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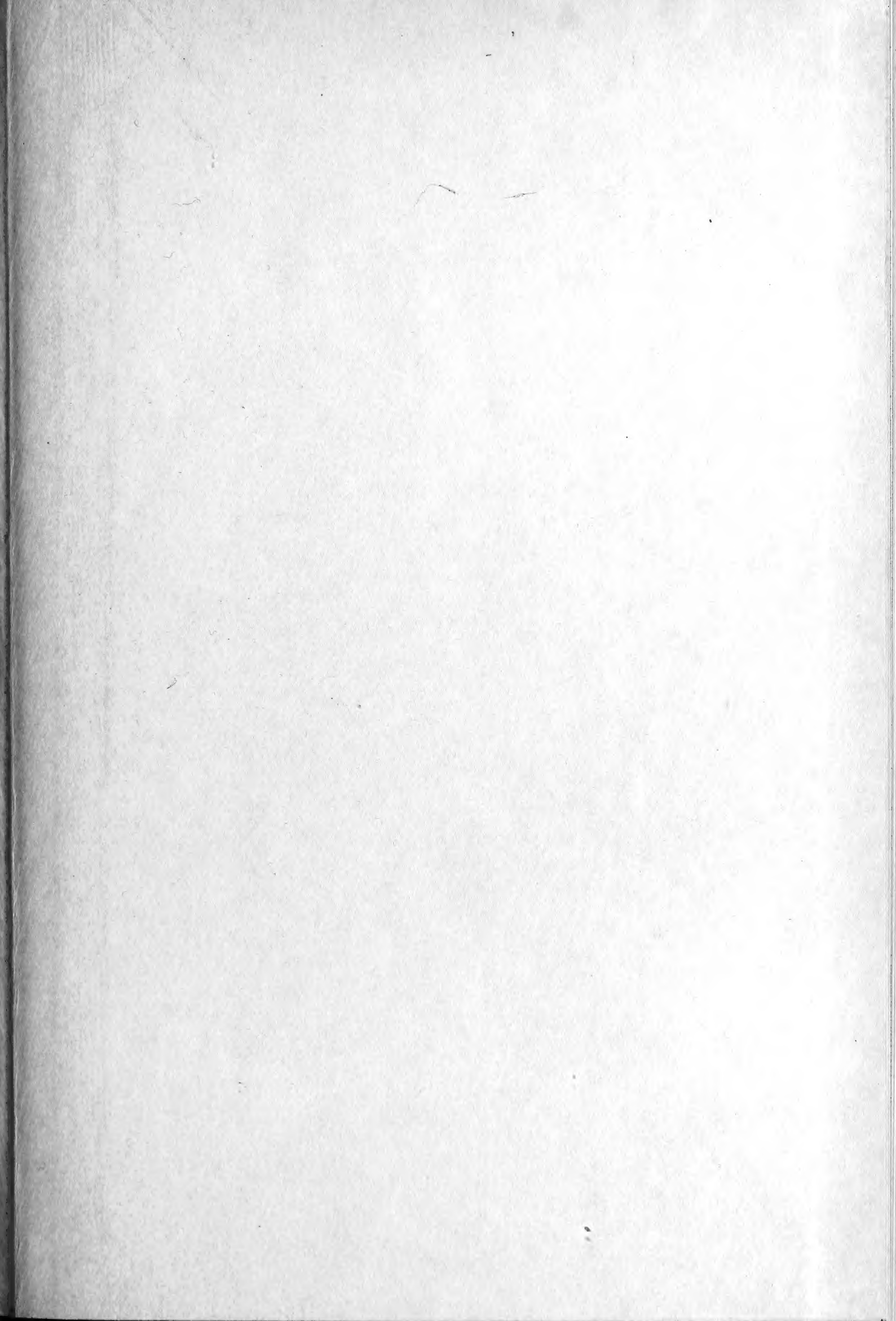
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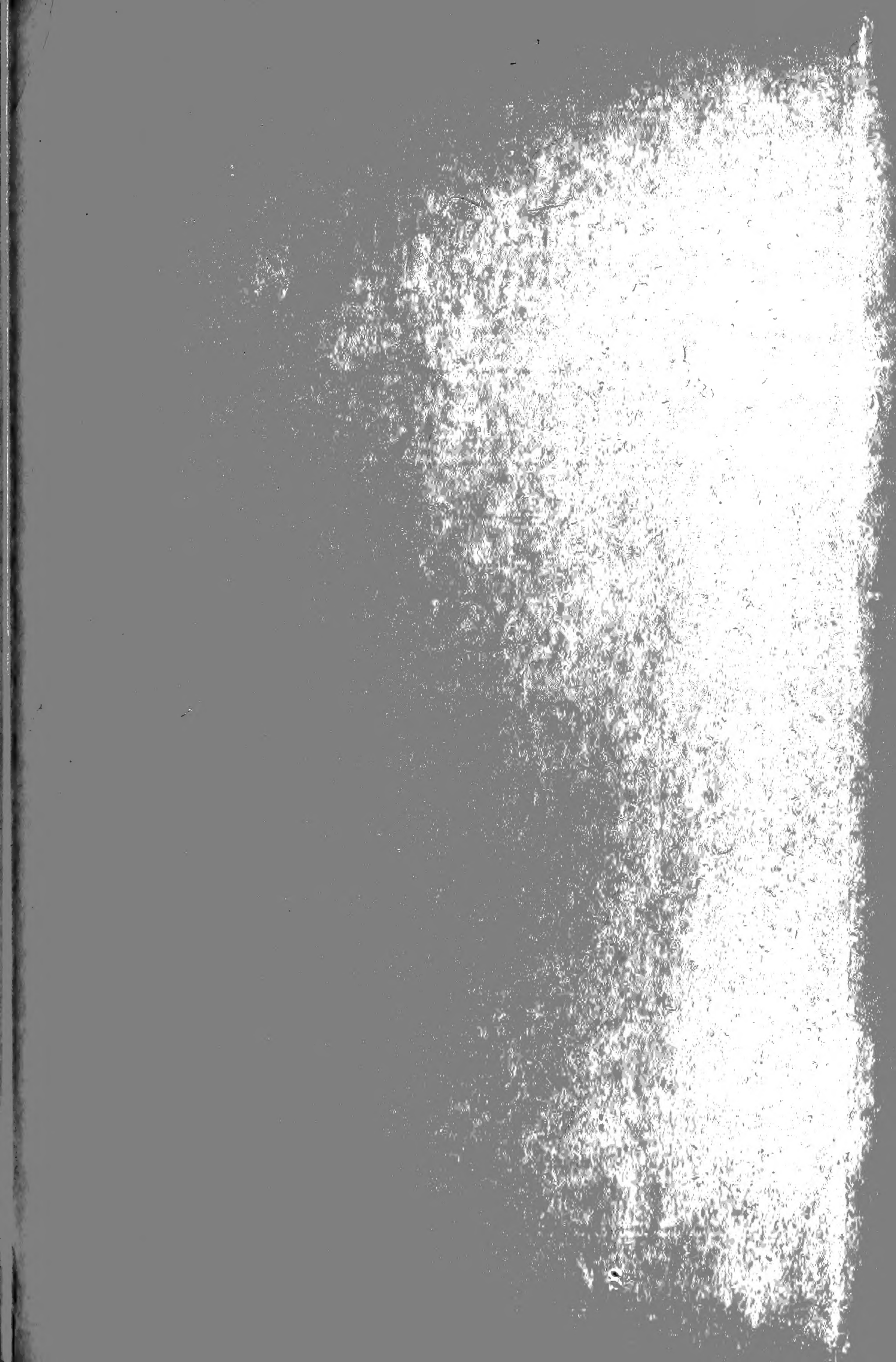


