

# Captive-breeding: State of

# the Art 2013

by Tal Sweet

Although there are tales of experimental breeding of marine aquarium fishes in captivity as early as the 1930s, with reports of the first limited success coming in the late 1960s in the form of Neon Gobies (*Elacatinus oceanops*), the modern era really started in 1972. That year, Martin A. Moe, Jr. documented his success with the Ocellaris Clownfish (*Amphiprion ocellaris*). An innovative young marine biologist working in St. Petersburg, Florida, Moe tallied many “firsts” and was willing to share his secrets with others. Moe, Frank Hoff, Tom Frakes, and Bill Addison are regarded as pioneers in the captive breeding of marine aquarium fish.

A **captive-bred fish** is clearly defined as one that was spawned, hatched, settled, and grown to selling size entirely in an enclosed system not connected to the wild habitat. While many ornamental marine species have only been bred in captivity once, many other species are more widely available than at any time in the past. It’s not just clownfishes anymore. (**Tank-raised fishes** don’t count; they represent wild-spawned species that are harvested and reared in captivity.)

Following those initial breakthroughs, more than 220 marine ornamental species have now been successfully spawned and reared in captivity. Of these, about 60 are commonly or occasionally found in the marketplace, and approximately 165 are rarely seen or not yet available for purchase.

The increasing success of intrepid home-based, part-time breeders is fueled by hobbyists working together in collectives, such as the Marine Breeding Initiative (MBI). These small-scale efforts, as well as larger commercial and academic/research operations, are rapidly broadening the range of captive-bred marine aquarium species available to the public and raising general awareness of their presence. Captive-bred marine fishes are consistently regarded as harder and a better choice than their wild-caught counterparts.

This Captive-Bred Marine Fish Species List provides a timely snapshot of the estimated availability of these species as captive-bred fishes as the year 2013 begins. The list was initially compiled with data sourced through the MBI species success list, <http://www.mbisite.org/Species.aspx>, with availability assessments determined in consultation with Live Aquaria, ORA, Proaquatix, and Sustainable Aquatics.

This comprehensive list makes a few subjective exclusions of game fish, food fish, temperate species, and emerging data. Success with a “new” species can be reported to the MBI: <http://www.mbisite.org/ClassReq.aspx>.

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*Amphiprion ocellaris* during brood care.

## AVAILABILITY AS CAPTIVE-BRED LIVESTOCK

<b>ORANGE</b> =	<b>COMMON</b>
<b>GREEN</b> =	<b>MODERATE TO LOW</b>
<b>GOLD</b> =	<b>SCARCE</b>
<b>VIOLET</b> =	<b>VERY RARE (experimental breeding successful, not available in 2012)</b>

### Angelfishes (Pomacanthidae)

*Apolemichthys arcuatus*, Bandit Angelfish  
*Centropyge acanthops*, African Pygmy Angelfish  
*Centropyge argi*, Cherub Angelfish  
*Centropyge colini*, Collins or Cocos Keeling Angelfish  
*Centropyge debelius*, Debelius Angelfish  
*Centropyge fisheri*, Fisher’s Angelfish  
*Centropyge flavissima*, Lemonpeel Angelfish  
*Centropyge interruptus*, Japanese Pygmy Angelfish  
*Centropyge jocularis*, Jocular Angelfish  
*Centropyge loricula*, Flame Angelfish  
*Centropyge multicolor*, Multicolor Angelfish  
*Centropyge multifasciata*, Multibar Angelfish  
*Centropyge resplendens*, Resplendent Angelfish  
*Genicanthus personatus*, Masked Angelfish  
*Genicanthus watanabei*, Blackedged Angelfish  
*Pomacanthus annularis*, Annularis Angelfish  
*Pomacanthus arcuatus*, Gray Angelfish  
*Pomacanthus asfur*, Asfur Angelfish  
*Pomacanthus maculosus*, Yellowbar Angelfish  
*Pomacanthus paru*, French Angelfish  
*Pomacanthus semicirculatus*, Koran Angelfish

### Basslets (Serranidae)

*Liopropoma carmabi*, Candy Basslet  
*Liopropoma rubre*, Swissguard Basslet

### Batfishes (Ehippidae)

*Platax pinnatus*, Pinnatus Batfish  
*Platax orbicularis*, Orbiculate Batfish  
*Chaetodipterus faber*, Atlantic Spadefish

### Blennies (Blenniidae)

*Parablennius marmoratus*, Seaweed Blenny  
*Chasmodes bosquianus*, Striped Blenny  
*Enchelyurus flavipes*, Goldentail Combtooth Blenny  
*Hypsoblennius hentz*, Feather Blenny  
*Meiacanthus atrodorsalis*, Forktail Blenny  
*Meiacanthus bundoon*, Bundoon Blenny  
*Meiacanthus grammistes*, Striped Fang Blenny  
*Meiacanthus mossambicus*, Mozambique Fang Blenny  
*Meiacanthus nigrolineatus*, Blackline Fang Blenny  
*Meiacanthus oualanensis*, Canary Fang Blenny  
*Meiacanthus smithi*, Disco Blenny

The successful breeding of marine aquarium fishes is growing exponentially, but what species have already been bred? Which of them are actually available in the trade?

