

fledge earlier than birds whose growth may be retarded by less sufficient food.

Although the semi-logarithmic plots fail to show it, probably the rate of growth for the smallest broods differs from that of the larger broods when the young are large enough to begin to tax their food supply. The ninth or tenth day is probably that time since it is at this period that the variations in weights become apparent. The rate of the increase in weight probably then begins to decline and continues to do so until the maximum weight is reached. After this the food demands of the young may remain high, but probably do not go higher, since the mass of the bird has been attained and the form is essentially the same as in the adult except for the feathers which continue to grow at a more or less constant rate.

[To be concluded]

GENERAL NOTES

Some Banding Notes on Purple Grackles.—During the nineteen-year period from 1932 to 1950 inclusive, my wife and I have banded 2,689 Purple Grackles, (*Quiscalus quiscula*). All of these birds were caught in traps in our own garden and none were banded as nestlings.

Purple Grackles usually arrive in Huntington, Long Island, New York, during the last week in February or early in March, depending upon the weather. The northern shore of Long Island Sound, a few miles north of our banding station, is considered the northern limit of their breeding range. Previous to 1940, Grackles were seldom taken in the traps before the first week in May. However, due to better trapping technique and earlier warm weather they have been taken in April and often in March during the past decade.

The bulk of these birds move westward and southward in September and October. A few stragglers, sick, crippled or recovering from shotgun wounds pass through our station in November and December of each year. These are banded if it is possible that they will survive. Spring and Autumn are usually the best seasons in which to trap this species, when they move around in large flocks. However, any month, with the exception of the four winter months, may be the high month. In 1940, the August catch numbered 155 of these birds and is the biggest total for any single month we have recorded.

In large catches taken at one time, a great variation in the plumages can be noted. Among such birds are brilliant blues; bright greens, along with intermediates and dull brownish individuals in the same flock. It is probable that Bronzed and Purple intermix. No attempt was made to differentiate.

Of the 2,689 Grackles banded, 1,993 were recorded as adults and 696 were birds of the year. The larger and more brilliantly colored adults were considered males while the smaller duller adults were considered females. Adults were judged on the basis of three factors: The quality and state of the plumage, glossy in Spring, worn or molting in the post-breeding months and smooth and bright in Autumn; the season of the year; and a cream-colored iris in comparison with the murky brownish-gray iris of the young birds.

Of the total adults banded, 933 were considered males, 711 were considered females and the sex was not noted in the case of 349. It is believed that the number of each sex is about equal throughout the years despite the larger number of males banded. Early in each season the male is very dominant and often prevents a female from entering a trap, while if a female does get caught in a three-cell trap she usually attracts two males in the other parts of the same trap. Early in the summer the female does most of the nest building and incubation, hence has less time to become involved in a trap.

In subsequent years 225 adults or about 11 percent of all adults returned or were recovered. Of these 115 or 12 percent were males while 100 or 14 percent were females. Of the 696 immatures banded 44 returned or were recovered. This is less than 7 percent of the immatures.

Of the 269 birds that returned or were recovered, 174 were retrapped at the banding station; 67 were shot or found dead within 6 miles of the banding station; 14 others were killed on Long Island and another 14 birds were recovered on their wintering area or traveling to or from it. This wintering area is apparently around the mouth of the Chesapeake River. 4 birds were recovered in Maryland; 3 in Virginia; 2 in Delaware; 1 each in North Carolina, Pennsylvania and New Jersey; 2 were recovered north of Manhattan following September hurricanes: 1 in the Bronx (September, 1944) and one in Yonkers (September, 1947).

The only bird recovered from the State of New Jersey was a bird caught by a cat at Fort Monmouth on December 15, 1936. It is believed that this bird was a straggler and was probably sick when killed. It was the last bird of this species caught at our station on October 31st of the 1936 season. This bird was caught alone some six weeks after previous grackles had passed through the station area.

Of the 269 birds which returned or were recovered, 25 were recovered within 6 months of banding. 98 returned or were recovered the first year; 71 returned the second year; 34 returned the third year; 24 returned the 4th year; 11 the 5th year; 3 the 6th year and 1 each the 7th and 8th years. Of the 35 oldest returns or recoveries, 20 were females. This fact, coupled with the fact that slightly more females return than males, gives some slight evidence that the females enjoy a slightly longer life-span than males in this unprotected species.

It is noted that this species, once caught, is very wary of all traps and apparently remembers the trap danger for more than 12 months. Only one bird out of 3,000 handled to date, an immature, developed the trap habit. This bird repeated at least 37 times in 9 days during July, 1943, before being taken 5 miles from the banding station. Of all the 175 birds which have returned to the banding station only 15 birds returned more than once. 93 birds returned in subsequent years but did not return the first year after banding.

Purple Grackles are not difficult to catch the first time; however, they are difficult to catch more than once. To illustrate the apparent memory this species has for traps a table is appended showing the elapsed time between captures of all Grackles caught more than once after banding.

TABLE 1—ALL GRACKLES RETURNING TO THE BANDING STATION MORE THAN ONCE

Year Banded	Years returned after banding			Sex
	1st yr.	5th yr.	8th yr.	
1935	1st yr.	5th yr.		F
1941	3rd yr.	5th yr.		F
1942	1st yr.	2nd yr.		F
1944	3rd yr.	5th yr.		M
1944	4th yr.	7th yr.		M
1946	1st yr.	2nd yr.		M
1946	1st yr.	2nd yr.		M
1946	1st yr.	2nd yr.		M Im.
1946	1st yr.	4th yr.		M Im.
1947	1st yr.	3rd yr.		M
1947	1st yr.	3rd yr.		M
1948	1st yr.	5th yr.		M Im.
1948	1st yr.	5th yr.		M
1950	1st yr.	3rd yr.		F

For many years our station was between two large grackle roosts, with a couple of breeding colonies in giant pines within a quarter of a mile (these trees are now a memory, thanks to the developer). Originally the birds were taken in top-opening traps, about 13 two-cells on the ground and several three-cell or four-cell traps on posts about four feet above the ground. The whole area around the traps was baited liberally with white bread crusts, thus attracting sizeable numbers. Corn may be welcomed by the grackles, but also by squirrels. A nearby bird bath allowed them to soak the crusts before eating. Since about 1940 the grackles have been taken in three house traps (10 feet long and 6 to 8 feet wide.)—Geoffrey and Minnie A. Gill, Huntington, Long Island, New York.