Eudocimus ruber (Scarlet Ibis)

Family: Threskiornithidae (Ibises and Spoonbills)
Order: Ciconiiformes (Storks, Herons and Ibises)
Class: Aves (Birds)

Fig. 1. Scarlet ibis, *Eudocimus ruber.*

[http://ibc.lynxeds.com/photo/scarlet-ibis-eudocimus-ruber/lateral-view-adult-bird-foraging-shallow-water-full-breeding-plum downloaded on 6th November, 2011]

TRAITS. *Eudocimus ruber*, commonly known as the scarlet ibis, is a hard bird to miss. Their bodies are bright red with a lighter shade of red on the head, neck and underparts. The only non-red parts are the tips of the longest flight feathers, the eyes and the bill, which is black. The male and female are similar in physical appearance having a length of 55 cm to 76 cm from the tip of the tail to the tip of the bill with a wingspan of 52 cm to 56 cm. The males are slightly larger than the females. Adults on average weigh about 3 pounds and being so heavy means that they have to flap their wings more rapidly when flying (Kushlan 1978). The down curved bill is thin and long with a blunt, pointed tip that is square at the base. Their long necks assist the bill in probing head movements when hunting for prey in shallow waters, preening and mating displays. Preening involves using the bill to squeeze oil from the uropygial gland from their back and applying this oil onto each feather by pulling it through their bill (Adams and Carol 2008). Their

two slender legs are a lighter shade of red and covered with large scales, each having four partially webbed toes with claws attached for wading through shallow water, yet still separated to some degree for it to be able to perch in trees. They fly in flocks with their neck held straight in front their body and the bill straight forward in V-formations (Fig. 2) because this reduces wind resistance and they are able to travel longer distances (Kushlan 1978).

ECOLOGY. The scarlet ibis prefers tropical regions, rainforests and swampy environments such as mud flats, shorelines and shallow bays. In the wild their main source of food is found in water and therefore feed on crustaceans, shellfish, molluscs, insects, and occasionally fruits and seeds. In captivity, they are given a limited diet of crustaceans, fish, amphibians, and insects. As compared to other ibises, the scarlet ibis tend to consume larger prey such as water beetles and water bugs. The aquatic ibis feeders are scarlet, glossy and white ibis and they all forage in the same type of water habitat. There is an overlap in habitat diet among these three ibises, and they all show visible aggression against each other when there is a decrease in available forage habitat in the dry season (Fredrick and Bildstein 1992). Their foraging and nesting behaviours are greatly influenced by the quality of the habitat, which can thus have them labeled as biological indicators for predicting good habitat conditions (Powell and Powell 1986).

SOCIAL ORGANIZATION. The ibis tends to be found in hot regions such as Central and Northern South America where they strive in large flocks. They are a very communal species and very social when nesting and searching for food. During flight the old is generally separated from the young birds because they fly more rapidly, although they only fly at morning and evening time in pursuit of food. These social birds tend to from large colonies and they live a nomadic lifestyle, similar to many other wading ibis bird species. This therefore means that they like to travel and hence require large amounts of energy to be able to fly extensive distances in search of appropriate sites for feeding, perching, and nesting. They forage together with other ibises, storks, spoonbills, egrets, herons and ducks. They formed this mutual relationship because they have a better chance of hiding from predators among these birds. Also, having a group of wading birds around to disturb and stir up shallow waters causes prey to be easier to catch (Hancock and Kahl 1992). The scarlet ibis typically live in flocks of 30 or more members. However, a compilation of many large colonies adding up to thousands of birds can develop. In one colony there can be 20 to 600 nests and sometimes up to 2000. They significantly contribute to the 10% of the flow of energy through a community (Hancock and Kahl 1992).

ACTIVITY. The scarlet ibis seek food only in the early morning and right before sunset and is generally hidden during the heat of the day and in the night. During the time when they are unseen, they are usually resting and preening. Hundreds nest and perch in sanctuaries and are seen in vast numbers about two hours before sunset. In Trinidad larger numbers of birds are visible during the breeding season which is from April to August.

