Chlorophanes spiza (Green Honeycreeper)

Family: Thraupidae (Tanagers and Honeycreepers)
Order: Passeriformes (Perching Birds)
Class: Aves (Birds)

Fig. 1. Green Honeycreeper, *Chlorphanes spiza.*

[http://palemaleirregulars.blogspot.com/2007_04_29_archive.html, downloaded 27 October 2012]

TRAITS. The adult bird is approximately 13-14 cm in length and weighs about 19 grams on average (WAZA 2012). The colour of the bird changes according to gender, showing evidence of sexual dimorphism. The male bird has a blue-tinged green body with a black head and darkened feathers at the edges of wings and tail (Bouglouan 2012). They have characteristic dark-grey legs and feet, and a bright yellow bill, along with brick red irises. The female has a pale grass-green appearance, with darker green flight and tail feathers, they lack the black head, and their irises are reddish-brown in colour. Overall, these birds are characterized by their green plumage and their decurved black and yellow bill (Twearth 2012).

ECOLOGY. The green honeycreeper can be found in the New World tropics, distributed from southern Mexico, south to Brazil and in Trinidad. They can be found with small shallow cupped nests built in dense forested canopies, and also along forest edges and gardens, where trees and shrubs are scattered. They can be found in mixed

ecological groups with other species of birds (Fig. 4), and they feed on a mixed diet consisting of fruit, seeds, nectar and insects (Snow and Snow 1971). They also feed in pairs or alone, apart from flocks (Zamudio and Burns 2012). These birds are predated by snakes while foraging for food (Iverson 2008).

SOCIAL ORGANIZATION. Their social organization depends on the size of the birds and if they are breeding. These animals are said to be more aggressive towards species of similar colour, especially during breeding season and are assumed to be territorial (Skutch 1962). They are aggressive to other birds while feeding such as the banaquits. If any agonistic behaviour occurs, it is so swift that the other bird has no time to struggle before it was dropped. This action was not associated with any call from either of the birds. During feeding, they are found in mixed flocks, in pairs or alone. They are said to be restless and active and may fly in rapid sallies for catching insects (Bouglouan 2012). They are referred to as song birds and make short chip sounds as an alarm call which may be repeated. They also make sounds when flying, which is different due to its soft buzzing twittering, interspersed with brief trills. The clutch size is characteristic of two eggs that have brown and grey markings. Both parents provide their young with food until they are able to fledge on their own. Both parents are characteristic of parental care, however the female builds her own nest. This is built in a fork approximately 3-12 m above the ground, with dry leaves, twigs, horsehair, rootlets or other fibres (Zamudio and Burns 2012).

ACTIVITY. The short chipping call is often repeated about eight times which may occur while feeding. It is assumed to be an alarm call indicating that the end of the food is near. The male bird seizes other birds by their wing during feeding to prevent competition of food. The call occurs loudly at this point to drive away birds when they are in a group surrounding one food source. However, no evidence was found on why these calls really occurred. Seizing by the wing is also observed when the male captures the female in some cases (Skutch 1962). The female lay two eggs in the nest that she builds herself, although the male accompanies her. The eggs are incubated for approximately 13 days. They are found in tropical areas and so they are not affected by winter. They gravitate toward more abundant food sources (Skutch 1962). Several broods are produced for each season which lasts from February to August. They are characterised by hopping from twig to twig in search of food, or flying about wildly while hunting insects. They are known for being restless and aggressive (Bull 1988).

FORAGING BEHAVIOUR. They usually feed on a variety of fruits and insects, and prefer bright red arils coating *Clusia* seeds (Fig. 2). These tress are prominent in epiphytic trees and shrubs found in the tropical America regions (Zamudio and Burns 2012). They hop from twig to twig in the canopy in search of food. When succulent fruits are scarce during the dry season, the honeycreepers feed on a fruiting spike of the *Cecropia* tree. These plants contain long stemmed flowers with guidelines directing the location of the nectar source. Honeycreepers can benefit from this plant, either by feeding on the nectar in the flower or by feeding on insects that are attracted by the plant. Both food sources found in one location can be very cost effective in the dry season, since the birds do not expend much energy when feeding on readily available food sources. It was observed that five green honeycreeper birds fed from the same food source of the *Cecropia* plant during the month of November, and as expected due to their aggressive behaviour they chased one another while foraging. Other species of birds were also present and were feeding on the same source, as

