

Essentially confined to mangroves along the northern coast of Colombia, this hummingbird is extremely rare and threatened by extensive loss of habitat.

DISTRIBUTION The Sapphire-bellied Hummingbird (see Remarks) is endemic to a small area of the coastal strip in Atlántico, Magdalena and La Guajira departments, northernmost Colombia. The few localities where this species has been recorded (coordinates from Paynter and Traylor 1981) are as follows:

Atlántico Bocas de Ceniza (11°07'N 74°51'W), mentioned by Meyer de Schauensee (1948-1952) and also A. J. Negret (*in litt.* 1987);

Magdalena Ciénaga Grande de Santa Marta (10°50'N 74°25'W), on both sides of the río Magdalena estuary (Gochfeld *et al.* 1980, Hilty and Brown 1986); Isla de Salamanca National Park (10°59'N 74°27'W), throughout which there have been scattered observations (Toro *et al.* 1975, Franky and Rodríguez 1977), the most recent of which is from the eastern side (Hilty and Brown 1986); Sevillano (10°56'N 74°15'W; at the north-eastern corner of Ciénaga Grande de Santa Marta) (Darlington 1931); Punta Caimán (untraced, but at the mouth of the Ciénaga Grande de Santa Marta on Isla de Salamanca: see Paynter and Traylor 1981), where a male (in ANSP) was taken in September 1913 (also Stone 1917, Todd and Carriker 1922); and Ciénaga Grande de Santa Marta Sanctuary (10°40'N 74°31'W, in the south-south-west corner of the ciénaga: coordinates from CNPPA 1982), from which there is a report (J. E. Botero *in litt.* 1987);

La Guajira Ríohacha (11°33'N 72°55'W), just east of town at the mouth of the río Ranchería, where two birds were seen in August 1974 (Gochfeld *et al.* 1980); and río Ranchería itself (11°34'N 72°54'W), mentioned by Meyer de Schauensee (1948-1952).

POPULATION Although there are some recent records from the eastern side of Isla de Salamanca National Park (which has been intensively surveyed by several ornithologists during the past few decades: LGN), the population of this species remains essentially unknown, but is presumably very low. Hilty and Brown (1986) considered the bird to be rare, local, and not found with any consistency, S. L. Hilty (*in litt.* 1996) suggesting that this may have always been the case. On the rare occasions that the species is seen, it is usually alone (Gochfeld *et al.* 1980, Hilty and Brown 1986). If the Sapphire-bellied Hummingbird depends on extensive areas of pristine mangrove for sustaining a viable population (see Ecology), it will have undoubtedly declined since the mid-1970s owing to extensive habitat destruction (see Threats).

ECOLOGY The Sapphire-bellied Hummingbird is seemingly restricted to coastal mangroves (Gochfeld *et al.* 1980, Hilty and Brown 1986), although Darlington (1931) recorded the bird from xerophytic thickets; Hilty and Brown (1986) noted that it is usually seen alone at various heights inside the mangroves, although the extent to which the species relies on this habitat is unknown.

THREATS The construction of a highway and pipeline through Isla de Salamanca during the mid-1970s caused an obstruction to both the tidal and freshwater flow between the mangrove swamps and the Ciénaga Grande, thereby increasing the salinity of the outer mangroves and decreasing it in the inland areas: this has resulted in the death of large areas of mangrove (e.g. at least 1,700 ha by 1981) (CNPPA 1982, Scott and Carbonell 1986). Most of the original mangroves on Isla de Salamanca and adjacent Ciénaga Grande de Santa Marta have been destroyed owing to this imbalance in the salinity of some of the lagoons (Scott and Carbonell 1986, LGN).

Urbanization of the Bocas de Ceniza area (i.e. Barranquilla) has also caused the destruction of large areas of natural habitat, including mangroves (A. J. Negret *in litt.* 1987), and pollution from domestic sewage and industrial waste is causing yet further problems to the río Magdalena estuary (Scott and Carbonell 1986).

MEASURES TAKEN Isla de Salamanca National Park (21,000 ha) embraces a majority of the areas where this rare hummingbird has recently been recorded (CNPPA 1982; see Distribution), although wardening, management and enforcement of the park regulations are reported to be inadequate (Scott and

Carbonell 1986). Despite the widely recognized threats to the Isla de Salamanca National Park (see above), only minor corrections to the disruption of the tidal flow have so far been undertaken (LGN). The short-term future status of most of the habitats on Isla de Salamanca is uncertain, although biologists at the Instituto de Investigaciones Marinas de Punta de Betín (INVEMAR, Santa Marta) have been documenting the problems during the last few years (Botero and Botero 1987).

The Ciénaga Grande de Santa Marta Sanctuary (23,000 ha) incorporates areas of mangroves in the south-south-west corner of the ciénaga (CNPPA 1982), and the Sapphire-bellied Hummingbird is apparently known to occur there (J. E. Botero *in litt.* 1987).

MEASURES PROPOSED So little is currently known about the ecological requirements or distribution of this bird that a survey, which would also help to clarify the species's population and taxonomic status (see below), is urgently needed. Nevertheless, on present evidence the priority for the species must be the conservation of mangrove areas around the río Magdalena, río Ranchería, and Ciénaga Grande de Santa Marta. The restoration of the mangroves within the Isla de Salamanca National Park is also essential if this species is to maintain a number of viable populations, and a resolution of the third Neotropical Ornithological Congress held in Cali, Colombia, in 1987, urged the Colombian government to take prompt action on such work: however, no adequate conservation strategy for the park has yet been developed.

This whole area (Isla de Salamanca and Ciénaga Grande de Santa Marta) constitutes the most important wetland for waterfowl on the Caribbean coast of Colombia, supporting large concentrations of both resident breeding species and Nearctic migrants (Scott and Carbonell 1986), so any conservation initiatives (restoration, pollution control, protective measures) should allow for the general needs of the waterfowl, as well as the specific needs of the hummingbird. Such measures should also embrace the requirements of the near-threatened Northern Screamer *Chauna chavaria*, which is not uncommon in this region, but is suffering from the widespread loss of its wetland habitat (Hilty and Brown 1986), and also the Bronze-brown Cowbird *Molothrus armenti*, now generally judged only a subspecies of Bronzed Cowbird *M. aeneus* (Ridgely and Tudor 1989), but which has a major part of its range (at least seasonally) within the Isla de Salamanca National Park (Gochfeld *et al.* 1980, Dugand and Eisenmann 1983, Hernández Camacho and Rodríguez-Mahecha 1986).

REMARKS Peters (1945) treated this species as a race of Sapphire-throated Hummingbird *Lepidopyga coeruleogularis*, probably based on the comment by Darlington (1931) who considered *lilliae* a colour phase of that species, which also occurs in the Ciénaga Grande area (Meyer de Schauensee 1948-1952, Hilty and Brown 1986). Meyer de Schauensee (1948-1952) noted that the specific status of *lilliae* must be kept, but in a subsequent account (Meyer de Schauensee 1966) suggested again the possibility of it being an age-related colour-morph of *coeruleogularis*. Sapphire-bellied Hummingbird is here treated as a full species, following Hilty and Brown (1986) and Sibley and Monroe (1990).