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Caching behavior of Screech Owls in Indiana.—Caching of prey items in nests with young by Screech Owls (*Otus asio*) has been observed frequently (e.g. Van Camp and Henry, North Am. Fauna 71:9–13, 1975). Frazar found 16 horned pouts (Pisces: *Ictalurus nebulosus*) in a nest cavity in Massachusetts in January (Bull. Nuttall Ornithol. Club 3:80, 1877).

At 17:00 on 4 March 1975, 50 day-old chickens (*Gallus domesticus*) were placed in an enclosure (3.6 × 2.1 × 2.4 m) in a barn near Centerville, Wayne County, Indiana. At 23:00 many chicks were missing, and a gray phase Screech Owl was flying about the enclosure. The owl was captured and held overnight for release away from the capture site. The owl's crop was about ⅓ full.

Twenty-two dead chicks, 7 decapitated, were found on a shelf near the ceiling of the enclosure. Except for the 7 that were decapitated, none of the dead chicks showed any external damage. Two weeks later, 2 more chicks, obviously long dead, were found cached on the rafters above the enclosure. Thus, a total of 24 1-day-old chicks were apparently killed and cached in the 6 h period.

Screech Owls in northern Ohio do not have young in the nest before April (Van Camp and Henry, op. cit.), and observations for central Indiana indicate the same (J. B. Cope, unpubl. data). This second report of caching outside the nesting season adds further evidence that Screech Owls are extremely opportunistic.—JAMES B. COPE AND JOHN C. BARBER, *Joseph Moore Museum, Earlham College, Richmond, IN 47374.* (Present address, JCB: *Division of Birds, Room E-607, N.H.B., Smithsonian Institute, Washington, D.C. 20560.*) *Accepted 29 Apr. 1977.*

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Attacks on Red-headed Woodpeckers by flycatchers.—During field studies in 1966, 1967, and 1970 at Robert Allerton Park near Monticello, Piatt Co., Illinois, Alexa Noble (pers. comm.) and I saw Eastern Kingbirds (*Tyrannus tyrannus*) (EK) and Eastern Wood Pewees (*Contopus virens*) attack Red-headed Woodpeckers (*Melanerpes erythrocephalus*) (RH) many times. I report our observations because the encounters were numerous, involved similar attacks by 2 species, occurred at the same time and locality in 3 different years, and involved taxonomically and morphologically distinct species.

On 22 July 1966 I saw 8–10 adult and juvenile Red-heads gathered along a 100 m border between a 45-year-old abandoned field and a younger field. They had nested in nearby woods. Adults were hawking flying insects, most of which they fed to the juveniles. Juveniles occasionally hawked also. As many as 6 birds were in flight simultaneously. Four kingbirds, presumably a family group, were hawking in the same vicinity. During about 75 min, 31 of 46 recorded encounters among the birds were kingbird attacks on Red-heads, usually as Red-heads performed sallies. Chases ceased when the woodpeckers landed. The 2 species often perched together with no apparent aggression. Other types of encounters were rare (RH on EK, 6; RH-RH, 5; EK-EK, 4). On 23 August 1966, an EK in similar habitat 600 m from the earlier site showed no aggression toward non-hawking juvenile Red-heads nearby. One RH supplanted an EK on a perch.

Only a few adult Red-heads were present along the same border on 7 July 1967. One EK attacked hawking Red-heads twice and a perching one once. Many more RH adults, but only 1 juvenile, were seen with at least 2 kingbirds on 22 July. Interactions were

not as intense or as frequent as in 1966; I saw only 3 attacks (EK-RH, 2; EK-EK, 1).

At the same place on 17 July 1970, Alexa Noble (pers. comm.) saw 7 juvenile and 2 adult Red-heads hawking. One conspecific perch supplant was seen. No kingbirds were present, but an Eastern Wood Pewee entered the area and chased Red-heads on 10 hawking flights. Red-heads returned the attacks twice. At another site with 2 juvenile woodpeckers, and EK attacked a hawking RH. Noble saw one attack by each of the flycatchers on Red-heads at different nearby sites on 18 July.

Of 70 encounters, 70% were flycatcher-on-woodpecker attacks which occurred almost always while woodpeckers were hawking, i.e. behaving like flycatchers. I believe the flycatching behavior provoked the attacks. Other reports of aggression between presumed non-competitors have been interpreted similarly (e.g., Austin and Russell, Condor 74:481, 1972; Mueller and Mueller, Wilson Bull. 83:442–443, 1971). Austin and Russell's cases involved tyrannids and were similar to ours in that attacks ensued only when flight behavior resembling hawking occurred. However, the pursued species, a sparrow and a wren, were not feeding nor were they potential feeding competitors. The woodpeckers we saw were presumably hawking the same prey as the flycatchers were. Because the tyrannids mainly attacked hawking woodpeckers and ignored ones perched nearby, I reject the idea that the actions were protective attacks on an image of a potential predator by notoriously aggressive birds.

The attacks may have been responses to fortuitous or inappropriate releasers (Selander and Giller, Bull. Am. Mus. Nat. Hist. 124:243–273, 1963; Lorenz, On Aggression, Harcourt, Brace and World, N.Y., 1966) which could waste time and energy and lower the fitness of the aggressor. Such behavior may persist because of negligible selective pressure (Austin and Russell 1972) or because of genetic swamping from allopatric areas (Selander and Giller 1963; Orians and Willson, Ecology 45:736–745, 1964; Murray, Ecology 52:414–423, 1971). On the other hand, the aggression may persist because it is advantageous. An individual which repelled images similar to its own could be favored if the apparent similarities manifested a significant use of critical resources such as habitat or food by the intruder (Miller, J. Anim. Ecol. 37:43–61, 1968; Reller, Am. Midl. Nat. 88:270–290). Only a more detailed study could differentiate among the possibilities.

Some information suggests the possibility for critical overlap between the flycatchers and Red-heads. They all overlap in range and habitat in forest-edges, groves, and open forests (Bent, U.S. Natl. Mus. Bull. 174, 1939; ibid. 179, 1942; Hespenheide, Auk 88:61–74, 1971; Jackson, Condor 78:67–76, 1976; pers. obs.). Pewees and Red-heads may share some feeding heights (Lederer, Ph.D. thesis, Univ. Illinois, 1972; Reller 1973; pers. obs.).

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An analysis of Gila Woodpecker vocalizations.—Gila Woodpeckers (*Melanerpes uropygialis*) are conspicuous for their vocal behavior (Bent, U.S. Natl. Mus. Bull. 174,