“Saving the seahorses means saving the seas...”

The Island of Mindanao is called the ‘land of promise,’ of the Philippines. Its coastal areas are endowed by rich coastal marine resources including seahorses and pipefishes. Seahorses are highly charismatic and considered as flagship species of the marine environment occupying various habitats while pipefishes also gained popularity by resembling seahorses. However, both are vulnerable to changing environment, habitat degradation and overfishing. Their popularity to Traditional Chinese Medicine (TCM) led to overharvesting for trading hence, resulted in the decrease of populations. Thus, this work takes precedence in describing seahorses and pipefishes including its habitats in Mindanao, Philippines. This photographic guide to seahorses and pipefishes was constructed as a collaborative effort with partners and stakeholders to account for species and microhabitats present in selected areas in Mindanao. This served as an inspirational and conservational tool for information dissemination and for local capacity building as we take the challenge to save the seas by saving the seahorses.

The logo called ‘Seahorse Tidal Love’ is drawn by hand and represents the seahorse as a symbol of love and hope amidst tossing waves of uncertainties under changing environment.

—SRMT—

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BFAR CARAGA

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COMMON SEAHORSES
of Mindanao

Parts of the Seahorse

a. Whole Seahorse: Lateral

b. Head: Dorsal View

c. Head: Lateral View
Don’t Know Which Seahorse Species? How to Photograph for ID

For unknown species, record the following characteristics:

- **Torso length**
  (distance from top of coronet to base of dorsal fin)
- **Head length**
  (from immediately behind the operculum - the flap covering the gills - to tip of snout)
- **Snout length**
  (from bump immediately in front of the eye to tip of snout)

or

Take a photo of the side profile of the seahorse with a ruler and calculate these measurements from the photo.

Also record and photograph a side view of the head showing

- All facial spines and coronet
- Number of pairs of eye spines
- Number of pairs of cheek spines
- Presence/absence of nose spine, and if present, whether it is long (prominent) or short (low)
- Any other distinguishing features, e.g., spines or bumps on body, stripes on snout/tail

H. comes

Photo: Sharon Rose Tabugo

1 pair

long

2 pairs
COMMON SEAHORSE
Hippocampus kuda

- Deep body ("fatter" compared to *H. kellogi*)
- Low/round coronet
- Spines are rounded bumps

Photo: Sharon Rose Tabugo

Color variation of *H. kuda*

Photo: Sharon Rose Tabugo
COMMON SEAHORSE
Hippocampus kuda

Common name: Yellow seahorse; spotted seahorse

Description
Maximum recorded adult height: 17 cm
Trunk rings: 11
Tail rings: 36 (34–38)
HL/SnL: 2.3 (2.0–2.6)
Rings supporting dorsal fin: 2 trunk rings and 1 tail ring
Dorsal fin rays: 17 (17–18)
Pectoral fin rays: 16 (15–18)
Coronet: Low to medium-height, rounded, overhanging at the back, often with a cup-like depression in the top; sometimes with broad flanges; not spiny
Spines: Low, rounded bumps only

Other distinctive characteristics:
Deep head; deep body; thick snout
Color/pattern: Often totally black with a grainy texture; alternatively pale yellow or cream with fairly large, dark spots (especially females); may be sandy colored, blending in with surroundings

Distribution
Buruun, Iligan City
Canaway, Iligan City
Dalipuga, Iligan City
Zamboanga City
Lopez Jaena, Misamis Occidental
Tukuran, Zamboanga del Sur
General Santos City
SND, Lanao del Norte
Samal Island, Davao
Sarangani, Southern Mindanao
Linamon, Lanao del Norte
Tubod, Lanao del Norte
Surigao City
Cagayan de Oro City
Bacolod, LDN

Photo: Berns Maglana
Photo: Sharon Rose Tabugo

Agpopongan Pier, Island Garden City of Samal

H. kuda

Maguindanao
Kauswagan, LDN
Tubod, LDN

Photo: Berns Maglana
Photo: Sharon Rose Tabugo
Hippocampus kuda Morphotypes

IUCN Red List Status (Ref. 120744)

