

FISH CULTURE AT BOZEMAN

FOUR YEARS WORK HAVE MADE THE GOVERNMENT HATCHERY A LEADING INSTITUTION.

In the Forty Ponds of the Fish Hatchery Enough Small Fry Are Raised to People the Streams and Lakes of the Northwest—Dr. Henshall Is in Command of the Government's Reservation for the Finny Tribe.

At Bozeman, Gallatin county, is located one of the largest United States fish hatcheries in the United States. Over the dome of the government building floats the United States flag and there the methodical accounts for government data are kept.

Fish culture is quite an interesting study and while it may seem a very easy thing to raise the young fry until they become large enough to return to the streams and lakes from whence they



DR. JAMES A. HENSHALL

originally came yet there is a great deal of work and watchful care necessary to secure good results. First of all the eggs are collected at the sub-stations during spawning season and then shipped to the hatchery. In about twenty days later the fry appears on the scene with an encumbrance in the nature of a bag attached to its body, which remains with the infant fish for about six weeks during which length of time it lays in the hatchery trough with thousands of its brothers and sisters without food or light. After the little bag has passed away the fry begins to eat chopped liver

miles northeast from Bozeman, and during the summer and autumn it is one of the favorite resorts, not only for the citizens of Bozeman and the Gallatin county, but it is also visited by people from the state at large. The Bozeman hatchery is under the superintendency of Dr. James A. Henshall, who is well known throughout the United States as an author, ichthyologist and fish culturist. Among anglers, however, he is better known as the "apostle of the black bass," from his extensive writings in the interests of this, the greatest of American game fishes and more recently he has appeared in the literary world as the

wiggler is hatched. Owing to the sudden rises of streams and rivers caused by rains or the rapid thawing of the winter's snows in the mountains, these eggs after being laid are apt to get washed away, perhaps onto some dry, sandy bank and perish. Other accidents, too, may happen to the eggs leading to their partial or total destruction which, when being hatched artificially, would not happen. The destruction of the eggs in rivers and streams is a necessary law of nature because if every egg laid was hatched the river beds would be so full of fish that there would be no room for the water to flow in them, and so it is that

watery world to which they are consigned. It is a great institution, this Bozeman fish hatchery and one that is reflecting the wise plans the government has made for providing streams of the west with fish.

Most Satisfying.

They were speaking of the billionaire's insufferable pretensions. "On what meat does this our Caesar feed that he has grown so great?" exclaimed Mordaunt, bitterly. "Mint's meat, possibly!" observed Meltravers, trying to be cheaply witty while



Birdseye View of the Hatchery Grounds.

author of that amusing travesty, "Ye Gods and Little Fishes."

Dr. Henshall is a charming host and had an extensive experience in the navy before he settled down in Bozeman to enjoy life and supply fish to streams of the northwest. He was an intimate friend of Admiral George Dewey while in the naval service.

The hatchery is situated about three and a half miles from Bozeman and is snugly nestled in the mouth of a narrow gorge in the mountains—a most inviting spot.

The hatchery buildings, which are built in a most substantial and pleasing style, comprise the hatchery proper, containing 40 troughs for hatching, the office, reception room, dormitory, workshop, feed room and ice room, and are situated at the eastern end of the grounds, while at

Dame Nature regulates the increase to about 25 per cent. of the whole number of eggs laid. However, owing to the fact that no provision was made by Dame Nature for future changes in the increase in the population of fishermen, and numerous things, such as mills, irrigation ditches and other destructive 20th century improvements, 25 per cent. of the whole number of eggs laid is not enough to supply the increased supply of fishermen and the capacious fish appetite of the people of the United States, and so the United States government has established hatcheries to raise fish to make up the deficiency and to help Dame Nature out of her predicament.

At the hatchery is a strange creation—one of nature's freaks—a thing part fish and part reptile. It is named Axolotl and is equipped with external fins lungs and four feet. This parody on the animal and reptile races is a great curiosity and it is carefully guarded to preserve it from harm.

