

Worksheet: Mangrove Forests

Discover life in the Mangrove!

Purpose: This participation and discussion exercise enables students to discover for themselves the fauna that lives in the Mangrove environment.

Objectives: Students will be able to:

- > understand key features of the Mangrove
- > identify some of the fauna that can be found in the Mangrove
- > understand the abundance of life in the Mangrove

Skills: Students can demonstrate:

- > Classifying
- > Communicating
- > Hypothesizing and predicting
- > Inferring
- > Observing
- > Posing questions

Time Required: 60 minutes.

Group Size: In small groups of 4.

Materials/Preparation: Includes:

- > Access to the internet for each group
- > The following Teacher Guide pages
- > A copy of the 12 mystery animals to identify for each group.
- > A copy of the Mangrove Forest Teacher Briefing

Background: Mangroves are forests of salt tolerant trees that grow in the shallow tidal waters

of some coastal areas of the Emirate of Abu Dhabi. They require slow water currents and plenty of fine, organic sediment in which to set their roots as well as protection from high energy waves.

The muddy waters, rich in nutrients from decaying leaves and wood, are home to sponges, worms, crustaceans, molluscs and algae, and provide shelter for marine mammals and birds.

Activity: Follow these steps:

1. Print off the:

- 12 A4 Teacher Guide sheets
- 12 mystery animal sheets for each group.
- The Mangrove Teacher Briefing

2. Spend 20 minutes engaging students in the wonders of the Mangrove Forest (prepare by reading the Teacher Briefing).

3. Provide each small group with a set of the 12 mystery animals and challenge the students to discover the animal names and 3 features of each animal. Allow 20 minutes.

4. Review the students discoveries and accuracy in identifying each of the 12 animals.

5. Use the Teacher Guide sheets to compare and add to any extra findings.

Closure: Ensure each group has corrected any incorrectly identified animals.

Extending the Lesson: . Encourage students to do some research on the Mangrove Forests and where possible see a Mangrove first hand.



Mangrove

(*Avicennia marina*)

Mangroves are forests of salt-tolerant trees that grow in the shallow tidal waters of some coastal areas of the Emirate of Abu Dhabi. They require slow water currents and plenty of fine, organic sediment in which to set their roots as well as protection from high energy waves.

The muddy waters, rich in nutrients from decaying leaves and wood, are home to sponges, worms, crustaceans, molluscs and algae, and provide shelter for marine mammals and birds.

Mangroves are essential fish nurseries and contribute to the vitality of commercial fisheries in the Emirate. The naturally occurring species of mangrove found in Abu Dhabi, locally called 'Qurm', is the grey or white mangrove, due to the colour of the underside of its leaves.



Grey Heron

(*Ardea cinerea cinerea*)

Its huge size, pale grey plumage and distinctive shape distinguish it from all other birds. The adult is whiter on the neck than the juvenile and has longer black tufts hanging down its nape.

The Grey Heron has a long neck, a strong, dagger-like bill and long yellow legs. In flight, the neck is folded back, and the wings are bowed. In adults, the forehead, sides of the head and the centre of the crown are white, whereas in juveniles these are greyish. The sexes are similar in appearance.



Golden Trevally

(*Gnathanodon speciosus*)

Distinguished from other trevally species by its striking colouration, the Golden Trevally is beautiful bright yellow or golden as a juvenile and young adult, with a narrow black bar through the eye and between 7 and 12 vertical black bars, of alternating widths, along the body. The fins of this small fish are yellow, while the tail (caudal fin) is black-tipped and deeply forked.

As the golden trevally grows, the yellow becomes more silvery and iridescent, the black bars fade, and scattered, blackish blotches develop on the sides of the body. The Golden Trevally has thick, fleshy lips and a protractile (extendable) mouth. Adults lack teeth, and only a few small teeth are present in the lower jaw of juveniles.



Greater Flamingo

(*Phoenicopterus roseus*)

The greater flamingo is instantly recognisable by its long, thin neck and legs, colourful plumage and distinctive downward-bending beak. As well as being the largest of the flamingo species, it is also the palest, with white to pale pink plumage, contrasting red shoulders, and black tips to the wings.