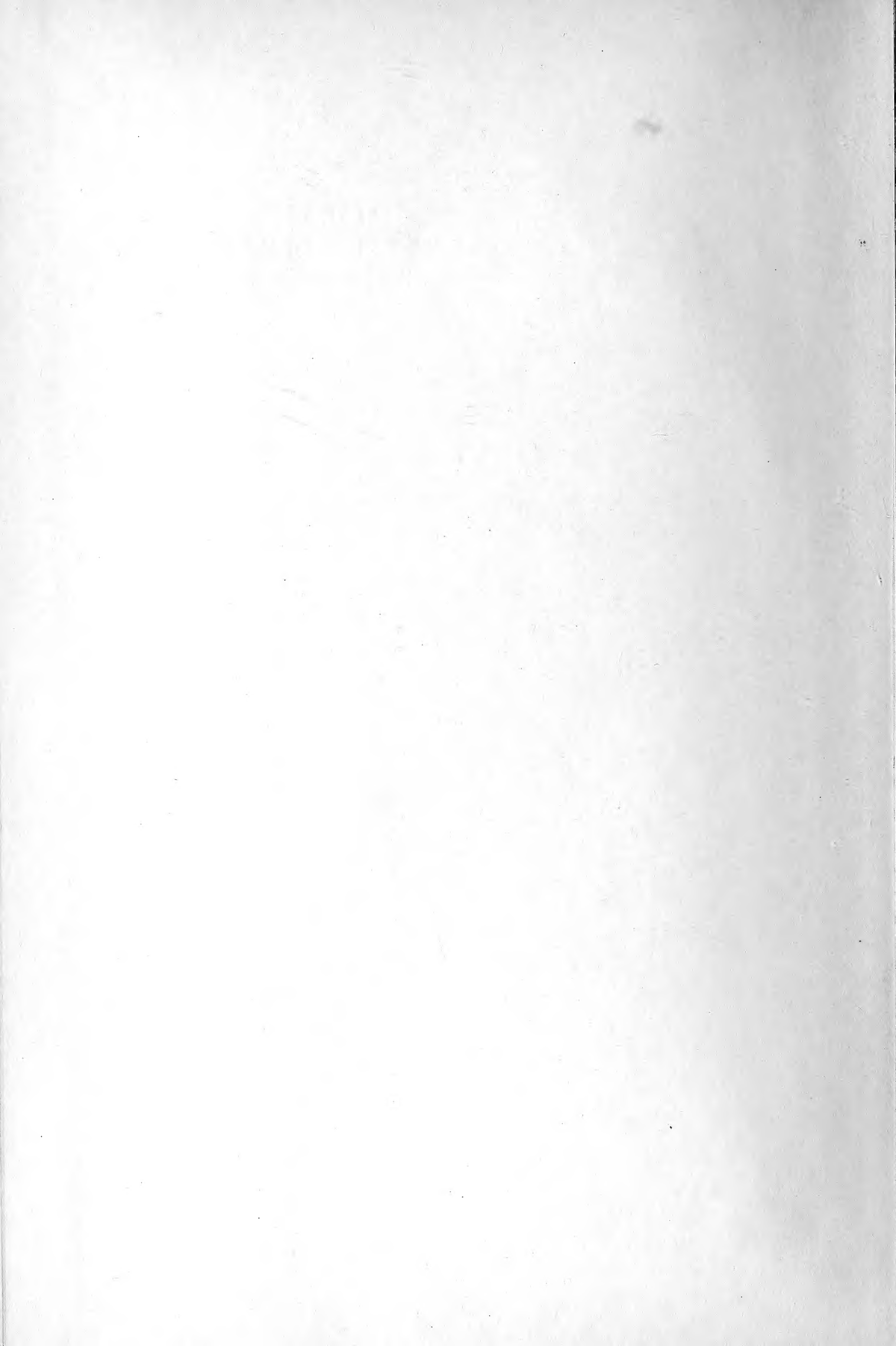
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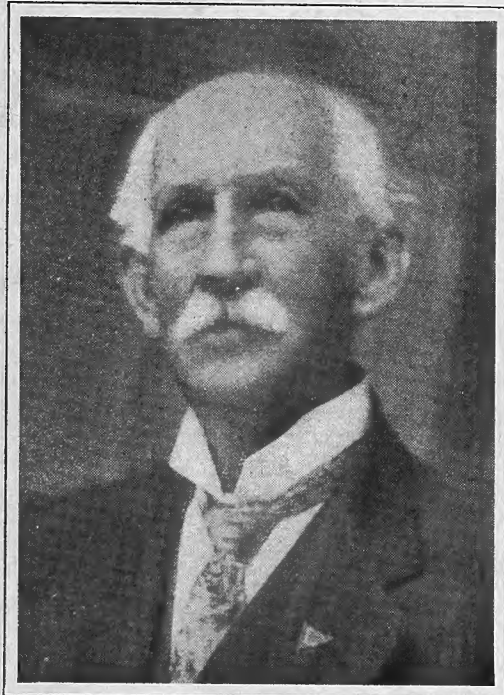
THE GAME BREEDER

VOL. VII.

APRIL, 1915

No. 1

THE OBJECT OF THIS MAGAZINE IS TO MAKE NORTH AMERICA THE BIGGEST GAME PRODUCING COUNTRY IN THE WORLD



Truly we need a revolution of thought and a revival of common sense.

