were 2–3 m apart. One Macaroni Penguin egg was placed in each nest. Each pair of nests included one nest holding an empty egg with the hole visible and uppermost ("broken egg") and another nest containing an earth-filled egg with the hole invisible ("intact egg"). The eggs were checked 1, 2, and 6 h after placement. The experiment was repeated twice, at intervals of five and three days. On the nine occasions (out of 15 pairs of nests) that the first egg taken could be identified, the intact egg was always taken before the broken egg (Binomial test, $P = 0.002$), which was left alone. On three occasions both eggs were taken by the time of the same hourly check, but on the three occasions neither egg was taken after 6 h.

The two experiments demonstrate that skuas take eggs placed within nests more rapidly than eggs placed on the ground, and that intact eggs are taken more rapidly than broken eggs. The skuas' ability to use the cues of prey condition and location ensures that they usually concentrate their search on the most profitable eggs, namely those within the colony. But broken eggs also were occasionally taken. This may be the result of errors in recognition, or it may be an instance of the sampling behaviour that enables skuas to discover and then exploit new sources of food.

Acknowledgments.—Scientific research at Marion Island is carried out under the auspices of the South African Committee for Antarctic Research. Financial and logistical support of the Dept. Transport is gratefully acknowledged, as are grants from the Royal Society, the Percy Sladen Memorial Fund and the British Ornithologists' Union. J. Cooper and Drs. K. Bildstein, P. Evans, and J. Lucas commented constructively on a draft of this paper. M. Mitchell helped with the typing.—M. DE L. BROOKE, *Percy Fitzpatrick Institute, Univ. Cape Town, Rondebosch 7700, South Africa.* (Present address: *Edward Grey Institute, Zoology Dept., South Parks Road, Oxford 0X1 3PS, United Kingdom.*) *Accepted 30 Jan. 1985.*

Wilson Bull., 97(3), 1985, pp. 368–370

Early autumn movements and prebasic molt of Swainson's Thrushes.—It is generally assumed that most north temperate migratory passerines, other than some flycatchers and swallows, molt in the vicinity of their breeding areas and then migrate (Dwight, Ann. New York Acad. Sci. 13:73–360, 1900; Payne, pp. 104–155 *in* Avian Biology, Vol. 2, D. S. Farner and J. R. King, eds., Academic Press, New York, New York, 1972). Here I present molt data for adult Swainson's Thrushes (*Catharus ustulatus*) that were captured during late July to mid-September at sites away from their breeding range.

Molt data for Swainson's Thrushes were collected from three banding stations: Berne, Albany County, New York; Long Point Bird Observatory (LPBO), Long Point, Ontario; and Prince Edward Point Bird Observatory (PEPT), Prince Edward Point, Ontario. At Berne I operated about 15 mist nets daily during late July through mid-September 1982, and from mid-August to early September 1983. Data were collected using a system similar to that of the British Trust for Ornithology (BTO) molt card (Snow, British Trust for Ornithology Field Guide No. 11, 1967) whereby the stage of molt of each flight feather is scored on a scale of 0–5 (see Cherry and Cannell, J. Field Ornithol., in press). My method differs from the BTO scores in that 1 = feather missing or in pin, and 2 = feather breaking out of pin to less than one-third grown. The BTO system was used at LPBO in 1977 and 1978, and at PEPT in 1979. Not all birds captured at LPBO and PEPT were examined for molt. I

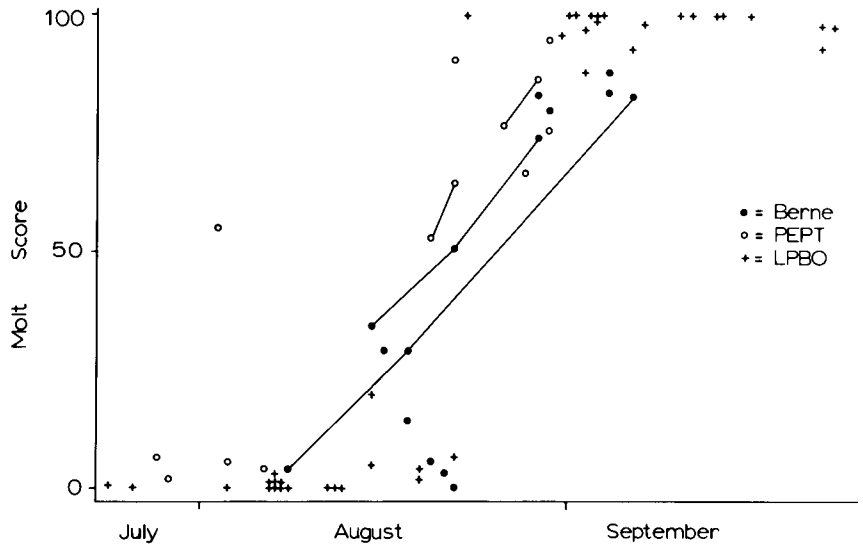

FIG. 1. Molt score (percent of flight-feather molt completed) plotted against date of capture for adult Swainson's Thrushes captured at three banding stations away from the breeding grounds. Solid lines connect recaptures of individual birds.

calculated molt scores for individual captures by summing the codes for all the flight feathers and then converting the sum to a percentage of 240 (240 is the maximum possible sum: the vestigial tenth primary was not included). Thus, the molt score is an estimate of the percent of flight-feather molt complete at that time.