The work of the fish hatchery is filling the streams of the west with splendid fish. In the pleasant spot near Bozeman the spawn come to life and, growing into fish large and old enough to travel, are sent out to distant parts of the country to make their way in the

yet preserving the easy grace of a man of the world.—Detroit Free Press.



Training a Dog to Perform.

TRAINING THE FAMILY PETS

PROF. NORRIS, OF PONY SHOW FAME, TELLS HOW ANIMALS MAY BE TRAINED.

Kindness is a Powerful Weapon to Defeat the Enemies Amateur Trainers Encounter—The Whip Should Not Be Used in the Work of Education—Dogs and Other Animals Respond Readily to Gentleness and Patience.

Not long ago there came to Butte a dog and pony show and young people of the city who were not too old to be filled with frolicsome glee over the joyous antics of domestic pets, all turned out in force to witness the performance given by the traveling aggregation. Today the man who runs the last dog and pony show that came to Butte is in town. Prof. C. I. Norris, experienced trainer and life-long showman, was among the visitors in the city and he talked to an Inter Mountain reporter about the business in which he is engaged. The shows which go from place to place about the country will soon go into winter quarters and the managers are looking for a suitable location upon which to pitch the tents for the winter. Mr. Norris said today it was the intention to take the show south and the dogs and ponies which delighted Butte children but a little while ago will soon be performing before the rising generation of Dixie's land.

The wonderment expressed by many at a dog and pony show very frequently sounds amusing to those who are acquainted with the life of the animals which earn the money for such traveling organizations. Every business has its peculiarities and the trained animal show is no exception.

Prof. Norris says: "To teach any kind of an animal tricks one must make some Sherlock Holmes' deductions and calculations and then begin with the lesson. A great many people imagine that it is necessary to punish an animal to make it mind. This is a very serious and grave error. You should love the dog and horse or other animal about to be trained to such an extent that to punish or abuse him would hurt your feelings more than it would the animal. Nothing annoys me quicker than to see a burly brute whipping a poor horse that is trying to please, but fails to understand what is wanted of him.

"If you desire to teach a dog to stand on his hind legs put him in a corner for a time and keep chucking him under the chin gently; do not tire the little creature out at first and do not expect the animal to do something in a day or two's training which it takes the human race months to learn. It is just as difficult for a dog to walk on his hind legs at first as it is for a babe to take its first step. This should always be remembered.

"After the dog can stand in the corner comfortably he should be put in the center of the floor and made to stand and sit up without support. He will grasp the idea at once and you will not have to punish him. To make him walk on his hind legs you must take him by the paws and pull him after you. Soon he can balance himself and be able to take a few steps alone. Each day make him walk a little more.

"In order to train a dog to walk on his hind legs it will be necessary to use a stout stick or cane. Place it under

his hind legs and push him along. From time to time the stick should be removed and the hind legs should be tapped gently—very, very gently—and the dog will soon be made to understand your wishes and he will make every effort to please you. To accomplish this trick perfectly the dog should be taught every day and it may take weeks or months before success will crown your efforts.

Do not get discouraged. Keep at him until results appear. You will like your dog better for his intelligence and will be surprised at your own ability as an animal trainer. You should note the improvement from day to day in the dog's work, and whenever he does particularly good you should stroke his ears and head gently and give him some little reward in the shape of food. One of the most difficult tricks to teach a dog is to turn a back somersault. A little harness should be made to go over his shoulders with a short stout string attached to each side. The dog should be facing you and at the command "Jump" you should lift him up by the strings and turn him over. Repeat this very often and the dog will soon gain confi-



Monkeys Are Full of Imitation.

dence in himself and will jump at command. After weeks of this the harness should be removed and the dog placed on a mat or something soft so that should he miss he will not hurt himself and thereby lose the confidence you gave him when using the string and harness.

