

## CREST DISPLAY AND COPULATION IN THE ROYAL FLYCATCHER (*ONYCHORHYNCHUS CORONATUS*)

Leonardo Chaves

San José 26249, P. O. Box 025331, Miami, FL 33102-5331, USA.  
 E-mail: leoaves@yahoo.com

**Despliegue de cresta y copula en el Mosquero Real (*Onychorhynchus coronatus*).**

**Key words:** Royal Flycatcher, *Onychorhynchus coronatus*, crest display, courtship.

The Royal Flycatcher (*Onychorhynchus coronatus*) ranges from southern Mexico to northern and central South America (A.O.U 1998), and is one of the most attractive birds when its crest is in display. The fully displayed crest consists of a broad fan of long, scarlet-colored feathers in the male and yellow-orange feathers in the female, bordered dark blue in both sexes. However, hypotheses about the possible function of crest display in this species are based on only a few anecdotal observations (Skutch 1960, Traylor & Fitzpatrick 1980).

Graves (1990) describes behavior and possible function of the Royal Flycatcher's crest display mainly based on hand-held birds captured in mist nets. Behavior accompanying crest display includes side-to-side head-waving with the bill held wide open, performed by female and male birds alone, and by a hand-held pair facing each other, which then locked bills. There seems to be only one published observation of Royal Flycatcher crest display in free-living birds, described by Skutch (1960). Associated behavior described by Skutch (1960) included crest display while

preening, head-waving when a male approached a female building a nest or attending eggs, accompanied with quivering of the crest, agonistic interspecific encounters, and a partial display by a female inside a nest. Hypothesized functions of the crest display include courtship (Skutch 1960), aposematic warning signals or snake mimicry, territory defense and intra and interspecific aggression (Graves 1990).

On 15 May 2000, at 12:00 h, I observed a pair of Royal Flycatcher copulating at Carara National Park, province of Puntarenas, Costa Rica (9°48'N, 84°36'W, 20 m a.s.l.). The surrounding vegetation consisted of a transitional dry-to-very-humid forest with partially leafless trees in the dry season (Vargas 1992). Male and female initially were perched in the understory, in an open and visible area, 2 m away from each other, at a height of 2 m, and 4 m away from a nearly dry small creek.

The male displayed its crest first. Then both birds kept their crests spread and quivering, eliciting fan-like movements for a while, but without any head or neck movement, just their crests. After a few flutters, the male

approached the female and copulation started, with both birds having their crests spread and quivering. Copulation took place for less than 5 s and then both birds flew to different branches. Then the male flew to where the female was perched and hovered in front of her for about 5 s, facing her and fully displaying his crest while the female also spread hers.

Crest display in this instance clearly was associated with several stages of courtship and copulation: 1) both male and female displayed the crest before copulation, 2) copulation was accompanied only by quivering of spread crest in both sexes and not neck movement, 3) after copulation the hovering male spread his crest in front of female.

Hovering in Tyrannidae so far as known is common only when feeding (Traylor & Fitzpatrick 1980). Interestingly, Sick (1993) describes crest display in the hummingbird Frilled Coquette (*Lophornis magnifica*) as follows: "During nuptial display male raises red crest and expands lateral neck tufts, moving them while he executes a slow flight or hovers in front of female who remains perched...". It is also known that the Boat-billed Heron (*Cochlearius cochlearius*) spreads its crest in courtship display during the reproductive cycle (Sick 1980, L. Chaves pers. observ.).

My observations supports the idea that the colorful crest in Royal Flycatcher plays an important role in reproduction and courtship (Skutch 1960). Previously reported bill locking, head-waiving, or side-to-side motion of the head were not observed.

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