The legs are pink, the eyes yellow, and the beak is pale pink, with a black tip. The female is smaller than the male, and juveniles are grey-brown with some pink in the underparts, wings and tail, and the legs and beak are mainly brown. The call is a goose-like, honking ka-haunk.

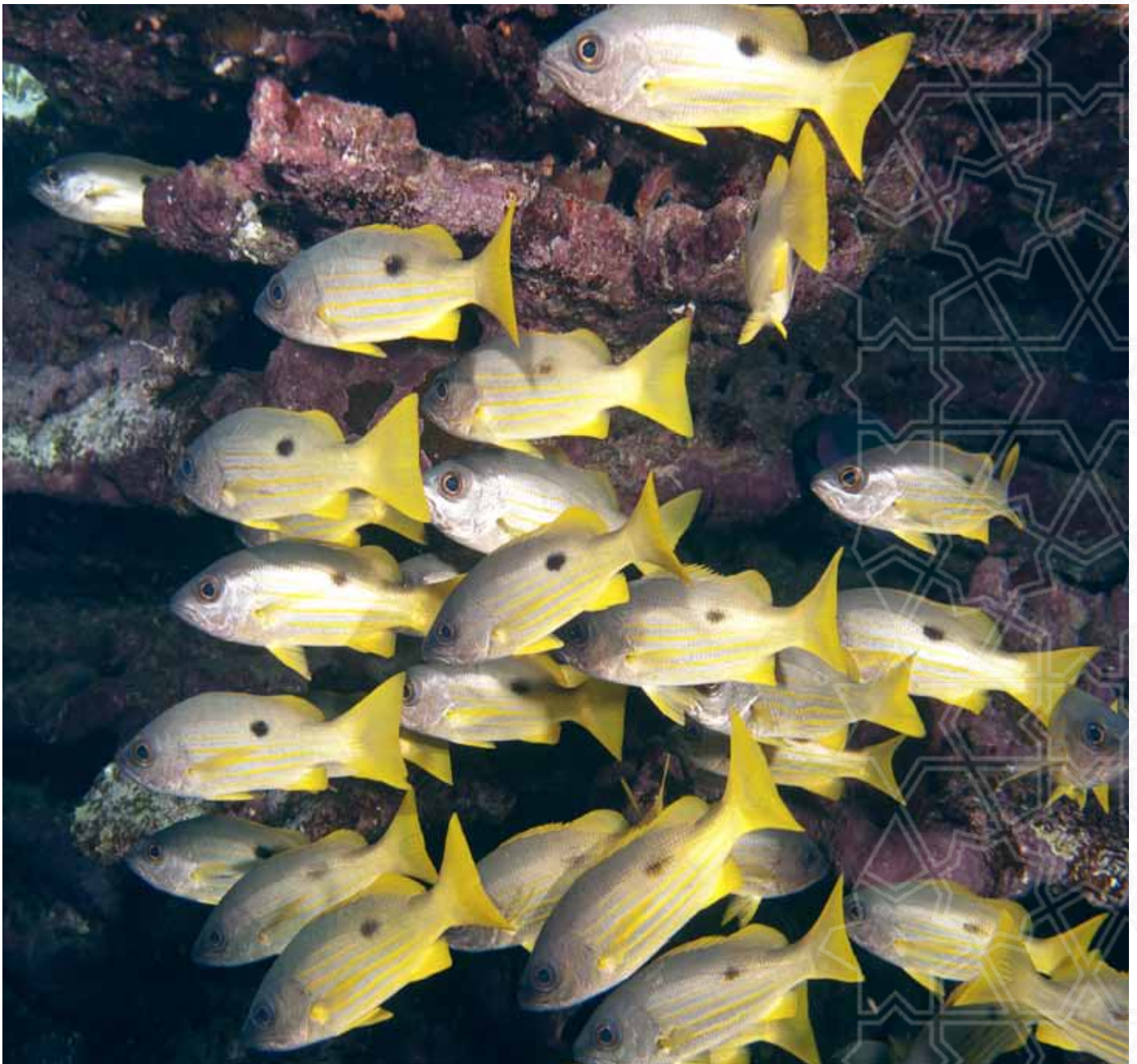


Crab Plover

(*Dromas ardeola*)

The crab plover is remarkable for being the only representative of the Dromadidae family, which means that in evolutionary terms this unusual shorebird has no close living relatives. This species has a distinctive appearance, with white plumage on the body and head, contrasting with jet-black primaries and back feathers, and a long, black, gull-like bill.

