A VERY LARGE ENIGMATIC OWL (AVES: STRIGIDAE) FROM THE LATE PLEISTOCENE AT LADDS, GEORGIA

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ABSTRACT

An undescribed species of owl is represented in the late Pleistocene (Rancholabrean) deposits at Ladds, Georgia, by a mandibular symphysis that is larger than in any living species of Strigidae. This is most similar to the mandible in living owls of the genus *Strix*. Paleontologists are alerted to seek more diagnostic specimens so that the species may eventually be described.

INTRODUCTION

One of very few vertebrate faunas known from the late Pleistocene (Rancholabrean) of Georgia was reported from fissure fillings in a limestone quarry at Ladds, Bartow County (Lipps and Ray, 1967; Ray, 1965, 1967). Some of the avian remains from this site were identified by Wetmore (1967), of which the most interesting record was that of a Spruce Grouse (*Dendragapus canadensis*), a species now occurring mainly in boreal coniferous forests of Canada. Whereas this and certain of the mammalian species are characteristic of cooler northern regions today, some of the other mammals have southern affinities (Ray, 1967; Kurtén and Anderson, 1980). Although the deposits at Ladds may have been heterochronic, such "disharmonious" faunas are typical of many late Pleistocene fossil deposits (Lundelius et al., 1983) and are believed to reflect a more equable climate in the Pleistocene.

Among some additional material from the Ladds deposits in the National Museum of Natural History, Smithsonian Institution (USNM), I encountered the anterior portion of a mandible of an owl that appears to have been larger than any of the living species of Strigiformes, although I do not consider the specimen to be sufficiently diagnostic to be named at this time. Nevertheless, it represents a significant addition to the Pleistocene fauna of eastern North America that should be included in faunal surveys and that should be looked for in other Pleistocene deposits.

DESCRIPTION

The specimen (USNM 214769) is a mandibular symphysis with unequal portions of the rami preserved on either side. The length of the symphysis as preserved is 11.5 mm, but as some of the thin, fragile tip is missing, this measurement would have exceeded 12 mm in the intact specimen. The width at the posterior margin of the symphysis is 15.1 mm. The specimen is referable to the Strigidae, the symphysis being broader and more truncate than in the Tytonidae, in which the symphysis is narrow and elongate.

Compared with the three largest North American owls (*Bubo virginianus, Nyctea scandiaca,* and *Strix nebulosa*), the fossil is seen to be much larger (Fig. 1). The symphysis is proportionately longer and narrower and the rami less divergent than in either *Bubo* or *Nyctea*. Furthermore, the two large nutrient foramina on the ventral surface of the tip are more widely separated and situated more on the lateral surfaces of the symphysis than in *Bubo* or *Nyctea*. In these and other details the specimen is more similar to *Strix*.

DISCUSSION

Howard (1933) described a presumably extinct owl from the tar pits at Rancho La Brea, California, as *Strix brea*. This was characterized as being larger than either of the living species *S. varia* or *S. occidentalis*, but no size comparisons were made with the panboreal Great Gray Owl, *S. nebulosa*, because at that time the species was regarded as belonging in a monotypic genus, *Scotiaptex*. From Table 1, a rather confusing picture of the size of *Strix brea* emerges. The measurements for the rostrum and

