

= Slender smooth @-@ hound =

The slender smooth @-@ hound or gollumshark (*Gollum attenuatus*) is a species of ground shark in the family Pseudotriakidae . It is endemic to the waters around New Zealand , where it is usually found close to the bottom over the continental slope at depths of 300 ? 600 m (980 ? 1 @,@ 970 ft) . An extremely slim , plain brownish shark reaching 1 @.@ 1 m (3 @.@ 6 ft) in length , the slender smooth @-@ hound can be identified by its broad , flattened head with a long , distinctively bell @-@ shaped snout . Its mouth is angular with short furrows at the corners , and contains a very high number of tooth rows in both jaws . Its two dorsal fins are roughly equal in size .

The diet of the slender smooth @-@ hound is diverse , but dominated by small , benthic bony fishes and decapod crustaceans . It exhibits a specialized form of aplacental viviparity with oophagy : the females produce a single capsule in each uterus that contains 30 ? 80 ova , of which one ovum develops into an embryo that consumes the rest of the ova and stores the yolk material in its external yolk sac . The growing embryo is mainly sustained by this yolk sac during gestation , though it may be additionally supplied with histotroph (" uterine milk ") produced by the mother . The typical litter size is two pups , one per uterus . The International Union for Conservation of Nature (IUCN) has assessed the slender smooth @-@ hound as Least Concern ; it is taken as fishery bycatch but not in great numbers , and furthermore large portions of its range see minimal fishing activity .

= Taxonomy and phylogeny =

The first known specimen of the slender smooth @-@ hound was a 93 cm (37 in) long adult male collected by the trawler Maimai in December 1953 , at a depth of 220 m (720 ft) off Cape Palliser on New Zealand 's North Island . It was preserved by the crew as a curiosity and given to ichthyologist Jack Garrick , who described it in a 1954 issue of the scientific journal Transactions of the Royal Society of New Zealand . Garrick named the species *Triakis attenuata* , in reference to its extremely slender (" attenuate ") body .

In 1973 , Leonard Compagno proposed a separate genus for the slender smooth @-@ hound : *Gollum* , after the character in J. R. R. Tolkien 's *The Lord of the Rings* , " to whom this shark bears some resemblance in form and habits . " He placed *Gollum* with the finback catsharks (*Proscylliidae*) , but also noted its many anatomical similarities to the false catshark (*Pseudotriakis microdon*) . At the time , Compagno chose to maintain *Pseudotriakis* as the sole member of the family Pseudotriakidae because of its numerous unique traits . More recently , he and other taxonomists have increasingly tended to group *Gollum* and *Pseudotriakis* together in the family Pseudotriakidae . This arrangement was corroborated by a 2006 phylogenetic study by Juan Andrés López and colleagues , which found that the two genera have a high degree of genetic similarity across four protein @-@ coding genes and form a natural clade apart from *Proscyllium* . An additional species of *Gollum* has now been described , and there is at least one additional species yet to be described .

= Distribution and habitat =

The range of the slender smooth @-@ hound is restricted to the upper and middle continental slope around New Zealand , including submarine features to the north such as the Three Kings Ridge , the Challenger Plateau , and the Wanganella Bank . This uncommon species is mainly found between 300 and 600 m (980 and 1 @,@ 970 ft) deep , but has been recorded from 129 to 724 m (423 to 2 @,@ 375 ft) deep . It prefers a temperature of around 10 ° C (50 ° F) and a salinity of approximately 34 @.@ 8 ? . Generally swimming near the sea floor , this shark inhabits both soft and rocky @-@ bottomed habitats in terrain ranging from plateaus to steep slopes .

