

= Deepwater stingray =

The deepwater stingray or giant stingaree (*Plesiobatis daviesi*) is a species of stingray and the sole member of the family Plesiobatidae . It is widely distributed in the Indo @-@ Pacific , typically over fine sediments on the upper continental slope at depths of 275 ? 680 m (900 ? 2 @,@ 230 ft) . This species reaches 2 @.@ 7 m (8 @.@ 9 ft) in length and 1 @.@ 5 m (4 @.@ 9 ft) in width . It has an oval pectoral fin disc with a long , flexible , broad @-@ angled snout . Most of the entire latter half of its tail supports a distinctively long , slender , leaf @-@ shaped caudal fin . Its coloration is dark above and white below , and its skin is almost completely covered by tiny dermal denticles .

Preying on crustaceans , cephalopods , and bony fishes , the deepwater stingray may hunt both on the sea floor and well above it in open water . It is probably aplacental viviparous , with the mother supplying her gestating young with histotroph (" uterine milk ") . Captured rays merit caution due to their long , venomous stings . This species is taken by deepwater commercial fisheries , but in numbers too small to significantly threaten its population . Therefore , the International Union for Conservation of Nature has assessed it as Least Concern .

= Taxonomy and phylogeny =

The first scientific description of the deepwater stingray was authored by John H. Wallace , as part of a 1967 Investigational Report from the Oceanographic Research Institute , Durban . He named the new species *daviesi* in honor of David H. Davies , the late director of the ORI , and placed it in the genus *Urotrygon* based on its long , low caudal fin and lack of a dorsal fin . The type specimens were collected during September 1996 near the Limpopo River mouth in Mozambique : the holotype is a mature male 92 cm (36 in) across , and the paratype is an immature male 33 cm (13 in) across . Other common names for this species include Davies ' stingray and giant stingray .

In a 1990 morphological phylogenetic study , Kiyonori Nishida concluded that the deepwater stingray and the sixgill stingray (*Hexatrygon bickelli*) were the most basal stingrays (suborder Myliobatoidei) . Therefore , he moved this species to its own genus , *Plesiobatis* , and family , Plesiobatidae ; the name is derived from the Greek *plesio* (" primitive ") and *batis* (" ray ") . Subsequent morphological studies have corroborated the basal position of *Plesiobatis* , but disagreed on its relationships to nearby taxa . John McEachran , Katherine Dunn , and Tsutomu Miyake in 1996 could not fully resolve the position of *Plesiobatis* , thus they assigned it provisionally to the family Hexatrygonidae . McEachran and Neil Aschliman in 2004 found *Plesiobatis* to be the sister taxon of *Urolophus* , and recommended that it be placed in the family Urolophidae . Until the phylogeny is better @-@ resolved , authors have tended to preserve the family Plesiobatidae .

= Distribution and habitat =

Records of the deepwater stingray come from a number of locations scattered widely in the Indo @-@ Pacific : KwaZulu @-@ Natal in South Africa and Mozambique , the Gulf of Mannar , the northern Andaman Islands , the South China Sea , the Ryukyu Islands and the Kyushu @-@ Palau Ridge , along the southern coastline of Australia , northwestern Australia from the Rowley Shoals to Shark Bay , northeastern Australia from Townsville to Wooli , New Caledonia , and Hawaii . This bottom @-@ dwelling species generally inhabits the upper continental slope at depths of 275 ? 680 m (900 ? 2 @,@ 230 ft) , over muddy or silty substrates . An anomalous record from only 44 m (144 ft) deep off Mozambique was made . It seems to be locally common in tropical Australian waters , but may be rarer elsewhere .

= Description =

The deepwater stingray has a flabby body , with enlarged pectoral fins forming a disc usually longer than it is wide . The leading margins of the disc converge at a broad angle . The snout is thin and measures over six times as long as the diameter of the orbit ; the snout tip protrudes slightly from

the disc . The small eyes are positioned just ahead of the spiracles , which have angular posterior rims . The large , circular nostrils are placed close to the mouth , to which they are connected by a pair of broad grooves . Between the nostrils is a broad curtain of skin with a strongly fringed posterior margin . The wide , straight mouth contains 32 ? 60 tooth rows in either jaw , increasing in number with age . Each tooth is small with a low , blunt cusp ; in adult males the teeth at the center are sharp and backward @-@ pointing . The five pairs of gill slits are small and placed beneath the disc .

The pelvic fins are small and have blunt outer corners . The moderately thick tail measures 93 ? 102 % as long as the disc and lacks lateral skin folds and dorsal fins . One or two serrated stinging spines are present atop the tail , just ahead of the halfway point . The slender caudal fin originates a short distance behind the sting ; it is symmetrical above and below , and terminates in a rounded leaf @-@ like shape . The skin is densely covered by fine dermal denticles , that become sparse to absent on the pelvic fins , towards the ventral disc margin , and around the mouth . The deepwater stingray is purplish brown to blackish above ; some rays also have irregular darker blotches and spots . The underside is white , with a narrow dark border along the lateral disc margins . The tail is entirely dark , and the caudal fin is black . This large species grows up to 2 @. @ 7 m (8 @. @ 9 ft) long , 1 @. @ 5 m (4 @. @ 9 ft) across , and 118 kg (260 lb) in weight off southern Africa , though it is not known to exceed 2 @. @ 0 m (6 @. @ 6 ft) long off Australia .

= = Biology and ecology = =

The diet of the deepwater stingray consists of cephalopods , crustaceans (including penaeid prawns , crabs , and lobsters) , and bony fishes (including eels) . Its long , flexible snout is well @-@ suited for rooting through sediment , while the presence of mesopelagic species in its diet suggest that it may also hunt well above the sea floor . One recorded individual was found severely gouged by kitefin sharks (*Dalatias licha*) , which are capable of excising plugs of flesh , cookiecutter @-@ like , from larger animals . The deepwater stingray is presumed to be similar to other stingrays in being aplacental viviparous , and having the developing embryos nourished by maternally produced histotroph (" uterine milk ") . Given its large size and deepwater habits , it is probably not highly prolific , with a small litter size and a long gestation period . The young are apparently born at close to 50 cm (20 in) long , as evidenced by the capture of a free @-@ living specimen of that size that still bore a yolk sac scar . Males and females mature sexually at 1 @. @ 3 ? 1 @. @ 7 m (4 @. @ 3 ? 5 @. @ 6 ft) and 1 @. @ 9 ? 2 @. @ 0 m (6 @. @ 2 ? 6 @. @ 6 ft) long respectively . The maximum size , and likely also the maturation size , varies between geographic regions .

= = Human interactions = =

When captured , the deepwater stingray flails its powerful tail violently , and its long , venomous sting can inflict a serious injury to a fishery worker . It is caught incidentally by deepwater bottom trawls and longlines ; the meat may be sold but is poorly regarded . None of the deepwater commercial fisheries operating within its range (including those off South Africa , Taiwan , Indonesia and Australia) are extensive , and thus only small numbers of deepwater stingrays are landed . As a result , the International Union for Conservation of Nature has determined this species to be minimally threatened by human activity , and listed it under least concern . However , should deepwater fisheries expand in the future , it may be susceptible to depletion due to its probable rarity and low reproductive rate .