

**Notes on a display and nest of the Club-winged Manakin.**—Although the peculiarly enlarged and stiffened shafts of the secondaries of male Club-winged Manakins (*Allocopterus deliciosus*) have been pictured in a standard ornithology text (J. C. Welty, *The life of birds*, Philadelphia, W. B. Saunders Co., 1962; see p. 197), the function of these feathers in the display of the species was completely unknown when H. Sick (*J. f. Orn.* 100: 269–302, 1959) reviewed the displays of manakins (Pipridae). In March, 1962, I observed Club-winged Manakins displaying in second growth at 4,500 feet elevation below Queremal (3°32'N lat., 76°43'W long.), Colombia, near Kilometer 50 on the road between Cali and Buenaventura. The indications are that these feathers have a role in sound production.

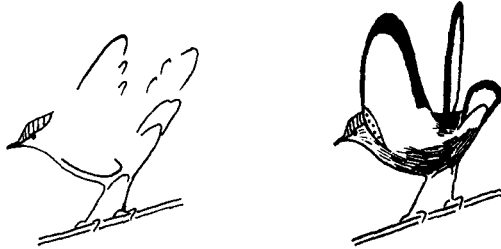


Figure 1. Display of the Club-winged Manakin. Left, the wings flash upward briefly. Right, the wings are held up and their front edges rotated downward. See text for description of accompanying sounds.

During the warm hours of midday, males at various places on the steep slopes near the road gave at irregular intervals an insect-like buzz, or *wherrrr*, preceded by two clicks, or *tip, tip*. Each *tip, tip-wherr* lasted about two seconds and was repeated as rapidly as once a minute while the birds were displaying. Occasionally two or three birds buzzed near each other, but normally birds were well separated. There was no evidence of visual interaction between males, but they could undoubtedly hear each other. The scattered males may have formed what T. Gilliard (*Sci. Amer.* 209[2]: 38–46, 1963) calls an “exploded arena,” since the species was not found elsewhere near Queremal.

When a male displayed, it stood with legs somewhat spread on a slender horizontal branch in the middle levels of second growth, 3 to 30 feet above the ground. The bird was concealed from above by the thin canopy but visible for a long distance from the undergrowth and other levels of the forest interior. The head and body were level, but the tail was raised during the display. At each clicking “*tip*” the wings flashed upward so rapidly that there was only a brief flash of white from their lower surfaces. After a pause the wings were held up again and rotated downward conspicuously and the buzzing “*wherrrr*” was heard (Figure 1).

From behind, when the bird flashes its wings, conspicuous white areas can be seen under the wings and tail and on the flanks and under tail coverts, framed in black by the edges of the wings and tail. The blackish areas of the lower abdomen and rump also contribute to the frame. A yellow area under the bend of each wing also shows from behind. From in front the display is not very conspicuous, even though the red forehead and chestnut head and body of the male contrast slightly with the dusky upper surfaces of the upraised wings and tail.

Between displays a male often jumped suddenly to another perch or reversed its direction suddenly on the same perch. I did not detect any sound during jumping or reversing. The flight of both males and females is normally silent.

The clapping of the thickened secondaries probably produces the insect-like sounds during displays, although I could not definitely rule out the possibility that these are vocalizations. The related species *Machaeropterus regulus* and *M. pyrocephalus* also produce grasshopper-like buzzes, but in several respects their displays are rather different (Sick, *op. cit.*). The males of both of these species stand head down on slender vertical twigs, hold their beaks open when they buzz, and do not spread their wings. Sick was thus uncertain whether their buzzes are vocal or are produced by vibrating the thickened shafts of the secondaries. I never noted bill opening or vertical perching by displaying *A. deliciosus*. The displays of *M. regulus* and *M. pyrocephalus* emphasize dorsal colors, while the wing-flashing display of *A. deliciosus* is much more conspicuous from the rear.

In the same locality a Club-winged Manakin nest, a mossy and deep pensile cup like a vireo nest, was discovered on 22 March about two feet above the ground in a small fork of a three-foot shrub (*Piper* sp.). The bush was in the dense undergrowth a few yards from a favorite dancing site of one male. The two brownish-white eggs were speckled with brown. The inside of the nest was lined with fine fibers, perhaps fungal rhizomorphs or "vegetable horsehair." When approached, the female flushed from the nest and flew off quietly, then looked back from a perch low in the undergrowth.

Foraging birds of this species wander silently from 3 to 30 feet above the ground, keeping to the undergrowth below the level of display perches much of the time. They snap tiny prey off leaves and twigs and eat small berries and other fruits in the style of such manakins as *Pipra mentalis*. Occasionally one joins a wandering mixed-species flock, but they more often wander alone. A melastome, *Conostegia* sp., affinities with *icosandra* (kindly determined by John Wurdack of the U. S. National Herbarium), which grew above many of the dancing sites at Queremal, may have permitted nesting at the season I visited the area. Males frequently visited these fruiting trees and ate the abundant berries.

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**Parasitism of the Dwarf Vireo (*Vireo nanus*) by cowbirds.**—H. Friedmann ("Host relations of the parasitic cowbirds." *U. S. Natl. Mus., Bull.* 233; 1963; p. 83) mentions one known case of parasitism by the Brown-headed Cowbird (*Molothrus ater*) on the Dwarf Vireo. This record is listed as a set of four eggs of the vireo and two of the cowbird, taken on 17 June 1943, five miles northeast of Irapuato (= "Irapucto"), Guanajuato, Mexico; the eggs are in the Moore Collection, Occidental College, Los Angeles, California. After Friedmann's work had been published the collection of nests and eggs in the Moore Laboratory of Zoology was catalogued and three additional records of this parasitic relationship were found in that collection. All specimens were collected at the locality mentioned above. Following is a brief description of each specimen (nest or eggs or both), giving Moore Laboratory catalogue numbers.

EN-416 (record cited by Friedmann): nest composed of grasses, leaves, plant fiber, strips of bark, fine plant fiber as an inside lining, and spider web or other silky material incorporated; nest completely suspended; four immaculate white vireo eggs