C. Hallock

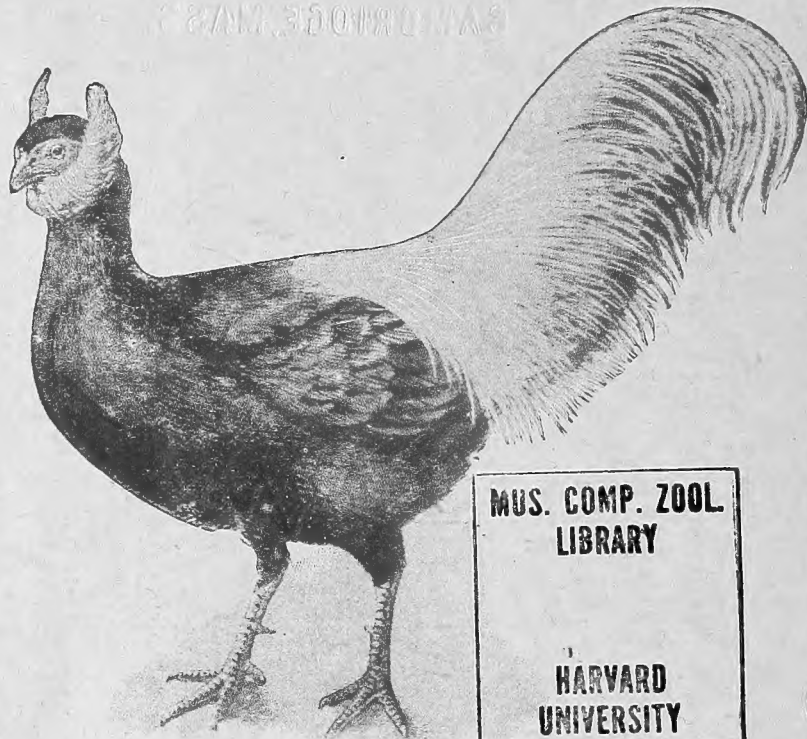
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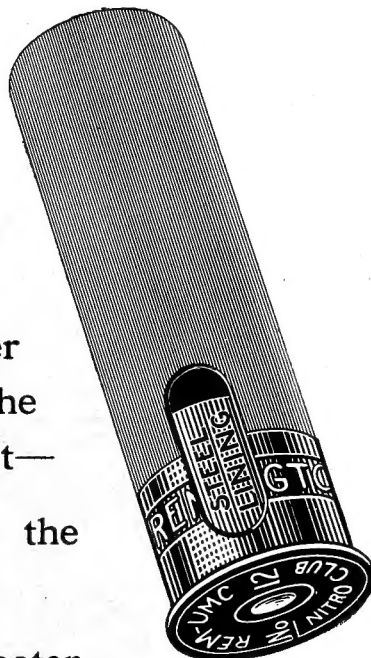
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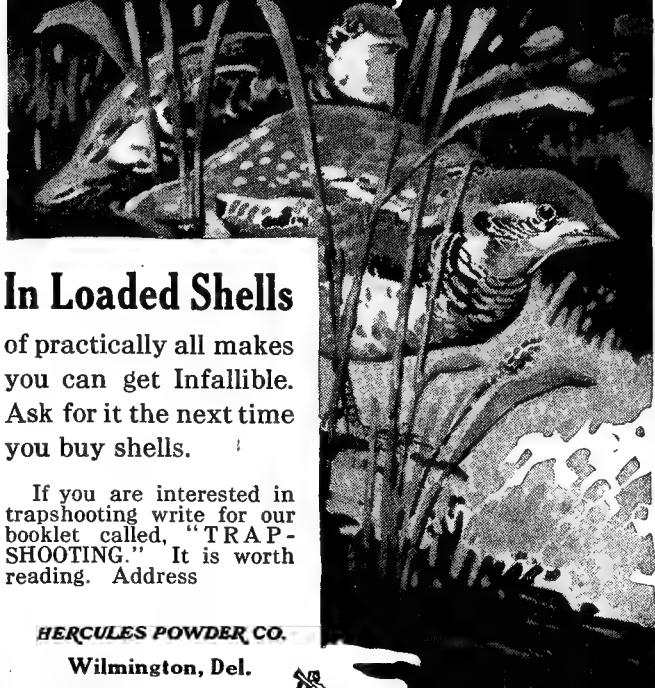
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The Game Breeder

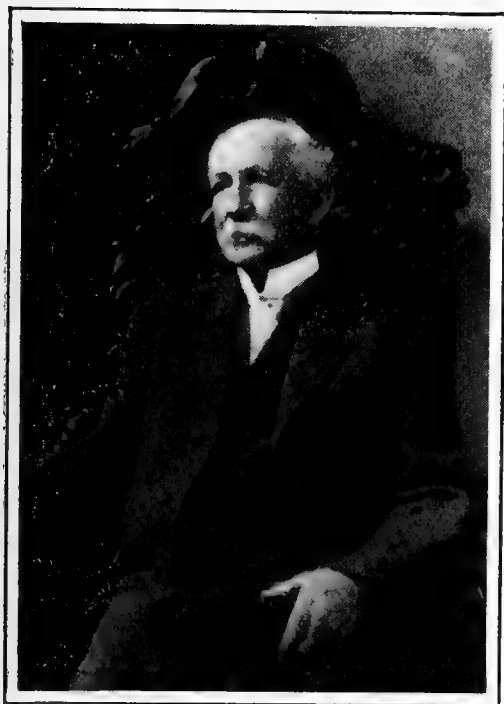
VOLUME VII

APRIL, 1915

NUMBER 1



SURVEY OF THE FIELD.



Charles Hallock.

We received recently the two pictures of Charles Hallock, reproduced in this issue; one of them was made quite recently. Sportsmen should remember that the success of the "more game" movement which promises quickly to make America the biggest game producing country in the world, is largely due to the influence of Charles Hallock, the dean of American sportsmen.

=

The Machold Bill.

The bill permitting the sale in New York of game produced by breeders in other States upon the same terms that trout from other States are now sold in New York, was discussed March 9, before the Assembly Committee at Albany. Since the announcement had been made that the hearing would be held on the 10th a number who would have attended from other states did not come.

The Editor of The Game Breeder pointed out the common sense features of the measure; referred to the great industry of game breeding which had resulted in the production of hundreds of thousands of deer and game birds during the last few years and insisted that the breeders in other states should have the same right to sell their food in the New York market that the New York breeders have. The receipts from tags, he said, indicated that hundreds of thousands of dollars were sent abroad for cold storage game and that this money should go to American game farmers, and that it would result in "more game" being produced in the United States.

Mr. Marshall McLean said he represented the Camp Fire Club and that the club was opposed to the bill. Mr. Mackennen, chairman of the Fish and Game Commission, said it would be impossible to save the wild life of New York if the outside breeders were permitted to sell game. He evidently impressed the Committee with the idea that it was high time New York had game officers capable of handling this business problem as it can be handled, properly.

=

Draining in Iowa.

At the conference on Game Breeding, held recently in New York, Hon. E. C. Hinshaw, the able Game Warden of Iowa, said the sportsmen and nature lovers of Iowa are constantly trying to prevent the farmers of the State from draining the last square foot of lake and swamp in order to place it under cultivation.

The remedy is to show the farmers that wild ducks can be profitably raised on such privately owned lakes and swamps. Wild ducks sell readily for \$3

per pair in the markets and the sportsmen should pay fair prices for the shooting provided they can sell a lot of the ducks to secure the money for the shooting rental. It seems idle to urge a farmer to pay taxes on such properties simply that he may entertain licensed trespassers. The duck shooting surely will be ended when the marshes are drained and it would be far better for the sportsmen to form many shooting clubs and preserve many of the marshes. Where thousands of ducks are reared many will fly away to the rivers and other public waters where the public can shoot. The Game Breeders' Association when it reared ducks on Long Island, N. Y., furnished at least a thousand ducks for the waters outside the preserve in one season.

=

Pheasant Breeding in Ohio.

It seems likely that Ohio will enact a game breeders' law permitting the breeding of pheasants for the market. The Sportsman's Review, quoting a Columbus paper says: "The pheasant weighs about four pounds and would now bring in the open market \$1.50 and the demand is unexhaustible according to General Speaks. It is a most prolific bird, the hen laying about forty eggs and the spring hatch is ready for the table by fall, thus bringing a quick return. The flesh is light and very palatable. The bird is sold in all the markets of Europe just as poultry is sold, and the demand there gives hundreds a living with comparatively little work."

General Speaks, the Ohio Game Warden, predicts that within five years a large number of people in Ohio will be raising the birds for the market.

=

The Prices of Pheasants in New York.

