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The University of Montana Biological Station

Maurice Ricker

THE UNIVERSITY OF MONTANA BIOLOGICAL STATION.

BY MAURICE RICKER.

Noticeable among recent movements tending to promote the interests of biological science is the development of the inland biological station. Any arrangement whereby students and teachers may work under proper guidance out of doors, in nature's own laboratory, should be encouraged. Our own state made a beginning last summer at Lake Okoboji. I sincerely hope it may become permanent and that many teachers in Iowa will avail themselves of the opportunity to combine a pleasurable outing with profitable field and laboratory work in Natural Science.

Indiana, at Winona lake, and Illinois at Havana, have opened permanent stations and drawn many earnest students. To be entirely successful the location must be such as to provide a variety of plant and animal life, but hardly less important is it that the place chosen have many of the attractions of a summer resort. It must furnish reasonable accommodations, be easy of access, and be favored with pleasant and healthy summer weather. All these requirements can hardly be fully met.

It is my purpose to give a brief description of the Montana Biological Station because it seems to me to be, in every way, the ideal.

The Flathead lake, in Northwestern Montana, is the largest body of fresh water west of the great lakes. It lies between the Mission and Cabinet ranges of the Rocky mountains. Its elevation is 2,800 feet. It is nearly thirty-five miles long and from eight to fifteen wide. It is drained by the Peud d' Oreille river which has rapidly cut

its canyon through the moraine, lowering what was formerly a much larger lake to its present level.

The main feeder of the lake is the Flathead river which now is a tortuous, sluggish stream through the ancient lake bed for seventy-five miles. It is from 300 to 600 feet in width and from twenty to seventy-five in depth. The last few miles have formed a typical delta, filled with swamps and ancient river beds.

The Big Fork or Swan river is the only other large stream emptying into the lake. It is the very opposite in character, coming plunging out of the mountains with a fall of over 100 feet to the last mile into a rocky bay. This forms a splendid harbor about four miles from the mouth of the Flathead river. On the bank, overlooking this harbor stands the laboratory building in a beautiful little park, leased to the state.

The boats and launch give access to the lake, the delta, and lake shores. I need not explain to this body what this means to the naturalist. The mountains, forests, and meadows back of the lake, with occasional marshes and ponds give a wonderful variety to the plant and animal life. Swan lake, six miles east by road, is twelve miles long by a few hundred yards wide. It is a drained river valley with mountains on either side. Rost lake about eight miles by road north is a much different body of water, being the shallow remnant of a much larger lake formerly occupying the valley. Echo lake two miles further is probably the ancient bed of a river. It has no visible outlet. It stood for some years at a much lower level. Trees and vegetation show that its level was suddenly raised about fifteen feet five years ago. This sudden change in environment seems to have been quickly responded to and it offers a rich field for biological investigation.

From the camp on Echo lake an expedition up the Blackfeet trail gives easy access to the pass, permanent snow field, an alpine flora and some of the most magnificent mountain scenery in the world. This one day is worth

the cost of the summer, is the unanimous opinion of all visiting students. Out of a party of thirty last season all but seven or eight reached the summit with ease.

If I have given you any conception of the region in this brief description I need not enlarge upon the character and variety of the plant and animal life. You will not be surprised to know that Dr. McDougal gathered 500 species of plants in thirty days, a total of over 900 in ten weeks in the field.

The laboratory building will accommodate about twenty students. It has a small store room and a convenient dark room. The work tables are well lighted and conveniently arranged.

The equipment is ample and of the best. All needed instruments, glassware, re-agents and preservatives are furnished.

The grounds are commodious and most of the students live in tents, some camping out in regulation style and others taking their meals at a nearby ranch which is a really good summer hotel. Those who prefer can have rooms as well as board as about twenty can be so accommodated. The rates are very reasonable. A general store and postoffice with daily mails will bring the station in closer touch with civilization this year.

The weather during July and August is delightful. There are no rains to hinder work, the temperature is just right day and night, the air is dry and the elevation not noticeable. Our thermostat registered between 70° and 80° for a maximum and from 46° to 55° for a minimum during the two months. Every evening was spent around the camp fire and the night between woolen blankets. I understand that those of you who spent the summer in the Mississippi valley were able to economize on camp fires and saved a good deal of wear and tear on sleeping bags.

Fishing, bathing, boating, and other sports furnish amusement for those who wish to combine work with recreation.

No tuition fees are charged. The expense of getting there is not so great as might he expected, owing to reduced rates to western points. The station is reached over the Burlington and Northern Pacific by stage from Selish to Polson on the lower end of the lake and thence by steamer tri-weekly, or over the Great Northern to Kalispell, by stage four miles to Dlemersville on the Flathead river and thence by steamer.

The station work has so far been eminently successful, due very largely to the untiring energy of the director, Prof. M. J. Elrod. I believe he has started what will finally become the most famous fresh water station in this country.

A LARGE RED HYDRA.

BY MAURICE RICKER.

During the summer session of the University of Montana Biological Station, we found what is believed to be a new hydra. It was taken in large numbers from Echo lake, Flathead county, Montana. It has never been found in any of the other numerous streams or lakes in this vicinity, and so far as is known no other hydra has ever been collected in the state.

The following are some of its most noticeable characteristics: The animals are conspicuous on account of their bright coral red color and large size. In fact, one can recognize them as hydra while standing on logs. A fair sample of the larger ones measured, when feeding, five-eighths inch from the mouth to the proximal end. None of the tentacles of this hydra were less than two and one-half inches long, measured from the mouth to the end, and the longest was two and eleven-sixteenths inches, making a total length from tip to tip of three and five-sixteenths inches.