

seeds may be placed on pieces of old carpet. When the birds become baited at the objective point, place the trap in position. The rest is easy: a few birds coming and going to the trap serve to attract others, and if the station is regularly supplied with food, a satisfactory number of bird visitors may be confidently expected.

At this stage cheaper substitutes for canary-seed may be gradually introduced, — bread and cracker crumbs, fine-ground flint corn ("second feed" for chickens), hemp seed, etc. Chickadees, Purple Finches, Goldfinches, and Blue Jays may be similarly led to the station by using sunflower seeds, but in this case it is best to place the seeds in trays, such as butter-tub covers used bottom side up and nailed to sticks, say five feet long, stuck in the ground or in the snow, and arranged in a line as before and placed about fifty feet apart.

Shrubbery extending from stations to birdy places may be used successfully for baiting-lines. It is perfectly feasible by this method to entice to a station a wintering flock of birds, such as Tree Sparrows and Juncos, occurring even two thousand feet away, provided suitable cover exists along the route.

When conditions are such that the non-automatic trap can be placed in shrubbery or other places frequented by birds, the problem of baiting is of course practically solved in advance. When convenient, a dirt floor for traps should be provided.

C. L. W.

MISCELLANEOUS OBSERVATIONS AT BANDING STATIONS

At the present time this country is probably witnessing at our banding stations the most widespread and sustained study of birds at short range (often not over five feet away) that has ever taken place, a study that promises to be more and more intensive and widespread in the years to come. On account of this close contact with banded birds, we may study many things — for example, the species, the individual, and the meaning of the little groups of birds we see about us — in a way not possible prior to the introduction of bird-banding. Not all the opportunity to obtain ornithological information, however, is due to the actual banding of the birds, but results from the increased chance to observe them which in turn arises from the attraction banding stations possess owing to an ample and varied food-supply, comparative freedom from enemies, bathing facilities, and the wind and snow shelters with which many stations are equipped.

Among the interesting phenomena occasionally or frequently observable at banding stations, there are several regarding which the following notes may be helpful in the way of pointing out problems which our members may assist in solving.

FLASH COLORS

By flash colors is meant the momentary display of strongly contrasted colors. Well-known examples of this are the exhibitions of white displayed by spreading and closing the tail-feathers among the Juncos and the common Blue Jay. The former birds make this display while feeding on the ground and particularly when flying to cover; the latter do so occasionally under similar conditions. The question arises as to the purpose of this habit, — the value of it to the birds, — and the solution of the problem is one the bird-bander is in a particularly favorable position to discover; but in studying the habit one must not overlook the fact that several species of birds possess a still more obscure but, in purpose, closely similar, if not identical, habit, namely a flashing of the wings which consists in raising them well over the back and closing them. This habit may be observed in our common Purple Finch (*Carpodacus p. purpureus*), the White-throated Sparrow (*Zonotrichia albicollis*), and the Song Sparrow (*Melospiza m. melodia*), and doubtless in many other species, and has been observed while they were feeding about my station and usually more commonly when the birds were crowded together, suggesting that the habit is largely a matter of nervousness. Under these conditions Juncos flash the rectrices with great rapidity, whereas the movement is performed much more leisurely when, for example, the birds are flushed from the ground. The motion of the wings in opening and shutting them takes place with incredible rapidity, so fast, indeed, that the movement is observable only with difficulty, even when the birds are not over ten feet from the observer, and especially so in the case of the Whitethroat. The visibility of a Whitethroat's wing-motion may be compared to that of a camera shutter during, say, a one-hundredth of a second exposure. It appears probable that the purpose of flashing these parts is the same in both cases, although opening and shutting the wings displays no concealed and contrasted coloration and to human eyes the act is very inconspicuous, whereas the fanning of the Junco's tail is very conspicuous indeed.

THE AMERICAN GOLDFINCH'S WAY OF SCRATCHING

Most of us have seen the Song Sparrow and the Junco search for food on the ground by the familiar process of scratching, but some other species, like the Purple Finch and Goldfinch, appear never to uncover food in this manner. It was, therefore, a great surprise to me to observe a Goldfinch (*Astragalinus t. tristis*), in a tray having dimensions of one foot by one foot and situated close to a window, in some mysterious way making a shower of sunflower hulls fly out of the tray, first on one side and then on the opposite side, and doing this without using the feet. Close inspection, however, led to the discovery that Goldfinches do their scratching with their bills by swinging their heads very rapidly back and forth sideways, and the process is much more effective than one would suppose. It will be interesting to learn if this habit is confined to the Goldfinch alone or exists among other members of the genus *Astragalinus* or among other genera which do not use the feet for this purpose. Banders have a fine opportunity to investigate the subject.

