GORGETED WOOD-QUAIL *Odontophorus strophium* **V/R**[10]

This rare wood-quail is endemic to the severely threatened subtropical and temperate zone forests encompassing a small area of the western slope of the East Andes, Colombia. Until 1923 only known from Cundinamarca, recent records have come from one of the only remaining areas of suitable habitat, around Virolín in Santander department.

DISTRIBUTION The Gorgeted Wood-quail is restricted to two areas on the western slope of the East Andes in Santander and Cundinamarca departments, Colombia, encompassing a maximum longitudinal range of some 280 km (Romero-Zambrano 1983). The few precise records and localities, with coordinates (unless otherwise stated) from Paynter and Traylor (1981), are as follows:

Santander Cuchilla del Ramo, on the río Zapatoca (6°48'N 73°26'W; near Betulia: coordinates from Romero-Zambrano 1983), a male and chicks taken in May 1970 (Romero-Zambrano 1983, Brooke 1988b); and Virolín (6°05'N 73°12'W), in the vicinity of which three specimens were collected at Finca La Argentina in November 1979, Finca La Lanosa in December 1979, and Caño Luisito in March 1981 (Romero-Zambrano 1983), and within a 3 km radius of which (i.e. Virolín) birds were shot (by a hunter) and groups heard during March 1988, all between 1,800 and 2,050 m (Brooke 1988b);

Cundinamarca San Juan de Ríoseco (4°51'N 74°38'W), a male (in AMNH) taken in November 1923 (also Apolinar-María 1946); Subia (4°34'N 74°27'W), a male (in AMNH) taken in July 1913 (also Chapman 1917a); río Beura (untraced, but in the vicinity of Bogotá), a specimen (in MCZ) taken in August 1912; and (label data only partially legible, but apparently) "Finca de Nonnardo, Agualarga" (untraced, but also in the vicinity of Bogotá), a female (in AMNH) taken in May 1920.

POPULATION Until recently, this species was known from very few records (four specimens with information other than "Bogotá" or "Colombia" on their labels), all originating in Cundinamarca during or prior to 1923 (see above). There have been no subsequent records from Cundinamarca, but in 1970 it was found to the north in Santander when breeding was proven near Betulia, and three specimens were collected between 1979 and 1981 in the vicinity of Virolín, where a good population was deemed to exist (Romero-Zambrano 1983). Despite this, the species was considered very rare and endangered (King 1978-1979, Hilty and Brown 1986, Johnsgard 1988) until March 1988, when at least seven groups of birds were heard (with three birds shot, and at least three others seen), also in the vicinity of Virolín (Brooke 1988b).

It has been concluded that the oak forest in the Virolín area may be especially favoured by the species and may possibly harbour high densities of birds, although its status in this whole forest block (north-east of Virolín) remains unknown (Brooke 1988b). The large-scale destruction and fragmentation of forest on the western slope of the East Andes, especially in Cundinamarca (see Threats), suggest that the Gorgeted Wood-quail has suffered a serious long-term population decline, and may now exist in relatively small numbers in just a few remaining forest blocks, the largest of which appears to be near Virolín (see Hilty and Brown 1986, Brooke 1988b).

ECOLOGY The Gorgeted Wood-quail inhabits the floor of humid subtropical and lower temperate zone forests (Hilty and Brown 1986, Johnsgard 1988, Fjeldså and Krabbe 1990), at altitudes known to range from 1,750 to 2,050 m (Romero-Zambrano 1983, Brooke 1988b). However, Hilty and Brown (1986) suggested a range of 1,500-1,800 m, and Brooke (1988b) could see no reason (with reference to the forest structure) for birds at Virolín not to range as high as 2,500 m. The bird apparently favours primary forest dominated by oaks (*Quercus humboldtii* and *Trigonobalanus* sp.) and laurels (e.g. *Nectandra* sp. and *Persea* sp.) (Romero-Zambrano 1983). However, in the Virolín area (described as primary oak forest with areas of pasture and secondary forest), Brooke (1988b) noted birds calling from forest that was regenerating after logging, although it seems likely that the species relies on primary forest during at least part of its life-cycle. Just prior to breeding, it occurs in small groups, with three birds seen together, and seven groups (of unknown size) recorded from a relatively small area around Virolín during March 1988 (Brooke 1988b).

