

Phaethornis guy (Green Hermit)

Family: Trochilidae (Hummingbirds)

Order: Trochiliformes (Hummingbirds)

Class: Aves (Birds)



Fig. 1. Green hermit (male), *Phythorenius guy*.

[<http://www.freewebs.com/guykirwan/research.htm>, downloaded 10 November 2012]

TRAITS. The male green hermit is a bluish green metallic hummingbird with a long, slender and decurved bill (Ffrench 1991). The green hermit has a blue-green rump with a sooty green below. The middle of the under parts are grey and the green hermit has a black face mask with a streak behind the eye, and a long central throat stripe (Hilty 2003). The tail is graduated and the central part of the tail is very long and tipped with white. The base of the lower mandible is red and the male green hermit is on average 13.5 cm in length (Hilty 2003). The wing length is on average 63 mm and the weight 6.4 g (Ffrench 1991). The bill is long and decurved and is 4.1 cm in length (Hilty 2003). The female is like the male just duller (Hilty 2003). As a result, it can be said that there is sexual dichromatism which is a type of sexual dimorphism. Sexual dimorphism is the difference in a particular feature between two sexes belonging to the same species; sexual dichromatism refers to sexual dimorphism with regard to colour. The female also has more sooty

grey below, and the bill and central tail feathers are on average longer (Hilty 2003). The weight of a female is 6.25 g on average and the wing length is 61-63 mm (Ffrench 1991). The green hermits exhibit sexual dimorphism in their bill curvature which is said to be linked to their food choices, which are from curved floral tubes; males have a lesser degree of curvature compared to females (Bleiweiss 1999).

ECOLOGY. Found in forested habitats on hills especially near water (Ffrench 1991). The green hermit generally is found in the undergrowth of the forest but it may sometimes enter clearings to feed. The species is found in Costa Rica, Panama, Peru, Columbia, Northern Venezuela and Trinidad (Ffrench 1991).

SOCIAL ORGANIZATION. The male green hermit is territorial since the green hermit retains his lek territory throughout the breeding season and each individual retains his position in the lek year after year (Ffrench 1991). A lek is a group of birds that gather at a particular location to display themselves so that males can attract females to mate with. The male green hermit also has feeding territories and if the male hermit sees an intruder it will display warning signals and agonistic flights. Male green hermits are territorial and occupy feeding territories (Perrins 2003). The male would therefore perch high on nearby flowering bushes to get the advantage over intruders. The presence of an intruder stimulates the male to issue warning signals and agonistic flights (Perrins 2003). A warning signal is usually a particular alarm call made by the bird to send the message to stay away. The warning signal is usually a series of aggressive rapid chattering. As a result those who ignore these warning signals are attacked in flight. If this was initiated with another bird it usually leads to physical combat that carries them both to the ground (Perrins 2003).

ACTIVITY. The green hermit is a curious and restless humming bird (Schauensee and Phelps 1978; Ffrench 1991). The green hermit like the rest of members in its family hovers by fluttering its wings at a fast rate. This activity is done to generate body heat since the hummingbird is a small endotherm and has a small surface area to volume ratio. Also, hovering allows the hummingbird to access the liquid nectar with its long tongue without having to perch on the flower and risk breakage of the flower's stem. The green hermit bathes several times a day and the reason for this is proposed to keep the wings in good condition and to initiate cooling (Perrins 2003). Hermits in general hover over streams and then abruptly drop into the water sometimes submerging themselves entirely or partially submerging themselves (Perrins 2003). The green hermit sings continuously throughout the day and year except during their moulting period and after sun down. The moulting period is period at which the feathers of a bird are replaced (Cornell Lab of Ornithology 2007). The birds cease in singing since they at this point they undergo nocturnal starvation (Perrins 2003).

FORAGING BEHAVIOUR. This hummingbird feeds on plant nectar and small insects and their general mechanism of feeding is probing (Perrins 2003). Probing is the searching of food with the bill. Between probing the females and males utter sounds that last less than a half of a second (Perrins 2003). They feed on particular understory plants such as *Heliconia bihai*, *Pachystachys coccinea*, *Centropogon surinamensis* and *Tillandsia fasciculata* (Ffrench 1991). The females have longer bills than the males and as a result probe longer corolla flowers whereas the males probe shorter corolla flowers due to their shorter bills (Bleiweiss 1999). As a result,

one can see a relationship between bill length and plant species choice (Wolf 1969). The males have feeding territories at which they perch high on a branch nearby their flowering bush. Sometimes when competitors are around they overly extract the nectar to prevent competitors from obtaining the nectar (Perrins 2003).

COMMUNICATION. Vocal communication: These hummingbirds have a sharp squeak (Ffrench 1991). The males at leks usually utter a sharp, loud tock which is done after an aerial display. The sharp tock is delivered after the male darts from side to side and after the tock the male flashes open his bright red gape or he may fan his tail or bend forward in a horizontal posture (Ffrench 1991). Also, the males at the lek hold one chirping note, “wartch-wartch” and so on. The males hold one note for one second. Also, it should be noted that the males sing throughout the day and for most of the year (Ffrench 1991).

Visual communication: In the assembling grounds for the lek, each bird performs. The males on a twig a few feet above the ground bob their tails up and down while keeping their heads lifted (Ffrench 1991). Most of the times, the males participate in a chase throughout the undergrowth or performs in an aerial display just above the perch where they dart from side to side and flash open the bright red gape. Sometimes, he fans his tail or bends forward in a horizontal posture (Ffrench 1991).

SEXUAL BEHAVIOUR. In the assembling grounds for the lek, each bird performs to attract a female. The males are usually on a twig a few feet above the ground and each bird is a few yards apart (Ffrench 1991). So, usually the lek occupies a quarter of an acre. In order to attract a female the male does the following: firstly, the males bob their tails up and down while keeping their heads lifted. Secondly, most of the times, the males participate in a chase throughout the undergrowth or performs in an aerial display just above the perch where he darts from side to side and thirdly, he utters a sharp, loud tock and he flashes open his bright red gape. Sometimes, he fans his tail or bends forward in a horizontal posture (Ffrench 1991). The males sing throughout the year (Perrins 2003) except during moulting. Therefore this singing usually lasts throughout the breeding season which lasts from November to July indicating that it is involved in courtship (Perrins 2003). After the eggs are laid the males may assist in defending the nests thereby showing parental investment (Ffrench 1991). However, nest-building, incubation and rearing the young are done only by the female (Perrins 2003). The green hermits have a polygynous breeding system (Ffrench 1991) which is a breeding system that implies that one male would mate with more than one female.

JUVENILE BEHAVIOUR. A nest is made for a maximum of two eggs (Perrins 2003). The nest is cone-shaped and lined with plant-down. The female clings with her feet the Balsier leaf, palm leaf or fern leaf with her feet and then to it she attaches the cone-shaped nest (Perrins 2003). The leaf is roughly 3-12 ft above the ground and she normally places it above or near the water. The female usually takes 5-10 days to make the nest and then regularly repairs the nest during the incubation period (Perrins 2003). The egg has an incubation period of 17-18 days and fledging of 21-23 days (Snow & Lill 1974).

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Fig. 2. Female green hermit feeding at flower.

[http://www.ejphoto.com/green_hermit_page.htm, downloaded 6 December 2012]