Additional background for instructors

Life History

This teaching module is based on webcam footage of one display perch in a population of Lance-tailed Manakins on Isla Boca Brava, Chiriquí, Panamá, that has been monitored intensively since 1999. Lance-tailed Manakins are small passerine birds in the family Pipridae that live in secondary growth forests of Western Panama, Columbia, and Venezuela. Male Lance-tailed Manakins are black with a blue back and red crest; females are olive-green with orange legs, and have an orange or red crest. Young males initially look like females, but pass through two intermediate subadult plumages before attaining adult coloration in their 4th year after hatching. Lance-tailed Manakins are primarily frugivorous, and manakins as a group are important seed dispersers in tropical forests.

Courtship and Breeding

Lance-tailed Manakins, like other species in the genus Chiroxiphia, court females using complex multi-male displays. The webcam shows one display perch in the display area of one pair of males. However, these two males also perform displays on two other perches in their display area, albeit less frequently. The monitored region consists of 29 males and their display partners, with display areas of adjacent alphas usually separated by at least 50 meters. This concentration of male display areas is called a "lek," and females visit the lek to evaluate lots of males prior to choosing whom to breed with.

Male Lance-tailed Manakins form long-term two-male alliances. Partners perch side-by-side in tall trees to sing duet songs. When a female approaches, they perform a dance of coordinated leaps and butterfly-like flights on the display perch. Displays that happen right before copulation are often performed only by the alpha male, but if both males are present the beta male typically leaves the area several minutes before the final stages of courtship and mating. The most eye-catching display is the "**backwards leapfrog**" in which the two males leap alternately over one another as the female watches at close range. Bouts of leapfrog display often end with a sharp "eek" by the alpha male, and one display can include many bouts of leaping – and eeking.

Male Manakin Breeding Success

Color-banding and behavioral monitoring in this population has shown that the dominant "alpha" male and his subordinate "beta" partner may remain together for up to six years. With very rare exceptions, only alpha males reproduce. Why do betas cooperate rather than striking off on their own? Being a beta increases a male's chance of becoming alpha, but many males die while "waiting in the wings" and never have the chance to be alpha. Interestingly, some males skip beta status altogether and assume alpha roles early in life, and those males are approximately as successful (as measured by genetic paternity) as males who spend years as betas. Current research in this study population investigates why males vary in the routes they take to attaining alpha status.

Female Choice on the Lek

Female Lance-tailed Manakins move widely among display areas in this lek mating system, typically observing displays by 4-6 pairs of males before choosing their mates. After mating, females nest outside of their mate's display area and raise their young without any male assistance. Though males apparently contribute only sperm to their offspring, mate choice matters: the offspring of more genetically diverse males are more likely to survive.

More Information

Read more about Lance-tailed Manakins in the Neotropical Birds Online species account, and in the scientific papers available on Dr. DuVal's lab webpage. The live webcam is viewable February through May on the Cornell Lab's Bird Cams website. More cam videos are accessible via a playlist on YouTube.