

Big Thompson River near Estes Park, on 8 May 1952—the latter being the only montane record thus far. There have been, then, at least 29 sightings of the Chestnut-sided Warbler in Colorado. Almost invariably, heretofore, the birds have been seen one at a time; thus the first occurrence of a pair, stopping some 700 miles short of a probable destination, eastern Saskatchewan (A.O.U. Check-list, 1957), suggests that the Colorado Springs birds had traveled north together. And if, as seems indicated by the Colorado data, the general range of the Chestnut-sided Warbler is expanding to the Rocky Mountains, this would be quite in keeping with a broad trend (involving the Chimney Swift, Blue Jay, Red-eyed Vireo, Rose-breasted Grosbeak, and others) as well as consonant with the history of the species (Bent, U.S. Natl. Mus., Bull. 203: 397, 1953).—SAM GADD, 927 S. Skyway Blvd., Colorado Springs, Colorado 80906.

**Pinealectomy in Harris' Sparrow**<sup>1</sup>.—Of the environmental factors that influence reproduction in birds, day length is often singularly important. Lengthening the daily photoperiod induces rapid gonadal growth in photosensitive Harris' Sparrows (*Zonotrichia querula*) (Wilson, 1968); alternatively gonadal growth is retarded, if not prevented, in originally photorefractory Harris' Sparrows retained on short daily photoperiods (Wilson, MS). Although the concept that avian photoperiodic gonadal responses are mediated through the neurohemal region of the median eminence is well-documented (for reviews see Benoit and Assenmacher, 1959; Farner et al., 1967; Wilson, 1967), the extent to which extrahypothalamic neural elements participate in the regulation of photoperiodic gonadal growth is virtually unknown. Pinealectomy sometimes affects gonadal activity in domestic fowl (Shellabarger, 1953) and in Japanese Quail (Sayler and Wolfson, 1967), but we know of no evidence for or against an overt regulatory role for the pineal body in the reproduction of seasonally breeding birds. In the experiment reported here, photosensitive Harris' Sparrows were retained on 8-hour daily photoperiods after pinealectomy to determine whether absence of the organ would eliminate the gonadosuppressive effect of short days. This experiment was suggested by the demonstration that gonadal development is retarded in blinded rats, but not in pinealectomized, blinded rats (Reiter, 1967).

Male and female Harris' Sparrows captured from wintering populations near Manhattan, Kansas, between 17 December 1966 and 4 February 1967 were held on 8-hour daily photoperiods (08:30–16:30 CST) until mid-July 1967 when they were subjected to pinealectomy or to sham pinealectomy (for procedures see Donham, 1968) or sacrificed as initial controls. During the 1.5 to 3-month postoperative period, birds were housed, several per cage, in Hendryx breeding cages; illumination was provided daily between 08:30 and 16:30 CST by fluorescent and incandescent lamps at an intensity of at least 50 lux. Ambient temperature varied between 18° and 24°C. Gonads were removed at autopsy and fixed for 5 days in an aqueous mixture of acetic acid, formalin, and ethanol; after 5 additional days in 70 per cent ethanol they were carefully debrided and weighed to the nearest 0.01 mg on a torsion balance. The region of the pineal body was inspected microscopically to verify operational success. Results from fully pinealectomized birds and from sham-pinealectomized birds with intact pineal organs are reported here. (The pineal organ in sham-pinealectomized birds was exposed, but left intact. As hemorrhage usually

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TABLE 1  
FAILURE OF PINEALECTOMY TO AFFECT GONADAL WEIGHT OF PHOTOSENSITIVE  
HARRIS' SPARROWS EXPOSED TO SHORT DAILY PHOTOPERIODS

Group <sup>1</sup>	Sex	Months on 8L-16D after operation	Gonadal weight, mg <sup>2</sup> (mean ± SE)
PS	M	—	3.10 ± 0.631 (5)
PSP	M	2	7.27 ± 1.733 (8)
PSS	M	2	6.58 ± 1.399 (9)
PS	F	—	10.20 ± 2.150 (5)
PSP <sub>a</sub>	F	1.5	11.63 ± 1.412 (6)
PSS <sub>a</sub>	F	1.5	14.33 ± 2.350 (5)
PSP <sub>b</sub>	F	3	9.92 ± 1.825 (6)
PSS <sub>b</sub>	F	3	8.84 ± 1.021 (6) <sup>3</sup>

<sup>1</sup> PS, initial control birds; PSP, photosensitive pinealectomized birds; PSS, photosensitive sham-pinealectomized birds.

