

only a few birds at a time and to heights of only about eight feet. In 1939, when spring was early, this activity was noted from March 26 to April 20; in 1940, when spring was late, from April 18 to 28. All of the observations were made in Baltimore.—HERVEY BRACKBILL, 3201 Carlisle Ave., Baltimore, Maryland.

Crows feeding on larval amphibians.—Seven miles east of Ithaca, New York, a wooded tract locally known as Ringwood, supports several small ponds, some of which are temporary, drying up in midsummer. In the spring great numbers of newts (*Triturus viridescens*), spotted salamanders (*Ambystoma maculatum*) and wood frogs (*Rana sylvatica*), repair to these ponds to breed.

On July 8, 1941, I visited one of these ponds (Eubbranchipus Pond) for the purpose of collecting larval *Ambystoma*. While the pond covers nearly half an acre and has an average depth of two feet or more in April, at this time all of the pond had dried up except for an area of approximately twenty square feet, in which the water averaged a depth of one inch. Several thousand larval *Ambystoma* and *Rana sylvatica* were stranded here. As I approached the pool, five Crows (*Corvus brachyrhynchos*) and a Red-shouldered Hawk (*Buteo lineatus*) flew off. These birds were ostensibly feeding on the stranded amphibians, but no positive evidence of predation was secured at this time.

The following morning I returned to the pond at an early hour. Because of dense shrubs and trees surrounding the pond, it was possible to make a close approach, and I observed that four Crows were either feeding on what appeared to be larval salamanders, or else sitting quietly above the now almost-dry pool on exposed logs. From the numerous white splashes of fresh excrement on adjacent logs, it was obvious that these birds had been repairing to the pool for several days. Several fecal samples were secured.

At 2 p. m. on July 10, I returned to the pond prepared to collect specimens of these Crows. At this time the pool had completely dried up, only the thick carpet of leaves remaining sufficiently damp to maintain life in several hundred of the amphibians. At this time five Crows were roosting on nearby perches. One had apparently just fed, as it was vigorously wiping its bill on the perch. I was fortunate to collect this individual. Examination of the gizzard of this specimen proved conclusively that it had been feeding upon the larval amphibians. The remains of three *Ambystoma* larvae, approximately 40–50 mm. in length, and the partly digested remains of a wood-frog tadpole, about 30 mm. long, were removed from the gizzard. In addition to these larvae, the following items were identified from the gizzard: three pits of cultivated cherries; 41 pits of pin cherry, *Prunus pennsylvanica*; 9 pits of the alternate-leaved dogwood, *Cornus alternifolia*; numerous seeds of the blueberry, *Vaccinium pennsylvanicum*; and a few seeds of the red raspberry, *Rubus idaeus*; a single carabid beetle and a quantity of mud and fragments of leaves, probably ingested inadvertently while feeding upon the amphibians.

The following items were identified from three sizable fecal samples: several dozen *Vaccinium* seeds, part of the skin of a lepidopterous larva, the head of a hemipteran, elytra from an undetermined beetle and several small bones which appear to be the leg bones of a larval *Ambystoma*.

The Crows appeared to be making good use of the unhappy situation of the salamanders and tadpoles. It appears probable that relatively few of the remaining amphibians were overlooked by these avian predators. Even though poison skin glands are well developed in the amphibian larva, they must hold little fear for the Crow.—W. J. HAMILTON, JR., Cornell University, Ithaca, New York.