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OSPREY NESTLINGS FOSTERED BY HACKED ADULTS TWO WEEKS AFTER PREDATION OF THEIR YOUNG

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Hacking of Osprey (*Pandion haliaetus*) was begun in Pennsylvania in 1980 to restore a breeding population that had been extirpated by pesticide contamination and habitat alterations (Schaadt and Rymon 1983). Between 1980 and 1986, 111 donor nestlings from the Chesapeake Bay area were successfully hacked at mountain lakes and rivers in northeastern Pennsylvania. In 1986, pairs of previously hacked adults returned to produce four healthy chicks, the first to hatch in the state in many decades (Rymon 1989a). Since 1986, over 30 marked adults have returned to release sites and 16 active nests have been established. During the 1986–89 breeding season, a total of 38 chicks hatched and 31 fledged and dispersed. We are now optimistic that our hacking efforts have established the nucleus of a restored breeding population (Rymon 1989b, 1989c).

During their first year of breeding, pairs frequently experience nesting failure which often appears to be related to inappropriate site selection, especially those accessible to climbing predators, mainly Raccoons (*Procyon lotor*). Nest mortalities have also been caused by adverse weather during broodrearing. One possible remedy for lost broods appears to be brood manipulation. Manipulations have been widely conducted in nearby states New Jersey, Connecticut and Massachusetts. Poole (1989) used brood augmentation as a means of testing the ability of males to provide food. He noted that adult ospreys did not discriminate against transferred chicks nor did nestlings show distress or aggression when placed with others.

Rymon (1987) observed fostering in Pennsylvania when a 3 yr old hacked male returned to nest unsuccessfully with an unmarked female in 1985. Seven weeks after nest failure, the male fostered nine hacked fledglings on the abandoned nest. Based on these findings I conducted a fostering experiment in 1988.

Brood Replacement

Among 16 successful nests built by hacked Ospreys that returned as adults during 1986–89, one nest failure in 1988 prompted a brood replacement. One pair, at Pocono Lake, produced two chicks on 13 May. This marked pair previously had raised broods there in 1986 and 1987. On the morning of 12 June, both 4 wk old chicks were missing from the predator guarded nest which was built on a nest pole located in water. The parents showed much distress and visited the nest frequently for the next several days.

At the end of the second week after abandonment the adults had not layed a second clutch but were still in the area. I placed two 5.5 wk old chicks in the nest. The nestlings had been held overnight and been fed before being taken to the nest. At 0800 H they were placed on the nest. My assistants and I then observed the nest from a blind 50 m away. The adults could also be seen perched 100 m on the opposite shore. The adults remained wary but circled the nest minutes after we were hidden in the blind. After this initial overflight the parents returned to perch on snags near the opposite shore. At 1025 H the female flew to the nest carrying a stick in her talons. She deposited it on the nest, looked briefly at the young and after 30 sec flew away.

The adults made no further attempts to return to the nest for over 5 hr. During this period, the nestlings became restless and aggressive. They gave long intermittent begging calls and vigorously pecked at each other, drawing blood several times.

At 1500 H, a series of events began to unfold rapidly. Four other adult ospreys appeared over the nest and an exchange of calls began. In addition to the calling, the nestlings began begging loudly and the intended foster

parent pair began a new series of calls. This exchange continued until 1512 H when a male from one of the intruding pairs landed on the nest and covered the young with his wings spread for 30 sec. The male from the foster pair then flew to the nest and drove off the intruding male. The foster female immediately joined her mate and the pair drove the four intruders away from the nest. The foster pair circled the nest site at 1520 H and then flew back to their earlier perches on the opposite side of the lake.

The adults made no further vocalizations or flights until 1600 H when they both flew to the nest. They remained on the nest, with the young, until 1630 H when the male left. While he was absent the female left the nest at 1640 H and returned to her original tree perch across the lake. At 1642 H a crow (*Corvus brachyrhynchos*) dove at the young and the female quickly returned to defend them. At 1730 H the male returned to the nest with a fish, gave it to the female and flew off once more. She then began to feed both young but after feeding them only a few bites she again flew to her tree perch. Her brief efforts to feed the young stimulated prolonged pecking between the nestlings and again blood was drawn. At 1800 H, after a 25 min absence, the female returned to the nest and began feeding the young a second time. The male returned at 1810 H with a Small-mouthed Bass (*Micropterus dolomieui*) and the female continued to feed the young. Both parents remained on the nest until after 2100 H when the male returned to his regular night roost; the female remained overnight on the nest with the young. Both adults continued to care for the young and their parental activity appeared normal. The nestlings were fed well and protected by their foster parents throughout the nesting period.

RESUMEN.—En 1988, polluelos huéspedes fueron puestos en el nido de dos Aguilas Pescadoras adultas, marcadas y criadas en caja abierta desde 1982, para reemplazar sus crías que dos semanas antes habían desaparecido a causa de un predador. Los adultos aceptaron los hijos adoptivos desde el día en que reemplazaron a sus propios polluelos, y continuaron cuidando de ellos normalmente durante el período de anidar. Por esto se cree que si polluelos desaparecidos son posteriormente reemplazados por otros en el nido, éstos pueden ser aceptados por Aguilas Pescadoras y otras especies de aves rapaces.

[Traducción de Eudoxio Paredes-Ruiz]

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DAYTIME ACTIVITY OF LITTLE OWLS (*Athene noctua*) IN SOUTHWESTERN SPAIN

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Little Owls (*Athene noctua*) do not limit their activity to darkness even though they belong to a group of nocturnal raptors. The degree of nocturnal activity likely varies between geographic regions and although Valverde (1957) watched Little Owls with young in the nest hunting throughout the day in Morocco, Cramp (1985) reviewing