



Flying tales from the ocean to you



FLYING SHARKS

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Marco Aurélio Santos (*Polyprion americanus*)



Established in 2006 Flying Sharks has been flying live marine animals to public aquaria all over the World, from Japan to the USA, Turkey to Dubai, Germany to China, and many other locations. We focus not only on large aircraft transports but also on smaller box shipments, all animals are collected by our staff, often in cooperation with artisanal fishermen, using only environmentally friendly and sustainable techniques, such as hook and line, scoop nets or traps. The vast majority of animals are therefore hand collected individually, while some swim into passive fishing gears.

Flying Sharks is also proud to boast a predominantly scientific team and fervourously supports research conducted both inhouse or by our “Flying Sharks Research Fund” recipients. All our results (both the good and the not-so-good) are published on peer reviewed journals (check them out in the “Literature” section of our website) and disseminated in scientific meetings all over the Globe. Feel free to get to know us better by touring our “Missions” and don’t miss our “Research Fund” area also.



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About us

FLYING SHARKS

It all started one late evening, sometime early 2006, while João Correia and José Graça, both marine biologists with a passion for the aquarium industry and sharks, sipped a gin n' tonic and discussed life, the Universe and other things. João had just taken a part-time teaching position at the Leiria Polytechnic Institute and both biologists were eager to embrace new challenges, after nine years dealing with collections, transport and husbandry of live marine fish, birds and invertebrates on staff at the Oceanário de Lisboa, Portugal's largest public aquarium.

Morikawa Hirofumi was, and still is, director of Tunipex, a large set-net that operates in the South of Portugal and immediately took a shine to the project as the three knew too well how truly spectacular some of the bycatch from Tunipex would look swimming in large exhibits all over the world, enabling these fine institutions to spread the good word on sound environmental practices by attracting visitors hungry for new and evermore interesting specimens. And thus the 'Flying Sharks' brand was born, on the 1st of September 2006, with the road transport of one phenomenal Devil ray, *Mobula mobular*, to L'Oceanogràfic in Valencia, Spain. Since then Flying Sharks has been flying, and driving, live marine animals to public aquaria and research institutions all over the World, covering distant locations

such as Japan, USA, Turkey, and also closer ones such as Germany, China, France, Austria, and many others. Note, however, that although the company occasionally focuses on large aircraft transports, it also regularly supplies small ornamental fish and invertebrates, shipped in styro-foam boxes.

In late 2008, while delivering Sunfish, *Mola mola*, to Dubai, Flying Sharks' largest order came in and drove for new and exciting plans that would have to cover the Azorean islands, set in the middle of the Atlantic Ocean. The quest was on for Chilean Devil rays, *Mobula tarapacana*, and the team knew exactly who to call: Telmo Gomes, João's college buddy and now a professor and researcher at Azores University, with a resumé filled with publications on sustainable fishing.

Telmo became an immediate, and intimate, part of the team and the arrival of Flying Sharks to the Azores took these beautiful islands by storm. Delighted with the fact that such a young and entrepreneurial team took its business to the Azores, the Regional Government has been ensuring Flying Sharks has all the necessary means to develop its activities. This tremendous *good will* from the local community, and leaders, included the recent incredibly generous *offer* of a large facility, based in Horta,



where Flying Sharks stages animals collected locally while, simultaneously, literally opening its doors and educating the local public about the wonders that lurk beneath Azorean waters.