The Ohio people will be interested to learn that the pheasants bring \$2.50 each in New York, when sold to dealers and hotels in large lots. The Astor Hotel purchased all the pheasants a big club wished to sell and one of our readers who has a farm in Dutchess County, sold three hundred birds last fall to a game

dealer for \$2.50 each. Most of the hotels and clubs could not get any pheasants. There is a demand for hundreds of thousands in New York City.

=

Game Breeding in Canada.

We predicted that Canada soon would feel the "more game" breeze which has been blowing with increasing velocity in the United States, and which assumed cylonic importance in Indiana, recently, when it ceased to be a criminal offence to rear any species of game for profit. The Free Press, London, Ontario, mentions, among the entirely new suggestions made to the fish and game committee of the legislature, "a provision for the sale of imported game or that raised in captivity; permits to take game for propagation purposes and to transport the same."

We are told there is a possibility that after this year no wild ducks will be offered for sale in public markets of the province.

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The Sale of Trout and the Price of Tags.

It is only a few years ago that the New York League of Sportsmen, in convention at Syracuse, was asked to endorse a proposed law favoring the sale of trout produced by industry. The editor of The Game Breeder was present and, of course, favored this common sense measure.

Dr. Dutcher, the President of the Audubon Society, spoke in opposition to the measure and termed it "an entering wedge." If such a law should be enacted he said, in another year these gentlemen will be here urging a measure to permit the sale of game. Our feathered friends will be in danger, etc., etc. He did not have to wait another year since on the following day the editor of The Game Breeder, who had been invited to address the convention, read a paper advocating the selling and the eating of the edible "feathered friends," when produced by industry. The sale of trout was soon permitted, and not long thereafter the sale of certain food birds and deer was permitted provided they be

What New York Should Do
 Imported from foreign countries is sold in the New York markets
 under various names its identity. Certain game produced by industry
 within the State, also sold in New York, under the name of sports requiring
 the tags of the birds and deer.
 The sales of desirable food have an found to be satisfactory.
 Game produced by industry in New England, and elsewhere in the
 United States, cannot be sold in the New York market although the breeder
 offers us their game identified and tagged just the same as that by foreign
 breeders before it is sold.
 New York, therefore, favors and requires the tagging of mammals of the
 State on skins abroad for food storage, game, refusing to protect the citizens of
 the State from the sale of foods which they have produced.
 The State game officers of the State where the food is produced have a right to
 the New York game officers to permit the sale of game produced in their State.
 This has been refused because of the over-ambitious legal demand.
 The New York law should be amended so as to permit the citizens of other
 States to sell their food in the same manner as have been permitted to foreign
 game breeders.
 Professors, hunters, and the National Association of Audubon Societies
 has, says that the owners of game produced by the State should have the right to
 sell the food produced in the best market.
 The Game Conservation Society and the Game Officers of the North
 American Game Protective Association and the State Game Officers of many States
 favor the proposed amendment.
 The Game Men's Association, the game dealers, and the people who would
 sell, preserve, and eat the fish-killed foods, legally produced, favor the proposed
 amendment.
 The law should be amended promptly under the objection of the price, because
 many of the breeders in the State will be driven from the State as they did
 last year unless they are protected by the law.
 The law should be amended promptly because the breeding season is approaching
 and rapidly and the breeders should know what they are doing.
 Mr. George P. Decker, Assistant Comptroller of the New York Conservation Com-
 mission, advised the commission that "it would be entirely proper for the commission
 to take the position that it would not oppose legislation which would make it law-
 ful to sell within this State, under such provisions as would identify the product of
 and prevent wild game from being imported."
 We respectfully ask the New York Legislature to promptly in putting an
 end to a legal absurdity.—The Game Breeder.

Mr. Neubold L. Herrick
Wrong you have got to
protect all my State Breeders.
No game other than Foreign Raised
should come into this State.
3/5/15
Ernest L. Herrick
60 Wall St. NYC

produced abroad or within the State of New York. Mr. Chas. J. Vert, a member of the League, is entitled to the credit of having brought the trout matter to the attention of the League.

importance. It seems likely at this writing that the amendment to the trout law will be enacted.

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An Emblem of Fairness.

Often we have said we would print anything anyone may wish to say against our policy. Any one who thinks we are wrong in advocating "more game and fewer game laws," can say so in this magazine and give his reasons if he has any. This month we give prominence to the statement of Mr. Neubold L. Herrick, 60 Wall Street, New York, who says we are wrong. He is not a subscriber to the magazine; evidently he has not read it. He simply ran across one of our campaign circulars and wrote his opinion on it. So here it is. We are glad to give it space to illustrate our fairness. It is becoming more and more difficult to find any one who will say we are wrong.

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His Honor, Mayor Viles.

Hon. Blaine S. Viles, of Augusta, Me., has been elected Mayor with a splendid majority, says Maine Woods. We congratulate his honor and take a special pleasure in so doing since Mr. Viles is a contributing member of The Game

Trout Tags.

The trout law permits the sale of trout from other states, in New York. At the legislative hearing at Albany, March 9, an amendment was discussed which provides that the tags shall no longer cost 3 cents each but that the Conservation Commission shall only charge the actual cost of the tags which would be a very small charge.

Mr. Charles J. Vert, speaking for the amendment, said that the straight tax of 3 cents for each tag made a tax of from 12 to 24 cents per pound on every pound of this desirable food sold, the amount depending upon the size of the trout and the number to the pound. He argued forcibly that it was a public wrong to impose such a tax upon food and said that no other state except New York made such excessive charges. No one excepting the Conservation Commission, he said, opposed the measure and he was informed they wanted the money. The question evidently was of economic

Conservation Society and we are always glad to see our readers successful when they run for office. Mr. Viles is a member of the Fish and Game Commission of Maine.

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Gardners Island.

Mr. Clarence H. Mackay has leased the shooting on Gardner's Island which contains about 3,000 acres, said to be well stocked with pheasants, quail, woodcock, etc. The island is a short distance to the eastward of Long Island, New York, and for many years it was leased to Mr. A. F. Schermerhorn who had excellent shooting every season.

Besides the abundant live game of the upland there are thousands of ducks. Some are bred on the island; others visit it during the fall migration in big numbers. Since Mr. Mackay is a practical game preserver the game will increase rapidly during his term and it is to be hoped that he will send much game to the New York markets as he no doubt will, since he is well known as a generous and public spirited man. He has an excellent quail shoot in the South where the quail always are plentiful. He employs capable gamekeepers and has a splendid kennel of pointers and setters.

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Our Vanishing Wild Hares.

One of our Connecticut readers sends us a newspaper clipping which says a bill "authorizing towns to offer a bounty of not more than \$5.00 for killing wild Belgian and wild German hares." Possibly the word Belgian was inserted to avoid the appearance of any violation of neutrality notions. Truly game law making is a remarkable industry. Enough money is spent every year on game laws to feed the nation with game. The bounty hunters should pick up a few ruffed grouse while they last.

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Game Tags.

The tags required for the game birds cost 5 cents each. This evidently is excessive and in time these tags also will be furnished at actual cost which should be a small fraction of a cent per tag. The absurdity of permitting the sale of trout from other states; the sale of

game from foreign countries; the sale of game produced by industry within New York, and refusing the breeders of other states the right to sell the foods they produce in the best market has been emphasized by The Game Breeder and our readers can rest assured the subject will be not dropped until a common sense enactment is safely in the books. If it does not pass this year we believe it will next winter. Nonsense surely can not long prevail even if large sums are collected to support it.

