Ardea herodias (Great Blue Heron)

Family: Ardeidae (Herons and Egrets)
Order: Ciconiiformes (Storks, Herons and Ibises)
Class: Aves (Birds)

Fig.1. Great blue heron, *Ardea herodias*.

[http://birdingbec.blogspot.com, downloaded 7 November 2012]

TRAITS. The great blue heron is quite noticeable due to its long slim built and is an expert fisher. Both male and female share similar features and they range in length from 102-127 cm and weigh approximately 2.4 kg. However females tend to be smaller and lighter than males and

also have smaller head plumes (Hilty & Schauensee 2003). Adult male and female have white face and neck with long black plumes behind their head, their necks are greyish with black stripes on the foreneck and the remainder of the upper part and wings are a greyish blue with most of the underneath striped with black and white and their bills are a dull yellow while their legs are an olive colour as shown in Fig. 1 (Restall, Rodner & Lentino 2006). Both the male and female bill and lower legs become orange while an area around its bill turns to a bright blue during breeding. These birds are also noticeable due to the long legs and long bill that narrows towards the end. Juveniles are distinguishable from adults since they lack the plumes and have a grey head and crown. They have a wingspan of 2 m and an estimated flight rate of 23 mph. When flying the neck is positioned in an S-shape and they flap constantly with a slow strong beat. They also have four toes one which is directed towards the back and is described as having an anisodactyl foot. The three other toes are in a forward direction and have webbing between them and the third toe has a jagged claw at the edge (McKilligan 2005).

ECOLOGY. These birds are commonly found in tropical and subtropical regions and they often migrate during spring and summer when they are breeding. They often migrate to North America, Central America, the Caribbean, most of Canada and also the Galapagos islands. They can be seen migrating during the day and night (Hilty & Schauensee 2003). They prefer to reside along watercourses such as freshwater areas like lakes and rivers and can also be seen residing along marine coastal environments, swamps and marshes where food supply tends to be abundant. They nest in trees or shrubs which are located near water and breed at heights that can reach up to 1500 m and they often nest in colonies (Perrins 2003). They typically forage alone but can also be seen foraging in flocks when food is abundant. Their diet consists mainly of fish which makes up about 70% of their food intake but they also feed on insects such as grasshoppers, small birds, crayfish, shrimp and crab and will also feed on amphibians such as toads and reptiles such as snakes but to a smaller extent (Nellis 2001).

FORAGING BEHAVIOUR. These birds are diurnal feeders however most of their feeding activity is concentrated around dawn and dusk. They also tend to roost most of the day in flocks. They are solitary predators and are able to catch its prey with little effort based on their precise vision and long legs and bill. They use a variety of skills to catch their prey such as long slow walks either on land or water and prefer to feed along the edges of water which tends to be shallow (Nellis 2001). When in search of food these birds are very patient and can be seen searching for several minutes however if they do not catch anything they would fly to a next spot where they continue foraging. One such skill that they use to hunt is to slowly wade through water that can reach a depth of 26 cm as depicted in Fig.2. When the prey is in sight they would slowly approach it and would then pull their neck back and lunge its head into the water where it will catch the unexpected prey. Another skill that they use is by remaining completely still and moving only their head and eyes when a prey enters its range it catches it with a sudden stab of its bill. They can also be seen diving underwater to catch fish and swimming out in deep waters which allows them to feed on nearby surface fish however these feeding behaviours are rarely seen (Schreiber & Burger 2002).

SEXUAL AND PARENTAL BEHAVIOUR. These birds are monogamous in that they will stay with one mate during the breeding season but will court a new mate for each successive breeding season. During breeding a group of males gather and choose a site where they would display different body postures and these sites often becomes the nesting site. The various body

postures are displayed in order to attract the females and include snapping of the bill, various calling sounds, erections of the head, plumes and neck and they can even be seen stretching and pretending to groom themselves. Females choose their mate by allowing the male of interest to approach them when they have entered their display area. Courtship and pair upkeep rituals such as the tapping of their bill together when one comes back to the nest continues to be displayed after pairs have been formed as seen in Fig. 3 (Perrins 2003).

