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IMPORTANT BIRDS FROM BLUE POINT COTTONWOODS, MARICOPA COUNTY, ARIZONA

R. ROY JOHNSON

Prescott College
Prescott, Arizona 86301

AND

JAMES M. SIMPSON

4249 North 34th Street
Phoenix, Arizona 86018

The Salt River currently consists of four basic divisions: deeply channeled river from Roosevelt Lake upstream, irrigation reservoirs from that point downstream to Stewart Mountain Dam, dry river channel from Granite Reef Dam downstream to the confluence with the Gila River, and the fourth area, a short segment from Stewart Mountain Dam to Granite Reef Diversion Dam (about 10 miles long) representing what little remains of the native river. During the 1970's this portion is scheduled to be inundated by Orme Reservoir, part of the Central Arizona Project.

Blue Point Cottonwoods, located approximately 2 miles upstream from the confluence of the Verde with the Salt River, is the only large stand of mature cottonwoods (*Populus fremontii*), with its attendant mesquite (*Prosopis juliflora*) understory, left on the entire Salt River. These cottonwoods will be covered by Orme Lake, thus virtually completing the extirpation of native riparian groves along the Salt River. This virgin grove extends for nearly a mile along the north side of the river. A narrow marsh of open water approximately one-half mile long, edged with arrowweed (*Pluchea sericea*) and salt-cedar (*Tamarix* sp.), and containing several dense stands of cattails (*Typha domingensis*) contributes to the diversity of the habitat. *Azolla* sp., a water fern unrecorded for central Arizona, grows profusely with duckweed (*Lemna* sp.) in the marsh.

Field work at Blue Point Cottonwoods has contributed much to our knowledge of birds in the central lowlands of Arizona. In the past, many important specimens and records were obtained from the area by Lyndon L. Hargrave, Allan R. Phillips, and Lewis D. Yaeger. Some of the more important records for the Salt River Valley include: the only specimens of the Ferruginous Owl (*Glaucidium brasilianum*) during this century (Hargrave; Phillips); the only specimen of the Common Crow (*Corvus brachyrhynchos*) (Phillips); the only Red-breasted Nuthatch (*Sitta canadensis*) specimens (Phillips and Yeager); the only nesting record of the Bewick's Wren (*Thryomanes bewickii*) (Phillips and Yeager); and the only Hutton's Vireo (*Vireo huttoni*) specimens (Phillips; Johnson and Simpson). The northernmost specimen for the Tropical Kingbird (*Tyrannus melancholicus*) was collected here by Simpson and Werner (Condor 60:68, 1958).

While the following species nest at one or two other localities in the Salt River Valley, Blue Point Cottonwoods and the nearby river is the only area left that is both large enough and stable enough to support them all: Green Heron (*Butorides virescens*), Yellow-billed Cuckoo (*Coccyzus americanus*), Bell's Vireo (*Vireo bellii*), Yellow Warbler (*Dendroica petechia*), Yellowthroat (*Goethlypis trichas*), Summer Tanager (*Piranga rubra*), and Blue Grosbeak (*Guiraca caerulea*). Considering the ephemeral nature of the other habitats, the loss of Blue Point Cottonwoods may also mean the loss of most or all these species as breeding birds in the Salt River Valley.

Our recent field work in this area has resulted in several additional distributional records of some interest. All specimens mentioned in the following species accounts are in the Johnson-Simpson-Werner (JSW) collection, now housed at Prescott College, Prescott, Arizona. Our thanks to Lyndon L. Hargrave and Allan R. Phillips for critical reading of the manuscript.

Least Bittern. *Ixobrychus exilis*. According to Phillips, Marshall, and Monson (The birds of Arizona. Univ. Arizona Press, Tucson. 1964. p. 7), the only previously documented nesting of this species in Arizona was by Simpson and Werner (loc. cit.). Our specimen (JSW no. 925) was collected on 9 July 1969 in a dense stand of cattails in the marsh. It is a juvenile female with down on the legs, wings, neck, and head, and was accompanied by one or two other juveniles, presumably nest mates, and at least one adult. At least one additional adult was seen. The nest was secured on 20 July 1969 and is the first nest from Arizona for this species.

Groove-billed Ani. *Crotophaga sulcirostris*. A female? (gonads shot), collected on 20 July 1969 (JSW no. 879) showed no fat and no molt. This is the second known extant specimen from the state (see Phillips et al., loc. cit.:46). Later, Bernard Roer informed us that he found another Groove-billed Ani at his bird farm in Phoenix on 11 July 1969 and donated it to the Phoenix Zoo.

Vaux's Swift. *Chaetura vauxi.* A male (JSW no. 943) collected on 14 September 1969 was very fat, with a few pinfeathers, a large skull window (7 × 10 mm), and the testes 1½ × 2 mm. It was taken from a flock of seven Vaux's Swifts and is the first specimen from central Arizona (Phillips et al., loc. cit.:59).

Mountain Chickadee. *Parus gambeli.* A female (JSW no. 974) collected 24 October 1970 is our only known specimen from the south-central Arizona lowlands. This individual with skull fully ossified, no fat, and ovaries 4 × 15 mm, was one of four seen that day.