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Migratory Bird Law Unconstitutional.

A dispatch from Topeka, Kansas, to The Globe, N. Y., says:

The migratory bird law was declared unconstitutional by Judge Pollock in the United States District Court to-day. Judge Pollock held congress had no jurisdiction over game in any states, and that separate states only had the right to enact laws for regulation or protection of game. The decision was in the case of George L. McCullagh, a banker of Galena, Kan., and two companions arrested on complaint of the United States district attorney for shooting ducks out of season. The defendants filed a demurrer attacking the law, and Judge Pollock sustained their contentions.

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Surprising Game Law Activity.

A New England game officer, of the right sort, says the legislature in his state is in full swing and one might imagine from the bills and the discussions that legislators are more interested, some in the protection and some in the extermination of game, than they are in education or agriculture.

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Our Vanishing "Jacks."

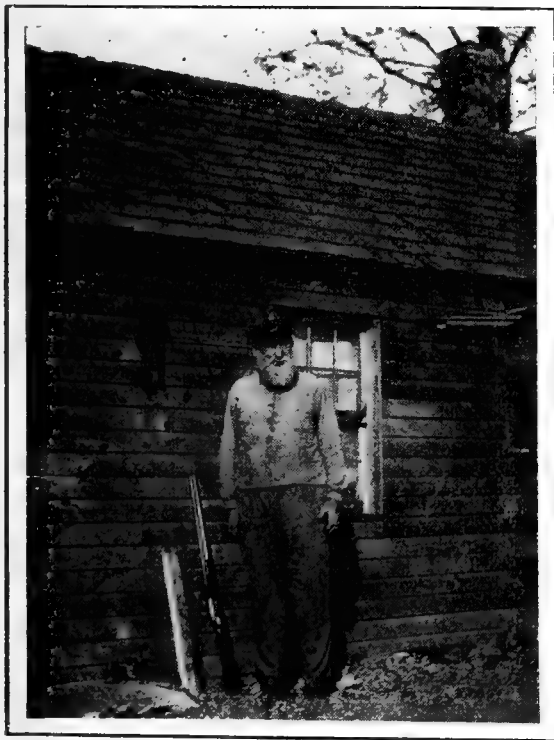
Jack rabbits have become so abundant in eastern Oregon that they are a menace to farmers' crops. In Harney county a four-mill tax produced \$31,000 for a jack rabbit bounty fund. The bounty law became effective January 2, 1915. On February 18, 1915, the county clerk's office had paid a bounty of 5 cents each on 156,707 rabbits.

The Oregon Sportsmen also informs us that Harney county paid \$1,039 for 1,039 bobcats, so that it would appear that cats vanish nicely when a bounty is paid.



A PECULIAR FOX HUNT AT A QUAIL CLUB.

By H. J. MONTANUS.



We recently had a fox hunt, (probably I should say fox shoot, since fox hunting usually refers to riding behind the hounds) to celebrate the 77th birthday of the organizer of our association, Mr. Jas. M. Ashton, who is hale and hearty and likely to reach the century mark. Our association preserves and shoots quail in good numbers and the fox shooting is done to protect the feathered game.

Mr. Ashton's home was our first headquarters. The inclosed film, when printed, will give you a good picture of him.

We secured two foxes and one of them was taken in a peculiar manner. Two members of our association, feeling somewhat tired, proceeded to a tree which had fallen, after having weathered many a storm, and broken short off about ten feet from the ground. There was a hole of about 6 inches in diameter in the side of the tree and at the small end there was an opening of 3 inches. Mr. Raush, looking in the hole, called Mr. Henry Lemaire's attention to a peculiar object, presumably a rabbit. Lemaire punched the object with a stick but there was no move; finally with much courage he inserted his hand and discovered Mr. Fox dead in the hole. Upon the arrival of the gamekeeper and after some ten minues' work, Mr. Fox was removed from his trap. Evidently he had made an awful fight for his life, and in the endeavor to get out of the hole his sides were torn.

The explanation offered was that Brer Fox had pursued a squirrel which had run into the hole for safety. The squirrel easily came out the smaller hole but the fox became wedged in the narrow part of the hole and could neither go

forward or backward. He had starved to death.

We secured two foxes, as you will see, and the hawks shown in the other pictures. Our game is abundant because we look after it and feed it in winter and

because we do not let foxes, hawks, dogs, cats and many other kinds of vermin eat it. The Game Breeder has given us the correct advice and we all are much interested in the magazine.

A NEW JERSEY PHEASANTRY.

With Some Comment on the Laws of the Empire State Which Require New Jersey Pheasants to Be Shipped to Liverpool and Back Before They Can Be Sold as Food in New York.

[This is the twenty-second of a series of two hundred articles about American game farms and preserves.—Editor.]

Unless the New York game laws which make it imperative for a Haddonfield pheasant to travel all the way to Liverpool and back across the broad Atlantic before it can appear for sale in the market of the Empire State are changed, the Legislature at Albany will find itself facing a serious situation. Already the Governor has been appealed to and his attention drawn to the infringement by the game laws of his State of the rights guaranteed under the Federal Constitution, and he has been requested to suggest to the Legislature that it do away with the double transatlantic voyage of the American-born game bird, thus shortening the trip of the New Jersey pheasant from something like 6,000 miles to 60.

As the representative of the New Jersey pheasant the initial step toward this important reform in the New York laws was taken a few days ago by S. V. Reeves, of No. 114 East Park avenue, when he brought this violation of the comity of States to the Governor's attention. Since then he has been busy with the campaign which, it is expected, will result in relieving the New Jersey bird from the danger of being confiscated when on sale in a New York market unless an official foreign passport, guaranteeing its legal right to be there is found tucked under its wing.

Thirty years ago Reeves felt the need of a hobby. When a boy he had been a famous trapper of small game and birds and had become, through his study

of what he succeeded in trapping, a naturalist. So it was quite consistent that, on his new quest, the idea of adopting game of some kind and rearing it appealed to him. He always had been interested in the pheasant, principally because of the difficulty of rearing it in captivity, so the gamey bird was decided upon and the hobby hunt ended, and the Reeves pheasant farm started.

From a few small pens it grew until it covers nearly a half-acre under wire, with many buildings and coops to accommodate the 80 or 90 birds kept on hand for breeding purposes. And during all these years Reeves has refused to commercialize his hobby. He started with the idea of making his pheasant farm a producing home from which the product would go to stock the wooded district of South Jersey, and hundreds of birds have been liberated through that section of the State by him in the past quarter.

But even hobbies sometimes show a disposition to become unmanageable, and Reeves found that, while it was easy to supply the wilds with birds, something more was needed. One thing in particular attracted his attention, the market conditions and marketing restrictions. This led him to investigating the game laws of other states and one of the things he discovered was that New York excluded the New Jersey pheasant while it admitted those shipped from European ports, and, what was still more interest-

ing, was that New Jersey birds were shipped abroad and reshipped to New York as European pheasants.

Quite naturally he felt an injustice was being done his little colony, the colonies of other pheasant breeders and the hundreds of pheasants putting in their time acquiring a spicy European gameflavor in the wilds of his own state. Now the injustice is squarely before the lawmakers of New York, and the action to be taken by them will be watched with interest.

