

During the summer of 1965, in the course of my study of the Elf Owl (*Micrathene whitneyi*), I recorded the following observations which suggest that nest sites may be in short supply for this bluebird. On 29 May 1965 I accidentally destroyed the nest cavity (13 m from the ground in the dead limb of a living sycamore) of a pair of Elf Owls. On 30 May I placed a bird box at the site of the destroyed cavity, hoping that the owls would re-nest in it. Within two days a pair of bluebirds had occupied the box. On 7 June 1965, at another site a female Elf Owl deserted her nest, located 6 m up in a dead sycamore, after I had opened the cavity. This hole also was occupied quickly by bluebirds. In both instances young were successfully reared.

There are 12 common species of hole-nesting birds in the Chiricahuas, not including woodpeckers, most or all of which begin nesting prior to the dates given above. The rapid occupancy of the above-described nest sites by the bluebirds, after many or most of the other hole-nesters had begun breeding, suggests that they do not fare well in interspecific competition for nest holes, possibly because they begin breeding activities later than most of the other hole-nesters. Scarcity of nest sites may help to explain the rarity of the Azure Bluebird in the mountain ranges from which it has long been known (Bent, Life histories of North American thrushes, kinglets, and their allies. U.S. Natl. Mus. Bull., 170, 1949). Specialized nesting requirements are thought to be a probable cause of population decrease in the Mountain Bluebird (*Sialia currucoides*) (Power, Condor, 68:351-371, 1966).

Ecological requirements other than nest sites may also serve to limit this species. Marshall (Proc. Tall Timbers Fire Ecology Conf. 2:135-141, 1963) found the Azure Bluebird to be more common in the open parklike forests of northern Mexico, where fire is of regular occurrence, than in the mountains of southern Arizona, where fire has been excluded. The resulting heavy undergrowth and dense foliage in Arizona may influence the numbers of this bluebird. Heavy grazing by cattle near the research station has destroyed much of the undergrowth, producing a more open woodland than is found in areas where both fire and cattle have been excluded.

Another possible factor influencing the Azure Bluebird is the presence of the Western Bluebird (*Sialia mexicana*). In the Chiricahua Mountains this species is found in open areas of higher altitudes where ponderosa pine (*Pinus ponderosa*) is common. Azure Bluebirds were never seen in areas occupied by Western Bluebirds. Marshall (Pacific Coast Avifauna, 32:62, 1957) states that intense competition between the two species of bluebirds is suggested by their distributions.

The observations reported above were made during a study supported by the Frank M. Chapman Memorial Fund of the American Museum of Natural History and the National Science Foundation Training Program in Systematics and Evolutionary Biology (GB-3366) through the University of Michigan Museum of Zoology.—J. DAVID LIGON, *Department of Biology, Idaho State University, Pocatello, Idaho. (Present address: Museum of Southwestern Biology, Department of Biology, University of New Mexico, Albuquerque, New Mexico 87106), 20 November 1967.*

Plastic device causes gull mortality.—While driving down the beach at Michigan City, Indiana, on 28 January 1967, I found a dead Herring Gull (*Larus argentatus*) with a plastic device, such as is used to hold a six-pack of beer together, locked about its head (Figure 1). Mr. James Landing of Michigan City has found several dead gulls in similar condition, and as of 1 October 1967, three Herring Gulls with these devices were in the Michigan City harbor. Gulls have also been seen at Benton Harbor, Michigan, with the same object, in the mouths or around the necks. Mr.



FIG. 1. Herring Gull with plastic device looped behind the head and cut into the upper mandible.

Frances Van Huffel of Mishawaka, Indiana, has suggested that they may look like fish entrails and consequently attract the gulls.—SCOTT C. REA, 952 Riverside Dr., South Bend, Indiana, 6 December 1967.

Distraction display of a pair of Black-throated Green Warblers.—Distraction displays of birds have been reported by many observers. They appear widespread in the wood warblers (Parulidae), having been recorded from at least 34 species (Ficken and Ficken, *Living Bird*, 1:103, 1962). However, most such displays reported in the literature are ones that have been directed toward human subjects. Hence, a series of distraction displays that I observed on 5 July 1966, at Hog Island (Todd Wildlife Sanctuary), Bremen, Lincoln Co., Maine, directed at another potential predator appear worthy of note.

Immediately prior to the observations reported below I was studying a territorial encounter between two pairs of Black-throated Green Warblers (*Dendroica virens*), apparently resulting from one pair with two or more young straying over a territorial boundary. This intense encounter, punctuated by chases, fights, Moth Flights (see Ficken and Ficken, *Wilson Bull.*, 77: 363, 1965), and loud harsh chipping by both adults and young, had been under way for 15 minutes when two Blue Jays (*Cyanocitta cristata*) flew suddenly and silently into the midst of the fighting birds. Almost immediately one male Black-throated Green Warbler virtually dropped from approximately 40 feet in small limbs of a red spruce (*Picea rubens*) to limbs of a small balsam fir (*Abies balsamea*) at a height of about five feet above the ground, followed immediately by one