= Description =

The slender smooth @-@ hound has a very thin body and a broad , highly flattened head . The snout is long , with a distinctive bell @-@ shaped outline when viewed from above . The eyes have an elongate horizontal oval shape , and are equipped with rudimentary nictitating membranes (protective third eyelids) . Beneath each eye is a prominent ridge , and behind is a much smaller spiracle . The nostrils are preceded by small , almost triangular flaps of skin . The line of the mouth forms an angle ; there are very short furrows at the mouth corners . The upper and lower jaws contain 96 ? 99 and 108 ? 114 rows respectively of small , very closely spaced teeth ; each tooth has a narrow upright central cusp flanked by smaller cusplets on both sides . The five pairs of gill slits are short .

The pectoral fins originate below the fourth gill slit and have gently curved margins . The pelvic fins are small and angular ; the males have pointed claspers . The two dorsal fins are similar in size and shape , with narrowly rounded apices and concave trailing margins . The first dorsal fin originates over rear of the pectoral fins , while the second dorsal fin originates between the pelvic and anal fins . A midline ridge is present between the dorsal fins . The anal fin is less than half as high as the first dorsal fin , and has a nearly straight trailing margin . The short and narrow caudal fin makes up about one @-@ sixth of the total length ; the lower caudal fin lobe is indistinct , while the upper lobe has a strong ventral notch near the tip . The skin is densely covered by small , overlapping dermal denticles . The crown of each denticle is mounted on a short stalk and bears three horizontal ridges leading to marginal blade @-@ like teeth , with the central tooth particularly long . This species is plain brownish @-@ gray above and lighter below . It grows up to 1 @.@ 1 m (3 @.@ 6 ft) long and 4 kg (8 @.@ 8 lb) in weight , with females reaching a slightly larger size than males .

= = Biology and ecology = =

The slender smooth @-@ hound is likely a schooling species . It preys on a variety of benthic fishes and invertebrates , and also scavenges ; human garbage has been reported among its stomach contents . Small bony fishes , lanternfishes in particular , are the most important prey type , followed by decapod crustaceans . Cephalopods , gastropods , isopods , brittle stars , dogfish sharks , and cartilaginous fish egg capsules may also be consumed . On the Challenger Plateau , cephalopods are an important food source for juveniles under 50 cm (20 in) long .

Like the false catshark , the slender smooth @-@ hound exhibits aplacental viviparity with oophagy , in a form different from that in the mackerel sharks . Mature females have a single functional ovary , on the right side , and two functional uteruses . Only one embryo develops within each uterus at a time , resulting in litters of two (rarely one) pups . The uterus inner surface is covered by villi . Within a uterus , 30 ? 80 ova 4 ? 8 mm (0 @.@ 16 ? 0 @.@ 31 in) across are packed into a single rigid , amber @-@ colored capsule ; of these , only one ovum is fertilized and develops into an embryo , while the remaining ova begin to break down . The embryo consumes these other ova and transfers the yolk material into its external yolk sac , which serves as its main source of nourishment during gestation ; this oophagous process is completed by an embryonic length of 10 ? 39 mm (0 @.@ 39 ? 1 @.@ 54 in) . The embryo may also receive secondary nutrition in the form of histotroph (" uterine milk ") produced by the mother . When the embryo is 29 ? 40 mm (1 @.@ 1 ? 1 @.@ 6 in) long , it emerges from the capsule , which by that time has become translucent and gelatinous . Embryos 4 ? 25 cm (1 @.@ 6 ? 9 @.@ 8 in) long have well @-@ developed external gill filaments . The external yolk sac is entirely absorbed when the embryo is 34 ? 42 cm (13 ? 17 in) long and close to being born . Males and females reach sexual maturity at approximately 70 cm (28 in) long .

= = Human interactions = =

Harmless to humans and of no economic value , the slender smooth @-@ hound is occasionally caught incidentally in bottom trawls and on bottom longlines . Much of its northern range lies in little @-@ fished waters , and thus the International Union for Conservation of Nature (IUCN) has listed it under Least Concern . However , this shark 's very low fecundity would render it susceptible to

population depletion should fishing pressure increase in the future .