Contrary to general belief, the pheasant is not one of the older English game birds. While it has been known and favored for table use for centuries, and for other centuries worshiped as a sacred bird by the Chinese, it was not until 1821 that it was introduced in England by a man named Reeves, unrelated to the Haddonfield Reeves. The English pheasant, now known as the Reeves pheasant, was brought by him from China. A little later John R. Reeves, his son, returned from the Far East, bringing with him a consignment of pheasant hens, and from this stock the common English pheasant sprang.

PRODUCING NEW VARIETIES.

Strictly speaking, the bird is of Asiatic origin, although subsequent cross breedings have produced a number of European varieties. At the Reeves pheasant farm here, the Ring Neck, Reeves, Lady Amherst, Prince of Wales and Golden varieties are being bred and cross bred by Reeves, who has demonstrated the possibility of producing even a better-flavored and stronger bird than is represented by the older parent stock. For instance, his experiments have shown that the cross between the Prince of Wales and the Ring Neck insures a faster, larger, gamier and better-flavored bird, and many of them are being bred by him. As this crossing reproduces its kind, it is believed a new variety of pheasant has been added to the list, and one that will become a favorite with sportsmen as well as with epicures.

One of the most beautiful results so far obtained resulted from mating Lady Amherst and Golden Pheasants. When

fully feathered the new bird shows markings of exquisite beauty. It also is a strong bird and may become another permanent variety. The Prince of Wales is no mean aquatic bird. It takes to the marshlands, and will swim as easily as a duck. For this reason it is well adapted for New Jersey propagation and is being stocked in the lowlands and marshy regions.

In the breeding of pheasants Reeves has some exciting experiences. A pheasant cock is one of the gamiest of game birds. He is well spurred, is quick, can rise and strike at a considerable height and prefers fighting to running. Hardly a day passes but Reeves is made the object of attack by one or more of them. Contented so long as he remains outside the wired inclosure, his entrance is the signal for attack. A wicked dash at his legs is instantly followed by one at his head, and it frequently happens that he ducks just in time to escape with the loss of his hat. And all the while the pheasant keeps up a constant sputtering. If it is not downright profanity it is a good imitation of it.

Unlike the game cock, the effect of domestication fails to outbreed this disposition even after many generations have lived and died within the wire confines. Once a game pheasant, always a game pheasant, appears to be the rule. In trying to tame them Reeves has found that, while the pheasant sometimes will appear to have lost his love of the wild, the result is more apparent than real. Frequently he has been tempted to release a few of the tamer birds from the inclosures. But the result always has been that once outside the netting, they grasp the opportunity and are off with a whirr and, once freed, can rarely be recaptured.

In the rearing of the newly-hatched pheasant it has been found that is best attended to by bantam hens, and so the Reeves pheasant farm has a corps of these diminutive little fowls on hand. For some reason the pheasant hen has little conception of maternal duties and less inclination to practice them. Possibly she believes in the law of the sur-

vival of the fittest, and so reconciles herself to the loss of her brood when the latter scatters almost as soon as hatched. Rarely will any be left to her after the third or fourth day. But the bantam hen works along other lines, and, if the coop be not too large, manages to mother

the little pheasant quite satisfactorily. With the assistance of this little mother it has been found possible to raise fully 80 per cent. of the young birds hatched at the Reeves farm.—Philadelphia Record.

THE BOBWHITE IN OREGON.

By WILLIAM L. FINLEY.

[We were about to ask Mr. William L. Finley to write an article on the status of the bobwhite in Oregon when he sent us the Oregon Sportsman containing the following story about the introduction of this quail in his state. The article on, "The Introduction of Bobwhite in Montana," written by Hon. M. D. Baldwin for The Game Breeder, attracted much attention and Mr. Finley's article is equally timely and interesting.—Editor.]

In our Oregon country, Bob-white is loved by all. Since his coming years ago, there has never been an open season in this state. No bird gladdens the heart of the Oregon farmer more than Bob-white as he calls from the top of an old rail fence, for the larger part of our farmers knew him in bare-foot days among the hills of the eastern states. He is the friend and companion about the garden and field. His call means gladness and satisfaction. To some of my farmer friends, he is always an optimist. If a shower is needed, one may hear Bob-white calling—"More-wet! More-wet!" After a dreary downpour, that has lasted for several days, Bob-white is sure to mount an old brush heap and sing just as confidently—"No-more-wet! No-more-wet!"

The history of the introduction of the Bob-white quail into Oregon would be very interesting if it were complete. A few birds were brought in from the East thirty or thirty-five years ago and liberated in the Willamette valley.

Mr. J. H. Raley of Pendleton, writes that during the fall of 1893 he secured sixty Bob-white quail from the Willamette valley and liberated them on McKay creek on the place where he was then living. This accounts for the coveys of Bob-white quail along the Umatilla river west of Pendleton. During the summer of 1911, I heard several Bob-white quail calling on the grounds

of the State Hospital near Pendleton. They thrive well in the patches of willow and cottonwood along the river.

Years ago, Bob-white quail were introduced into the Boise valley in Idaho and from this point they have undoubtedly spread to eastern Oregon in the vicinity of Vale and Ontario in Malheur county and along the Snake river in Wallowa county.

Bob-white are also found in the northern part of Umatilla county and it may be these birds spread north from those that were introduced at Pendleton in 1893; or they may possibly have been introduced by some one in that locality.

During the summer of 1899 while on a cruise up the Willamette river with Herman T. Bohlman, we saw and heard Bob-white quail near Independence. They were not uncommon at that time in the country around Salem and south to Independence.

During the spring of 1908, I heard a Bob-white quail at Risley station between Portland and Oregon City. During the early spring of 1909, I frequently heard Bob-white quail calling in the vicinity of Jennings Lodge. I am very sure a pair nested in that locality, but after the summer was over I saw nothing more of these birds, nor were they there during the following year. They were likely killed by house cats.

In September of 1912, I saw three different flocks of Bob-white quail with-

in a distance of a mile or so of Sherwood in the southeastern part of Washington county.

Mr. C. C. Bryan, Deputy Game Warden of Corvallis, reports that on May 20, 1912, he heard numbers of Bob-white quail calling about three miles west of Lebanon. He reports that during 1911, he saw but very few of these quail in the southern part of Benton county, but in 1912, the birds had materially increased in that locality.

During the fall of 1911, Mr. George Russell, Deputy Game Warden at Gaston, reports seeing a number of coveys of Bob-white quail in Polk, Benton and Linn counties.

Bob-white quail are now fairly common in the Willamette valley from the foothills of the Cascades west to the foothills of the Coast range, and from Oregon City south to Albany, and especially in the vicinity of Corvallis and north to Dallas, McMinnville and For-

est Grove. At the present time, they are perhaps more abundant in parts of Benton, Polk, Yamhill and Marion counties than in any other parts of the state. During the winters of 1913 and 1914, about 200 of these birds were trapped in Yamhill county, near McMinnville, and liberated in other parts of the state. During the winters of 1914 and 1915, over 300 were trapped near the same localities to stock other sections.

During 1913, a covey of Bob-white quail was reported near Grants Pass, but at that time, as far as I know, there were practically none of these birds to the south, especially through the Rogue river valley and across the Cascade range into Klamath, Crook, Lake and Harney counties. Since then Bob-white quail have been liberated in Douglas, Jackson, Josephine, Coos, Multnomah and Klamath counties.

