Geothlypis aequinoctialis (Masked Yellowthroat)

Family: Parulidae (New World Warblers)
Order: Passeriformes (Perching Birds)
Class: Aves (Birds)

Fig. 1. Masked yellowthroat (♀), *Geothlypis aequinoctialis*.

[https://en.wikipedia.org/wiki/Masked_yellowthroat#/media/File:Geothlypis_velata,_Uruguay_-_20080205.jpg

TRAITS. The masked yellowthroat is 13-14 cm in length (Byers, 2016; Curson et al., 2010; Van Perlo, 2009), with an average weight of 13-15 g (Auer et al., 2017), and an approximate lifespan of 11.5 years. The adult male's forehead, lores (region between the eyes and nostrils), ocular areas and ear coverts are black (Curson et al., 2010), creating a distinctive mask (Fig. 2). It has a grey crown, and a slender black bill. Predominantly, the upper parts including the tail are olive-green, and the underparts including the breast and flanks (region between the underside of the winds and the abdomen), are yellow (Curson et al., 2010). Its legs and feet are flesh colored, with

three toes pointed forward, one backward, and no webbing (i.e. anisodactyl arrangement), a common characteristic of the passerines. The adult female lacks the male's head pattern, but is otherwise similar (Fig. 1). The crown and ear coverts are olive-green with a grey tinge and it has a white supraloral (region above the lores) and eye-ring. In comparison to the male, its plumage is duller, having brownish-olive upper parts, and pale yellow underparts, with olive-tinged flanks (Curson et al., 2010). Immature birds (Fig. 3) are considerably duller than the adults.

ECOLOGY. Apart from Trinidad and Tobago, the masked yellowthroat has an extensive distribution throughout Central and northern South America, particularly in Peru, Colombia, Venezuela, and Amazonian Brazil (Fig. 4) (Byers, 2016; Curson et al., 2010). *Geothlypis aequinoctialis* is a non-migratory species (Byers, 2014), preferring damp areas, with low dense vegetation, such as coastal marshes, grassy fields, bogs, and woodland borders (Van Perlo, 2009). However, it may be found in areas with dense shrubs, such as brambles. In Trinidad, the masked yellowthroat can be found in the marshes of the Caroni Swamp, along with other *Geothlypis* species, such as *G. trichas* (Gochfeld, 1973). *G. aequinoctialis* feeds opportunistically on a variety of insects, including caterpillars, dragonflies, damselflies, grasshoppers, beetles and spiders. The masked yellowthroat meticulously skulks its habitat, often perching and ascending tall stalks, such as reeds and rushes, in search of food. Typically, the masked yellowthroat is observed in pairs, and prefers not to associate with other species (BirdLife International 2012).

COMMUNICATION. As a member of the order Passeriformes, the masked yellowthroat is classified as a songbird. The sounds of the passerines are controlled by the syrinx (Burton, 195). According to Byers (2014), *G. aequinoctialis* exhibits complex songs; which are long, musical, and contain a diverse range of notes. In the masked yellowthroat, different songs are specialized for different functions, such as territorial marking, courtship and mating, nesting, and defense. Songs are often accompanied by visual displays, such as wing flapping, tail fanning, and preening. According to Van Perlo (2009), the common song of the masked yellowthroat is high, and sweet. It begins with two introductory "swee" notes, followed by two to three "feedeweet" notes, and ending with a distinct "wu-wutweet" note, producing a "swee swee feedeweet-feedeweet-wu-wutweet" sound. In accordance, Byers (2014) suggested that the typical song of *G. aequinoctialis* has three parts (Fig. 5). The first part consisting of 2-5 repetitions of a 2-note phase, followed by 2-13 repetitions of a 5-note phase, and concluding with 1-3 repetitions of a 7-note phase (Fig. 5). Byers (2014) also recorded an average of nine songs per minute in the *G. aequinoctialis*. However, the songs' duration varies according to the number of repetitions in each part. The songbird is often found perched, bellowing the sweet song. Here is a video of the masked yellowthroat singing: https://www.youtube.com/watch?v=YoY_cmslfok.

NESTING BEHAVIOUR. The masked yellowthroat breeds during the months of October and December (Auer et al., 2017; Repenning and Fontana, 2011). It prefers to nest in coastal marshes, with dense vegetation (Byers, 2016; Curson et al., 2010; Van Perlo, 2009). Typically, a cup-shaped nest, made of dead leaves, twigs, and stems, lined with rootlets, is built near the ground in either dense shrub, vines, vegetation or trees (Auer et al., 2017). It is usually hidden, or semi-hidden, with an average diameter of 8-11 cm (ArgentAvis, 2017). According to Auer et al. (2017), the masked yellowthroat has an average nest height of 2-5 cm. The female masked yellowthroat lays between 3-5 eggs, which are on average 2 g, and 18 x 14 mm in size (Fig. 6)

(Auer et al., 2017). They are ovoidal and white, with brown, red and or, grey flecks concentrated on one pole, forming an irregular crown (Fig. 6) (ArgentAvis, 2017). The eggs are incubated for approximately 13 days, with an average nestling period of 10 days (Auer et al., 2017). It is speculated that the adult male feeds the female *G. aequinoctialis* during the incubation period to increase hatching rates (Auer et al., 2017).