Over the years, Flying Sharks has grown into substantially more than a collections company, mostly thanks to the academic background of the founders and staff. With two PhDs, one MScs and one BScs in Marine Biology as permanent staff, it's no wonder the company focuses hard on research, as well as disseminating its results (good and "less good" ones) in scientific meetings, and peer reviewed journals, worldwide. You may catch some of these papers under "Literature" on our website. While you're on the website, take a look under "Research fund" and see what the "Flying Sharks Research Fund" has done over the years. Our manager got the inspiration for this while attending an American Elasmobranch Society meeting in St. Louis back in 2007, while Flying Sharks was only months old. While glancing at the 'Acknowledgements' slide and the multiple institutions that financially supported the research of a young scientist, João thought to himself: 'We could – should (!) – be up there.' And indeed we have been, thanks to the generous patronage of our clients, who willingly add 10% to their invoices knowing this amount is directly – and exclusively – channelled towards research activities conducted by students and young scientists, worldwide.

In 2010 Flying Sharks received its largest order ever, which took two fully loaded Airbus 300s to deliver over 3.100 fish and invertebrates, to the, then under construction, Istanbul Aquarium in Turkey. The double charter flew on the evening of 13 December and the operation was coined as the 'Turkish Charter Delight', but preparations ensued over eight months before. Over these insane weeks a group of dedicated individuals, mostly comprised of João's and Telmo's former students, slaved to ensure no 't' was uncrossed and no 'i' was undotted on the night the animals were shipped. This is most likely the reason why only 3 animals were lost, which yields a survival rate of 99.9%. As far as we know, this is a world record on similar sized operations ever conducted.

Preparations for this mammoth endeavour took the team to Funchal (Madeira Islands), Peniche (Western Portuguese shore), Olhão (Southern Portuguese shore)

and Horta (Azores Islands), which drove yet another aspect of the Flying Sharks philosophy to come to be: fair trade and social responsibility. While developing operations in the Azores, for the very first time, the managers ensured most materials were purchased locally and the many helpers consisted exclusively of local artisanal fishermen and students from the University of the Azores reputed Department of Oceanography and Fisheries.

And this is exactly the same spirit that took the team to spread its wings south, all the way to the equator line, and start operations in the Portuguese speaking archipelago of São Tomé and Príncipe, where collections and conservation will join hands like never before in turning around a borderline catastrophic overfishing scenario.

With only a few years of operations under its belt Flying Sharks is a world-class player in its field, offering far more than just animals to its clients and partners. We like to think our social and environmental concerns will inspire other similar companies, and stakeholders worldwide, to adopt a more environmentally friendly philosophy, knowing that this is truly the only route towards a sustainable coexistence between mankind and the oceans.

We now invite you to know our company better and come fly Sharks with us.
Sincerely,

João Correia: General manager and operations

Telmo Morato Gomes: Co-founder and partner, Azores collections and operations

Rui Guedes: Head of Azores collections and operations

Nuno Vasco Rodrigues: Scientific officer and Western Portugal collections

Nelson Campino: Azores collections and operations

Luís Silva: Azores collections and operations

Francisco Maurício: Western Portugal collections and operations



Conservation



Flying Sharks follows a strict code of ethics, often surpassing European and international legislation on the subject. Animals are supplied only to those institutions that offer a strong educational background and support conservation activities. Whenever possible, local suppliers are preferred, which is associated to a substantially lower carbon footprint and helps developing native communities also.



Collections



All animals are collected by our staff, often in cooperation with artisanal fishermen, using only environmentally friendly and sustainable techniques, such as hook and line, scoop nets or traps. The vast majority of animals are therefore hand collected individually, while some swim into passive fishing gears.

Consulting














Flying Sharks is also proud to boast a predominantly scientific team composed by marine biologists, researchers, professors, experienced divers, underwater photographers, fishermen and engineers. All these areas of expertise allow Flying Sharks to offer quality consultancy work in several areas related to marine life.

Education



Remember those annoying people that speak passionately about their work at dinner parties and end up monopolizing the conversation because they have the coolest job at the table? Well, that's us. We feel privileged for doing what we do and it shows. You might catch us at a TED conference, or at a University in front of a few hundred undergrads, or in a classroom with a few dozen teenagers, or in kindergarten facing a mob of toddlers (probably wearing a shark fin for a hat) ... Chances are we will be lecturing about the plight to end shark fin soup, or what we should all do to stop climate change, or maybe even explaining the delicate balance between fish stocks and sustainable harvesting. We love what we do and we can't shut up about it, so bear with us and come check out our talks in a scientific conference near you.