A PHEASANT-BANTAM HYBRID.

H. J. WHEELER, Kingston, R. I.

Although there have been reported, from time to time, several instances of a successful cross between the pheasant and the domestic fowl, none of these has thus far withstood the results of close investigation. The following is a brief description of the results of an actual cross secured by Dr. Leon J. Cole at the Rhode Island Agricultural Experiment Station in the spring of 1908.

Of 77 eggs of the bantam fowl laid between March 23, 1908, and August 27, 1909, only one was fertile. This egg was laid March 30, 1908. It was set under a hen on April 4, and hatched April 28, thus giving an incubation period of 24 days.

DESCRIPTION OF THE FATHER.

This bird, a Ring-Neck pheasant, was of average size, plumage, and vigor. The feathers of the head and neck were iridescent and purplish, with a green-

ish cast upon the top of the head. The short feathers of the face patch were turkey-red. The measurements of the different parts of the body were as follows:

	Millimeters.
Length of upper mandible.....	27
Width of mandible at base.....	20
Ear tufts.....	15
Length of wing.....	250
Length of tail.....	540
Length of tarsus.....	70
Length of middle toe.....	58

Weight, 2 pounds, 10 ounces.

The color of the eye was bright bay.

DESCRIPTION OF THE MOTHER.

The mother of the hybrid was a mongrel bantam. The general color was buff with faint black stripes on the neck. A large amount of black appeared in the primary wing feathers and in the inner veins of the secondaries. The tail feathers were largely black, but contained some yellow. The comb was low, but had the rose-comb characteristics,

and possessed a prominent spike. The wattles and ear-lobes were very well developed. The measurements of different parts of the body were as follows:

	Millimeters.
Length of upper mandible.....	18
Width of mandible at base.....	13
Length of tarsus.....	58
Length of middle toe.....	54

Weight, 1 pound, 14 ounces.

The color of the eye was a faded yellow.

DESCRIPTION OF THE HYBRID.

The color of the head and neck was dark because of the presence of much black in the feathers. The yellow, however, showed through to a considerable extent, especially on the top of the head, on the forehead, and on the upper throat region. The space immediately surrounding the eye was red. A slightly purplish iridescence appeared on the feathers of the lower neck. The general color of the body and back was a mixture of light yellow, darker yellow, chestnut, and also black, in very irregular patterns. In many instances the black formed a double stripe on the feathers, while the chestnut was usually present on the edge of the feather and formed a band. The feathers of the rump and the tail coverts had many small black specks. The flights were a mixture of black and light yellow. The primaries were darker at the distal end. The tail feathers had an appearance more like the primaries. The comb was very low, having somewhat the appearance of a rose comb, but without the spike. The wattles and ear-lobes were absent. The eye had a yellowish tinge between faded yellow and a bay color. The measurements of various parts of the body were as follows:

	Millimeters.
Length of upper mandible.....	26
Width of mandible at base.....	18
Length of the wing.....	224
Longest tail feather.....	213
Length of tarsus.....	70
Length of middle toe.....	65

Weight, 3 pounds, 3 ounces.

For the first few weeks of its life, this hybrid more nearly approached pheasant chicks (Ring-Necks) in both color and call. When the feathers began to come,

however, the bird lost some of its resemblance to pheasant youngsters and also ceased its call except when frightened. The bird was kept carefully cooped to avoid its destruction by vermin. In spite of being fed and watered three or four times daily, it grew and remained very wild; two ducklings were put into the coop, but they seemed to exert no taming effect. After several months, it was transferred to a turkey yard in which were its parents, pigeons, and turkeys. Very soon, the hybrid became much more domesticated. As an adult, nothing has been observed in its behavior to indicate sex; its call (only when frightened) is of a higher note than the cock pheasant's and is somewhat like that of a cornered rat.

COMPARISON OF THE PHEASANT, BANTAM AND HYBRID.

The general shape of the head of the hybrid was much more like that of the pheasant. It lacked, however, the velvety feathers on the face, and did not have the extension into the ear-lobes, which was prominent on the pheasant. The bill of the hybrid was shaped somewhat like that of the pheasant, but was rather lighter in color. It was also more grayish in appearance than that of the bantam. The general color of the body plumage resembled more closely that of the pheasant, except that the markings of the hybrid were not so regular, and more of the light yellow of the mother was apparent. The shape of the wing resembled more closely that of the bantam, but it was considerably longer. It did not, moreover, show the peculiar color and definite bars characteristic of the tail of the pheasant. The longest feathers of the tail were broad and rounded at the tip. They were much less long and tapering than those of the pheasant. They were carried, moreover, in a more erect position, showing no tendency to trail as did those of the father. The reason for this obviously lies in the anatomical structure of the tail-bearing portion, which resembles more closely that of the bantam. While in the pheasant the legs and feet were quite dark, and in the bantam a faded

yellow color, in the hybrid the color was between these two. Furthermore, while the pheasant had well developed spurs, about 10 mm. in length, and the bantam very short spurs on both feet, the hybrid had on the right foot a short blunt spur and on the left only a low wart-like

structure. When the hybrid was compared with the pheasant hen, it was obvious that the color-resemblance to the female pheasant was more striking than to the male bird, but that the form-resemblance to the female was less marked.

POND FISH CULTURE.

By PROFESSOR L. L. DYCKE,

Late State Fish and Game Warden of Kansas.

[This is the conclusion of an article begun in the November number prior to the untimely death of Professor Dyche.—Editor.]

The spawning bed or the nest that the Black Bass prepares here at the State Fish Hatchery is usually built on the north, east or west shores of the ponds, where the sun naturally warms the waters first in the early springtime. At this season of the year one does not have to walk far until more or less bass are seen swimming near the shore. One or two bass may be observed hovering over a certain spot. If it is a single fish it is usually a male, and if one will take the trouble to sit or lie down on the bank and keep perfectly still, in a not too prominent place, in from fifteen to twenty minutes the bass will usually become accustomed to the situation and will proceed with the ordinary work of nest-building that was being carried on, just the same as if there was no observer watching.

We found that a few bushes stuck in the bank for sort of a blind and left there, so that the fish would get used to them, made the approach to the nest much easier for future visits. If the bass should happen to be a male preparing a spawning bed or nest, a number of things can be learned by watching concerning the habits of the fish. The place selected for the nest depends upon the nature of the shore of the pond. A good many observations made by different persons have been recorded concerning the spawning habits of the Black Bass. This may account for many dis-

crepancies, as the two varieties differ more or less in their habits. Many observers record the fact that the nest is built in places where gravel and coarse sand are present and that the eggs are placed on the gravel beds. Some fish culturists prepare special gravel beds for fish to spawn on. Sometimes the gravel is placed in shallow boxes about two feet square, and sometimes the gravel and coarse sand mixtures are embedded in cement-formed nests and placed where the fish can find them. Such devices have been reported more or less successful with the Small-mouthed Black Bass.

Here at the Kansas State Fish Hatchery the Large-mouthed Black Bass do not seem to pay much, if any, attention to gravel beds. The male fish usually starts the nest by selecting a place where the water varies from ten inches to two feet in depth. The places selected, so far as our observations have gone, are usually spots where more or less vegetation in the shape of small water plants may be found growing. The fish usually removes most of this vegetable matter, and then fans the spot with its fins and tail at intervals for a period of two, three or more days. The excavation which forms the nest or spawning bed varies from two to five or six inches in depth, and is from twenty to thirty-six inches across, or about twice the length of the fish. However, where the ground

is hard the nest is frequently a shallow basin that does not much exceed the length of the fish.