Swainson's Thrushes do not breed at any of the banding locations. The portion of the breeding range nearest to LPBO is about 250 km N (Godfrey, Birds of Canada, Nat. Mus. of Canada Bull. No. 203, 1966). Although Godfrey (1966) shows that the breeding range includes the PEPT area, data from the Ontario Breeding Bird Atlas Project show no breeding records in the counties of Prince Edward, Hastings, Lennox and Addington, Frontenac, and Leeds (R. Weir, pers. comm.). The nearest breeding area is probably 150 km N. In eastern New York, Swainson's Thrushes breed in the Adirondack and Catskill mountain regions (Bull, Birds of New York State, Doubleday, New York, New York, 1974). Berne is near the northern Catskills, and Bull (1974) shows that the breeding range extends very close to Berne. K. P. Able and I have worked extensively in southwestern Albany County and have never encountered Swainson's Thrushes between the first week of June and the end of July.

There were 15 captures of 10 individual Swainson's Thrushes for which molt data were taken at Berne in 1982 and 1983; 13 captures of 11 individuals at PEPT in 1979; and 39 captures of 39 individuals at LPBO in 1977 and 1978. Fig. 1 shows the molt scores of these birds plotted by date of capture. Four birds were recaptured within a month of their first capture, and from these I calculated a mean molt rate of 3.1% per day following the methods of Cherry and Cannell (in press). At this rate it would take 32 days to complete flight-feather molt. The bird that stayed at Berne from 8 August to 6 September 1982 was encountered again at Berne on 16 August 1983 with a molt score of 24, two days ahead of its molt schedule of 1982.

These data show that some Swainson's Thrushes leave their breeding areas before starting to molt, or when they are still in the early stages of molt. The proportion of the population that does this is unknown. In some cases the birds I examined must have moved at least 250 km from their breeding sites, although birds captured at Berne may have moved only 30 km. The pattern of captures suggests that Swainson's Thrushes are less likely to move during the middle of molt.

I thank LPBO and PEPT for providing unpublished banding data. R. Smith and H. Quilliam helped me extract the data, and R. Weir provided information on the breeding status of Swainson's Thrush in the PEPT area.—JEFFREY D. CHERRY, *Dept. Biol. Sci., State Univ. New York, Albany, New York 12222.* *Accepted 10 Mar. 1985.*

Wilson Bull., 97(3), 1985, pp. 370–372

Nest-defense of the Florida Scrub Jay and the problem of "incubation" by male passerines.—Wyckoff (Wilson Bull. 95:472, 1983) reported "the first record of incubation behavior by a male" Chestnut-collared Longspur (*Calcarius ornatus*). She may have observed nest-defense behavior instead.

Grimes (quoted by Sprunt *in* Bent, U.S. Natl. Mus. Bull. 191:77–88, 1946) believed erroneously that the male Florida Scrub Jay (*Aphelocoma c. coerulescens*) performed incubation, although Amadon (Am. Mus. Novitates 1252:1–22, 1944) had correctly reported that only females incubate. Only the female of this species develops an incubation patch. As noted by Woolfenden (Living Bird 12:25–49, 1974), Sprunt probably wrote his contribution before Amadon's paper appeared, and Grimes' mistake "most likely originates from observing nest-defense behavior by the male."

Nest-defense by the Florida Scrub Jay is similar in the sexes and may be described as follows, based on our separate and joint observations over many breeding seasons at Archbold Biological Station, Lake Placid, Highlands Co., Florida. The most commonly observed occurrence is upon an observer's approach to a nest in which the female is incubating or brooding. Whether the breeding female or male defends is a matter of individual variation, probably depending in part on how bold the birds are with respect to human intruders; we frame our description in terms of the male. The defending male flies to the vicinity of the nest whether or not the female flushes, and either before or after she departs if she does flush. If she departs and he lands adjacent to or on the nest, he often looks down into it as if to inspect its contents. Sometimes he stands on a branch adjacent to and usually a little higher than the top of the nest, often a little forward of the nest in the direction of approach by the observer. He may also stand on the nest-rim itself or upon the female if she remains. Most often on close approach by an observer to a nest from which the female has fled, the male jay straddles the nest contents, placing his feet on the inside of the nest-rim, and drops his body low over the eggs or nestlings.

Whatever his position relative to the nest, the defending male adopts a characteristic posture. His gray crown feathers are depressed strongly as the bird faces the intruder, and his "eyebrow" feathers protrude laterally, forming a ridge over the eye that gives the bird a "scowling" appearance. His body feathers are erected somewhat, especially on the flanks, making the male seem larger than usual, and his folded wings are held out at the carpal joints (Figs. 1, 2). Sometimes his tail is spread and sometimes it is not. The male is silent while in this posture, and he may remain over the nest for as long as observers are nearby,