- Vulnerable (VU) (A2cd+3cd+4cd); Date assessed: 16 August 2012

CITES (Ref. 115941)

Appendix II: International trade monitored
Hippocampus kuda Morphotypes
KELLOGGI’S SEAHORSE
Hippocampus kelloggi

MALE

- Distinct coronet
- Narrow body (compared to H. kuda)
- Thick truck rings
- Long, back-pointing, rounded cheek spine

FEMALE

DORSAL

Typical Lifespan
- Lab and aquatic observations estimate 3-5 years for larger seahorse species and 1 year for smaller species.

Distribution
Tungawan, Zamboanga Sibugay
Tawi-tawi

Smooth Seahorse
**Characteristics**
- Laterally directed wing-like spines;
- Nape and lateral head spines with ribbon-like filaments;
- Snout length approximately 1/2 head length; and snout depth 4x in its length;
- Trunk ridges with enlarged broad-based blunt spines on rings 1,4,7 and below dorsal fin, others as low tubercles, ventral ridge smooth;
- Nose spine absent, spine above eye of moderate length reaching pupil diameter;
- Dorsal fin rays usually 17; trunk rings 11; tail rings 34-36; subdorsal spines 2-3/0-0.5,1,0-0.5, usually enlarged on the 11th trunk ring;
- Lateral head spine large, usually larger than spine above eye; coronet well-developed, with 5-7 blunt spines, apex rough and rugose;

**Habitat**
- Adults inhabit soft bottoms;
- Marine, demersal, non-migratory; depth range 10-80m;

**IUCN Red List Status (Ref. 120744)**
- Not Evaluated

**CITES (Ref. 118484)**
- Appendix II: International trade monitored
TIGER TAIL SEAHORSE
Hippocampus comes

- Double cheek spines
- Prominent nose spine
- Rugged spines on body (spines not sharp)
- Low coronet
- Striped tail (can look blotchy)
- Small head relative to body

Photo: Sharon Rose Tabugo
Common name: Tiger tail seahorse

**Description**

*Maximum recorded adult height: 18.7 cm*

- **Trunk rings:** 11
- **Tail rings:** 35-36 (34–37)
- **HL/SnL:** 2.2 (1.9–2.5)
- **Rings supporting dorsal fin:** 2 trunk rings and 1 tail ring
- **Dorsal fin rays:** 18 (17–19)
- **Pectoral fin rays:** 17 (16–19)
- **Coronet:** Small and low, with five distinct rounded knobs or spines
- **Spines:** Range from knob-like and blunt to well-developed and sharp; often with dark band near tip

**Other distinctive characteristics:**

- Cheek spines are double; double spines below and sometimes also above eye; prominent, sharp nose spine; long, slender snout
- **Color/pattern:** Commonly hues of yellow and black, sometimes alternating; striped tail (although this may not be visible in dark specimens); mottled or blotched pattern on body; may have fine white lines radiating from eye

**Distribution**

- Rizal, Zamboanga del Norte
- Tungawan, Zamboanga Sibugay
- Zamboanga City
- Samal Island, Davao
- Surigao City
Hippocampus comes Morphotypes

IUCN Red List Status (Ref. 120744)

Vulnerable (VU) (A2bd+4bd); Date assessed: 15 September 2013

CITES (Ref. 115941)

Appendix II: International trade monitored
SPINY SEAHORSE
Hippocampus histrix

- Long snout
- Single cheek spine
- Sharp spines on coronet
- Prominent nose spine
- Sharp, often dark-tipped body spines

Distribution
Zamboanga
Samal Island, Davao
HEDGEHOG SEAHORSE
Hippocampus spinosissimus

- Low or no nose spine (compare to H. histrix)
- Single or double cheek spines
- Blunter and shorter body spines than H. histrix

