NOTES ON A POPULATION OF TURBELLARIAN FLATWORMS, *PROCOTYLA FLUVIATILIS* LEIDY

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ABSTRACT. — A large population of turbellarian flatworms, *Procotyla fluviatilis* Leidy, was found in Mason City, Mason County, Illinois. The population increased from 245 flatworms on February 13, 1961, to 1,200 specimens on February 16 1964. The increase may have resulted from a greater food supply and from more protective cover for the flatworms caused by an increase of aquatic vegetation and reduced water velocity.

Procotyla fluviatilis Leidy, (Fig. 1) is a large white flatworm usually inhabiting lakes, ponds, rivers and springs. It is commonly found on the underside of stones, debris and aquatic vegetation. The distribution of this species includes all of northeastern North America (Kenk, 1944); however, its occurrence in Illinois is relatively

FIGURE 1.— A 14.5 mm specimen of *Procotyla fluviatilis*. Photograph by Wilmer Zehr, Illinois Natural History Survey, Urbana, Illinois.

unknown. Woodworth (1897) found the species at Thompson's Lake (now drained) in Mason County near Havana, Illinois, and Hyman (1938) recorded it at Cary, McHenry County, Illinois. The species has never been reported in large numbers.

The population of flatworms discussed in this paper, was found in a spring-fed drainage ditch (average yearly temperature, 12.3 C) located in Sec. 28, 30,

31, T 19.5N, R 5.5W, Mason City Township, Mason County, Mason City, Illinois 20 miles southeast of Havana, Illinois. The ditch flows for one-fifth of a mile parallel to, and on the south side of an east-west gravel road; it then flows in a southwesterly direction for 1.6 miles before emptying into Salt Creek.

On February 16, 1961, the entire ditch was searched for flatworms; 245 specimens of *P. flavialilis* were found in the east-west part of the ditch. None was found in the part of the ditch flowing southwest. In much of the east-west section of the ditch the rate of water flow was 1.45 cubic feet per second. The rate of flow increased gradually to a velocity of 7.46 cubic feet per second at the point where the ditch emptied into Salt Creek. There was little aquatic vegetation in the ditch at that time. Flatworms were found under the following debris: the top of a chicken feeder, an auto tire, pieces of brick and tile, small boards, and dead tree twigs and branches. Some specimens were observed moving on the bottom of the ditch.

On February 15, 1964, the ditch was searched again for flatworms. Aquatic vegetation consisting of *Lemna minor*, *Ceratophyllum demersum*, *Bidens comosa*, *B. vernua*, *B. coronata*, and *Polygonum lapathans* had increased to such an extent by February, 1964, that little open water occurred in the portion of the ditch along the east-west road (Plant nomenclature, Jones, 1950). The remainder of the ditch, the portion running southwesterly, was completely covered with *Nasturtium officinale*. No water flow was measured for 1964.

Approximately 1,150 specimens were found in the part of the ditch flowing west along the road. Eight hundred seventy-five of these specimens were under debris as in 1961, while 275 were found on the under-side of aquatic vegetation. Fifty individual specimens were observed under debris in the section of the ditch flowing in a southwesterly direction 10 yards south of the east-west gravel road; none was found further downstream.

The apparent increase in numbers of flatworms from 1961 to 1964, and extension of the population into the south ditch may have resulted from an increase in its unique food supply of small crustacea, an increase in aquatic vegetation, and reduced water velocity which offered more protective cover for the flatworms.

This study, done while attending Eastern Illinois University, was under the supervision of Dr. Hugh Hawks, Associate Professor of Zoology.

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Manuscript received January 13, 1965.