



Figure 1. Cross sections of barbs of Blue Jay feathers, comparing the imperfect albino (left), with the normal. Drawings were made at 970X.

LITERATURE CITED

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Egg Replacement by a House Wren: Incubation Period.—In Baltimore in 1959 a House Wren (*Troglodytes aëdon*) began laying eggs in my nest box on June 13. On June 16, when there were four, all disappeared. Nevertheless, new eggs appeared on the next two days, so that on June 18 the bird completed what would have been a set of six. Then on June 23, laying was resumed through June 26, the four new eggs, along with the two remaining from the first laying, again

making a set of six. Sometime from June 28 to 30 two of the newly laid eggs disappeared; these were not replaced.

Kendeigh (Parental Care and Its Evolution in Birds, Ill. Biol. Mon., 22: 24, 1952) tells of a House Wren which after the destruction of its eggs when they numbered four likewise laid two more, and then on the fourth day afterward resumed laying for just three days.

Kendeigh's bird during its interval reverted to nest lining, but also incubated; all of its final five eggs hatched. I watched my bird only irregularly between the two laying periods and do not know whether it did any nest lining, but it apparently did little incubating and on some days none; the two eggs left from its first set did not hatch. The second egg loss did not interrupt incubation.

Incubation period. The final, marked egg in my nest was laid June 26 before 5:15 A.M., and hatched July 8 sometime between 6 A.M. and 4:55 P.M. This is an incubation period of between 12 and 12½ days; the average official temperature for Baltimore during the period was 28.2°C (82.7°F). Kendeigh (*op. cit.*, 44) reported incubation periods of 12 to 15 days, with only one of 12 days in a total of 33 records; the average air temperature during that one was 25.6°C (78°F). However, he measured the incubation period from the laying of the last egg only through "the day preceding the one on which the eggs begin to hatch" (*op. cit.*, 26) and pointed out that if it is counted as the time between laying and hatching of the last egg, one day must be added to his figures (*op. cit.*, 43). My wren, therefore, showed a further shortening of the incubation period with a further increase in air temperature. Curiously, the egg my bird laid June 23 did not hatch until July 9 between 1:43 and 4:54 P.M.—HERVEY BRACKBILL, 2620 Poplar Drive, Baltimore 7, Maryland.

Communal Courtship in the Ruffed Grouse, *Bonasa umbellus* L.—Accounts of groups of Ruffed Grouse observed during the mating season are rather rare. In fact, Bump *et al.* (1947, "The Ruffed Grouse," The Holling Press, Inc., Buffalo, p. 260) noted that "During April and May, on the other hand, out of 1327 birds [flushed], only one such group was encountered, this being four birds in April." The following observation of six grouse, three of which were in courtship display, was made 16 April 1959, near Stepp's Gap, on the south slope of Mount Mitchell, North Carolina, at an elevation of 6,000 feet.

At about 6:15 P.M., while traveling south on North Carolina Highway 128, 0.1 mile south of Stepp's Gap, I noticed a Ruffed Grouse (#1), *Bonasa umbellus*, on the east shoulder of the road. During early spring, single grouse are frequently seen feeding in the new grass along this highway and the Blue Ridge Parkway, so I thought little of its presence until I noticed a second bird (#2), with tail spread, wings dragging, and ruff erected, a few feet farther on. As the car slowed down, two other grouse (#3 and #4) became evident on the east side of the road. With the passing of my car, grouse #1, #3, and #4 ran into a thicket of blackberries (*Rubus* sp.) bordering the grassy shoulder, and disappeared. Grouse #2, however, sedately strutted toward, and into, this thicket, but was still visible and displaying at the termination of this observation.

After stopping the car 50-60 feet from the group of birds, my attention was turned to the west road shoulder, a steep, rocky cut. Here two grouse, both "strutting," were advancing toward each other. As they drew nearer, they changed to the "intimidation display" of Knight (1947, "Ruffed Grouse," Alfred A. Knopf, New York, p. 25), advancing in short dashes, head low to the ground,