 Scientific name	 Hand caught	 Hook and line
 Provenance	 Seine net	 Scuba-diving
 Max. size	 Scoop net	 Caught with traps
 Husbandry	 Set net	

■ Smooth hammerhead | ELASMOBRANCHS



	Scientific name: <i>Sphyrna zygaena</i>
	Provenance: Azores
	Max. size: 350 cm (11 feet)
Husbandry: Challenging	
   	
Collection method	
	

■ Chilean devil ray | ELASMOBRANCHS



	Scientific name: <i>Mobula tarapacana</i>
	Provenance: Azores
	Max. size: 300 cm (9.8 feet)
Husbandry: Challenging	
   	
Collection method	
	

■ Blue shark | ELASMOBRANCHS



Scientific name:
Prionace glauca

Provenance:
South and West of Portugal

Max. size:
300 cm (9.8 feet)

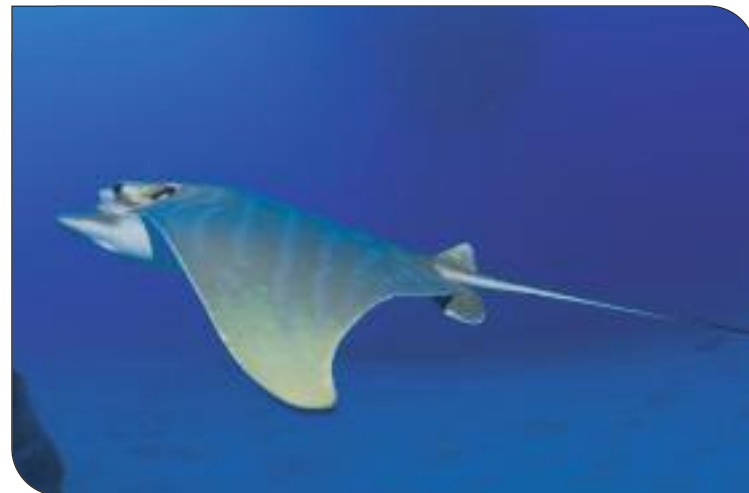
Husbandry: Difficult



Collection method



■ Bull ray | ELASMOBRANCHS



Scientific name:
Pteromyiaetus bovinus

Provenance:
South of Portugal

Max. size:
250 cm (8.2 feet)

Husbandry: Easy



Collection method



■ Thornback ray | ELASMOBRANCHS



Scientific name:
Raja clavata

Provenance:
Azores;
South of Portugal

Max. size:
100 cm (3.3 feet)

Husbandry: Easy



Collection method



■ Common torpedo | ELASMOBRANCHS



Scientific name:
Torpedo torpedo

Provenance:
South of Portugal

Max. size:
40 cm (15.7 inches)

Husbandry: Challenging





Collection method




■ Round stingray | ELASMOBRANCHS





 **Scientific name:**
Taeniura grabata



 **Provenance:**
Azores

 **Max. size:**
250 cm (8.2 feet)

Husbandry: Easy


   


Collection method


 

■ Common eagle ray | ELASMOBRANCHS





 **Scientific name:**
Myliobatis aquila


 **Provenance:**
South of Portugal

 **Max. size:**
170 cm (5.5 feet)

Husbandry: Easy


   


Collection method




■ Fangtooth moray | TELEOSTS







 **Scientific name:**
Enchelycore anatina



 **Provenance:**
Azores

 **Max. size:**
120 cm (4.6 feet)

Husbandry: Easy


   


Collection method


 

