

NOTES ON THE LIFE OF TEMPORARY PONDS.

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Throughout the state of South Dakota there is an abundance of land which is temporarily submerged each year. The melting snows and the rains of early summer keep these areas under water until the middle of July or even later. No close study of the flora and fauna of such

situations has ever been made in this state. It is hoped that the meager observations which follow may emphasize the importance of such study.

Rivers turn to blood in South Dakota. This phenomenon results in disagreeable tastes and odors in water used for drinking purposes. The little flagellate *Euglena* is responsible for this condition. It reproduces in great abundance, dies, and decomposes to form the clotted blood like masses which are offensive in odor and taste.

Early in the spring the fairy shrimp (*Eubranchipus*) is present in great numbers in every temporary pond. From April first to June first is its season of greatest abundance. The life history of this little animal suggests some possibilities as to economic importance. The eggs are carried through the dry summer and winter mixed with the earth of the old pond bottom. With the return of water in the spring the eggs hatch. The adults live a short life, make, and lay eggs for the next season. During the past winter one of the large aquaria found it difficult to supply live food for its fishes. An attempt was made to duplicate in the laboratory the conditions of early spring. Earth from the dried bottom of a pond was brought in and covered with water. A few shrimps were hatched. The experiment was carried no farther. However, it suggested the possibility of using this method on a large scale. It seems highly probable that an effort to rear shrimps in well aerated water would be rewarded with success. In that event a cheap food could be supplied fish hatcheries.

The experiment in an effort to raise shrimps gave some valuable by-products. Numerous smaller animals and plants were developed in a short time. Cyclops, *Daphnia* and relatives form excellent food for young trout, pike, perch, etc.

Mosquitoes and gnats developed from the same cultures. This raises the question as to whether we may not control the mosquito pest by some treatment of our dried pond beds.

There are other problems of animal disease, plant and animal parasites which may find solution in the close study of our ponds.