

## Paleoenvironments: Vertebrates and Invertebrates

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### Fossil Birds of the Crowfield Local Fauna, Late Pleistocene (Rancholabrean), South Carolina

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This report on the Crowfield local fauna paleo-avifauna is the second on late-Pleistocene local fauna (Rancholabrean) to be recorded for South Carolina. The first record is from the Ardis local fauna (Chandler and Bentley 2007).

During 1988–90 fossils were collected from the Crowfield Lake excavation site between Summerville and Goose Creek, South Carolina, along the Dorchester-Berkeley county line. Among the more than 7,000 vertebrate fossils collected were 38 bird bones, 29 identifiable. Associated with the bird remains were over 40 mammalian taxa and a substantial herpetofauna. Materials were surface collected, particularly after heavy rains, and at least 3 tons of fossiliferous matrix was screen washed using #20 soil sieves.

The Wando Formation, the source of the fossils, is composed of late-Pleistocene sands, clays, and silts, dated at approximately 130,000 to 75,000 years ago. Fossil wood and vertebrates suggest deposition in estuarine to fluvial environments (Weems and Lemon 1988).

The Crowfield bird fauna comprises five orders, eight families, and eleven species. Included are four species of ducks including the mallard (cf. *Anas platyrhynchos*), American black duck (cf. *A. rubripes*), green-winged teal (cf. *A. crecca*), and wood duck (cf. *Aix sponsa*); wild turkey (*Meleagris gallopavo*); Northern bobwhite (*Colinus virginianus*); a grebe (*Podiceps* aff. *P. auritus*); a hawk (*Buteo* aff. *B. lineatus*); and three passerines—a jay (aff. *Cyanositta* sp.), meadowlark (aff. *Sturnella magna*), and wood warbler (cf. *Icteria virens*).

The fossil material includes, for the mallard, right coracoid humeral end (SC 2009.1.1), and left coracoid humeral end (SC 2009.1.2); for the American black duck, right coracoid humeral end (SC 2009.1.3); for the green-winged teal, left humerus proximal end (SC 2009.1.4), left humerus shaft (SC 2009.1.5), right humerus distal one half (SC 2009.1.6), and right tibiotarsus

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distal one half (SC 2009.1.7); for the wood duck, right humerus distal one half (SC 2009.1.8); for the wild turkey, left carpometacarpus distal end (SC 2009.1.9), left tibiotarsus distal end (SC 2009.1.10), left tibiotarsus distal end (SC 2009.1.11), left tarsometatarsus proximal end (SC 2009.1.12), and left tarsometatarsus distal end (SC 2009.1.13); for the Northern bobwhite, right coracoid humeral end (SC 2009.1.14), left coracoid humeral end (SC 2009.1.15), left coracoid humeral end (SC 2009.1.16), left coracoid humeral end (SC 2009.1.17), left humerus missing internal tuberosity (SC 2009.1.18), right humerus proximal end (SC 2009.1.19), right humerus missing head (SC 2009.1.20), left ulna proximal end (SC 2009.1.21), and left carpometacarpus distal end (SC 2009.1.22); for the grebe, left humerus missing head (SC 2009.1.23); for the hawk, talon (SC 2009.1.24); for the jay, right humerus missing proximal end (SC 2009.1.25) and left ulna distal end (SC 2009.1.26); for the meadowlark, left tarsometatarsus distal end (SC 2009.1.27); for the wood warbler, right coracoid humeral end (SC 2009.1.28) and left tarsometatarsus distal end (SC 2009.1.29).

The species recorded from the Crowfield local fauna are typical members of the modern Atlantic coastal plain biota. The ducks and grebe indicate the presence of ponded water or riparian meandering streams. The turkey and quail require well-drained soils for nesting. A medium-sized hawk is a typical aerial predator here today. The passerines may represent resident or migratory species. All fossils are completely ossified precluding any juvenile or immature individuals. The Crowfield paleo-avifauna is similar to the Ardis local fauna (Chandler and Bentley 2007) and Clark Quarry near Brunswick, Georgia (Mead et al. 2006), with fossil species representing water birds, gallinaceous birds, an aerial predator, and several species of perching birds. However, Bentley et al. (1994) considered the mammals from the Ardis local fauna to represent an edge community ("disharmonious fauna"), i.e., species not represented in the region today. The Crowfield fossil birds are all modern species that support the paleo-environmental interpretation of Weems and Lemon (1988).

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