FORAGING BEHAVIOUR. With the use of their long, curved bill they probe the mudflats and shallow water in search of food. They do not need to hide from their food since their long bill is guided by touch, and unseen by their prey, except for the moment when they are suddenly pulled from the water by the tip of the bill and tossed into the gullet (Petrak 2010). The Scarlet ibis almost never forage out of water, and this suggests that soil dwelling prey may be limited in dry-season (Frederick and Bildstein 1992). Like most birds, their diet is varied but it has a preferred

food, and this is what gives the ibis its intense scarlet-red colour. Crustaceans and aquatic invertebrates with the majority being crayfish, small crabs and aquatic insects make up their diet. Crabs are the most preferred food of the scarlet ibis and this is rich in carotenoids. Therefore the more 'carotenoid-rich' crabs the ibis consumes the deeper red it becomes (Petrak 2010).

COMMUNICATION. The ibises are known as quiet birds, although they produce a honking noise to display aggression during foraging sessions when other birds come near to them. Of all the ibises, the scarlet ibis engage in the most hostile communications. White ibises for example, start aggressive interactions with others only half as often as the scarlet ibis (Frederick and Bildstein 1992). Scarlet ibises usually grunt or croak on breeding grounds. A male produces a honking sound when there is a disturbance in his nest or when he is courting, while the female makes a high squealing cry during courtship with the male. The male and female scarlet ibis perform greeting displays as a form of courtship communication, where they wrap their necks around each other. The newborn birds tend to make a shrill cry to indicate that they are hungry (Hancock and Kahl 1992).

SEXUAL BEHAVIOUR. Nesting in trees, large flocks of scarlet ibis live together in pairs. Their social breeding system means that the job of the male is to perform a display to attract the female. Some common display tactics are preening, shaking, bill popping, head rubbing, and high flights. Males become aggressive toward other males if they enter their nesting site, and sometimes against females if she ignores his display or is not chosen as a mate. Once a pair starts courting they stay faithful to each other (Fig. 3). Upon time to reproduce, they select thick brush-enclosed islands and mangroves near to rivers. About 5 to 6 days after the pair copulates, 3 to 5 eggs are laid. Both parents build the nest together and take turns in incubating the eggs, protecting it from predators, and feeding the chicks for a month after they are hatched (Hancock and Kahl 1992). Therefore they both share the responsibilities of rearing the young (Fig. 4).

JUVENILE BEHAVIOUR. The incubation period lasts about 19 to 23 days. Chicks become capable of flight after 35 days and are self-reliant within 75 days. When they are hatched, the young are completely helpless and are incapable of simple tasks such as holding up their own heads (Hancock and Kahl 1992). The newborns are covered with a blackish down, which gradually changes to dull grey and subsequently white. The change in colour begins when they start to fly, which is after the second moult (Fig. 5). By the third moult the scarlet colour first appears lightly on their back and gradually spreads throughout the neck, sides and wings while increasing in intensity over two years (Frederick and Bildstein 1992). Feeding of the newborn requires that the adult grabs their bill which in turn causes them to raise their head for the parent to regurgitate into their mouth. The body part that develops the fastest are the feet and this allows the young ibis to be capable of flying as early as 2 weeks. When the young is captured, they are easily tamed and submit to their new owners under domestication without complaining (Stanek 2008).

ANTI-PREDATOR BEHAVIOUR. Large cats and birds of prey are their main predators (Hancock and Kahl 1992). The large male uses his beak, legs, and wings against rivals so as to defend himself, his offspring and his female mate. Nests are normally constructed in close proximity to one another, therefore having more than one nest per tree. This is mainly done to decrease the risk of predation against them and it is easier to send warning signals to others

(Hancock and Kahl 1992). All the members in a colony will take flight at once if there is a disturbance or predator around.

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Fig. 2. Scarlet ibis flying in V- formation.
[http://members.virtualtourist.com/m/p/m/17c98c/, downloaded 15 November 2011]

Fig 3. Nesting Pair of scarlet ibis.
[http://images.search.yahoo.com/images/view, downloaded 15 November 2011]

Fig 4. At least one parent is always with their newborn protecting them.
[http://www.birdorable.com/blog/category/ibises/, downloaded 15 November 2011]

Fig. 5. The juvenile start as dull grey and gradually gets the scarlet plumage.
[http://www.birdorable.com/blog/category/ibises/, downloaded 15 November 2011]