They tend to nest in colonies and sometimes nests are shared with other pairs. Nests that were previously built during the last breeding season are sometimes used. The nests are typically built in tall trees that are established in the colony. However on islands in which they are free from predators they may choose to build their nest on small shrubs or even on the ground. Females build the nest as platforms or as token scrapes however the males supply them with the materials that are needed to build the nest such as twigs and sticks. The inside of the nest is then lined with finer material such as dry grass or leaves (Perrins 2003). Upon successful mating the clutch size ranges from 3-5 eggs which are pale blue in colour. The eggs are long and oval shaped with a length of about 6.3 cm and a width of 4.6 cm. Each eggs weighs about 70 g and incubation duties are shared by both parents and can last 18-30 days. Males tend to perform duties during the day while the females take over during the night. Incubation begins when the first egg is laid and the entire group of eggs hatches over 2-8 days (Nellis 2001).

JUVENILE BEHAVIOUR. After the eggs have hatched they remain with their parents for about 10 weeks before leaving the nest but often return for another 2-3 weeks to feed. The newly hatched chicks have a distinctive thick pale grey crown. Shortly after birth the chicks are immediately feed by both parents who regurgitate or bring up semi-digested food either into the nest or directly into the chick's mouth. At just 2 weeks old the chicks can be seen standing and are able to vocalize sounds and they are able to walk properly when they are 3 weeks old. By week 4 they have already learned to flap their wings and are able to leave the nest for short walks on nearby braches by week 7. The chicks are able to perform sustained flight by week 8 and by weeks 9-10 the chicks are ready to leave the nest (Nellis 2001).

AGONISTIC BEHAVIOUR. This behavior is commonly observed when the bird is guarding its feeding area as seen in Fig. 4 and fights can occur especially when food is in short supply (Nellis 2001). Males also aggressively protect the nest from predators (Perrins 2003). This behaviour is often expressed by the bird who often straightens out its body feathers and pulling back its neck would either run and may even fly towards the intruder. This behaviour could either result in the retreat from the intruder or could end up in a fight. Another aggressive expression can be seen when the head and neck are held upright and the wings are spread out while it is facing the intruder and this could then lead to an attack (Nellis 2001).

SELF-MAINTENANCE. The jagged edge of the claw which is located on the third toe is used by the birds as a comb in the upkeep of their feathers. This jagged claw is often described as a pectinate claw. They would often use the claw to comb through their feathers on their head and upper neck which is difficult to reach by their beak. By doing this they are able to get rid of unwanted debris and pests such as feather lice and ticks (McKilligan 2005) .When the place is hot they would thermoregulate by pulsating their neck muscles while their mouth is open. They can also be seen standing with their wings drooped as seen in Fig.5. This is believed to aid in allowing the air to move across the body thus getting rid of excess heat (Perrins 2003). They also

have highly specialized feathers that are located on their breast and rump which are short feathers that degenerate into a powder and by using their head and beak they would transfer it over their feathers and this helps to keep the feathers clean and soft. They also maintain themselves by puffing out their feathers while briskly shaking their entire body and can also be seen stretching their wings and legs from side to side (McKilligan 2005).

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Fig. 2. Great blue heron wading through water in search of food.

[http://www.art.com/products/p13919386-sa-i2782028/.htm, downloaded 10 November 2012]

Fig. 3. Male and female great blue herons tapping bills during courtship.

[http://www.pbase.com/tgrey/image/142428442, downloaded 7 November 2012]

Fig. 4. Two great blue herons fighting over feeding territory.

[http://photography-on-the.net/forum/showthread.php?t=119902, downloaded 7 November 2012]

Fig. 5. Sunning posture of a great blue heron.

[http://scienceblogs.com/grrlscientist/2007/11/30/great-blue-heron-odd-behavior/, downloaded 10 November 2012]