

= Bluespotted ribbontail ray =

Not to be confused with the bluespotted stingray , *Neotrygon kuhlii* .

The bluespotted ribbontail ray (*Taeniura lymma*) is a species of stingray in the family Dasyatidae . Found from the intertidal zone to a depth of 30 m (100 ft) , this species is common throughout the tropical Indian and western Pacific Oceans in nearshore , coral reef @-@ associated habitats . It is a fairly small ray , not exceeding 35 cm (14 in) in width , with a mostly smooth , oval pectoral fin disc , large protruding eyes , and a relatively short and thick tail with a deep fin fold underneath . It can be easily identified by its striking color pattern of many electric blue spots on a yellowish background , with a pair of blue stripes on the tail .

At night , small groups of bluespotted ribbontail rays follow the rising tide onto sandy flats to root for small benthic invertebrates and bony fishes in the sediment . When the tide recedes , the rays separate and withdraw to shelters on the reef . Reproduction is aplacental viviparous , with females giving birth to litters of up to seven young . This ray is capable of injuring humans with its venomous tail spines , though it prefers to flee if threatened . Because of its beauty and size , the bluespotted ribbontail ray is popular with private aquarists despite being poorly suited to captivity . The International Union for Conservation of Nature (IUCN) has listed this species as Near Threatened , as it faces widespread habitat degradation and intensive fishing pressure throughout its range .

= Taxonomy and phylogeny =

The bluespotted ribbontail ray was originally described as *Raja lymma* by Swedish naturalist Peter Forsskål , in his 1775 *Descriptiones Animalium quae in itinere ad maris australis terras per annos 1772 , 1773 , et 1774 suscepto collegit , observavit , et delineavit Joannes Reinholdus Forster , etc .* , curante Henrico Lichtenstein . The specific epithet *lymma* means " dirt " . Forsskål did not designate a type specimen . In 1837 , German biologists Johannes Peter Müller and Friedrich Gustav Jakob Henle created the genus *Taeniura* for *Trygon ornatus* , now known to be a junior synonym of this species .

Other common names used for this species include bluespotted ray , bluespotted fantail ray , bluespotted lagoon ray , bluespotted stingray , fantail ray , lesser fantail ray , lagoon ray , reef ray , ribbon @-@ tailed stingray , and ribbontail stingray . Morphological examination has suggested that the bluespotted ribbontail ray is more closely related to the amphi @-@ American *Himantura* (*H. pacifica* and *H. schmardae*) and the river stingrays (*Potamotrygonidae*) than to the congeneric blotched fantail ray (*T. meyeni*) , which is closer to *Dasyatis* and Indo @-@ Pacific *Himantura* .

= Distribution and habitat =

Widespread in the nearshore waters of the tropical Indo @-@ Pacific region , the bluespotted ribbontail ray has a range that extends around the periphery of the Indian Ocean from South Africa to the Arabian Peninsula to Southeast Asia , including Madagascar , Mauritius , Zanzibar , the Seychelles , Sri Lanka , and the Maldives . It is rare in the Persian Gulf and Gulf of Oman . In the Pacific Ocean , this species is found from the Philippines to northern Australia , as well as around numerous Melanesian and Polynesian islands as far east as the Solomon Islands . Rarely found deeper than 30 m (100 ft) , the bluespotted ribbontail ray is a bottom @-@ dwelling species that frequents coral reefs and adjacent sandy flats . It is also commonly encountered in the intertidal zone and tidal pools , and has been sighted near seagrass beds . Every summer , considerable numbers of bluespotted ribbontail rays arrive off South Africa .

= Description =

The pectoral fin disc of the bluespotted ribbontail ray is oval in shape , around four @-@ fifths as wide as long , with a rounded to broadly angular snout . The large , protruding eyes are immediately followed by the broad spiracles . There is a narrow flap of skin between the nares with a fringed

posterior margin , reaching past the mouth . The lower jaw dips at the middle and deep furrows are present at the mouth corners . There are 15 ? 24 tooth rows in either jaw , arranged into pavement @-@ like plates , and two large papillae on the floor of the mouth . The pelvic fins are narrow and angular . The thick , depressed tail measures about 1 @.@ 5 times the disc length and bears one or two (usually two) serrated spines well behind the tail base ; there is a deep fin fold on the ventral surface , reaching the tip of the tail , and a low midline ridge on the upper surface .

