

and thus took into account the presence of parental and nestling activity in and around the nest. It can thus be argued that the use of experimental nests biased the results in the present study. However, Gottfried and Thompson (Auk op. cit.) found that the predation rate of experimental and natural nests were not significantly different (i.e. the presence of parental activity around the nest did not increase the rate of predation). It would thus appear that no sweeping generalizations can be made on the relationship between nest density and predator pressure in upland habitats, as the type of predator may differ from habitat to habitat.

I benefited from discussions with Dr. Charles Thompson. I also wish to thank P. Caprio for supplying the quail eggs.—BRADLEY M. GOTTFRIED, *Dept. of Zoology, Miami Univ., Oxford, OH 45056*. (Present address: *Dept. of Biology, College of St. Catherine, St. Paul, MN 55105*).

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Canada Goose takes over Mallard nest.—Waterfowl are attracted to the park ponds in Allentown, Pennsylvania due to the great amount of artificial food supplied by park visitors. Mallards (*Anas platyrhynchos*) and Canada Geese (*Branta canadensis*) often nest very close to one another in the urban and suburban parks. This tendency may be a response to the limited amount of suitable nesting habitat in the park areas. Frequently I have found nests much closer together and the over-all nesting density greater than that reported by Drewien (*Wilson Bull.* 82:95–96, 1970). On 1 April 1977, I located a wild Mallard nest with 11 eggs and a wild Canada Goose nest with 6 eggs on a small, 0.15 ha island, in one of the park ponds. The nests were 1.2 m apart and both hens were incubating. Periodic checks of each nest revealed a loss of 4 eggs from the Mallard nest on 13 April, the result of some unknown predator. There was no change in the number of Canada Goose eggs during the period.

On 20 April, during a regular nest check, I observed 1 Canada Goose egg in the Mallard nest and 1 egg missing from the goose nest. Because of the inaccessibility of the pond and island to the public, I concluded that the goose egg rolled from the Canada Goose nest, possibly when the female was turning the eggs, and the nearby Mallard hen retrieved the loose egg. Many ground nesting birds are known to exhibit such egg retrieving behavior. The Mallard hen then continued incubating her 7 original eggs, and the goose egg, while the Canada Goose remained on her own nest, minus 1 egg. The Canada Goose did not lay another egg; she was 18 days into the incubation period.

On 23 April, the female Canada Goose was observed sitting on the Mallard nest that contained its egg, defending it from the Mallard hen, which continually made attempts to get back on her own nest. Later that same day, 5 Mallards hatched from beneath the incubating Canada Goose. The 1 goose egg and 2 Mallard eggs did not hatch. The Mallard hen continued attempting to reclaim her nest, but the female Canada Goose became very defensive, tearing feathers from the duck's breast and neck.

The next day, 24 April, a Mallard hen was observed with a brood of 5 ducklings on the pond, and the female Canada Goose had returned to her original nest, after neglecting it for over 12 h. All 5 remaining goose eggs hatched on 30 April. The 1 goose egg that remained in the Mallard nest did not hatch.

Later observations on brood success revealed a loss of 4 Mallard ducklings by 28 April. The remaining duckling apparently survived as did the 5 juvenile Canada Geese.

I would like to thank Allentown's Urban Observatory Board for their permission to publish these findings. I also thank my co-worker, Terry L. Master, as well as Dr. Carl Oplinger and Dr. John Trainer for the helpful suggestions and criticism in preparing this note.—THOMAS N. MATHER, *Dept. of Entomology and Applied Ecology, Univ. of Delaware, Newark, DE 19711. Accepted 24 Feb. 1978.*

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Notes on food habits of the Plain Chachalaca from the Lower Rio Grande Valley.—The Plain Chachalaca (*Ortalis vetula*) is an endemic species of the brushy resacas in the delta of the Lower Rio Grande Valley, Texas. The food habits, habitats, and status of this bird have been recently examined by Marion (1974, *Wilson Bull.* 86: 200-205; 1975, *Texas Parks Wildl.* 33:16-18; 1976, *Auk* 93:376-379). This study provides additional information on the food habits of the Plain Chachalaca in south Texas.

Nineteen Plain Chachalacas were collected by shooting in late December, 1976 from near San Benito, Cameron Co., Texas. On necropsy, esophageal and gizzard contents were stored in 70% ethyl alcohol for later study. A reference herbarium collection of plants was made in areas from which birds were collected. Fruits and leaves from upper digestive tract contents were compared grossly with representative plant species from the region. Also, a microscopic technique for identifying plants from the fruit and leaf epidermal cell structure was employed (Sparks and Malechek, 1968, *J. Range Manage.* 21:264-265). Plants were identified to species where possible, but in the case of several species of composites and other families only identification to genus was possible. Likewise, where only trace amounts of material occurred even generic identification was not possible.

Birds collected in this study were herbivorous and/or frugivorous. There was no evidence of arthropods or other animal matter in their diet. Only 5 of 19 birds examined had small quantities of plant material in the esophagus or proventriculus. All had considerable quantities of leaves and/or fruits in the gizzard. Twenty-five species of plants were recovered (Table 1). The predominant food item, based on frequency of recovery from individual birds, was the leaves of several plant species, especially daisies (*Aphanostephus* sp.) and thoroughwort (*Eupatorium* sp.) (42% of individuals examined). Often Plain Chachalaca gizzards were considerably distended with leaves tightly packed in a layered fashion. Macerated and partially digested leaves were found in the remainder of the lower digestive tract. The fruit of the hackberry (*Celtis laevigata*) occurred frequently (26%). Because the contents of the gizzard often consisted of the mixed, partially digested, or macerated remains of several plant species which could only be identified microscopically, it was not possible to quantify volumetrically the food items observed in most birds. Traces of at least 9 additional plant species were recovered, but these could not be identified because of inadequate taxonomic characteristics.

Marion (1976) concluded that the Plain Chachalaca feeds on a wide range of succulent plant materials and very little animal matter. This is substantiated by our study and suggests that this bird may indiscriminately feed on an even wider range of plants. Only 2 of 42 identified plant species were common to both studies.—ZÄN D. CHRISTEN-