

GENERAL NOTES

Head-scratching behavior of some hand-raised birds.—I report here on the head-scratching behavior of several species of birds that I have hand-raised during the past 10 years. By "hand-raising," I mean that I took nestlings or recently-fledged young and fed them until they became independent. I raised the Jungle Babblers, Red-vented Bulbuls, Common Ioras, Tailorbirds, and Common Bayas while at the Maharaja Sayajirao University of Baroda, Gujarat State, India, during the 1964–1965 academic year. The other birds I raised in my aviary at Ann Arbor, Michigan.

The following species that I raised scratched their head *indirectly* (that is, by bringing the foot forward and upward over the wing): Red-vented Bulbul (*Pycnonotus cafer*; Pycnonotidae), Common Iora (*Aegithina tiphia*; Irenidae), Tailorbird (*Orthotomus sutorius*; Sylviidae), Mockingbird (*Mimus polyglottos leucopterus*), Kirtland's Warbler (*Dendroica kirtlandii*), Common Baya (*Ploceus philippinus*), Cardinal (*Richmondia cardinalis*), Rose-breasted Grosbeak (*Pheucticus ludovicianus*).

This appears to be the first report of head-scratching behavior in the Red-vented Bulbul, Common Iora, Tailorbird, and Common Baya. Such behavior by other species belonging to the same families as these species has, however, previously been described by Simmons (1957. *Ibis*, 99:178–181; 1961. *Ibis*, 103a:37–49).

The following species that I raised scratched their heads *directly* (that is, by bringing the foot forward under the wing): Jungle Babbler (*Turdoides striatus*; Timaliidae), Cedar Waxwing (*Bombycilla cedrorum*), Yellow-breasted Chat (*Icteria virens*).

This is the first report for head-scratching behavior in the Jungle Babbler and for the Bombycillidae. Nice and Schantz (1959. *Ibis*, 101:250–251) reported direct head scratching by the Yellow-breasted Chat.

It has been established previously that there is some individual, generic, and familial difference or variation in head-scratching behavior (e.g., Nice and Schantz, 1959. *Auk*, 76:339–342; 1959. *Ibis*, 101:250–251; Ficken and Ficken, 1958. *Ibis*, 100:277–278; Dunham, 1963. *Auk*, 80:375). I have watched many adult Kirtland's Warblers on their breeding grounds and have never seen them scratch any way other than over the wing. Despite many hours of close observation of my hand-raised Kirtland's Warblers over a period of eight years, rarely did I observe head-scratching behavior. Only once did I observe direct head scratching, and this was by a bird approximately 14 months old. On the other hand, I have never seen a Jungle Babbler (either wild or captive) scratch its head any way except under the wing, nor did I ever observe my Yellow-breasted Chats use any other method than direct scratching.

In addition to individual difference, there is an ontogenetic pattern, at least in some species. The first attempts at head scratching by the Common Iora and the Tailorbird, for example, were made under the wing, but only because the birds had not yet developed adequate muscular coordination to maintain their balance on one leg while scratching their head with the other leg. Within a period of approximately 24 hours after their first attempts, however, neuromuscular coordination was established and thereafter the birds invariably scratched their heads over the wing. In fact, young birds have the "drive" or "urge" to scratch their heads before they are physically capable of doing so. This can be observed easily as a bird draws one leg forward with the "intention" of scratching but abruptly retracts the leg to regain balance simply because the bird is unable to support itself on one leg.—ANDREW J. BERGER, *Department of Zoology, University of Hawaii, Honolulu, Hawaii, 6 December 1965.*