The forest around Virolín is characterized by a number of plant species, all but the last three of which are suspected of featuring in the wood-quail's diet: *Quercus humboldtii*, *Trigonobalanus* sp., *Cavendishia guatapensis*, *C.* cf. *nitida*, *Macleania rupestris*, *Miconia theaezans*, *Myrica pubescens*, *Rapanea ferruginea*, *Nectandra laurel*, *Ficus boyacensis*, *Norantea mixta*, *Thibaudia floribunda*,

Tibouchina lepidota, and *Persea mutisii* (Romero-Zambrano 1983). The stomach contents of recent specimens indicate a diet of arthropods and fruits, and there is some evidence suggesting that the fruits and seeds preferred by the species are those of the plants mentioned above (Romero-Zambrano 1983).

The breeding season (in Santander) appears to coincide with the two periods of peak annual rainfall, i.e. March–May and September–November (see Fundación Natura 1990), with a breeding condition bird taken in March 1981 (and groups of birds calling in March 1988), juveniles in May 1970, another in breeding condition in November 1979, and an immature in December 1979 (Romero-Zambrano 1983, Brooke 1988b).

THREATS The humid subtropical and temperate zone forests of the western slope of the East Andes have been largely cleared, and at least in Cundinamarca there is now almost no forest left (Hilty and Brown 1986, J. Fjeldså *in litt.* 1986, Brooke 1988b), although King (1978-1979) mentioned that small patches of forest remained near Subia, but were probably too small and disturbed to harbour this species.

The only remaining forest block of significant size within the range of this rare wood-quail is in the vicinity of Virolín: this forest block is an extensive area (c.10,000 ha) of primary humid forest extending for c.50 km north-east from Virolín in a band c.25 km wide ranging up to 3,000 m (Brooke 1988b, J. Hernández Camacho and G. I. Andrade *in litt.* undated). The valley bottom near Virolín is at c.1,800 m, and has been mostly cleared for grazing, with forest (which may have experienced some selective felling but is essentially primary) starting at c.1,950 m (Brooke 1988b). Tree-felling and hunting are largely confined to the peripheral kilometre (at least around Virolín), but although the area is rugged it is not so precipitous as to preclude felling in the future (Brooke 1988b). The presence of at least seven groups of birds in an area of active hunting suggested that this species may be able to withstand some hunting pressure (Brooke 1988b), but this is presumably only true if there are adjacent tracts of undisturbed forest with a substantial population of birds in the area, i.e. hunting remains a major threat to relict populations in remnant forest patches (also G. I. Andrade verbally 1991).

MEASURES TAKEN Based on recommendations from ICBP (which reflected the importance of area as recognized by INDERENA and Romero-Zambrano 1983), M. de L. Brooke (supported by ICBP and Fundación Natura) undertook an ornithological survey of the oak-dominated forest in the Virolín area (concentrating on the Gorgeted Wood-quail) in March 1988 (Brooke 1988b). As a result of this work, and the known biological importance of the area, Fundación Natura (with assistance from ICBP, Financiera Eléctrica Nacional and The Nature Conservancy) set out to design a protected area encompassing the most important forest areas around Virolín: a final proposal for the Cachalú Wildlife Sanctuary (previously named Virolín) was submitted to INDERENA for formal designation in 1990 (G. I. Andrade *in litt*. 1988, 1990, Fundación Natura 1990).

MEASURES PROPOSED The obvious priority for the Gorgeted Wood-quail is to ensure the effective preservation of the remaining forest around Virolín, which should be facilitated by the protected area outlined above. Further suitable areas in Santander and any remaining forest patches in Cundinamarca need to be identified, their importance assessed and protection ensured if more than one isolated population (however large it may be) of the species is to survive. Surveys and research are needed to determine the population status of this species in Cachalú Wildlife Sanctuary, and also the effects of hunting and the extent to which the birds use secondary habitats. These forests on the western slope of the East Andes (including those in the vicinity of Virolín) are also important for the Black Inca *Coeligena prunellei*, the requirements of which should be integrated into any future conservation initiatives or management (see relevant account).