Description
Maximum recorded adult height: 17.2 cm
Trunk rings: 11
Tail rings: 36 (33–39)
HL/SnL: 2.2 (2.0–2.4)
Rings supporting dorsal fin: 2 trunk rings and 1 tail ring
Dorsal fin rays: 17-18 (16–20)
Pectoral fin rays: 17 (16–19)
Coronet: Low to medium-height, with four or five sharp spines
Spines: Well-developed, either blunt or sharp, usually longer on first, fourth, seventh and eleventh trunk rings and with a regular series of longer spines on tail
BARBOURI’S SEAHORSE
Hippocampus barbouri

- Two pairs of cheek spines
- Prominent nose spines
- Stripes on snout

Other distinctive characteristics: Double cheek spines, double spines below eye
Color/pattern: White to pale yellow to pale brown; reddish-brown spots and lines on body; snout often striped; fine lines radiating from eye

Distribution
Surigao del Norte
Samal Island, Davao
Surigao City
Zamboanga

Photo: Citizen Scientist
Hippocampus barbouri Morphotypes

IUCN Red List Status (Ref. 120744)

- Vulnerable (VU) (A2cd); Date assessed: 19 January 2017

CITES (Ref. 115941)

Appendix II: International trade monitored
BARGIBANTI’S SEAHORSE
Hippocampus bargibanti

- Coronet: Rounded knob
- Spines: Irregular bulbous tubercles scattered over body and tail; single, prominent rounded eye spine; single, low rounded cheek spine
- Snout: extremely short

Other distinctive characteristics: Head and body fleshy, mostly without recognizable body rings; ventral portion of trunk segments incomplete; snout extremely short

Color/pattern: Two colour morphs are known: (a) pale grey or purple with pink or red tubercles (found on gorgonian coral Muricella plectana); and (b) yellow with orange tubercles (found on gorgonian coral Muricella paraplectana)

Photo:
Citizen Scientist
Samal Island, Davao

Distribution
Davao del Norte
**DENISE’S PYGMY SEAHORSE**

**Hippocampus denise**

- Limited number of tubercles on the body
- Coronet: No raised coronet
- Spines: none

*Other distinctive characteristics:*

- Limited number of tubercles on the body
- Color/pattern: Plain orange with slightly darker rings around tail

### Distribution

Samal Island, Davao

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**Conservation status**

Data Deficient (IUCN 3.1)
**SCRIBBLED PIPEFISH**
*Corythoichthys intestinalis*

**Pipefishes in Mindanao**

**ETYMOLOGY:** *Corythoichthys*: korythos = helmet + ichtys = fish
- Allies of ‘seahorses’; also known as scribbled pipefish.
- The male carries the eggs in a brood pouch which is found under the tail.

**Parts of the Pipefish**

*Photo: Rohanisah Balt Guro*

**What to measure?**

**SCRIBBLED PIPEFISH**  
*Corthoichthys intestinalis*

### Habitat:
- Shallow sandy / Mixed sand
- Coral areas and Lagoons
- Seaward/ Rocky Reefs,
- Sponge garden, Sargassum beds

### Description
- **Maximum recorded adult height:** 16.0cm SL male/unsexed
- **Dorsal Soft Rays (total):** 26-32
- **Anal Soft Rays:** 4
- **Males Brooding:** 6.5-7.0 cm SL
- **Rings supporting dorsal fin:** 2 trunk rings and 1 tail ring
- **Caudal rays rings:** 10 (31-37)
- **Pectoral fin rays:** 16 (15–18)
- **length of snout 1.8-2.4 in head length;**
- **depth of snout 3.9-8.9**
- **Head length:** 6.6-9.8 in SL

**Characteristics:** discontinuous superior trunk and tail ridges straight lateral trunk ridge, ends near anal ring; continuous inferior trunk and tail ridges

### Distribution
- Canaway, Buruun, and Dalipuga, Iligan City
- Zamboanga City
- Lopez Jaena, Misamis Occidental
- Rizal, Zamboanga del Norte
- General Santos City
- SND, Lanao del Norte
- Kauswagan, Bacolod, Linamon and Tubod, Lanao del Norte
- Samal Island, Davao
- Sarangani, Southern Mindanao
- Tawi-Tawi
- Jolo, Sulu
- Surigao City

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**Photo:** Sharon Rose Tabugo

**Photo:** Local Fishermen
BANDED PIPEFISH
Doryrhamphus dactyliophorus

ETYMOLOGY: *Dunckerocampus*: From Duncker, an ichthyologist and taxonomist that recognized four Gobiidae families (1928) + Gr, kampe = bent.