■ Mediterranean moray | TELEOSTS







 **Scientific name:**
Muraena helena



 **Provenance:**
South and West of Portugal

 **Max. size:**
150 cm (4.9 feet)

Husbandry: Easy

Collection method

■ Streaked gurnard | TELEOSTS



Scientific name:
Trigloporus lastoviza

Provenance:
West of Portugal

Max. size:
40 cm (15 inches)

Husbandry: Easy



Collection method



■ Forkbeard | TELEOSTS



Scientific name:
Phycis phycis

Provenance:
Azores; West of Portugal

Max. size:
65 cm (2.1 feet)

Husbandry: Challenging



Collection method



■ Blackbelly rosefish | TELEOSTS



Scientific name:
Helicolenus dactylopterus

Provenance:
Azores; West

Max. size:
50 cm (20 inches)

Husbandry: Easy



Collection method



■ Small red scorpionfish | TELEOSTS



Scientific name:
Scorpaena notata

Provenance:
South and West of Portugal

Max. size:
25 cm (10 inches)

Husbandry: Very easy



Collection method




■ Canary damsel | TELEOSTS



 **Scientific name:**
Abudefduf luridus

 **Provenance:**
Azores; Madeira

 **Max. size:**
15 cm (6 inches)

Husbandry: Very easy




Collection method




■ Azores chromis | TELEOSTS



 **Scientific name:**
Chromis limbata

 **Provenance:**
Azores; Madeira

 **Max. size:**
10 cm (4 inches)

Husbandry: Very easy





Collection method




■ Cardinal fish | TELEOSTS



 **Scientific name:**
Apogon imberbis

 **Provenance:**
Azores; Madeira

 **Max. size:**
15 cm (6 inches)

Husbandry: Very easy





Collection method




■ Goatfish | TELEOSTS



 **Scientific name:**
Mullus surmuletus

 **Provenance:**
Azores

 **Max. size:**
40 cm (16 inches)

Husbandry: Challenging





Collection method




■ Blacktail comber | TELEOSTS



 **Scientific name:**
Serranus atricauda

 **Provenance:**
Azores; Madeira

 **Max. size:**
45 cm (17 inches)

Husbandry: Easy





Collection method




■ Parrotfish | TELEOSTS



 **Scientific name:**
Sparisoma cretense

 **Provenance:**
Azores; Madeira

 **Max. size:**
50 cm (20 inches)

Husbandry: Easy





Collection method



■ Ballan wrasse | TELEOSTS



 **Scientific name:**
Labrus bergylta

 **Provenance:**
Azores; West of Portugal

 **Max. size:**
60 cm (2 feet)

Husbandry: Easy




Collection method




■ Ornate wrasse | TELEOSTS



 **Scientific name:**
Thalassoma pavo

 **Provenance:**
Azores; Madeira

 **Max. size:**
25 cm (10 inches)

Husbandry: Very easy





Collection method




■ Baillon's wrasse | TELEOSTS



 **Scientific name:**
Symphodus bailloni

 **Provenance:**
West of Portugal

 **Max. size:**
20 cm (8 inches)

Husbandry: Very easy





Collection method




■ Barred hogfish | TELEOSTS



 **Scientific name:**
Bodianus scrofa

 **Provenance:**
Azores

 **Max. size:**
40 cm (16 inches)

Husbandry: Challenging




Collection method




■ Rock cook | TELEOSTS



 **Scientific name:**
Centrolabrus exoletus

 **Provenance:**
West of Portugal

 **Max. size:**
20 cm (8 inches)

Husbandry: Easy




Collection method




■ Mediterranean rainbow wrasse | TELEOSTS



 **Scientific name:**
Coris julis

 **Provenance:**
Azores; Madeira;
South and West
of Portugal

 **Max. size:**
30 cm (12 inches)

Husbandry: Challenging



Collection method



■ Meagre | TELEOSTS



Scientific name:
Argyrosomus regius

Provenance:
South of Portugal

Max. size:
230 cm (7.5 feet)