Like most waders, the legs are long with partially webbed toes, and the tail is short. Juvenile crab plovers lack the bright white adult plumage, appearing uniform grey-brown instead.



Ehrenberg's Snapper

(*Lutjanus ehrenbergii*)

This little snapper has a dark brown back and upper sides and whitish lower sides and belly with a silver sheen. Often with a series of four or five narrow yellow stripes on the sides below the lateral line.

A prominent round, black spot on the back below the posterior part of the spinous portion of the dorsal fin. Inhabits very shallow coastal habitats, often in large schools near freshwater run-offs.



Western Reef Heron

(*Egretta gularis schistacea*)

Western Reef Heron is the name given to two former subspecies of the little egret, now treated somewhat contentiously as a single separate species. This thin, medium-sized heron occurs in two distinct forms, one of which has mostly dark slaty-grey plumage and a white throat, while the other has predominately white plumage.

During the breeding season, both forms develop red lores and distinctive plumes on the head, chest and back. The legs are dark, while the feet are bright yellow, except during the height of courtship when they turn pinkish red.

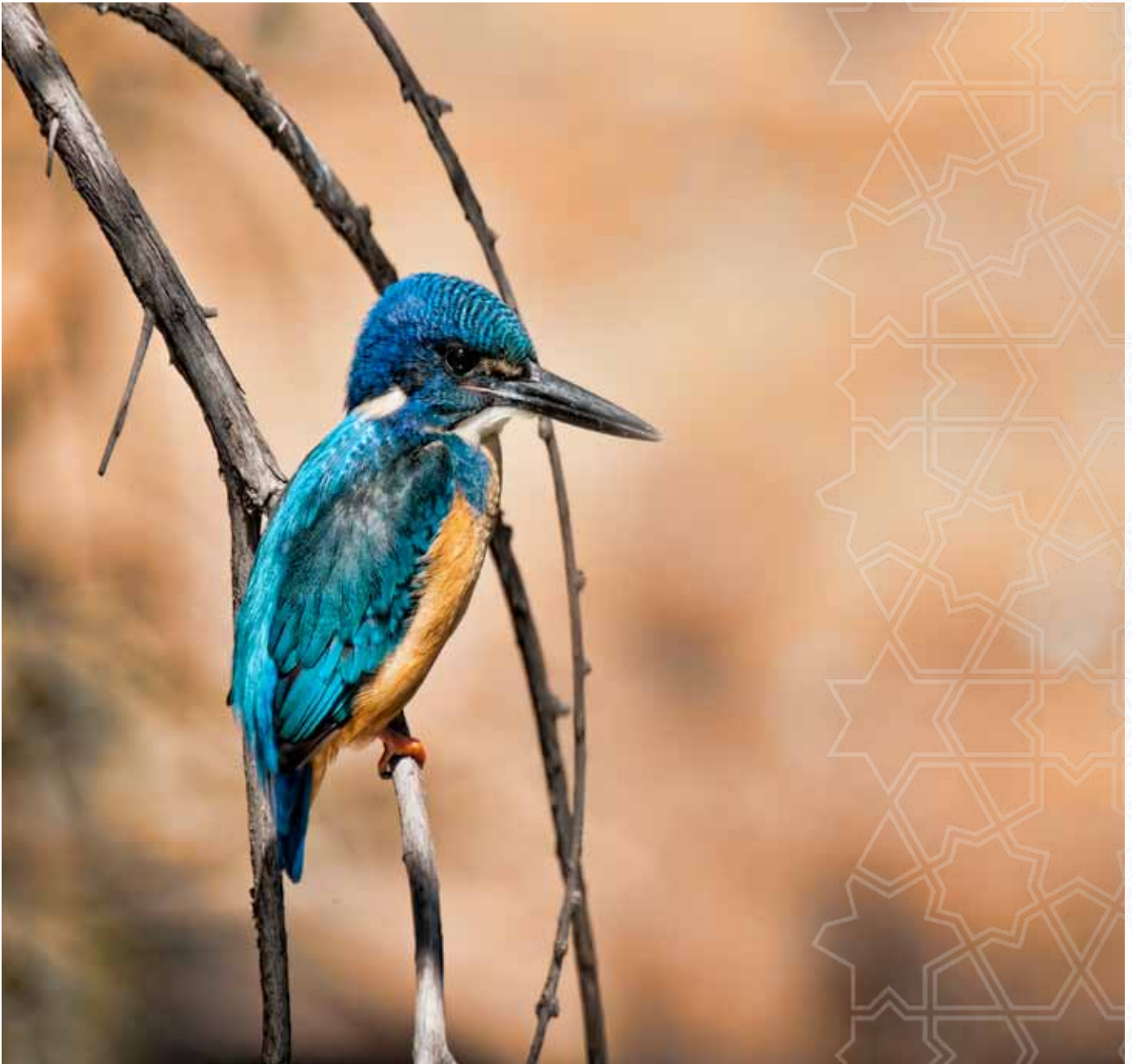


Marsh Warbler

(*Acrocephalus palustris*)

A rare summer migrant, the marsh warbler (*Acrocephalus palustris*) is olive green-brown in colour with a white throat, a pale stripe in front of the eye and pale legs.

The song is extremely varied and musical; the marsh warbler is an excellent mimic and on average incorporates the songs of 31 European and 45 African species into its repertoire.



Collared Kingfisher

(*Halcyon chloris kalbaensis*)

A striking, small, blue-green kingfisher, the collared kingfisher has a blue head, back and rump, with a wash of turquoise, and a broad, white collar on the neck that extends to the white underparts. A large-headed, stout-bodied and short-legged bird with a straight, strong, dagger-like bill, the collared kingfisher also has a black mask that extends around to the back of the neck, a conspicuous white spot on the lores (between the bill and the eye), and a white stripe that runs from one eye round the head to the other eye.