*Meiacanthus tongaensis*, Fang (Tonga) or Combtooth Blenny  
*Petroscirtes breviceps*, Mimic Fang Blenny  
*Salaria pavo*, Peacock Blenny  
*Scartella cristata*, Molly Miller Blenny

### Boxfishes (Ostraciidae)

*Acanthostracion quadricornis*, Scrawled Cowfish

### Cardinalfishes (Apogonidae)

*Apogon compressus*, Ochre-Striped Cardinalfish  
*Apogon cyanosoma*, Yellow-Striped Cardinalfish  
*Apogon margaritophorus*, Copper-Lined Cardinalfish  
*Cheilodipterus quinquelineatus*, Five-Lined Cardinalfish  
*Pterapogon kauderni*, Banggai Cardinalfish  
*Pterapogon mirifica*, Sailfin Cardinalfish  
*Sphaeramia nematoptera*, Pajama Cardinalfish  
*Zoramia leptacantha*, Threadfin Cardinalfish

### Marine Catfishes (Plotosidae)

*Plotosus lineatus*, Striped Eel Catfish

### Clingfishes (Gobiesocidae)

*Gobiesox punctulatus*, Stippled Clingfish  
*Gobiesox strumosus*, Skilletfish

### Clownfishes (Pomacentridae)

*Amphiprion akallopisos*, Skunk Clownfish  
*Amphiprion akindynos*, Barrier Reef Clownfish  
*Amphiprion allardi*, Allard’s Clownfish  
*Amphiprion barberi*, Fiji Barberi Clownfish  
*Amphiprion bicinctus*, Red Sea (Two-Barred) Clownfish  
*Amphiprion chrysogaster*, Mauritian Clownfish  
*Amphiprion chrysopterus*, Orangefin Anemonefish  
*Amphiprion clarkii*, Clarkii Clownfish  
*Amphiprion ephippium*, Red Saddleback Clownfish  
*Amphiprion frenatus*, Tomato Clownfish  
*Amphiprion latezonatus*, Wide Band Clownfish  
*Amphiprion leucokranos*, Whitebonnet Clownfish  
*Amphiprion mccullochi*, McCulloch’s Clownfish  
*Amphiprion melanopus*, Fire/Cinnamon Clownfish  
*Amphiprion nigripes*, Blackfinned Clownfish  
*Amphiprion ocellaris*, Ocellaris Clownfish  
*Amphiprion percula*, Percula Clownfish  
*Amphiprion perideraion*, Pink Skunk Clownfish

*Amphiprion polymnus*, Saddleback Clownfish  
*Amphiprion rubrocinctus*, Australian Clownfish  
*Amphiprion sandaracinos*, Orange Skunk Clownfish  
*Amphiprion sebae*, Sebae Clownfish  
*Amphiprion tricinatus*, Three-Band Clownfish  
*Premnas biaculeatus*, Maroon Clownfish

#### Convict Blennies (Pholidichthyidae)

*Pholidichthys leucotaenia*, Convict Blenny, Engineer Goby

#### Damselishes (Pomacentridae)

*Abudefduf saxatilis*, Sergeant Major  
*Acanthochromis polyacanthus*, Orange Line Chromis  
*Amblyglyphidodon aureus*, Golden Damselish  
*Amblyglyphidodon ternatensis*, Ternate Damselish  
*Chromis nitida*, Barrier Reef Chromis  
*Chromis viridis*, Blue Green Chromis  
*Chrysiptera cyanea*, Blue Devil Damselish  
*Chrysiptera hemicyanea*, Azure Damselish  
*Chrysiptera parasema*, Yellowtail Damselish  
*Chrysiptera rex*, King Demoiselle  
*Chrysiptera taupou*, Fiji Blue Devil  
*Dascyllus albisella*, Whitespot Damselish, Hawaiian Dascyllus  
*Dascyllus aruanus*, Three Stripe Damselish  
*Dascyllus trimaculatus*, Three Spot Domino Damselish  
*Hypsypops rubicundus*, Garibaldi Damselish  
*Microspathodon chrysurus*, Jewel Damselish  
*Neoglyphidodon crossi*, Cross's Damselish  
*Neoglyphidodon melas*, Bowtie Damselish  
*Neoglyphidodon nigroris*, Black and Gold Chromis  
*Neopomacentrus bankieri*, Lyretail Damselish  
*Neopomacentrus cyanomos*, Regal Damselish  
*Neopomacentrus filamentosus*, Brown Damselish  
*Neopomacentrus nemurus*, Yellow-Tipped Damselish  
*Neopomacentrus violascens*, Violet Demoiselle  
*Pomacentrus amboinensis*, Ambon Damselish  
*Pomacentrus caeruleus*, Caerulean Damselish  
*Pomacentrus coelestis*, Neon Damselish  
*Pomacentrus nagasakiensis*, Nagasaki Damselish  
*Pomacentrus pavo*, Sapphire Damselish