Husbandry: Easy



Collection method



■ Swallowtail seaperch | TELEOSTS



Scientific name:
Anthias anthias

Provenance:
Azores

Max. size:
25 cm (10 inches)

Husbandry: Easy



Collection method



■ Guinean puffer | TELEOSTS



Scientific name:
Sphoeroides marmoratus

Provenance:
Azores

Max. size:
20 cm (8 inches)

Husbandry: Easy



Collection method



■ Tompot blenny | TELEOSTS



Scientific name:
Parablennius gattorugine

Provenance:
West of Portugal

Max. size:
30 cm (12 inches)

Husbandry: Very easy





Collection method




■ Threefin blenny | TELEOSTS



 **Scientific name:**
Tripterygion delaisi

 **Provenance:**
Azores; West of Portugal

 **Max. size:**
9 cm (3.5 inches)

Husbandry: Easy





Collection method




■ Broadnosed pipefish | TELEOSTS



 **Scientific name:**
Syngnathus typhle

 **Provenance:**
South of Portugal

 **Max. size:**
30 cm (12 inches)


Husbandry: Easy





Captive bred

■ Ocean sunfish | TELEOSTS



 **Scientific name:**
Mola mola

 **Provenance:**
South of Portugal

 **Max. size:**
330 cm (11 feet)

Husbandry: Challenging





Collection method




■ Common dolphinfish | TELEOSTS



 **Scientific name:**
Coryphaena hippurus

 **Provenance:**
South of Portugal

 **Max. size:**
210 cm (6.9 feet)

Husbandry: Challenging




Collection method



■ Grey triggerfish | TELEOSTS



 **Scientific name:**
Balistes capriscus

 **Provenance:**
South and West of Portugal

 **Max. size:**
60 cm (2 feet)

Husbandry: Very easy





Collection method




■ Atlantic bonito | TELEOSTS



 **Scientific name:**
Sarda sarda

 **Provenance:**
South of Portugal

 **Max. size:**
90 cm (3 feet)

Husbandry: Challenging





Collection method



■ Atlantic mackerel | TELEOSTS



 **Scientific name:**
Scomber scombrus

 **Provenance:**
South of Portugal

 **Max. size:**
60 cm (2 feet)

Husbandry: Challenging




Collection method



■ Yellowmouth barracuda | TELEOSTS



 **Scientific name:**
Sphyræna viridensis

 **Provenance:**
Azores

 **Max. size:**
130 cm (4.3 feet)

Husbandry: Challenging




Collection method




■ Dusky grouper | TELEOSTS



 **Scientific name:**
Epinephelus marginatus

 **Provenance:**
South of Portugal

 **Max. size:**
150 cm (5 feet)

Husbandry: Easy





Collection method:




■ Pilotfish | TELEOSTS



 **Scientific name:**
Naucrates ductor

 **Provenance:**
Azores

 **Max. size:**
40 cm (16 inches)

Husbandry: Very easy




Collection method:




■ Pompano | TELEOSTS



 **Scientific name:**
Trachinotus ovatus

 **Provenance:**
Azores

 **Max. size:**
50 cm (20 inches)

Husbandry: Easy





Collection method:




■ Wreckfish | TELEOSTS



 **Scientific name:**
Polyprion americanus

 **Provenance:**
Azores and South of Portugal

 **Max. size:**
80 cm (2.6 feet)

Husbandry: Easy



Collection method:



■ Long-snouted seahorse | TELEOSTS



Scientific name:
Hippocampus guttulatus

Provenance:
South of Portugal

Max. size:
20 cm (8 inches)

Husbandry: Very easy



Captive bred

■ White seabream | TELEOSTS



Scientific name:
Diplodus sargus

Provenance:
West of Portugal

Max. size:
35 cm (14 inches)

Husbandry: Very easy



Collection method



■ Boarfish | TELEOSTS



Scientific name:
Capros aper

Provenance:
Azores

Max. size:
20 cm (8 inches)

