A Simple Method for Collecting Hydra

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For many years the author collected living hydras from a stream which flowed out of Sager's Lake located near the campus of Valparaiso University. At the west end of the lake there is a dam that was built many years ago to raise the level of the lake to provide water to power a mill located to the south of the dam. The mill was used during World War I but has since been torn down. Water was fed to the mill by means of a large metal tube and the water's flow was controlled by a gate valve. Although the mill is no longer in existence, the gate valve is used to control the flow of water from the lake and thereby to control the level of the lake.

During the period when the water level was maintained at the top of the dam, water flowed over the dam and down a stream bed that was approximately 12 feet across and a few inches to several feet deep in most places under ordinary conditions. The stream provided numerous small, shallow, quiet places where hydras could be found attached to roots, leaves, rock, etc. throughout the year. Immediately after a heavy rain the amount of water flowing over the dam increased considerably and washed out the hydras located in the stream. Soon after the high waters subsided, hydras could again be found, suggesting that the organisms were being carried from the lake in the usual flow of water over the dam.

Some time ago the Sager's Lake property was purchased by a private club and more recently they have been maintaining the lake level at a somewhat lower stage than formerly by opening the gate valve and channeling the flow down a narrower channel through which the water flows so rapidly that hydras have not been able to establish themselves.

Since teachers, practice teachers, high school students, and others are frequently seeking hydras for classroom demonstrations, experiments, and projects, the author decided to try to trap hydras from the rapidly flowing stream. Several thicknesses of women's hose were arranged so that the upper part of the leg was attached to the one end of a piece of field tile. The hose were then passed through the tile, a large knot made in them at about the ankle, and a one-half pint milk bottle passed down to the knot with the open end facing the tile. The hose was secured around the neck of the bottle with several rubber bands. This device, similar to a plankton net and which might be called a hydra trap, was then placed in the swift current so that water would flow into the tile and hose opening and be strained as it passed through the mesh of the hose. The trap was then left in the current for periods of several hours or over night. When the trap was removed from the water the contents of the jar were poured into a gallon glass jar which was filled with tap water and examined. When first examined numerous small crustacea could be observed but hydras were not in evidence, which

was somewhat disappointing. However, when the sides of the jar were examined from day to day, after about a week to ten days, numerous hydras appeared on the sides of the jar. Budding soon became very common.

By using this method, it has been possible to secure living hydras at every season of the year. Since large hydras were not visible immediately after empyting the trap into the jar, one wonders what is happening. One likely explanation is that hydras which have become detached from their substrates have floated down from the lake to the outlet tube and, upon being caught in the trap, have fragmented to the extent that it is not possible to see them macroscopically and that such fragments have then regenerated to form complete animals. Another explanation is that dormant embryos are being carried down with the current and trapped and that conditions in the jar make it possible for them to develop into adults. When first noticed the hydras are quite small and possess fewer tentacles than the typical adults. It is suggested that wherever a rapid stream is flowing from a lake or pond that this method of collecting hydras be tried as a possible easy, dependable, and inexpensive source of living hydras.