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### Reverse Mounting in the Painted Bunting

CHARLES F. THOMPSON AND SCOTT M. LANYON<sup>1</sup>

*Department of Biological Sciences, Illinois State University, Normal, Illinois 61761 USA*

Reverse mounting, in which a female stands upon the back of a male, has been reported in several passerines (Morris 1954, Ficken 1963, Nolan 1978: 109), but because of its rarity, little is known about its causes or the circumstances under which it occurs. We report here three instances of reverse mounting by a pair of color-banded Painted Buntings (*Passerina ciris*) on St. Catherine's Island, Liberty County, Georgia.

The male, designated M49, was in the greenish-yellow yearling plumage (see Sprunt 1968) when banded on 24 April 1978, probably the day he arrived on our study area. The female, F62, was banded on 10 May 1978, the day after she was discovered constructing her first nest on M49's territory; this nest subsequently failed. Her second nest failed between 7–9 June, when three nestlings disappeared. Typically buntings renest rapidly after nest failure, but despite regular observation, we saw no nest building until 28 June, the day after the reverse mountings occurred.

On three occasions within 20 min on 27 June, F62 stood upon the back of M49. In the first episode, M49 flew to a crotch in a 2-m pine; in this cramped position his tail was raised well above the horizontal axis of his body. F62 stepped upon his back, crouched, and treaded rapidly for 3–4 min before hopping off. The second episode took place approximately 5 min later. F62 gave several soft calls from a perch in a 6-m pine; M49 immediately flew to her and crouched in a mass of adjacent needles. F62 moved closer, pecking M49's back lightly before mounting him. She remained there for 30 s before both flew to nearby trees. When relocated, F62 was again perched upon M49's back as he crouched in pine needles. Upon dismounting, she perched motionlessly nearby for several minutes. About 5 min later, F62, accompanied by M49, returned to the pine in which the first episode occurred and settled into the crotch that subsequently became the site of her third nest.

Behavior appropriate to the opposite sex was termed pseudomale and pseudofemale behavior by Morris (1955). Two of four circumstances he associated with such behavior were "the arousal and subsequent thwarting of the sex drive" and "the presence of the releasing stimuli for the sexual behavior of the opposite sex"; both of these seem applicable to our observations. The episodes we report occurred at the end of an unusually long interval (about 20 days) between the failure of one nest and the start of its replacement. One of the cases of reverse mounting observed by Nolan (1978: 109) in Prairie Warblers (*Dendroica discolor*) fell late in an unusually long interval between nest failure and rebuilding. Although

<sup>1</sup> Present address: Department of Biology, Indiana University, Bloomington, Indiana 47401 USA.

the cause of the delay is unknown in our case, it is perhaps noteworthy that M49 was a yearling; most yearling males are not territorial and therefore do not breed.

Adoption of crouched positions by M49 may also have contributed to the reverse mountings, for the crouched position with raised tail resembles the posture typically assumed by females prior to copulation. Males that mount females, however, engage in no behavior similar to F62's treading. She did not appear to be attempting to maintain balance, and she did not beat her wings as males do. Instead, her movements suggested those of a female shaping a nest's cup. Ficken (1963) reported three reverse mountings by American Redstarts (*Setophaga ruticilla*) and suggested that the crouched position of the male stimulated the female's pseudomale behavior. A male Prairie Warbler nest-shaped prior to being mounted by his mate (Nolan 1978: 109).

To summarize, the circumstances associated with the reverse mountings by F62, i.e. delay in reneating and adoption by the male of a position resembling the female's pre-copulatory posture, are consistent with two of the factors Morris (1955) identified as leading to pseudomale and pseudofemale behavior.

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### Foraging Behavior of Male and Female Nuttall Woodpeckers

J. MARK JENKINS<sup>1</sup>

*Hastings Natural History Reservation, Star Route Box 80, Carmel Valley, California 93924 USA*

Woodpeckers have been the focus of attention in examining the ecological significance of intersexual niche divergence (Kilham 1965, 1970; Selander 1965; Ligon 1968, 1973; Jackson 1970; Kisiel 1972). Many of the North American species of the genus *Picooides* exhibit intersexual niche divergence (Austin 1976). This study was undertaken to quantify the foraging behavior of males and females of *P. nuttallii* and to determine if and to what extent subdivision of the foraging niche occurs.

Two selective advantages have been proposed to explain the observed tendency of the sexes to occupy separate subniches. The first assumes a limited food supply, with selection favoring those individuals most efficient in utilizing the available food resources (Selander 1966). Second, Kilham (1965) suggests that friction arising from repeated competition may tend to weaken the pair bond. Thus, selection would promote differences in feeding, roosting, and other habits where competitive friction might arise.

All field observations on Nuttall Woodpeckers were collected on the 800-ha Hastings Natural History Reservation, Monterey County, California, which is operated by the Museum of Vertebrate Zoology, University of California, Berkeley (Linsdale 1947, Griffin 1974). Live oaks (*Quercus agrifolia*) dominate on lower hillsides and are co-dominant with valley oaks (*Q. lobata*) on broad valley bottoms. Live and valley oaks also occur in riparian areas, together with willow (*Salix* spp.) and California sycamore (*Platanus*

<sup>1</sup> Present address: Division of Aquatic and Wildlife Resources, Department of Agriculture, Government of Guam, Agana, Guam 96910.