

EASTERN BLUEBIRD REMOTE NATURAL NEST SITES

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In historic times, the Eastern Bluebird (*Sialia sialis*) typically nested on farms, especially in apple orchards, until pruning, pesticides, and competition from Starlings (*Sturnus vulgaris*) and House Sparrows (*Passer domesticus*) caused a widespread population decline (Bent, 1949, pp. 252-253; Bull, 1974, p. 437). The best-known contemporary bluebird nests in New York and other states are in nest boxes; Bull (*loc. cit.*) mentioned (without details) "forest clearings and open glades in the wilder portions" of New York State. Bluebirds nest in snags in hardwood clearcuts in Virginia (Conner and Adkisson 1974) and in selectively logged and burned hardwoods in Michigan (Pinkowski 1976); both habitats were free of Starlings.

In 1980, Speiser and Benzinger (1981) located 65 bluebird territories in the Hudson Highlands west of the Hudson River in New York's Orange and Rockland Counties. These bluebirds used crest-type and wetland habitats, and Speiser and Benzinger suggested that in pre-European times the only habitats available to bluebirds in the Highlands were beaver wetlands, and forest patches damaged by drought, insects or fire. John Farrand, Jr. (letter dated 22 Feb. 1981) noted that "Next to nothing is known about the nesting habitat of the Eastern Bluebird prior to European settlement. The older authors I have checked (Audubon, Wilson, Nuttall, DeKay and Giraud) all wrote after this species had successfully colonized orchards; every one of them mentions 'orchards' or 'apple trees,' and they are either very vague about other habitats, or make no mention of them at all."

I have found three natural nest sites remote from buildings and apparently free of Starlings, under circumstances that permit an extension of the concept of "natural" bluebird habitat. One site was over water at Bontecou Lake (Tamarack Swamp) in the Town of Stanford, Dutchess County, at an elevation of 255 meters and at least 600 meters from the nearest buildings (distances approximate). Bontecou is a large artificial pond, formerly a wetland, with many snags, and the nest cavities were in different dead trees on 30 April 1975 and 8 May 1976. Bluebird nesting in wetland snags was also reported by Art Gingert (*pers. comm.*) in Connecticut, and by Joseph C. Burgiel (*pers. comm.*) in New Jersey, the latter in a beaver wetland in Stokes State Forest, Sussex County, and an artificial wetland in the

Great Swamp, Morris County. Bluebird nests in trees drowned by beaver or human activities could be common.

My other two sites were in the Hudson Highlands, in dry, rocky, open deciduous woods on gentle south-facing slopes with signs of past fires. One was on Iona Island, Stony Point, Rockland County, among chestnut oaks (*Quercus prinus*) at an elevation of 25 meters and 375 meters from the nearest buildings. The nest cavity was probably in a chestnut oak, and I saw a female and a singing male on 29 March 1976. The other site was on the top of Breakneck Ridge, Philipstown, Putnam County, with sparse chestnut oaks, quaking aspen (*Populus tremuloides*), and birch (*Betula sp.*), at an elevation of 360 meters and more than 400 meters from buildings. I saw a copulating pair on 20 April 1977; the site was discovered by Dan Nickerson who found at least one bluebird on 13 April, and a pair plus a third bird heard in the distance on 27 March 1977.

Xeric forest openings such as discussed here and by Speiser and Benzinger are frequent on summits and exposed shoulders of hills, not only in the Hudson Highlands but also in the Taconics and Shawangunks; crest-type openings are also present along rocky shores and on islands in the Hudson River and other large bodies of water. Openings are evidently maintained by thin dry soil, exposure to weather, fire, insect damage, and sometimes human use (camping, trampling), and White-tailed Deer (*Odocoileus virginianus*) browsing (Kiviat, 1979, pp. 47, 57). Dan Smiley (*pers. comm.*) found bluebirds in crest communities in the Shawangunks, and these habitats are probably in common use by bluebirds. I also saw bluebirds in a crest community during the nonbreeding season (2 Nov. 1975, summit of Sugarloaf Mtn., Fishkill, Dutchess County, elev. 250 meters). Such exposed, xeric habitats, whether on islands, shores or hills, are of additional esthetic, scientific and conservation interest because they provide habitat for the Fence Lizard (*Sceloporus undulatus*), five-lined Skink (*Eumeces fasciatus*), Timber Rattlesnake (*Crotalus horridus*), Prickly-Pear (*Opuntia compressa*), and other animals and plants near their northern range limits. Crest-type communities, drowned forests, and apple orchards have in common near-ground microhabitats that are quickly warmed on sunny days in early spring, a factor that might be important to the early nesting Eastern Bluebird.

My observations of bluebird use of remote habitats extend the pattern documented by Speiser and Benzinger to low elevations (Iona

Island), the Hudson Highlands east of the Hudson River (Breakneck Ridge), and an area outside the Hudson Highlands (Bontecou Lake, as well as sites reported by other field workers). My observations are also from periods without the defoliation by Gypsy Moth (*Lymantria dispar*) reported by Speiser and Benzinger. Natural bluebird nest sites remote from buildings and competing starlings, in hills and wetlands, are probably not rare in the Northeast. These habitats deserve more study and protection.

J. C. Burgiel, J. Farrand, Jr., D. Smiley and R. Speiser commented on an earlier draft. I am grateful for grants in support of research in the Hudson Valley from Scenic Hudson, the Theodore Roosevelt Memorial Fund of the American Museum of Natural History, and IBM East Fishkill. This is Bard College Field Station Contribution 24.

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