Husbandry: Easy



Collection method:



■ Longspine snipefish | TELEOSTS



Scientific name:
Macroramphosus scolopax

Provenance:
South of Portugal

Max. size:
20 cm (8 inches)

Husbandry: Easy



Collection method:



■ Beadlet anemone | INVERTEBRATES



Scientific name:
Actinia equina



Provenance:
West of Portugal



Max. size:
7 cm (2.7 inches)

Husbandry: Very easy



Collection method



■ Snakelocks anemone | INVERTEBRATES



Scientific name:
Anemonia viridis



Provenance:
West of Portugal



Max. size:
13 cm (5 inches)

Husbandry: Very easy



Collection method



■ Jewel anemone | INVERTEBRATES



Scientific name:
Corynactis viridis



Provenance:
West of Portugal



Max. size:
3 cm (1.2 inches)

Husbandry: Very easy



Collection method



■ Common Mediterranean hermit crab | INVERTEBRATES



Scientific name:
Dardanus calidus



Provenance:
Azores



Max. size:
11 cm (4.3 inches)

Husbandry: Easy



Collection method



■ Monaco cleaner shrimp | INVERTEBRATES



Scientific name:
Lysmata seticaudata

Provenance:
West of Portugal

Max. size:
5 cm (2 inches)

Husbandry: Easy



Collection method



■ Spiny spider crab | INVERTEBRATES



Scientific name:
Maja brachydactyla

Provenance:
West of Portugal

Max. size:
25 cm (10 inches)

Husbandry: Easy



Collection method



■ Common cuttlefish | INVERTEBRATES



Scientific name:
Sepia officinalis

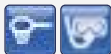
Provenance:
South and West of Portugal

Max. size:
45 cm (17.7 inches)

Husbandry: Challenging



Collection method



■ Common octopus | INVERTEBRATES



Scientific name:
Octopus vulgaris

Provenance:
South and West of Portugal

Max. size:
130 cm (4.3 feet)

Husbandry: Easy



Collection method



■ Variable sea cucumber | INVERTEBRATES



 **Scientific name:**
Holothuria sanctori

 **Provenance:**
Azores; Madeira

 **Max. size:**
25 cm (9.8 inches)

Husbandry: Easy

Collection method

■ Purple sea urchin | INVERTEBRATES



 **Scientific name:**
Sphaerechinus granularis

 **Provenance:**
Azores; Madeira

 **Max. size:**
30 cm (12 inches)

Husbandry: Easy


Collection method


 

■ Purple sea star | INVERTEBRATES





 **Scientific name:**
Ophidiaster ophidianus


 **Provenance:**
Azores; Madeira

 **Max. size:**
40 cm (15.7 inches)

Husbandry: Challenging

Collection method

■ Spiny sea star | INVERTEBRATES



 **Scientific name:**
Marthasterias glacialis

 **Provenance:**
West of Portugal

 **Max. size:**
30 cm (12 inches)

Husbandry: Easy

Collection method

■ Monrovia doctorfish | TELEOSTS



Scientific name:
Acanthurus monroviae

Provenance:
São Tomé

Max. size:
30 cm (12 inches)

Husbandry: Easy



Collection method



■ Biafra doctorfish | TELEOSTS



Scientific name:
Prionurus biafraensis

Provenance:
São Tomé

Max. size:
35 cm (14 inches)

Husbandry: Easy



Collection method



■ Atlantic coris | TELEOSTS



Scientific name:
Coris atlantica

Provenance:
São Tomé

Max. size:
20 cm (8 inches)

Husbandry: Easy



Collection method



■ Newton's wrasse | TELEOSTS



Scientific name:
Thalassoma newtoni

Provenance:
São Tomé

Max. size:
20 cm (8 inches)

