

During the morning of 11 April 1971 we were examining a nest of a Carolina Chickadee (*Parus carolinensis*) which was located 10 m from shore in a small excavated cavity of a one meter-high post over the water of Cross Lake, near the western boundary of Shreveport, Louisiana. Due to a brisk wind the lake water was choppy so that some difficulty was had in maintaining the boat against or near the post in order to see into the nest. Because of the action of the waves, the post was jarred several times over a period of several minutes. There were four newly-hatched chickadees in the nest. After leaving the nest site, we saw an adult chickadee enter the nest and leave with something that was pink in color. It carried the object over the shoreline and disappeared into a grove of trees 50 m from the post. Shortly thereafter, the adult returned with what appeared to be food and entered the nest. With the aid of binoculars we now saw the adult leave the nest carrying a young bird. The bird flew in the same direction as the first time, holding the young bird in the beak, which was positioned around the body of the young bird. The additional two young were removed in the same manner. The entire removal took place in about 30 minutes. When observed again, the nest was empty of young and over a period of time the adult or adults did not reappear. Not more than one adult was seen at any one time. The shore area, where the adult disappeared with the young was searched but the new nest, if any, was not located.

In our observations of over 5,000 different nests that contained eggs or young, including the nests of 125 Carolina Chickadees, in northern Louisiana since 1963, we have never seen a parent bird carrying either its eggs or young, up to this time.—JOHN W. GOERTZ AND KIM RUTHERFORD, *Department of Zoology, Louisiana Tech University, Ruston, Louisiana 71270, 27 September 1971.*

Habitat differences of Swainson's and Hermit Thrushes.—Most Swainson's Thrushes (*Hylocichla ustulata*) along the coast of Maine nest in spruce forests; as a result, they seldom if ever overlap with Wood Thrushes (*H. mustelina*) or Veeries (*H. fuscescens*) in their breeding habits (see Morse, *Wilson Bull.*, 83:57-65, 1971). However, potential overlap does occur with Hermit Thrushes (*H. guttata*), and here I report spatial relationships of these two species.

I censused populations of thrushes in spruce forests and mixed coniferous-deciduous forests on islands in Muscongus Bay (Lincoln and Knox Counties), and the adjacent mainland (Table 1). Techniques followed those prescribed in Audubon Field Notes for breeding bird censuses.

In the absence of congeners the Swainson's Thrush occupies a wider range of habitats than it does in their presence, as demonstrated by its presence on small islands (particularly on Wreck and Haddock Islands) (Table 1). Further, while Swainson's Thrushes were absent from certain islands some years, no Hermit Thrushes used them at these times (Table 1). Wreck and Haddock Islands support mixed forests of mountain and striped maples (*Acer spicatum* and *A. pennsylvanicum*), yellow birch (*Betula lutea*), white spruce (*Picea glauca*), and balsam fir (*Abies balsamea*). They have been damaged heavily by storms in some areas (described fully in Morse, *Ecology*, in press). Similar areas on the adjacent mainland are occupied by other species of *Hylocichla* (Morse, *Wilson Bull.*, 83:57-65, 1971). In spruce forests on large islands and the mainland, Swainson's Thrushes usually appear in denser growth than does the Hermit Thrush. The spruce forests on Loud's, Harbor, and Marsh Islands (Table 1) have smaller trees (mean heights = 13-17 m) and denser growth than the mainland forests censused here, in Morse (op. cit.), and the forest on Hog Island (Morse, *Ecology*, 49:779-784,

TABLE 1
DISTRIBUTION AND NUMBERS OF BREEDING THRUSHES, 1967-1971.
Dash(-) indicates that area was not censused during a given year.

Study area	Size of forest (ha) censused	% Coniferous Foliage	Pairs of Hermit Thrushes				Pairs of Swainson's Thrushes						
			1967	1968	1969	1970	1971	1967	1968	1969	1970	1971	
<i>Sample study areas in large forests (25 ha+)</i>													
Mainland	4.20	99	-	-	2	2	1	-	-	1	0	0	
Hog Is.	4.50	99	-	-	1	1	1	-	-	1	0	0	
Loud's Is.	4.50	99	-	-	-	1	0	-	-	-	4	3	
Harbor Is.	4.50	99	-	-	-	-	0	-	-	-	-	5	
Marsh Is.	2.40	99	-	-	-	0	0	-	-	-	2	1	
<i>Small forests (entire island censused)</i>													
Wreck Is.	3.86	55	0	0	0	0	0	0	2	2	1	2	1
Haddock Is.	1.86	61	0	0	0	0	0	0	1	0	0	1	0
Thief Is.	1.50	99	0	0	0	0	0	0	1	2	2	2	1
Indian Is.	0.69	85	0	0	0	0	0	0	1	0	0	0	0
Crane Is.	0.53	99	0	0	0	0	0	0	0	0	0	0	0
Jim's Is.	0.49	90	0	0	0	0	0	0	0	1	0	0	1
Ram Is.	0.39	90	-	0	0	0	0	0	-	0	0	0	0
Crow Is.	0.35	60	0	0	0	0	0	0	0	0	0	0	0
Crotch Is.	0.16	98	0	0	0	0	0	0	0	0	0	0	0
Byer's Ship Ledge	0.11	96	0	0	0	0	0	0	0	0	0	0	0

1968) (mean heights = 19-21 m). Palmer (Bull. Mus. Comp. Zool., 102:1-656, 1949) also reported that Swainson's Thrushes frequented dense forests.