The skin is generally smooth , save for perhaps a scattering of small thorns on the middle of the back . The dorsal coloration is striking , consisting of numerous circular , neon blue spots on a yellowish brown or green background ; the spots vary in size , becoming smaller and denser towards the disc margin . The tail has two stripes of the same blue running along each side as far as the spines . The eyes are bright yellow and the belly is white . Individuals found off southern Africa may lack the blue tail stripes . The bluespotted ribbontail ray grows to 35 cm (14 in) across , 80 cm (31 in) long , and 5 kg (11 lb) .

= = Biology and ecology = =

One of the most abundant stingrays inhabiting Indo @-@ Pacific reefs , the bluespotted ribbontail ray generally spends the day hidden alone inside caves or under coral ledges or other debris (including from shipwrecks) , often with only its tail showing . At night , small groups assemble and swim onto shallow sandy flats with the rising tide to feed . Unlike many other stingrays , this species seldom buries itself in sand . The bluespotted ribbontail ray excavates sand pits in search of molluscs , polychaete worms , shrimps , crabs , and small benthic bony fishes ; when prey is located , it is trapped by the body of the ray and maneuvered into the mouth with the disc . Other fishes , such as goatfish , frequently follow foraging rays , seeking food missed by the ray .

Breeding in the bluespotted ribbontail ray occurs from late spring to summer ; the male follows the female and nips at her disc , eventually biting and holding onto her for copulation . There is also a documented instance of a male holding onto the disc of a smaller male bluespotted stingray (*Dasyatis kuhlii*) , in a possible case of mistaken identity . Adult males have been observed gathering in shallow water , which may relate to reproduction . Like other stingrays , this species is aplacental viviparous : the embryos are initially sustained by yolk , which later in development is supplemented by histotroph (" uterine milk " , containing mucus , fat , and proteins) produced by the mother . The gestation period is uncertain , but is thought to be between four and twelve months long . Females bear litters of up to seven young , each a miniature version of the adult measuring around 13 ? 14 cm (5 @.@ 1 ? 5 @.@ 5 in) across . Males attain sexual maturity at a disc width of 20 ? 21 cm (7 @.@ 9 ? 8 @.@ 3 in) ; the maturation size of females is unknown .

Known predators of the bluespotted ribbontail ray include hammerhead sharks (*Sphyrna*) and bottlenose dolphins (*Tursiops*) ; it is also potentially preyed upon by other large fishes and marine mammals . When threatened , this ray tends to flee at high speed in a zigzag pattern , to throw off pursuers . Numerous parasites have been identified from this species : the tapeworms *Aberrapex manjajiae* , *Anthobothrium taeniuri* , *Cephalobothrium taeniurai* , *Echinobothrium elegans* and *E. helmymohamedi* , *Kotorelliella jonesi* , *Polypocephalus saoudi* , and *Rhinebothrium ghardaguensis* and *R. taeniuri* , the monogeneans *Decacotyle lymmae* , *Empruthotrema quindecima* , *Entobdella australis* , and *Pseudohexabothrium taeniurae* , the flatworms *Pedunculacetabulum ghardaguensis* and *Anaporrhutum albidum* , the nematode *Mawsonascaris australis* , the copepod *Sheina orri* , and the protozoan *Trypanosoma taeniurae* . This ray has been observed soliciting cleanings from the bluestreak cleaner wrasse (*Labroides dimidiatus*) by raising the margins of its disc and pelvic fins .

= = Human interactions = =

While timid and innocuous towards humans , the bluespotted ribbontail ray is capable of inflicting an excruciating wound with its venomous tail spines . Its attractive appearance and relatively small size has resulted in its being the most common stingray found in the home aquarium trade . However , it seldom fares well in captivity and very few hobbyists are able to maintain one for long . Many

specimens refuse to feed in the aquarium , and even seemingly healthy individuals often inexplicably die or stop feeding . A higher degree of success has been achieved by public aquariums and a breeding project is maintained by the European Association of Zoos and Aquaria (for example , a total of 15 pups were born at Lisbon Oceanarium from 2011 to 2013) . The bluespotted ribbontail ray is utilized as food in East Africa , Southeast Asia , and Australia ; it is captured intentionally or incidentally using gillnets , longlines , spears , and fence traps .

The International Union for Conservation of Nature (IUCN) has assessed the bluespotted ribbontail ray as Near Threatened . Although still relatively common and widely distributed , this species faces continuing degradation of its coral reef habitat throughout its range , from development and destructive fishing practices using cyanide or dynamite . In addition , its populations are under heavy pressure by artisanal and commercial fisheries , and by local collecting for the aquarium trade .