

UPSIDE-DOWN RESTING BY YOUNG GREEN-RUMPED PARROTLETS (*FORPUS PASSERINUS*)

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Sleeping or resting upside down is thought to be a primitive psittacid response to nocturnal predation. By hanging at the tips of small branches, the bird is both camouflaged and at the same time protected from heavy predators unable to reach the branch tips (Dilger, *Z. Tierpsychol.* 17:649-685, 1960). Hanging upside down has been previously noted in only four psittacid genera: the neotropical *Bolborhynchus* (Prestwich, *Avic. Mag.* 60:1-3, 1954) and *Brotogeris* (Power, *Condor* 68:562-581, 1966), and the paleotropical *Loriculus* and *Agapornis* (both Dilger *op. cit.*).

In October 1965, while making casual observations on a small captive flock of *Forpus passerinus* (five immatures, two adult males, and two adult females), it was noticed that several of the immatures were hanging from the wire-mesh cage roof in the same way that *Loriculus* parrots rest and sleep (F. G. Buckley, *Ibis* in press). The *Forpus* were seen hanging quietly by both feet for 10 minutes after which they scattered, disturbed by sudden movement in the next flight. The hanging birds were all about three months old and still retained their immature plumage.

After we became aware of this behavior, the *Forpus* were carefully watched to determine the frequency of hanging upside down. Subsequently, we saw the young not only resting but also preening themselves as well as neighboring birds while all were hanging. They often hung by one foot and preened the other as do *Loriculus* (Buckley *op. cit.*). Thirty minutes was the longest period of time that the birds were observed hanging from the cage roof. They always either preened or hung quietly, eyes open and motionless (resting).

Upside-down hanging was never seen in adults and seemed to disappear in immatures at about six months of age. Immatures were never seen actually sleeping

upside down, and at night they returned to their nest boxes to sleep as did the adults. The young were not tolerated in the same nest boxes as their parents once the next clutch of eggs was started, and were then forced to move into unoccupied nest boxes or onto perches for the night.

Sleeping and resting upside down is the rule rather than the exception in *Loriculus* species. In *Agapornis*, only *pullaria* regularly sleeps upside down with the head turned over the shoulder, and *taranta* sometimes rests upside down but the head is never turned over the shoulder. Otherwise, sleeping and resting in *Agapornis* spp. studied so far appears to be upright (Dilger *op. cit.*). *Bolborhynchus lineola* is reported by Prestwich (*op. cit.*), with no details, to sleep upside down. Power (*op. cit.*) notes that *Brotogeris jugularis* has been seen in both captivity and the wild hanging upside down from a narrow branch, well camouflaged by foliage. The birds would leave this position only when the observer turned away, thus confirming the idea that hanging upside down is at least occasionally a response to potential predators. *Forpus*, although a common cage bird among aviculturists, has not previously been recorded hanging upside down.

Whether or not hanging upside down in parrots is convergent or an indicator of common ancestry cannot be decided until further work has been done. There is the possibility that since hanging in *Forpus* is confined to immatures, the behavior might be a primitive character in parrots. Furthermore, hanging in response to predators (*e.g.*, *Brotogeris*) might be unrelated to hanging as a method of resting and sleeping (*e.g.*, *Loriculus*, *Agapornis*, *Forpus*). It may turn out after further study that hanging occurs in adult *passerinus* or in other *Forpus* species as well as in immature *passerinus*. The usefulness of upside-down hanging as a taxonomic tool in the Psittaciformes cannot be evaluated until its distribution among psittacid genera and species has been learned and the contexts in which it is performed have been determined.

The authors wish to thank W. C. Dilger for his support in this work through NSF grants GB-253 and GB-4360; and Robert B. Angstadt for interesting discussions about this behavior. (Present address: Department of Biology, Old Dominion College, Norfolk, Virginia 23508.)

Accepted for publication 12 January 1967.

HAMMOND FLYCATCHER IN WEST-CENTRAL KANSAS

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Two recent specimens indicate that the Hammond Flycatcher (*Empidonax hammondi*) is one of the many western species that occurs at least occasionally eastward to west-central Kansas. These two specimens are the first confirmed Kansas specimens.

The first bird (FHKSC 297) was killed by a cat, and found in Hays, Ellis County, on 15 September

1961. It was dehydrated and had probably been dead for several days. It had some fat; the sex could not be determined. A second specimen (FHKSC 1139) was mist-netted along Big Creek, near Hays, on 4 October 1966. This specimen was an adult male with very small testes and was very fat. It was netted in a small group of low boxelders on a creek bank surrounded by tall weedy growth and some 20 yards from a few large cottonwoods and elms. This was the only *Empidonax* netted in this area during the September-October season.

Identification of the 1961 bird was confirmed by Allan R. Phillips and of the 1966 specimen by Alexander Wetmore.

Accepted for publication 12 January 1967.