OBSOLETE INSTINCTS

It has been pointed out that characters of an ancestral order are traceable in structure, coloration, and language, and that it is reasonable to expect analogous phenomena in the matter of instincts, that is, that a careful study of bird-behavior may show evidence of instincts now practically obsolete which have become so through disuse. This being proved, its converse should also be true, namely, that through use racial habits may become racial instincts. An important contribution to this subject has been made by W. H. Hudson in discussing three species of South American Cowbirds. In one species (*Molothrus b. bonariensis*) the maternal instinct is practically non-existent, while in a second species (*M. badius*) its loss is only partial. The former species, like our own Cowbird (*M. ater ater*), is strictly parasitic, but on two occasions birds of this species have been seen attempting to build nests of their own which they failed to complete. Another case of great interest is cited by Hudson of an obsolete instinct perhaps of even greater ancestral remoteness.

The question of obsolete instincts is of particular interest at this time on account of the fact that one of our own members, Mr. Laurence B. Fletcher, (see his article in this number), has made an observation of very considerable moment of an order akin to Hudson's referred to above, occurring in a

member of the same genus. This observation shows, perhaps for the first time, that the parental instinct, believed to have been entirely lost in this species, still exists in a feeble way in at least a single individual, and thereby the question is raised as to the prevalence of the parental instinct in our Cowbirds and in what ways it is manifested. Ornithologists will not let the matter rest here. Mr. Fletcher's observation shows that this species is deserving of much more study than it has received along the line indicated. Members of this Association are in a position greatly to assist in the work, which should include collateral problems connected with the species, such as origin of the loss of the nest-making habit, number of eggs laid in a season, length of the egg-laying period, verification of the belief that the males outnumber the females, and the causes and effects of this inequality of the sexes, if it exists, not forgetting that additional sorts of evidence of the ancient normal nesting-habits of the Cowbird are likely to be discoverable.

ANCESTRAL VOICES

I have long felt that the uncertain, weak, continuous, warble type of bird-song heard so frequently in New England from August to October, instead of being the so-called "fall-singing" of adult birds with "worn-out voices," or the "practicing" efforts of birds-of-the-year trying to sing the songs of adult birds, is in reality, at least in part, ancestral in character; and examples of such songs, which perish when a bird attains maturity, have been zealously looked for. It was not, however, until 1923 at Peterboro, New Hampshire, that a case in point came to my attention.

Every season, some eight hundred feet from Mrs. Whittle's banding station in Peterboro, at least one pair of Maryland Yellow-throats (*Geothlypis t. trichas*) build their nest. The male sings throughout the courting and nesting seasons, and occasionally well beyond the time when parental care of the young is discontinued. On August 15th of that year four young Yellow-throats without their parents appeared at Mrs. Whittle's banding station, attracted apparently by the ample bathing facilities offered and the thick cover of syringa bushes along the end of the house and other cover about the baths. The birds were at the station nearly all day for a period of thirteen days, and spent their time searching the shrubbery for insects, resting, preening, and bathing.

During this period one or more of them was in song. This song was of the type referred to above — a weak, sweet, low

warble of five or six notes repeated several times without pauses between, but of less duration than often heard from other species such as the Song Sparrow. At the close of their stay the song had undergone no apparent change, and during this period no adult birds of this species of either sex were seen or heard at or about the station; in fact, none has been seen or heard close by for several years. During this period, however, and both before and afterwards when adult birds were heard singing elsewhere, they in no particular departed from their usual type of song and in no case, at any time of the year, have I heard adult birds sing the weak warble of these juvenile warblers, nor have I been able to find any references to such a song in their repertory. Observation during last summer at nesting-time and in August failed to discover an adult of this species singing the warble type of song. I am therefore forced to the conclusion in this case that the young Yellow-throats were singing a song they had never heard, a simple song sung long ago by their ancestors, a song believed to have been built up by repeatedly stringing together the then call notes of the species, which by elaboration has become the song of the adult birds, a song discarded at maturity never to be sung again. Bird-banders are asked to keep this matter in mind in order that instances of the same kind, among this species or among other singing birds, may be recorded.

C. L. W.

GENERAL NOTES

Wells River (Vermont) Bird Notes. — One day during the nesting-season of 1924 I saw near my banding station at Wells River, Vermont, a Cedar Waxwing (*Bombycilla cedrorum*) fly past with some small twigs in its bill. The operation was several times repeated, and by observing the line of flight I soon located the bird's destination, a small apple tree with an intergrowing grape-vine. Here I found a partially-constructed nest placed about six feet from the ground.

Early the next morning I was approaching the site from a different angle, when I heard the Waxings' call-note, and upon looking up I saw a pair flying to the nest, each with a small, dead twig in its mandibles. Soon they flew back to a dead hemlock which was about two hundred feet from the nest. Each bird grasped a twig in its bill and by twisting and pulling broke it off. Apparently this was difficult, although no prolonged effort was required.

The nest of these birds was composed approximately thirty-three per cent of hemlock twigs, six to seven inches long, the largest having a diameter of about an eighth of an inch, used most plentifully near the top and woven in with grass and weed stems. A single feather and a piece of string also entered into the structure.

I have seen no reference in the literature describing the use of nesting-material procured in this manner, and the origin of the instinct, if such it be, is of considerable interest, for it raises the question whether a new