PARENTAL CARE. The female masked yellowthroat builds her nest, incubates her eggs, and is typically the first present when the eggs hatch (Auer et al., 2017). Alternately, both male and female adults feed the nestlings, exhibiting biparental care (Auer et al., 2017). The birds are born altricial (i.e. blind and featherless), requiring extensive parental care. In a study conducted by Auer et al. (2017), both male and female *G. aequinoctialis* had an average nest attentiveness of sixty percent, in order to increase the chances of nestling survival, and to decrease the success of predatory efforts. In addition, it was suggested by Auer et al. (2017) that the adults made approximately 8 trips per hour (i.e. to forage) whilst feeding the nestlings. Typically, one parent would forage, whilst the other would remain with the nestlings. Song is often learnt at an early age in the passerines, from their parents, as well as other members of their species. If they do not learn their species' song within the first year, they are unlikely to learn them at all (Haupt, 2017).

MOLTING. In the masked yellowthroat, molting activity (i.e. molting of the flight and contour feathers) occurs strictly post breeding (Repenning and Fontana, 2011). According to Repenning and Fontana (2011), there is no overlap in the breeding and molting seasons, in order to increase the chances of nestling survival. Molting is often accompanied by increased fat deposition (Repenning and Fontana, 2011). This helps the adult bird to withstand harsh environmental conditions, as well as disturbances in food availability. Prior to breeding, fat deposition also increases in the female *G. aequinoctialis*, to help maximize energy reserves during the incubation period (Repenning and Fontana, 2011).

ANTIPREDATOR BEHAVIOUR. Members of the order Passeriformes, which includes the masked yellowthroat, exhibit cooperative mobbing (McPherson and Brown, 1981). According to Sandoval and Wilson (2012), individuals cooperatively expel predators by distressing them with conspicuous vocalizations, persistent rapid movements, as well as direct physical attacks. Because of the risks involved, attacks toward a predator during mobbing is typically uncommon (McPherson and Brown, 1981). Mobbing often deters the predator from hunting within the area, and can be used to educate juveniles on predator activity. In some circumstances, the birds flee for cover or freeze in the presence of a predator. However, by fleeing little to no information would be gained about the attacker. According to McPherson and Brown (1981) owls are typically the object of the songbirds' aggregations. Apart from its many benefits, mobbing is expensive, as it incurs a high energy cost, time lost for foraging and an increased individual predation risk (Sandoval and Wilson, 2012).

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Fig. 2. Male masked yellowthroat.

https://upload.wikimedia.org/wikipedia/commons/6/69/Geothlypis_velata%2C_Piraju-SP%2C_Brazil.jpg

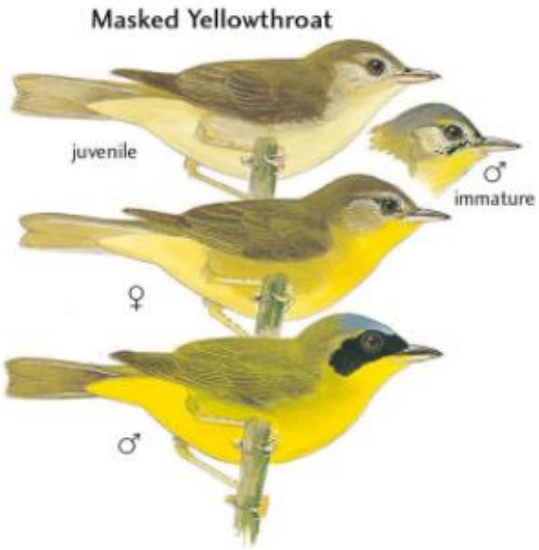

Fig. 3. Illustration of the male, female and juvenile masked yellowthroats.

https://books.google.tt/books?id=YI55DQAAQBAJ

Fig. 4. Geographic distribution of the masked yellowthroat in South America.

https://en.wikipedia.org/wiki/Masked_yellowthroat#/media/File:Combined_range_map_of_Geothlypis_aequinoctialis,_Geothlypis_auricularis,_Geothlypis_chiriquensis,_Geothlypis_velata.svg

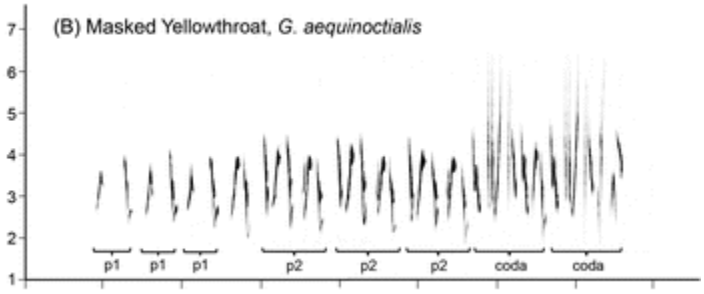

Fig. 5. The song of *G. aequinoctialis*.

http://www.bioone.org/doi/full/10.1642/AUK-14-64.1

Fig. 6. *G. aequinoctialis* eggs.

http://argentavis.org/2012/especie_fotos/esp_fot_1573.jpg