One very important thing to bear in mind in the training of animals is that the same words be spoken for each particular trick, or if you do not care to "cue" him by words a given motion or position of the trainer should be adhered to. A dog can be made to "go lame," apparently, in one leg, by tapping him gently on the foot with a cane.

In order to make a dog walk a ladder place a collar about his neck, attach a small rope to it and lead the dog to the ladder; place his hind legs on the first two rounds and his front feet on the next. Then take one foot at a time and place it on the round to be mounted, and so continue on up the ladder. It will take from three days to two weeks to teach the dog this simple trick.

"Monkeys are great mimics and will learn pretty nearly everything you wish to teach them. The best way to teach a monkey is to keep doing yourself, what you want the monkey to do. I had an acrobat with me while I was training 'Jim Robinson,' the famous monkey jockey. The acrobat would stand on his head on the horse. In a short while that smart monkey would perform the same trick. He could mimic any one or anything.

"I cannot impress upon the amateur trainer, too strongly, the absolute necessity of kindness and patience. If you are unkind to an animal he shows it immediately upon your approach. He will crawl to you instead of running gladly to your side."



Interior View of the Hatchery.

and grows steadily until it is big enough to be turned into one of the numerous ponds, or is shipped in cans to various parts of the northwest.

The greatest trouble with fish culture, or rather the planting of fish in Montana, is that so many fish are destroyed in the irrigating ditches. Farmers will not put in screens at the head of their ditches and cannot afford to have a man look after the screen if it was used. Until such time as some person invents a screen which will need no care this loss will continue. The various Sportsmen's clubs in the state might find some means to overcome this evil and it would give their members something to do besides giving advice and enjoying sport at the expense of someone else.

The U. S. Fish Hatchery will probably ship to various parts of the state and throughout the northwest something like half a million fry this fall. During the past few months several million eggs have been ordered from the various substations and shipped east and west, and some retained at the hatchery to supply the demand nearer home. From the numerous supply of eggs gathered at Red Lodge and Henry's Lake the past spawning season to the Pan-American exposition at Buffalo. The shipment consisted of about an equal number of steel-head and brook trout and greyling.

While there are many who have visited the hatchery still really very few are fully acquainted with the general plan and management of this branch of Uncle Sam's business.

The United States fish commission station near Bozeman was completed in the fall of 1897 and opened for work early in 1898. The grounds are ideally located in a charming depression amid the mountains and foothills, at the entrance to Bridger canyon, about three and a half

the northern extremity there is the residence of Dr. Henshall, of the same style of architecture as the hatchery, all being in harmony with the beautiful surroundings.

The Bozeman hatchery is up to date in every particular, and is perhaps the best equipped station of the commission so far as the water supply is concerned. A cold spring furnishes a constant supply of pure water, 1,000 gallons to the minute, at a temperature varying from 43 degrees to 45 degrees Fahrenheit, and is especially well adapted to the hatching of eggs of the trout species. There is also a warm spring of a uniform temperature of 77 degrees Fahrenheit, while Bridger creek runs through the grounds. All of these sources of supply are utilized either in the hatchery or in the ponds, and any desired temperature can be maintained. Just north of the hatchery building and tastefully laid out are 40 ponds of various sizes to accommodate fish of different ages, in connection with which are numerous ditches, flumes and trenches.

The great work being done by the United States hatcheries for the fish industry in the United States becomes apparent when, as the heads of the fish commission state, fully 90 per cent. of the eggs gathered are hatched and a large percentage of the young fish live to become food for the human being or for their cannibalistic brothers. When the fish lay their eggs in the beds of streams in the due course of nature, it has been estimated that but a little over 25 per cent are saved. The main difference between the artificial hatching of fish eggs and Dame Nature's is that the eggs hatched in the hatcheries are kept dry during the course of incubation, while necessarily when the mother fish lays her eggs naturally she does so in the bed of some river or stream where they are kept wet until the little



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