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MONK PARAKEET DAMAGE TO CROPS IN URUGUAY AND ITS CONTROL

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The monk parakeet (*Myiopsitta monachus*) is considered to be a serious agricultural pest in South America. The species is resident in a sizable area from southeast Bolivia, Paraguay, and southern Brazil, through Uruguay, to central Argentina (Meyer de Schauensee, 1970: 103). Since it is hardy, adaptable, and widely sold as a cage bird, there is now concern that large enough populations may become established in the United States to cause damage to grain and fruit crops (Bump, 1971).

In April 1973, I visited Uruguay under the sponsorship of the U.S. Agency for International Development (AID) to investigate patterns of agricultural bird damage, the methods being used to control it, and the possibility of using some of the more recent control methods developed in the United States.

Habits of the Monk Parakeet

My host on the trip was O.E. Martinez, of the Uruguayan Ministry of Agriculture, who is very familiar with the agricultural problems caused by the Monk Parakeet in his *country*. I obtained much of the background information on the bird's habits from what he showed and told me and from an extensive unpublished report he had prepared (1971, *Aves daninas a la agricultura en el Uruguay -- Birds damaging to agriculture in Uruguay -- 122pp.*). Much of it is similar to information reported for Monk Parakeets in Argentina (Bump, 1971).

Martinez described the Monk Parakeet in Uruguay as sedentary with a tendency to form flocks that vary in size from a few individuals up to several hundred. They live year-round in large colonial stick nests, which are used for shelter as well as reproduction. A single communal nest may have up to 15 individual nest openings, but the average is about 4. Many nests may be found in a small area; for example, Martinez reported 5,000 at one nesting site in the State of Colonia. According to Martinez, Monk Parakeets originally nested in native vegetation along the rivers but now prefer introduced species of eucalyptus and pines that have been planted throughout the agricultural areas of the country. In a recent survey of several Uruguayan states, 82 percent of the nests were in eucalyptus.

In Uruguay, the reproductive period is from mid-November through early March. Clutches usually contain four to five dull white eggs, but as many as eight have been counted. Both parents feed the young, which become independent soon after fledging.

Damage to Crops

In Uruguay, as in most of the neighboring countries, Monk Parakeets are considered a serious problem because of their predilection for certain

grain and fruit crops. Monk Parakeets were commonly seen while I traveled in the Paysandu-Mercedes area on the western border of Uruguay. In this area, they do extensive damage to both ripening and ripe sunflowers (oilseed varieties). Parakeets perch on the sunflower head and reach over the edge to remove the seeds, which they hull before eating. Green sunflower heads are sometimes shredded by the birds, causing many seeds to fall to the ground. Corn is also damaged by the Monk Parakeet. They not only eat the kernels, but their opening of the ears permits additional damage by insects and fungi. Although they sometimes feed in wheat, barley, and sorghum, Martinez indicated that most of the damage to these crops is caused by other species, primarily Eared Doves (*zenaida auriculata*), Cowbirds (*Molothrus spp.*), and Grass Finches (*sicalis luteola*). Monk Parakeets also damage fruit (mainly apples) in areas near Montevideo in southern Uruguay. Martinez reported that in 1968 one grower's crop of apples in the State of Jose was destroyed by parakeets. Other fruits in Uruguay damaged by Monk Parakeets are pears, peaches, and grapes. Damage to fruit occurs in January, February, and March.

Methods of Control

Presently, the Uruguayan government conducts nest-spraying programs to reduce populations of Monk Parakeets. Crews, using 60-foot extension ladders, spray the colonial nests with a 5-percent endrin solution. Although nest spraying is expensive and time consuming, the results appear to be satisfactory, and the Government plans to double the number of spraying crews. Nest spraying with endrin is also the common method used for parakeet control in Argentina (Fione Byrne, IN.IM.EX., 1972, personal communication). Martinez reported only fair results from attempts to poison parakeets with corn ears and sunflower heads treated with an organophosphate poison (chemical concentration not stated), and burning nests or entangling parakeets with a sticky tar-like substance were not effective in reducing parakeet populations.

Tests With 4-Aminopyridine

In Uruguay, I conducted preliminary laboratory tests with 4-aminopyridine, a fright producing chemical that may have potential for reducing parakeet damage. In gregarious species, such as the Monk Parakeet, the distress cries of a few birds affected by the chemical often cause an avoidance reaction in the entire flock. (In 1972, 4-aminopyridine was registered in the United States for use on cracked corn baits to protect field corn from blackbirds.) Wild-trapped Monk Parakeets (average weight 114 grams) were gavaged with various levels of 4-aminopyridine in propylene glycol. Those dosed with 10 mg/kg or less were not affected, but doses of 15 and 20 mg/kg produces a series of tremors and some intermittent distress cries before death. Additional testing is required to determine the dose that will produce the best distress reactions.

One attempt to bait parakeets with a 4-percent concentration of 4-aminopyridine on wheat, which was scattered in a sunflower field where 50-75 parakeets were feeding, was unsuccessful. The birds fed only on the sunflower heads and did not light on the ground. Broadcasting baits in fields to control crop damage would not be feasible if this manner of feeding is typical.

However, a possible use of 4-aminopyridine in preventing damage may be to spray sunflower heads or partially husked ears of corn in small plots throughout the field.

Literature Cited

- Bump, G. 1971. The South American Monk, Quaker, or Gray-headed Parakeet. U.S. Bureau of Sport Fisheries and Wildlife, Wildlife Leaflet 496. 4pp.
- Meyer de Schauensee, R. 1970. The birds of South America. Livingston Pub. Co., Wynnewood, Pennsylvania, 470pp.