

*P. o. clarkii* is distributed in highly disjunct populations from northern Chihuahua south across the Mexican Plateau to Lake Chapala and, formerly at least, to Lake Cuitzeo.

Specimens examined: Total 14. *Chihuahua*: Laguna de Santa María, 1 ♀ (lectotype); Laguna Boquilla del Concho, 2 ♂, 1 ♀. *Zacatecas*: no locality, 1[ ♀ ]. *Jalisco*: Lake Chapala, 2 ♂, 3 ♀; 2 mi. NNE Lagos de Moreno, 1 ♂. *Michoacán*: San Augustin, SW end of Lake Cuitzeo, 1 ♀. *Guanajuato*: 2 mi. E and 5 mi. NW Irapuato, 2 ♂.

The two males from Guanajuato are assigned to *clarkii* because of their small size although they are not included in table 1. I did not have opportunity to compare them with known *clarkii*. Likewise, a female and a male from Volcano Lake, northern Baja California, taken June 9 and 10 are tentatively assigned to the nominate race because of their large size: wing chord, 192 and 182; tarsus, 79.5 and 71.7, respectively.

A male taken on Lake Chapala on May 11, 1958, is a "flapper," that is, it had molted all the remiges, as had the female taken on February 12, 1939, by Chester Lamb at San Augustin. The iris color may be paler than in northern populations, being orange, flecked with gold toward the pupil, in a female I collected on Lake Chapala.

One of the major strongholds of *A. o. clarkii* is Lake Chapala. Recent changes in its water level may have had an adverse effect on the resident grebes. This is now under study and will be reported on at a later date.

I wish to thank Dr. Robert W. Storer, who examined my specimens from Lake Chapala and provided me with many of the measurements of *A. o. occidentalis*; thanks are also due the curators of the United States National Museum, the Robert T. Moore Collection, Occidental College, and the collection of the University of Arizona for permitting me to examine materials in their care and to Allan R. Phillips who read the manuscript and offered his considered advice.—ROBERT W. DICKERMAN, *Department of Microbiology and Immunology, Cornell University Medical College, New York, New York, August 7, 1962.*

**Sand Grouse Released in Nevada Found in México.**—On February 21, 1962, a letter and photographs were received from Mr. Robert F. Petersen of Los Angeles, California, concerning two common Indian Sand Grouse (*Pterocles exustus hindustan*) which he shot while hunting near Navojoa, Sonora, México, on February 10, 1962. Reference to the reported band numbers showed that bird number 8-1158 (female) was from a group of 183 individuals released at Pahrump Valley, Nye County, Nevada, on August 26, 1960. Bird number 8-1727 (male) was one of 208 individuals released in Pahrump Valley on May 3, 1961. Another group of 192 birds was liberated in the same valley on April 6, 1961. Additional releases of Sand Grouse, totaling 1400 birds, were made in Moapa Valley, Clark County, and Pahranaagat Valley, Lincoln County. All birds were wild-trapped from the Thar desert, Rajasthan, India, in 1960 and 1961 for introduction into the hot desert region of southern Nevada.

The birds from both the 1960 and 1961 liberations apparently disappeared from Pahrump Valley within two months after each release. It was suspected that the Sand Grouse migrated south, thus descriptive circulars were distributed to the game departments of Arizona, New Mexico, and California, so that personnel working in the southern desert regions could be on the lookout for them. To date the foregoing report is the only confirmed sighting of any of the birds which have left Nevada. The Sand Grouse have also disappeared from the release sites in the Pahranaagat and Moapa valleys.

It is interesting to note that the Sand Grouse which were shot in México had returned to a latitude similar to that of their native habitat. Navojoa, Sonora, México, is at a latitude of 27° north. The area in the Thar desert, Rajasthan, India, where the birds were trapped, is between 26° and 27° north latitude. Of particular interest is the fact that the two Sand Grouse were reportedly shot while flying together, although they had been released nine months apart. The finding of these two birds together a year and a half after the initial release suggests the possibility of a southward migration of Sand Grouse from all Nevada release sites and that additional recoveries from these releases may be expected from desert areas to the south of Nevada. From an evaluation of the photographs submitted, the dead birds appear to have been in excellent condition, which indicates that suitable foods are available along the flight route and in the Navojoa region.