mentioned before, they feed in mixed flocks. When the food source is diminishing, the green honeycreeper may pick up one of the birds by their wing to motion them way from the food source (Skutch 1962). In 1944, eight green honeycreepers were seen feeding on a single banana in a perched position. At first some of them were allowed to eat while the others awaited their turn. However, because these birds are characterised by of intolerant behaviour, they began to chase away the birds that were foraging after a while. When fruits are not in season, or insects may be scarce, they tend to feed on nectar and probe around flowering trees in search of food (Skutch 1962). Therefore it can be assumed that the insects (Fig. 3) and the nectar are supplementary to the bird's diet. During the breeding season the intake of insects will be much more than the other food sources since they require a rich source of protein, which is an important component of the birds' health. These insects are taken up while the bird is undergoing an erratic flight (AvianWeb 2012).

COMMUNICATION. There was no evident detailed observation of the communication between green honeycreepers, except for the fact that there may be a loud chipping sound during aggression between the birds during foraging. When the food seems to be low in availability, the bird was making a loud chipping sound, which was assumed to either alert the birds about the food source or to drive away the birds that were already there (Skutch 1962). When in flight they also give off a "tssip" call, but no reason was given for this call. It was also observed that the male green honeycreeper made some sharp notes while the female was building the nest. However, this was not observed in any other situations, so it cannot be confirmed as a form of communication (Skutch 1962).

SEXUAL BEHAVIOUR. The breeding season is said to be between May to July in Trinidad (Skutch 1962). It is said to vary according to the locality of the birds but generally it occurs between February and August (Zamudio and Burns 2012). No detailed information was found on how the male and female green honeycreepers meet each other, but male honeycreepers are known to demonstrate courtship display by spreading out their wings (Fig. 5). However, the male was seen picking up the female bird by its tail in a similar way to the way in which it picks up competitive birds foraging on the same food source (Bull 1988). After the male mates with the female she returns to the nest, which she built for herself, and lays two eggs. These eggs would be incubated for approximately 13 days by the female alone. After hatching of the eggs, both parents provide their young with food (Skutch 1962).

JUVENILE BEHAVIOUR. The young is unable to search for its own food at an early age, and so the parents supply food to the juvenile birds. In some cases, the mother was seen approaching the nest with food in her bill, accompanied by the father who made some chipping sounds, as if in protest. Both parents may supply the food until the young birds are able to feed themselves, and they become fledged. At this point, the birds are guided by the mother only, since the male bird is assumed to only aid in feeding when the bird is completely helpless (Skutch 1962). The juveniles resemble the mother but are more dull green in colour (AvianWeb 2012).

ANTIPREDATOR BEHAVIOUR. No information was found on any bird predators against the green honeycreepers, and from the studies read it was shown that they were the ones who attacked other birds that were foraging for the same food source as them. They are aggressive in nature. Because their habitat is situated in tropical

forested areas, they may encounter snakes, which is the only known predator against them. To stay clear from being attacked from the snake, the bird positions itself on a high branch and looks down from on top. They avoid foraging on the ground and they minimize being stationary on low branches by hopping from one twig to the other. It is assumed that they also build their nest in proximity to birds of prey, or other animals that may feed on snakes (Mandarich 2008).

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Fig. 2. Female green honeycreeper foraging on red berries.

[http://twearth.com/species/green-honeycreeper, downloaded 01 November, 2012]

Fig. 3. Male green honeycreeper capturing insect prey.

[http://www.arkive.org/green-honeycreeper/chlorophanes-spiza/image, downloaded 10 November, 2012]

Fig. 4. Green honeycreeper appearing in mixed flocks.

[http://www.carolinabirdclub.org/Trips/reports/Trinidad_Tobago_2004.html, downloaded 11 November, 2012]

Fig. 5. Courtship display by male green honeycreeper.

[http://www.arkive.org/green-honeycreeper/chlorophanes-spiza/image-G55425.html, downloaded 11 November, 2012]