#### Dartfishes (Ptereleotridae)

*Parioglossus* cf. *dotui*, Dotui Dartfish

#### Dottybacks (Pseudochromidae)

*Congrogadus subducens*, Wolf Blenny  
*Cypho purpurascens*, Oblique Lined Dottyback  
*Labracinus cyclophthalmus*, Red Dottyback  
*Labracinus lineatus*, Lined Dottyback  
*Manonichthys alleni*, Allen's Dottyback  
*Manonichthys polynemus*, Longfin Dottyback  
*Manonichthys splendens*, Splendid Dottyback  
*Ogilbyina novaehollandiae*, Australian Pseudochromis  
*Oxycercichthys veliferus*, Sailfin Dottyback  
*Pictichromis diadema*, Diadem Dottyback

*Pictichromis paccagnellae*, Bicolor or Royal Dottyback  
*Pictichromis porphyrea*, Magenta Dottyback  
*Pseudochromis aldabraensis*, Neon Dottyback  
*Pseudochromis bitaeniatus*, Double Striped Dottyback  
*Pseudochromis cyanotaenia*, Blue Bar Dottyback  
*Pseudochromis elongatus*, Red Head Elegant Dottyback  
*Pseudochromis flavivertex*, Sunrise Dottyback  
*Pseudochromis fridmani*, Orchid Dottyback  
*Pseudochromis fuscus*, Dusky or Yellow Dottyback  
*Pseudochromis olivaceus*, Olive Dottyback  
*Pseudochromis sankeyi*, Sankey's or Striped Dottyback  
*Pseudochromis springeri*, Springer's Dottyback  
*Pseudochromis steenei*, Flamehead or Steen's Dottyback  
*Pseudochromis tapeinosoma*, Blackmargin Dottyback  
*Pseudochromis tonozukai*, Tono's or Orange Peel Dottyback

#### Dragonets (Callionymidae)

*Callionymus bairdi*, Lancer Dragonet  
*Callionymus enneactis*, Mosaic Dragonet  
*Synchiropus ocellatus*, Scooter Blenny  
*Synchiropus picturatus*, Spotted Mandarin  
*Synchiropus splendidus*, Green Mandarin  
*Synchiropus stellatus*, Red Scooter Blenny

#### Drums (Sciaenidae)

*Equetus lanceolatus*, Jackknife Fish  
*Equetus punctatus*, Spotted Drum  
*Pareques acuminatus*, High Hat  
*Pareques umbrosus*, Cubbyu

#### Filefishes (Monacanthidae)

*Acreichthys tomentosus*, Bristletail Filefish  
*Oxymonacanthus longirostris*, Orange Spotted Filefish

#### Frogfishes (Antennariidae)

*Rhycherus filamentosus*, Tasseled Frogfish

#### Gobies (Gobiidae)

*Amblygobius phalaena*, Banded Sleeper Goby  
*Coryphopterus personatus*, Masked Goby  
*Cromileptes altivelis*, Humpback Grouper  
*Cryptocentrus cinctus*, Yellow Watchman Goby  
*Cryptocentrus fasciatus*, Y-Bar Watchman Goby  
*Cryptocentrus leptocephalus*, Pink-Speckled Shrimp Goby  
*Cryptocentrus lutheri*, Luther's Prawn-Goby  
*Elacatinus chancei*, Shortstripe Goby  
*Elacatinus evelynae*, Golden Neon or Sharknose Goby  
*Elacatinus figaro*, Barber Goby  
*Elacatinus genie*, Cleaning Goby  
*Elacatinus horsti*, Yellowline Goby  
*Elacatinus louisae*, Spotlight Goby  
*Elacatinus macrodon*, Tiger Goby  
*Elacatinus multifasciatus*, Green Banded Goby  
*Elacatinus oceanops*, Neon Goby  
*Elacatinus prochilos*, Broadstripe Goby  
*Elacatinus punctulatus*, Red Headed Goby

*Elacatinus randalli*, Yellownose Goby  
*Elacatinus xanthiprora*, Golden Goby  
*Gobiodon citrinus*, Citron Clown Goby  
*Gobiodon okinawae*, Okinawan Goby  
*Gobiosoma bosc*, Naked Goby  
*Koumansetta hectori*, Hector's Goby  
*Koumansetta rainfordi*, Rainford's Goby  
*Lythrypnus dalli*, Catalina Goby