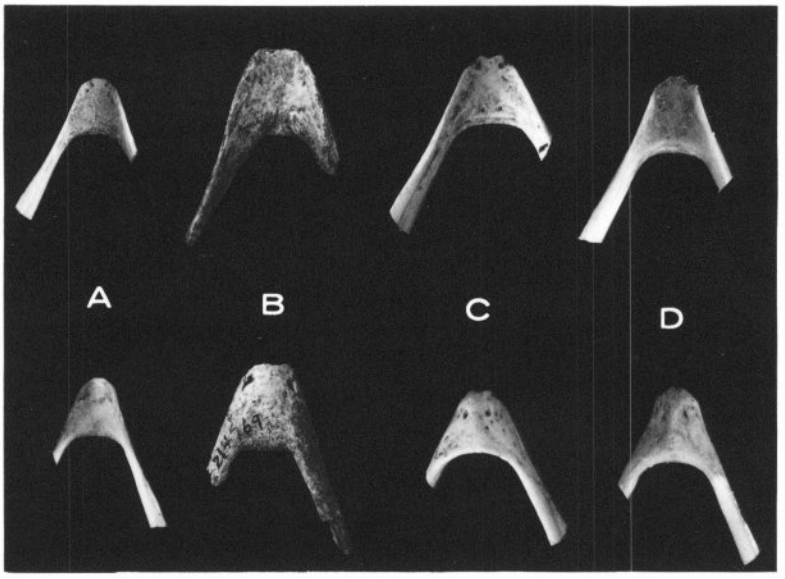

Fig. 1.—Mandibular symphyses of owls in dorsal view (top row) and ventral view (bottow row): A) Great Gray Owl, *Strix nebulosa* (USNM 289980); B) fossil specimen from Ladds Quarry, Georgia (USNM 214769); C) Snowy Owl, *Nyctea scandiaca* (USNM 19901); D) Great Horned Owl, *Bubo virginianus* (USNM 289978). Natural size.

tibiotarsus all lie within the range of variation of a very small sample of *S. nebulosa* and those for the femur and wing elements are either somewhat smaller or in the lower end of the size range of *S. nebulosa*. On the other hand, the holotype and eight referred tarsometatarsi of *Strix brea* are all considerably larger than in *S. nebulosa*. The much greater size of the mandible of the Ladds owl as compared to *S. nebulosa* makes it unlikely that this specimen is referable to *S. brea*, whatever the status of that species may be.

The only extinct strigid owls of immense size belong to the genus *Ornimegalonyx*, originally known from a single species from Quaternary cave deposits in Cuba (see Arredondo, 1976). Kurochkin and Mayo (1973) alluded to the possible existence of additional species of *Ornimegalonyx* and Arredondo (1982) has recently named three as new. Unfortunately, the mandibular symphysis has not been reported for *Ornimegalonyx*. Because *Ornimegalonyx* is believed to be closcly related to *Strix* and *Ciccaba* (Kurochkin, personal communication), it is possible that with better material the Ladds owl, which also appears close to *Strix*, may shed some light on the geographical origins of the Cuban birds.

Table 1.—*Measurements of the extinct owl,* Strix brea *(from Howard, 1933) and the mandible from Ladds, Georgia, compared with three specimens of the extant Great Gray Owl,* Strix nebulosa *(from left to right USNM 502543, male; USNM 289980, female; USNM 289429, female).*

Measurements	*Strix brea*		*Strix nebulosa*		Ladds owl
Height rostrum	20.7 (n = 1)	—	20.8	20.9	—
Breadth rostrum	21.5 (n = 1)	—	25.0	23.7	—
Length humerus	112.5–121.3 (n = 3)	120.0	134.8	142.0	—
Length carpometacarpus	56.2–59.9 (n = 5)	58.0	66.3	68.0	—
Length femur	75.6–76.6 (n = 4)	78.9	87.2	91.6	—
Length tibiotarsus	112.7–120.0 (n = 10)	106.4	120.0	126.6	—
Length tarsometatarsus	63.5–68.0 (n = 9)	50.0	57.0	59.0	—
Length mandibular symphysis		—	8.1	7.7	12+
Breadth mandibular symphysis		—	9.6	9.9	14.6

ACKNOWLEDGMENTS

Lewis Lipps encouraged me to look through the additional bird material from Ladds quarry and supplied useful information. Kenneth E. Campbell, Jr., John Farrand, Jr., and Clayton E. Ray offered helpful comments on an early draft of the manuscript, and several later drafts were criticized by David W. Steadman. The photographs are by Victor E. Krantz.

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