The Sand Grouse has a definite habit of watering daily about two hours after sunrise and it is likely that individuals can be detected flying to watering sites shortly after sunrise. In flight the Sand Grouse resembles a dove; the dark, almost black, underwing pattern and belly are distinctive field marks. While in flight the bird emits a series of sounds that resemble *cluck-cluck*.

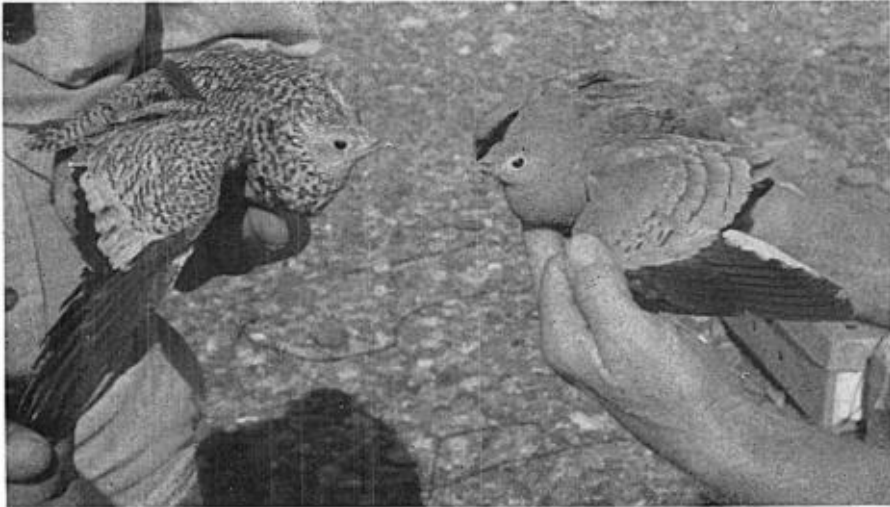


Fig. 1. Sand Grouse (*Pterocles exustus hindustan*) showing dark, almost black, outer flight feathers.

It would be appreciated if records concerning this species in the southwestern United States and México are sent to the author.—GLEN C. CHRISTENSEN, *Nevada Fish and Game Department, Reno, Nevada, March 15, 1962.*

**Stimuli for Ovulation in the Rock Dove.**—Ovulation and subsequent egg laying in birds are under general neuroendocrine control. Such control is known to be influenced by a variety of gross environmental factors, some of which can be remarkably subtle in their action. One such subtlety is the presence of suitable nesting material. This has been shown to be closely associated with both ovulation and egg laying in several species of birds (Harper, *Amer. Jour. Anat.*, 3, 1904:349–386; Hinde and Warren, *Anim. Behav.*, 7, 1959:35–41; Lehrman, Brody, and Wortis, *Endocrinol.*, 68, 1961:507–516; Marshall and Disney, *Nature*, 180, 1957:647–649). Concerning chiefly pigeons and doves, Lehrman (*in* Young, *Sex and Internal Secretions*, Williams and Wilkins, 1961:1281) thinks the evidence indicates that for birds “in which the male participates in nest-building, the presence of nesting material and/or the change in behavior of the male which is made possible by the presence of nesting material, helps to stimulate ovulation in the female.” The critical work on which this conclusion is based has not, for columbids, distinguished between influence of mere presence of nesting material and influence of the completed nest (but see Hinde and Warren, *op. cit.*, for information concerning other kinds of birds, such as canaries, *Serinus canarius*). The present note deals with observations supporting Lehrman’s hypothesis and minimizing the importance of the completed nest as a meaningful stimulus for ovulation.

Table 1 summarizes the occurrence of certain events in five nesting attempts of two pairs of feral Rock Doves (*Columba livia*) in 1959 and 1962, on the southeastern corner of the third story of Dyche Hall, on the campus of The University of Kansas. So far as is known, both pairs were capable of normal and successful nesting effort. However, for nests A1, A3, and B1, the choice of nest site precluded successful nest building, and all material brought by the males to the narrow ledge used by the pairs eventually dropped off, was blown off by winds, or was brushed off by movements of the birds. The females did in fact bill most of the material brought by the males, so that it can be said that all