- Allies of ‘seahorses’; also known as ringed pipefish.
- The male carries the eggs in a brood pouch which is found under the tail.
- Accepted name: *Dunckerocampus dactyliophorus*

Dorsal spines: 0; dorsal soft rays: 20-26; Anal spines: 0; Anal soft rays: 4, usually with one dark band crossing the operculum.

**Distribution**
- Lugait, Misamis Oriental
- Surigao City
- Buruun, Iligan City
- Dalipuga, Iligan City
- Zamboanga City
- Lopez Jaena, Misamis Occidental
- Rizal, Zamboanga del Norte
- General Santos City
- SND, Lanao del Norte
- Samal Island, Davao
- Sarangani, Southern Mindanao
- Linamon, Lanao del Norte
- Tawi-Tawi
- Jolo, Sulu
- Cagayan de Oro City

**Photo:** Sharon Rose Tabugo

**Habitat**
Mangrove areas, seagrass beds, coral reef areas; soft bottoms;

**Photo:** Sharon Rose Tabugo
Pipefishes in Mindanao

ETYMOLOGY: *Syngnathus*: Greek, syn, symphysis = grown together + Greek, gnathos = jaw.
- Allies of ‘seahorses’; also known as greater pipefish.
- Several females depositing partial clutches to a male’s brood pouch under the tail.

-long segmented armoured body; appeared as brown to green in with broad alternating light and dark hue; with slight hump at the top of the body behind the eyes; long snout and mouth on end; distinct body rings; sandy brown to dark bars covering the body.

Habitat:
- Sand
- Mud
- Rough bottoms

Distribution:
- Surigao del Norte
- Surigao del Sur

Photo: Roxanne Eupena
PACIFIC SEAWEED PIPEFISH

*Syngnathus schlegeli*

**Pipefishes in Mindanao**

**ETYMOLOGY:**  *Syngnathus*: Greek, syn, symphysis = grown together + Greek, gnathos = jaw

- Allies of ‘seahorses'; also known as seaweed pipefish.
- The male carries the eggs in a brood pouch which is found under the tail.
- Accepted name: *Syngnathus schlegeli*

*Photo: Sharon Rose Tabugo*
PACIFIC SEAWEED PIPEFISH
Syngnathus schlegeli

**Description**
Maximum recorded adult height: 50.0 cm TL male/unsexed
Dorsal spines: 0
Dorsal soft rays: 33-42
Anal spines: 0
Anal soft rays: 3 (light greenish to dark brown in color with variable markings)
Length of snout: equal to or less than eye diameter, approximately 1.6 cm
Depth of snout:
Head length: 2.5 cm

**Feeding and Growth**
Feeds on small crustaceans; planktons

**Biology/ Mating behavior**
- Ovoviviparous
- Reproduce on average 3 times each year
- Brooding males occur mainly between May and July
- Gestation period lasts about 5 weeks

**Habitat:**
Coastal and estuarine waters, on sand, mud and rough bottoms.

**Distribution**
Buruun, Iligan City
Canaway, Iligan City
Dalipuga, Iligan City
Zamboanga City
Lopez Jaena, Misamis Occidental
Rizal, Zamboanga del Norte
General Santos City
SND, Lanao del Norte
Samal Island, Davao
Sarangani, Southern Mindanao
Linamon, Lanao del Norte
Tawi-Tawi
Jolo, Sulu
Surigao City

**IUCN Red List Status (Ref. 120744)**
Least Concern (LC); Date assessed: 01 December 2014

**CITES (Ref. 115941)**
Not Evaluated