

GENERAL NOTES

A dietary overlap of Evening Grosbeaks and Carolina Parakeets.—The known winter range of Evening Grosbeaks (*Coccothraustes vespertinus*) in eastern North America has increased dramatically in the past 90 years. As a result of the range spread, the birds have encountered a variety of habitats for the first time. Among these habitats are extensive bottomland forests and cypress swamps in the southern states. On 3 December 1977 Brunswig and Winton saw 12 grosbeaks in the top of a large bald cypress (*Taxodium distichum*) in the interior of the Francis Beidler Forest, a sanctuary of the National Audubon Society and the Nature Conservancy in Berkeley and Dorchester counties, South Carolina. The observers' attention was drawn to the birds when fragments of cypress cones began to rain into the water. Closer inspection revealed that the birds were feeding on cypress fruits or seeds. Later that same winter, Robertson (Florida Field Nat. 7:11, 1979) noted similar feeding behavior by Evening Grosbeaks in Florida.

We can find no other record of the use of this food source by these birds. Our search of the literature revealed few other vertebrate species that eat cypress fruit or seeds: gray squirrels (*Sciurus carolinensis*) (Gunderson, Regeneration of cypress, *Taxodium distichum* and *T. ascendens*, in logged and burned cypress strands at Corkscrew Swamp Sanctuary, Florida. M.S. thesis, Univ. Florida, Gainesville, Florida, 1977), three species of ducks (Anatidae) and Sandhill Cranes (*Grus canadensis*) (Landers et al., J. Wildl. Manage. 41: 118–127, 1977; Martin et al., American Wildlife and Plants, McGraw-Hill Book Co., New York, New York, 1951), and Wild Turkeys (*Meleagris gallopavo*) (Powell, The Florida Wild Turkey, Florida Game and Freshwater Fish Comm. Tech. Bull. 8, 1965). None of these authors listed another important cypress seed predator in historical times, namely the Carolina Parakeet (*Conuropsis carolinensis*), although cypress mast was an important winter food (Bent, U.S. Natl. Mus. Bull. 176, 1940). We speculate that only Evening Grosbeaks and Carolina Parakeets among North American birds have or had the ability to crack open cypress cones and other very hard food items. Other similarities in diet between the two species are numerous. Both extensively eat (ate) buds, pine mast, maple seeds, a variety of fruits, seeds of fruits, and other seeds (Speirs, pp. 206–237 in Bent and Austin, eds., U.S. Natl. Mus. Bull. 237, Pt. 1, 1968; McKinley, unpubl. and pers. comm.).

Carolina Parakeets were widely distributed in pre-Colonial eastern North America, north in winter to the Ohio River valley and, occasionally at least, to Albany, New York (McKinley, Jack-Pine Warbler 55:106–124, 1977). Consequently, after the extinction of Carolina Parakeets (McKinley, Indiana Audubon Quart. 58:8–18, 50–61, 103–114, 1980) certain winter foods in eastern North America available only to them (and to the similarly strong-billed Evening Grosbeaks) were not routinely harvested by avian predation. It is possible, and seems to us plausible, that the demise of the Carolina Parakeets may have been a contributory antecedent to the winter range expansion of the Evening Grosbeaks in North America.

Acknowledgments.—This manuscript has benefited from the criticism of D. McKinley, D. H. Speirs, R. F. Harlow, A. E. Ross, D. McNair, J. L. Beacham, and M. C. Hamel.—NORMAN L. BRUNSWIG, STEPHEN G. WINTON, *National Audubon Society, Francis Beidler Forest, Rt. 1, Box 114, Harleyville, South Carolina 29448*; AND PAUL B. HAMEL, *Dept. Zoology, Clemson Univ., Clemson, South Carolina 29631. Accepted 2 Nov. 1982.*