#### Grammas (Grammatidae)

*Gramma loreto*, Royal Gramma  
*Gramma melacara*, Blackcap Basslet  
*Lipogramma klayi*, Bicolor Basslet

#### Groupers (Serranidae)

*Epinephelus lanceolatus*, Giant or Bumblebee Grouper  
*Serranus subligarius*, Belted Sandfish

#### Grunts (Haemulidae)

*Anisotremus virginicus*, Porkfish

#### Hamlets (Serranidae)

*Hypoplectrus gemma*, Blue Hamlet  
*Hypoplectrus guttavarius*, Shy Hamlet  
*Hypoplectrus unicolor*, Butter Hamlet

#### Jacks (Carangidae)

*Gnathanodon speciosus*, Golden Trevally, Pilot Fish  
*Selene vomer*, Lookdown

#### Jawfishes (Opistognathidae)

*Opistognathus aurifrons*, Pearly Jawfish  
*Opistognathus macrognathus*, Banded Jawfish

#### Labrasomid Blennies (Labrisomidae)

*Paraclinus grandicomis*, Horned Blenny

#### Pipefishes (Syngnathidae)

*Doryrhamphus excisus*, Bluestripe Pipefish  
*Doryrhamphus janssi*, Janss's Pipefish  
*Dunckerocampus dactyliophorus*, Ringed Pipefish  
*Dunckerocampus pessuliferus*, Yellow Banded Pipefish  
*Halliichthys taeniophorus*, Ribboned Pipefish  
*Syngnathus scovelli*, Gulf Pipefish

#### Puffers (Tetraodontidae)

*Sphoeroides maculatus*, Northern Puffer  
*Canthigaster rostrata*, Sharpnose Puffer  
*Lagocephalus spadiceus*, Half-Smooth Golden Puffer

#### Rabbitfishes (Siganidae)

*Siganus canaliculatus*, White-Spotted Spinefoot  
*Siganus lineatus*, Golden-Lined Spinefoot  
*Siganus rivulatus*, Marbled Spinefoot

#### Assessors (Plesiopidae)

*Assessor flavissimus*, Yellow Assessor  
*Assessor macneilli*, Blue Assessor  
*Callopleksiops altivelis*, Marine Betta, Comet

#### Seadragons (Syngnathidae)

*Phycodurus eques*, Leafy Seadragon  
*Phyllopteryx taeniolatus*, Common Seadragon

#### Seahorses (Syngnathidae)

*Hippocampus abdominalis*, Bigbelly Seahorse  
*Hippocampus barbouri*, Barbour's Seahorse  
*Hippocampus breviceps*, Short-Head Seahorse  
*Hippocampus capensis*, Knysna Seahorse  
*Hippocampus comes*, Tiger Tail Seahorse  
*Hippocampus erectus*, Lined Seahorse  
*Hippocampus fuscus*, Sea Pony  
*Hippocampus histrix*, Thorny Seahorse  
*Hippocampus ingens*, Pacific Seahorse  
*Hippocampus kelloggi*, Great Seahorse  
*Hippocampus kuda*, Yellow or Common Seahorse  
*Hippocampus procerus*, High-Crown Seahorse  
*Hippocampus reidi*, Brazilian or Longsnout Seahorse  
*Hippocampus trimaculatus*, Longnose Seahorse  
*Hippocampus whitei*, White's Seahorse  
*Hippocampus zosterae*, Dwarf Seahorse

#### Bamboo Sharks (Hemiscylliidae)

*Chiloscyllium hasseltii*, Hasselt's Bamboo Shark  
*Chiloscyllium plagiosum*, Whitespotted Bamboo Shark  
*Chiloscyllium punctatum*, Brownbanded Bamboo Shark  
*Hemiscyllium hallstromi*, Papuan Epaulette Shark  
*Hemiscyllium ocellatum*, Epaulette Shark

#### Bullhead Sharks (Heterodontidae)

*Heterodontus francisci*, Horn Shark

#### Shrimpfishes (Centriscidae)

*Aeoliscus strigatus*, Razorfish, Shrimpfish

#### Snappers (Lutjanidae)

*Lutjanus sebae*, Red Emperor Snapper

#### Whiptail Rays (Dasyatidae)

*Taeniura lymma*, Bluespot Stingray

#### Toadfishes (Batrachoididae)

*Allenbatrachus grunniens*, Grunting Toadfish  
*Opsanus tau*, Oyster Toadfish

#### Triggerfishes (Balistidae)

*Balistes vetula*, Queen Triggerfish  
*Xanthichthys mento*, Crosshatch Triggerfish

#### Triplefins (Tripterygiidae)

*Enneapterygius etheostomus*, Snake Blenny