<sup>2</sup> Value for males represents weight of both testes. Number of birds in each sample is indicated in parentheses.

<sup>3</sup> Significantly different ( $P < 0.05$ ) from birds of Group PSS<sub>a</sub>.

following pinealectomy, sham pinealectomy included rupture of at least one of the vascular sinuses near the organ.)

Under the conditions of our experiment, neither pinealectomy nor sham pinealectomy affected testicular or ovarian weight (Table 1). At autopsy, testicular weights of pinealectomized and of sham-pinealectomized Harris' Sparrows were not significantly different from those of intact Harris' Sparrows sacrificed 2 months earlier. Likewise ovarian weights of pinealectomized and of sham-pinealectomized Harris' Sparrows sacrificed 1.5 or 3 months after operation were similar to those of the initial controls. No significant differences were observed between pinealectomized and sham-pinealectomized Harris' Sparrows in testicular or ovarian weight at any killing date. A histological survey of 1 initial control, 1 sham-pinealectomized, and 2 pinealectomized birds revealed that all had testes with seminiferous tubules in Stage II (Bartholomew, 1949) of development. We conclude from these data that the pineal body does not mediate the gonadosuppressive effect of short daily photoperiods.

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**Brandt Cormorant killed by fish.**—On 22 April 1968 two students, Thomas Rambo and Shane Anderson, attending Moss Landing Marine Laboratories, found a dead Brandt Cormorant (*Phalacrocorax penicillatus*) on the beach 0.5 miles south of the laboratories with a midshipman (*Porichthys notatus*) lodged in its throat. The cormorant had tried to swallow the fish in a normal head first position (Figure 1), but the fish apparently spread its gill opercula defensively and one of the opercular spines penetrated the wall of the bird's gular pouch. The cormorant could have swallowed the fish, but upon feeling the spine probably tried to shake the fish out of its mouth, which only helped embed the spine further.

The fish was in the mouth with its ventral side uppermost, and the left opercular spine penetrated the left side of the pouch, worked through to the outside, and caused a laceration 19 mm long and about 25 mm from the gape in line with the mandible and 2 mm beneath the external ear. The cormorant was an adult male (non-reproductive testes 21 mm) and weighed 26.40 kg. Dissection showed the bird had

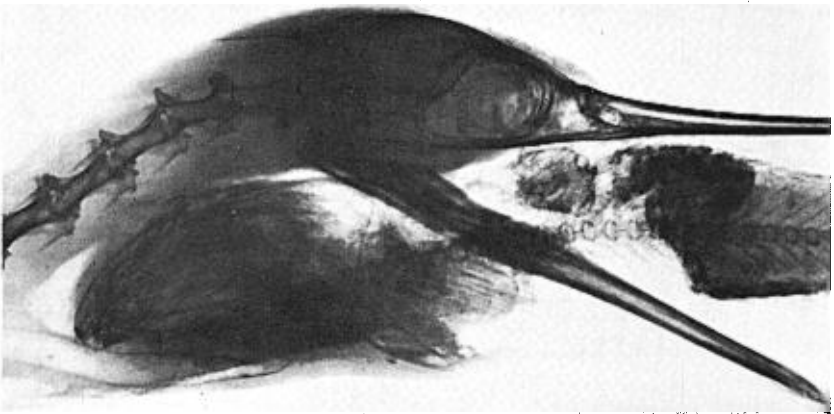


Figure 1. Radiograph of Brandt Cormorant with a partly-swallowed midshipman lodged in its throat. The opercular spine that caused the lodging is not visible.