



# Female Lance-Tailed Manakin Behaviors: Bill Swipes and Copulation Solicitation Displays



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## ABSTRACT

Courtship displays are a behavior exhibited by males of many species to attract females. Studies on passerine birds such as the Brown Headed Cowbird have utilized a behavior known as copulation solicitation displays (CSDs) to study female interest in specific courtship stimuli (O'Loughlen et. al. 2012). To investigate whether female interest in male courtship displays predicts their likelihood of copulating with the male, I recorded copulation solicitation displays by female lance-tailed manakins. The aim of this study was to test whether copulation solicitation displays predict successful copulations. We found that copulation solicitation displays were rare in this system but most copulations are preceded by copulation solicitation displays. This project helps us to better understand how female lance-tailed manakins communicate with male lance-tailed manakins during courtship displays.

## METHODS

- At 14 display areas we used continuous video monitoring to record male and female behavior at the display perch on which we observed the most activity (DuVal et al., 2018)
- To quantify behaviors recorded at the dance perch during the experiment we used Sony Movie Studio Platinum (Version 13.0) video-editing software to identify bouts of activity at monitored dance perches.
- The videos were scanned at a standardized rate until manakins were observed as well as the details for each bout of activity. We recorded duration at the start and end time of each bout of activity.
- One activity type Displays for females (DFF) was characterized by the presence of a female on or near the display perch
- DFF were scanned for female bill swipes, copulation solicitation displays, and copulations then recorded on Excel
- A binomial regression model was used to analyze the relationship between copulations, female bill swipes and copulation solicitation displays



Figure 1. Female Lance-Tailed Manakin doing Copulation Solicitation Display



Figure 2. Female Lance-Tailed Manakin

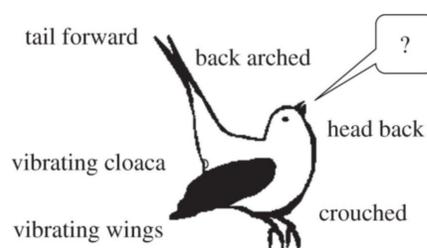
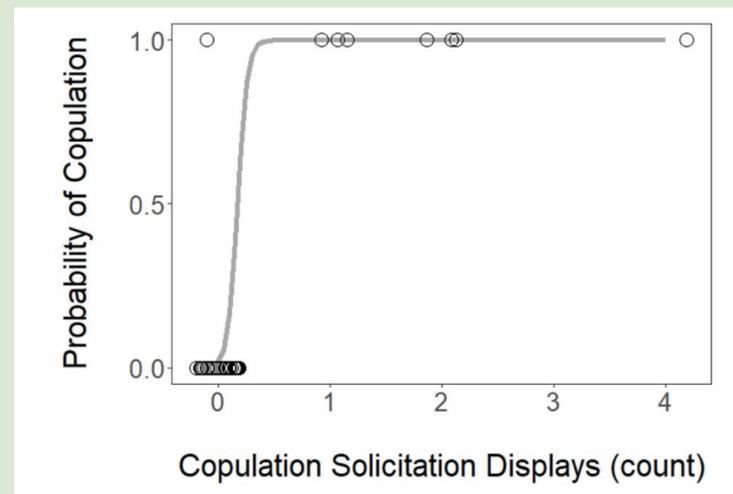


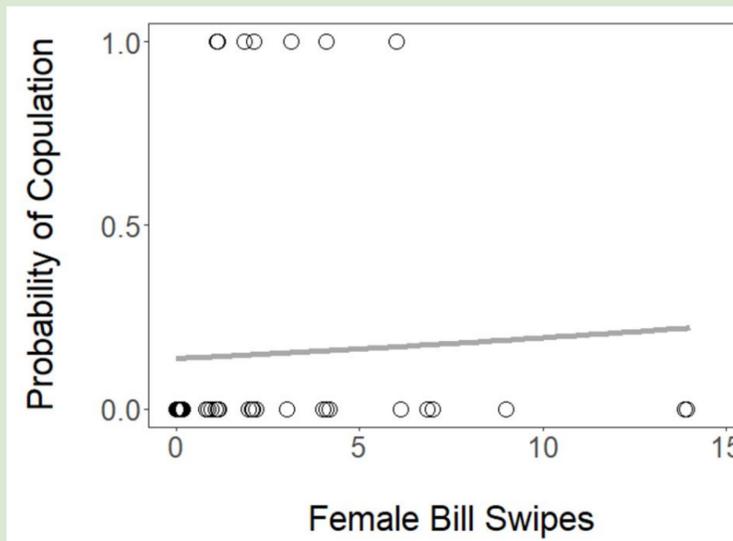
Figure 3. Copulation Solicitation Displays in female canaries

## RESULTS



		Copulation?	
		No	Yes
Any copulation solicitation display?	No	52	1
	Yes	0	7

1. Copulation Solicitation Displays are not significant predictors of mating success



2. Female Bill Swipes are not significant predictors of mating success

## DISCUSSION

- Female bill swipes and CSD aren't significant predictors of copulation success
- Copulation Solicitation Displays tend to occur before most copulations in Lance-Tailed Manakins
- In songbird species such as the canary, CSD are counted to assess female interest in courtship stimuli (Amy et. al 2015).
- Counting CSD isn't an effective method to assess female interest for Lance-Tailed Manakins
- Further research needs to be conducted on female signaling to male Manakins during courtship displays as CSD are an uncommon occurrence



Figure 4. Display for Female (DFF) with a female manakin and two males pictured

## REFERENCES

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