " and " doughnut " , which can apply to several species and have confounded research efforts . Brett Human 's 2006 phylogenetic analysis , based on three mitochondrial DNA genes , found that the dark shyshark and the brown shyshark (*H. fuscus*) are sister species , and that the two make up the more derived clade within the genus .

= = Description = =

Reaching no more than 60 cm (24 in) long , the dark shyshark differs from other shysharks in that it is slender @-@ bodied when juvenile and stocky @-@ bodied when adult . Its head is short , wide , and flattened , with a bluntly rounded snout and very large nostrils . The anterior rims of the nostrils bear greatly enlarged lobes of skin , which are fused into a single flap that reaches the mouth ; the flap conceals the nasal excurrent openings and a pair of grooves that run between them and the mouth . The large , horizontally oval eyes are equipped with rudimentary nictitating membranes (protective third eyelids) , and have strong ridges beneath . The mouth is short but wide and bears furrows at the corners extending onto both jaws . There are 45 ? 83 upper and 47 ? 75 lower tooth rows ; each tooth has a long central cusp flanked by a pair of smaller cusplets . The five pairs of gill slits are located fairly high on the body .

The two dorsal fins are of nearly equal size and placed far back on the body , with the first originating over the latter third of the pelvic fin bases and the second over the latter half of the anal fin base . The pectoral and pelvic fins are broad and rounded ; the males have stout claspers . The pelvic and anal fins are about as large as the dorsal fins . The broad caudal fin comprises about a fifth of the total body length and has a strong notch near the tip of the upper lobe and an indistinct

lower lobe . The skin is thick and covered by well @-@ calcified arrowhead @-@ shaped dermal denticles . The coloration of the dark shyshark is highly variable , and particular individuals can resemble any of the other shyshark species . The background color ranges from light brown to reddish to grayish to almost black above , transitioning abruptly to white or cream below , sometimes with dark blotches beneath the paired fins . There may be 6 ? 8 orange , brown , or blackish variably shaped saddles along the back and tail , edged more or less obviously in black . There may also be white spots within or within and between the saddles .

= = Distribution and habitat = =

The range of the dark shyshark is restricted to the coastal waters of southern Africa , from north of Lüderitz in southern Namibia to east of the Storms River mouth in the Eastern Cape Province of South Africa . It is abundant , particularly west of Cape Agulhas . This species is a bottom @-@ dweller found close inshore , from the intertidal zone to a depth of 35 m (115 ft) . It prefers rocky reefs and kelp forests , but also presumably traverses sandy flats in between patches of more suitable habitat . As this shark is not known to travel long distances , there is likely subpopulation differentiation across parts of its range .

= = Biology and ecology = =

The dark shyshark is a generalist predator whose main food sources are , in descending order of importance , small benthic crustaceans , bony fishes , and molluscs . Larger sharks consume proportionately more crustaceans . Polychaete worms and echinoderms are also taken on occasion , and algae may be swallowed incidentally . This species is preyed upon by the broadnose sevengill shark (*Notorynchus cepedianus*) , and potentially also other large fishes and marine mammals . When threatened , it adopts a characteristic defense posture in which it curls into a ring with its tail over its eyes ; this behavior likely makes the shark harder to swallow and is the origin of the common names " shyshark " and " doughnut " . In captivity , the whelks *Burnupena papyracea* and *B. lagenaria* have been documented piercing the egg cases of this species and extracting the yolk . A known parasite of the dark shyshark is the trypanosome *Trypanosoma haploblephari* , which infests the blood .

Like other members of its genus , the dark shyshark is oviparous ; adult females have a single functional ovary and two functional oviducts . There appears to be no distinct breeding season and reproduction occurs year @-@ round . Females produce mature eggs two at a time , one per oviduct . The eggs are enclosed in purse @-@ shaped capsules measuring 5 @. @ 5 cm (2 @. @ 2 in) long and 2 @. @ 5 cm (0 @. @ 98 in) across ; each capsule is plain amber to dark brown in color and bears thin , coiled tendrils at the four corners . In one observation of an egg that hatched after 104 days , the developing embryo had external gill filaments until it was 50 days old , and completely absorbed its yolk sac shortly before hatching . Eggs in nature typically hatch in 6 ? 10 months , with the newly hatched shark measuring 10 ? 12 cm (3 @. @ 9 ? 4 @. @ 7 in) long . Both sexes grow at approximately the same rate , reaching sexual maturity at around 15 years of age . Mature males and females range from 40 ? 57 cm (16 ? 22 in) and 36 ? 60 cm (14 ? 24 in) long respectively . The maximum lifespan is 25 years .

= = Human interactions = =

The dark shyshark poses no danger to humans and is too small to be of commercial importance . Many are hooked by sport fishers casting from the shore , who regard the shark as a pest and often kill it . It may also be caught by subsistence fishers and in lobster traps and bottom trawls , though not in substantial quantities . This shark occasionally finds its way into the aquarium trade , though there is no direct fishing for this purpose . As the dark shyshark remains common and does not seem heavily threatened by human activity , it has been assessed as Least Concern by the International Union for Conservation of Nature (IUCN) . Its small range does raise concerns that an

increase in regional fishing pressure or habitat degradation could impact the entire population .