The upper-tail and the wings are blue, the iris is dark brown and the weak, fleshy feet are dark grey. The male collared kingfisher tends to have a slightly bluer tinge to the upperparts than the female.



Common Greenshank

(*Tringa nebularia*)

The common greenshank is an elegant wading bird with a long, stout, slightly upturned bill and long, yellowish- to greyish-green legs. It has a relatively long neck, and the bill is grey with a darker tip.

The calls of the common greenshank include a loud, ringing tchew-tchew-tchew or teu-teu-teu, given in flight, as well as a sharp chip alarm call. The flight of this species is rapid and often zigzagging, and during flight its toes extend slightly beyond the tip of the tail.



Common Myna

(*Acridotheres tristis*)

An aggressive and confident bird, the common myna has adapted well to the urban environment. This well-known bird has distinctive chestnut-brown upperparts, with a glossy black head, brownish-black upper-wings and a white-tipped black tail .

The common myna is highly vocal at all times, and can also be identified by its ceaseless, loud chattering of various conversational-like gurgles and whistles, and it is even capable of learning to mimic human speech when in captivity.



Black-crowned Night Heron

(*Nycticorax nycticorax nycticorax*)

Despite being fairly common on a global level, the slightly unusual nocturnal habit of the black-crowned night heron renders it less conspicuous than most other herons. Of moderate size for a heron, this stockily built species has short legs and a short neck, with the male, on average, being the slightly larger of the sexes.

As its name suggests, the adult black-crowned night heron has a glossy, black cap that extends down the upper back, while the rest of the body plumage generally ranges from white to ashy grey.

