

On 6 and 7 June we flushed an adult from two eggs located on the ground on pine needles between a scrub juniper and a yucca (*Yucca glauca*). On 14 June an adult was flushed from two downy chicks at the same site. An adult was flushed on 24 June from the chicks, which were 2.5 m east of the nest-site and in the shade of a large juniper. Distribution of droppings indicated that the chicks had remained in an area of 1.5 m² since hatching. The maximum distance moved was 3.1 m. During this visit we banded the chicks—the first handling of eggs or chicks. On 26 June we flushed an adult from the chicks next to a large juniper 14.5 m west of the 24 June location. The chicks were weighed and measured. We could not relocate them on 5 July.

There appear to be two types of chick movements. Short movements may be a thermo-regulatory response, e.g., avoiding wet areas (Swisher 1978) or too much sunlight, as reported for Common Nighthawk (*Chordeiles minor*) chicks (Dexter, *Bird-Banding* 23:109–114, 1952; 27:9–16, 1956). Movement to nearby cover may also constitute concealment from aerial predators. Long movements may be an anti-predator adaptation (Dyer, *Wilson Bull.* 89:476–477, 1977) triggered by disturbance. Long movements reported by Evans (1967) and Swisher (1978) both followed handling of chicks. Consistent with this, the chicks we observed moved to denser cover and remained within 3.1 m of the nest-site for 10+ days posthatching, but made two long movements following handling.

We suspect that movements of undisturbed poorwill chicks would average less than movements of disturbed chicks. The element of human intervention should be minimized in future observations of chick movements.—JON E. SWENSON, *Montana Dept. Fish, Wildlife and Parks, 1001 Ridgeway Dr., Livingston, Montana 59047* AND PAUL HENDRICKS, *Dept. Zoology, Univ. Montana, Missoula, Montana 59812. Accepted 25 Aug. 1982.*

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Adoption of introduced young and neglect of own by nesting Black Vultures.—

On 7 June 1975, I learned of the planned demolition of an old house used by a nesting pair of Black Vultures (*Coragyps atratus*). The nest contained one young bird, 35–40 days old. At the same time a pair of Black Vultures were nesting in an old building on my farm, having two young, 30–35 days old. With the hope that the parent birds at this nest would adopt and feed the young bird from the other nest along with their own, I placed the bird from the other nest with the two birds in the nest on my farm. In addition to noting the slightly larger size, I clipped a toenail to facilitate identification of the introduced bird. Through a peep hole I watched the Black Vultures feeding the nestlings and found that the introduced bird was accepted by the adults and was being fed by them. Thus, I anticipated no problem with the introduction and did not visit the nest again for 3 days. Then I found the smaller of the two original birds much emaciated and nearly dead, apparently from starvation. This bird died and I removed it from the nest the following day. Neither the other young nor the adults had made any attempt to eat the dead chick. The two remaining young were well fed and healthy.

I earlier reported (Stewart, *Auk* 91:595–600, 1974) finding Black Vultures holding their eggs on the inner and central toes of their feet during incubation, setting at two the maximum number of eggs which can be incubated. The observation reported here of feeding being limited to two birds indicates that the limitation of two is continued beyond incubation. It seems probable that this limiting to two the number of young fed is an outgrowth from the method used by these birds for incubating their eggs. Perhaps from being able to incubate only two eggs and thus having only two young they develop a tendency to feed only two young.

This pattern of feeding being restricted to two nestlings may have resulted from the need for restricting demands on available food supplies and thus competition for food among nestlings. This is suggested by the fact that selective feeding favored the larger birds. However, competition for food among the nestlings is not now the effective operating principle restricting the brood-size of Black Vultures to two birds. I believe the two birds could not have demanded the full time of the adults for their feeding, unless the third bird was excluded from feeding by the selective feeding of the adults and thus it should have received some food and not died so soon. Also, I earlier found (Stewart 1974) that parent Black Vultures normally initiate feeding and that individual young birds await an opportunity to be fed. The selective feeding practiced thus appears to be a behavioral adjustment associated with the number of young birds to be fed and not the excessive demand on the food supply. Acceptance of the introduced bird and neglect of the smaller of their own nestlings by the pair suggests that larger size instead of kinship elicited preferential treatment from the parent birds.—PAUL A. STEWART, 203 Mooreland Dr., Oxford, North Carolina 27565. Accepted 1 Aug, 1982.

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Malformation of the oviduct in a Canada Goose.—After pair formation and nest construction, failure to lay followed by incubation behavior on an empty nest is a rare phenomenon in wild birds. Heusmann and Pekkala (*Wilson Bull.* 88:148–149, 1976) recorded such an example in a Wood Duck (*Aix sponsa*) and Fjetlund (*Wilson Bull.* 90:456–457, 1978) and Lumsden (*Wilson Bull.* 92:415, 1980) each reported a case in a Canada Goose (*Branta canadensis*). Male (Br. Birds 70:394, 1977) recorded a Great Tit (*Parus major*) incubating in an empty nest, and Kettle (Br. Birds 71:12, 1978) reported a similar incident involving a Blue Tit (*Parus caeruleus*). Dhondt and Eyckerman (Br. Birds 71:600, 1978) found 7 of about 1000 pairs of Blue Tits and 2 of about 1500 pairs of Great Tits incubating empty nests on their study areas around Ghent, Belgium. In these examples the cause of failure to lay was not determined. We here discuss the causes of failure to lay in a Giant Canada Goose (*B. c. maxima*).

The nesting behavior of a wild Giant Canada Goose was recorded from 1976–1978 when she annually built nests but did not lay (Lumsden 1980). This female was banded F13 as an after-hatching-year bird, and returned with the same mate to nest at the same location for 3 consecutive years. When given fertile eggs she incubated, hatched, and raised goslings.

In 1979 this female built a nest by 25 April, but still had not laid eggs by 22 May. When given dummy eggs, she incubated steadily until 21 June, but later deserted.

In 1980 her nest was built by 9 April and she was sitting steadily by 26 April. By 9 May she had not laid and was given dummy eggs which she incubated for 61 days until 26 June, when she deserted.

On 14 April 1981, F13 and her mate returned to the nesting island and began to prepare a nest-site. By 24 April she had completed a new nest lined with a small quantity of down and was given dummy eggs. On 26 April she started to sit continuously and on 27 April her nest contained an abundance of down. In Canada geese some down is usually present in the nest when the penultimate egg is laid and when the last egg in the clutch is laid an abundance of down is shed into the nest. It was decided to collect the female and ascertain what was responsible for the inability to lay eggs, yet manifest normal reproductive behavior. The collection of this 7-year-old bird was timed to coincide as closely as possible with the time when the last egg could be expected to be laid. The carcasses of F13 and her mate were frozen immediately and stored for study.