weary expedition Grace Meleney and I made after fledgling Common Terns. For two or three hours we trudged through sand dunes, and each of us found exactly twelve young to band. "This," I declared, "isn't worth the effort. I won't come here again!" But in less than a year one of my twelve was recovered in French Guiana.

Circumstances do not always permit the carrying out of projects we would like to pursue. Also, we cannot always conjure up in advance the trends and theories that accumulated data may suggest. I claim there is a good case for banding which is unmotivated at the moment.

Never underestimate the power of serendipity!

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THE BROOD PATCH

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The changes in the skin which comes into contact with the eggs during the incubation bear a remarkable resemblance to the changes in the lining of the mammalian uterus during gestation. The skin is thickened and the blood vessels in it are greatly increased in size and number. When these changes begin any feathers or downs present are shed. The shape, size and site of the brood patch are co-adapted to the size, and number, of eggs and to the attitude of the incubating bird. For example, certain sea birds with a clutch of two rather large eggs have a patch on each side of the belly rather than the usual large central patch.

These changes in the skin proceed rapidly. It is quite possible that they may require but little more than the time required to lay a clutch of eggs. There is some evidence that retrogression begins at hatching and it certainly may be far advanced by the time nidicolous young leave the nest. The cycle, except feather loss, is repeated for a subsequent brood in the same breeding season. It is sometimes possible to recognize an old incubation patch for a few weeks because the skin of the area is finely wrinkled and less transparent than normal skin.

Problems in Sexing by Brood Patch

Now for the difficulties. First, the loss of feathers and downs at the site of the brood patch. This is paralleled in many passerine birds by a similar, but lesser, loss over the whole body which may have nothing to do with breeding but only with reducing the insulating power of the feather coat. We may put it that one function of the prenuptial (prealternate) mold is to eliminate feathers without replacing them. Second, many passerine birds have little or no down on the unfeathered area (apterium) of the belly, even in winter; hence, in late summer, after the completion of the postjuvenile molt, the belly of a young bird looks just like that of an adult. Any refeathering of the belly takes place, in adults, at the postnuptial (prebasic) molt.

We have a further and greater difficulty to determine what a bird is actually doing when it covers its eggs. This is a controversial point. The male, for example, may be actually incubating. In many non-passerines this is certainly ture and in some he does all, or most, of the incubating. Remarkably he has the major role in the woodpeckers. On the other hand, a male on the nest may be merely sheltering or concealing the eggs.

Looking at the tables 44-50 in Kendeigh's "Parental Care and its Evolution in Birds" (1952), we find incubation partly by males in: some swallows, bush tit, wren-tit, brown thrasher, blue-gray gnat-catcher, cedar waxwing, phainopepla, starling, some vireos, house sparrow (?), rose-breasted and black-headed grosbeaks, chipping sparrows.

Table 51 adds some families of passerines: larks, crows and jays, creepers, dippers, thrushes, shrikes. However, this does not necessarily imply all species of the family nor North American species. At least one author contends New World flycatcher males have a brood patch and probably incubate.

Strangely, Kendeigh includes the tree swallow among the species in which the male incubates, but Chapman tells me that it is extremely unusual for the male to actually enter the nest cavity until after hatching, although he will sit in the entrance, on guard, when the female is absent.

What we need is data to resolve the apparent inconsistencies in the literature relative to the actual behavior of males: to determine whether the partial or complete development of a brood patch in males may be only a physiological correlate of the pair bond or the expression of an hormonal pattern which differs only in degree between the sexes. We must remember that cryptic or non-functional hermaphroditism is a characteristic of vertebrates.

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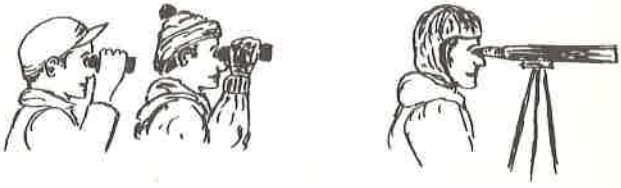

Are you looking forward now, as these banders are, to coming to EBBA's Annual Meeting June 5-7 at Douglass College, NEW BRUNSWICK, N.J.?

After seeing one made by Gale Goldbeck last autumn, we constructed this 16-cell gathering cage with 2-quart milk cartons, Scotch tape, mason board for doors, and coathanger wire to hang doors on.

After taking this picture we painted it with black Rust-oleum and have used it in snow, sleet, rain and mud. It is very light -- easy to make and easy to use.

A MILK CARTON GATHERING CAGE →