Husbandry: Easy




Collection method




■ African Creole wrasse | TELEOSTS



 **Scientific name:**
Clepticus africanus

 **Provenance:**
São Tomé

 **Max. size:**
30 cm (12 inches)

Husbandry: Easy




Collection method




■ West-African Parrotfish | TELEOSTS



 **Scientific name:**
Sparisoma choati

 **Provenance:**
São Tomé

 **Max. size:**
40 cm (16 inches)

Husbandry: Easy




Collection method




■ Guinean parrotfish | TELEOSTS



 **Scientific name:**
Scarus hoefleri

 **Provenance:**
São Tomé

 **Max. size:**
50 cm (20 inches)

Husbandry: Easy




Collection method




■ Atlantic emperor | TELEOSTS



 **Scientific name:**
Lethrinus atlanticus

 **Provenance:**
São Tomé

 **Max. size:**
40 cm (16 inches)

Husbandry: Easy



Collection method



■ Bluespotted seabass | TELEOSTS



Scientific name:
Cephalopholis taeniops

Provenance:
São Tomé

Max. size:
50 cm (20 inches)

Husbandry: Easy



Collection method



■ Niger hind | TELEOSTS



Scientific name:
Cephalopholis nigri

Provenance:
São Tomé

Max. size:
30 cm (12 inches)

Husbandry: Easy



Collection method



■ African Angelfish | TELEOSTS



Scientific name:
Holacanthus africanus

Provenance:
São Tomé

Max. size:
40 cm (16 inches)

Husbandry: Easy



Collection method



■ Three-banded butterflyfish | TELEOSTS



Scientific name:
Chaetodon robustus

Provenance:
São Tomé

Max. size:
14 cm (6 inches)

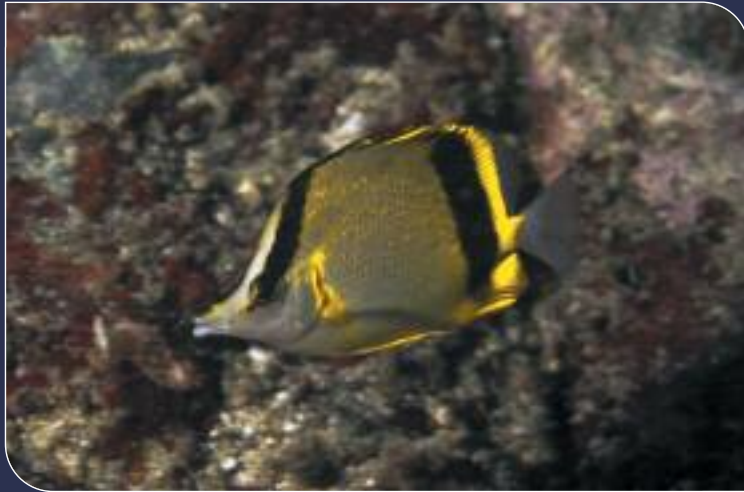
Husbandry: Easy




Collection method




■ Marcella Butterflyfish | TELEOSTS



 **Scientific name:**
Prognathodes marcellae

 **Provenance:**
São Tomé

 **Max. size:**
12 cm (5 inches)

Husbandry: Easy





Collection method



■ West African sharpnose-puffer | TELEOSTS



 **Scientific name:**
Canthigaster supramacula

 **Provenance:**
São Tomé

 **Max. size:**
5 cm (2 inches)

Husbandry: Easy



Collection method




■ Bluespotted triggerfish | TELEOSTS



 **Scientific name:**
Balistes punctatus

 **Provenance:**
São Tomé

 **Max. size:**
50 cm (20 inches)

Husbandry: Easy




Collection method




■ Atlantic cornetfish | TELEOSTS



 **Scientific name:**
Aulostomus strigosus

 **Provenance:**
São Tomé

 **Max. size:**
75 cm (2.5 feet)

Husbandry: Easy



Collection method







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