Rufous-backed Robin. *Turdus rufopalliatus.* Our specimen (JSW no. 927), collected on 30 November 1969, is an adult male, testes minute. It showed little fat and a few pinfeathers in the capital tract only. It was feeding alone on the grassy margin of a marsh even though there was a small flock of Robins (*Turdus migratorius*) in the area. This is approximately 175 mi. N of the specimen collected by Harrison (Auk 79:271, 1962). It is also apparently the second verifiable record for the United States, and the species, like the Groove-billed Ani, remains unrecorded in northern Sonora.

Northern Water-thrush. *Seiurus noveboracensis.* A female? (JSW no. 969) taken on 30 August 1970 is the first collected from the lowlands of south-central Arizona since one taken at Phoenix by Breninger on 16 September 1897 (Phillips, pers. corr.). The specimen had heavy fat beneath the feather tracts, skull fully ossified, and no molt.

American Redstart. *Setophaga ruticilla.* A young female (JSW no. 971) collected 30 August 1970 is the first record for central Arizona and one of few specimens for the state. The specimens showed skull windows, no molt, and moderate fat.

Golden-crowned Sparrow. *Zonotrichia atricapilla.* A female (JSW no. 923) taken on 15 November 1969 is the first record from central Arizona (Phillips et al., loc. cit.:207) and one of the few specimens from the state. It had a few pinfeathers in the spinal tract, moderate fat, and ovary not enlarged (1½ × 3 mm).

Swamp Sparrow. *Melospiza georgiana.* A female (JSW no. 924), collected on 15 November 1969, was the first specimen from central Arizona, although there are others from the southern and western parts of the state (Phillips et al., loc. cit.:208–209). It had little fat, no molt, a large skull window (8 × 10 mm), and ovary not enlarged (2 × 3½ mm).

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SPRUCE GROUSE COPULATION

HAROLD J. HARJU[1]

Northern Michigan University
Marquette, Michigan 49855

During field work on Spruce Grouse (*Canachites canadensis*) in northern Michigan in May 1968, I witnessed copulation of a pair of Spruce Grouse. Although descriptions of males attempting copulation with study skins have been published in the literature (Lumsden, Can. Field-Nat. 75(3):152–160, 1961; MacDonald, Living Bird 7:5–25, 1968), I know of no description of a completed copulation. The copulatory behavior I observed was very similar to copulatory behavior described for other members of the family Tetraonidae by Lumsden (Ontario Dept. Lands Forests Res. Rpt. 83, 1–94, 1968). In the interest of clarity, a full description of the copulatory behavior will be presented here, though portions of the display pattern may be found described elsewhere (Lumsden, 1961, op. cit.; MacDonald, op. cit.).

Strutting was one of the preliminaries to copulation. In the strutting posture the male erected his neck and breast feathers, lowered his undertail coverts downward and straight out from the body, elevated his rectrices to an angle of 70°, enlarged his bright red eye combs, and lowered his chin feathers so that he appeared to have a short beard. The bird's wings were held slightly out from the body and downward. Erection of the breast feathers produced a white band across the chest, and lowering the undertail coverts exposed their white tips.

When strutting, the male walked toward the female in the posture described above. The outer rectrices were alternately opened and closed as the leg on the opposite side went forward and backward in strutting. This is known as tail-swishing, and is an integral part of the strutting display. The faster the bird went, the louder and more continuous the tail-swishing became. Strutting was alternated with the tail-flick and "challenge call" (Harju, unpubl. MA thesis, Northern Michigan Univ., 1969) as the male approached the female. As the tail-flick began, the male lowered his head, extended it forward slightly, and took several steps forward. Then he raised his tail feathers to 90°, lowered the front of his body near the ground, and suddenly fanned his tail out to a three-quarter open position and then quickly closed it again. The bird snapped his head back up to the strutting position as the tail was closed, and as the head reached the vertical position the tail was simultaneously spread fully open. The challenge call, in two parts, was produced partially when the head was down and partially when the head was snapped up. Each part of the call was precisely coordinated with one of the parts of the tail-flick. A scraping sound was produced as the tail was flicked closed and then open again.

Immediately prior to copulation the male approached the female very slowly and deliberately in the strutting posture with his head cocked to one side, probably to expose the brilliant red eye combs. The approach was made indirectly, in a series of short, sidling struts at an angle to the side of the female, from the front toward her rear. The male slowed considerably as he neared the female, and seemed to be assessing her response to his display. As he drew near the female (within 6 ft) he suddenly made stamping movements with his feet, lowering the front of his body slightly as he did. His head was then snapped from side to side, one or two times at first, followed by a pause, then several times in succession, exactly as described by Lumsden (1961, op. cit.) for Spruce Grouse in Ontario. The rectrices were swished open and closed while this "head-jerk" was being performed, and the wings were flicked out to the side, perhaps to provide balance. The hen during all this display appeared very little interested, and did not move a great deal,

[1] Present address: Department of Zoology and Physiology, University of Wyoming, Laramie, Wyoming 82070.