The expansion of Swainson's Thrushes on small islands into habitats similar to those occupied elsewhere by other *Hylocichlas*, combined with their absence in a wide variety of habitats adjacent to the spruce forests in this area (see Morse, Wilson Bull., 83: 57-65, 1971), suggest strongly that they usually are excluded from these areas by congeners. The absence of Hermit Thrushes on the small islands, even during years when several islands had no Swainson's Thrushes, is consistent with the argument that Swainson's Thrushes were not limiting the presence of Hermit Thrushes or other species on these islands.

While Swainson's and Hermit Thrushes use habitats somewhat differently, with the former being a more arboreal forager than the latter (Dilger, Wilson Bull., 68: 171-199, 1956), considerable spatial relief appears necessary (either vertically as in a tall forest, or horizontally as in the nature of blowdowns) for their coexistence. Dilger considers the Hermit Thrush to be a bird of forest-edge situations, and the Swainson's Thrush to be a bird of forest interiors. In spruce forests of this area, wind damage often produces a marked edge effect. Perhaps the largely undisturbed old-growth spruce forests are open enough to provide these characteristics as well.

The basis for the absence of Hermit Thrushes from the outer islands is not clear, but it parallels the absence of certain warblers characteristic of spruce forests (Morse, *Ecology*, 52:216-228, 1971). In that case, however, forest-edge species occur on the smallest islands supporting warblers (Myrtle, *Dendroica coronata*, and Parula, *Parula americana*, Warblers); in the case of thrushes the species typical of forest interiors (Swainson's) is the one present. The warblers found on the smallest islands are socially subordinate species. Inadequate data exist upon social interactions of Hermit and Swainson's Thrushes to establish clearly the existence of a hierarchy. I have seen only two encounters between these two species; in both cases Hermit Thrushes supplanted Swainson's Thrushes. Dilger (*Auk*, 73:313-353, 1956) does not report any interactions between them. However, the habitat relationships of the two species are similar to those of Wood Thrushes and Hermit Thrushes and Wood Thrushes and Veeries, where clear social hierarchies exist (Morse, *Wilson Bull.*, 83:57-65, 1971). These observations suggest that Swainson's Thrush is socially subordinate to the Hermit Thrush. The information thus supports the argument that interspecific social relationships may be a major determinant in deciding what species will occur in any given habitat. This interpretation is consistent with predictions made elsewhere (Morse, *Annu. Rev. Ecol. Syst.*, 2: 177-200, 1971) that socially subordinate species will generally exhibit greater plasticity than social dominants.

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Breeding Status of the Purple Gallinule, Brown Creeper, and Swainson's Warbler in Illinois.—In view of the program to revise the American Ornithologists' Union's 1957 Check-list of North American Birds, the following comments on several species in Illinois seem pertinent.

Purple Gallinule (*Porphyryla martinica*).—In 1963 this species nested and raised young at Lake Mermet, Massac County (Waldbauer and Hayes, *Auk*, 81:227, 1964)—the first known instance of breeding Purple Gallinules in Illinois. However, in compliance with the demands of boaters and fishermen, the water plants that made Lake Mermet a suitable nesting locality for gallinules were removed during early spring of 1964. Gallinules reappeared at the lake soon after this occurred (John Schwegman, pers. comm.) but departed without attempting to nest. Purple Gallinules are not known to have nested in Illinois since.

Brown Creeper (*Certhia familiaris*).—The 1957 A.O.U. Check-list does not mention this species as a breeding bird in Illinois, which in the central and southern portions of the state it undoubtedly is. Kendeigh (*Audubon Bull.*, 153:19, 1970) cites various bird watchers who report recent summering creepers from Piatt County southward to the Ohio River-Mississippi River confluence near Cairo; one such report refers to a nest with young.

I collected (W.G.C. No. 2254) a heavily molting juvenile female in a hemlock grove near Cobden, Union County, on 20 August 1968. The bird exhibited a nearly wholly unossified skull and no conspicuous fat deposits. Since the molt of young creepers is completed prior to the fall migration and the migrants do not arrive in Union County before the first week of October, the August juvenile strongly indicated the presence of a local breeding population. Not surprisingly, then, a bird-banding project at Crab Orchard Lake Wildlife Refuge, Williamson County, which is close to Union County, yielded a creeper with a brood patch in 1970 and another in 1971 (Kleen and Bush, *Amer. Birds*,