After the male has the nest completed he begins to search for a mate. In case he finds one before the nest is completed the female usually helps with the work of completing the home. We have seen both fish working on the nest before the spawning was commenced. A completed nest is one ready to receive the eggs. Such a nest has all the soft mud and debris removed. This the fish accomplished chiefly by the use of its fins, especially the tail fin, though the fish is not averse to grabbing certain kinds of material that is in the way in its mouth and removing it. The nest as completed in the ponds here at the Hatchery is usually fairly well lined with the roots and stems of water plants that naturally grow in such places. In some nests there is a sufficient amount of growing roots and stems of these plants to completely cover the bottom of the structure. Examination showed that nearly all of these roots and stems were attached to the earth and were green, and are not loose pieces of stuff resting on the bottom of the nest.

The male fish drives away all intruders, including other fish, whether large or small, dashing ferociously at any animal, friend or foe, that may come in that particular locality. Even though completed, the male fish spends much time over the nest fanning it with its fins, apparently to keep the nest bed fresh and clean, until a mate has been chosen and the spawning and hatching season is over.

After the nest has been finished, as above described, by the male fish, he retires at short intervals, making many near about excursions apparently in search of a mate, and within a day or two, if you take the trouble to visit and watch the place at various times, you will see two fish swimming about the nest. During these excursions it is necessary for the builder of the nest to leave it for short intervals. At such times other fish seem to take fiendish delight in swimming over, around and

about the nest. However, when the owner returns he immediately gives hot chase to all such intruders and meddlers. We have seen two fish which we took for males, chasing each other and apparently contending for the ownership of a nest.

The male, which is usually the smaller fish of a pair, continues his search as stated above for a partner until he finds a female that is willing to visit his newly-made quarters and examine the home and nest that he has prepared. If she likes the situation and is pleased with the homestead she remains at the nest, and usually works upon it a while herself, putting on certain finishing touches. Now the male becomes very active and jealous; he swims here and there and continually guards the female; he takes on the courage and ferocity of a warrior and dashes at any other fish that may come near; he heads off with great dexterity any move that would indicate that the female wanted to leave the premises. If the female is satisfied, or as soon as she becomes satisfied, the pair will swim around and around over the nest and in its immediate neighborhood, frequently moving side by side. In one instance observed this summer the male fish seemed to butt up against the side of the female with his head and shoulder, and would throw the female on her side. The two fish would frequently strike the sides of their bodies together, and whirl and turn in different directions, making various grotesque maneuvers.

After a courtship of this kind, which may last for one or more days, the female begins to deposit her eggs in the nest. At this time the male is very active, swimming around the female and half knocking her over with his head and shoulder, and when the eggs are deposited he ejects his milt in the water immediately over or above them. In this manner, without any act of copulation, the eggs are fertilized. While this spawning business is going on, the fish are usually in from one to three feet of water and in quick motion. We have watched them until we were dizzy trying to see and figure out just what took

place. It is a difficult matter under the above circumstances to make exact observations.

The eggs, at least in some instances, are deposited in elongated bunches or strings by the female, but soon spread and adhere to the particles of vegetation in the nest. Other observers note that the eggs adhere to the gravel in the nest. This would be true in gravel and pebble nests, and where there is no vegetable matter to form a lining for the nest bed, and is especially true with the small-mouthed Black Bass, as reported by various breeders of this species.

We have not been able to figure out just how long this spawning process lasts. We think, however, from observation made at the Hatchery, that at least in some cases it does not last very long—only a few minutes. We are not certain, however, about the number of times the operation may be repeated. Such observations are hard to get when fish are active and in from one to two feet of water. We have observed certain spawning on a few occasions, and when we would examine the place a few hours afterwards the spawning would seem to have ceased. After the spawning has finished, the male usually takes charge of the nest and attempts to drive the female away. After a day or so, if you will take the trouble to watch the nest, you will find that the female, which is usually the larger fish, has disappeared; or she may be seen swimming around several feet from the nest.

The male fish guards the nest and eggs during the greater part of the period of incubation, so to speak, and is now more pugnacious than ever. He will fight anything that comes in his dooryard, and is very active and very busy flying around from place to place. When he is not annoyed by intruders he spends much of his time over the nest, his fins continually moving, in order that fresh currents of water may continue to flow over the eggs and prevent any sediment from settling upon them. This great vigilance and activity on the part of the male fish is kept up until the eggs hatch. The period of incubation de-

pends largely upon the temperature of the water. Three years ago we marked a nest where fish were spawning and visited it regularly every day. It was in early springtime, and was one of the first nests we observed. The water was cold and it took fifteen days for the eggs to hatch and only a small per cent. (we should judge about 10 per cent.) of them hatched. Many of the eggs, for one reason or another, disappeared. The eggs that were lost from this and some other nests that we were watching disappeared apparently during the night time. We were not able to discover the cause of their disappearance. Some of the eggs turned white, due to fungus growths. Another nest that we marked later in the season came off, so to speak, in twelve days; and another still later in the season hatched in seven days. We found one this spring, which, if no mistake was made in the day when the eggs were deposited, hatched in five days. This was in the latter part of May, when the water was warm and all conditions most favorable.

Yet To Be Landed.

HON. M. D. BALDWIN,

Member of the Montana Fish and Game Commission.

The grandsire sat in his easy chair,
And his laugh was a gurgling croak,
While the grandson told of a monstrous trout

He had hooked on a line—which broke.
Then the old man gravely smiled and said,

My dear boy, it was large I know,
For I hooked that same old fish myself,
Some fifty years ago.

Members of the Game Conservation Society are requested to purchase from those who advertise.

The Game Conservation Society is now the largest association of game breeders in the world.



Foxes and Partridges.

F. E. R. FRYER (In Shooting).

The harm done by foxes to partridges occurs mostly in the nesting season, and in a great measure is done by some old vixen in search of food for her cubs. When once they take to hunting for this class of food (the partridge on its nest) it is bad indeed for the partridge. The hunting man will tell you that as long as there are rabbits and rats about foxes will never take partridges, but by one who has visited the earths where there are cubs, and has seen the proportion of wings and feathers to fur and animals legs lying about, such an opinion cannot be entertained. Again, in many cases rabbits are killed down in these days, and the case becomes still harder on the partridge. The worst time for them is when the cubs are able to feed themselves, and it stands to reason that a vixen who has to find food for her family does so in the easiest way possible; and what more simple than to go up the windward side of a fence and catch each whiff of a gamey nature and stop and locate the unfortunate bird on its nest? Then comes a pounce, which very seldom misses its mark, and bang goes a covey of partridges. I have known of a bird escaping with the loss of many feathers, but still coming back and hatching off; but this is only an isolated case.

How to prevent the destruction of birds and eggs by foxes is a most diffi-

cult problem, Mr. Fryer says: "I do not think any one will ever solve it."

He advises that there must be a keeper whose duty is only to look after partridges and nothing else.

There are only two ways in which he can help save the nests. One is to prevent the fox getting at the nest when he has winded it and the other is to prevent his winding it.

Wire netting placed about the nests will protect them and a fox can be prevented from winding a bird on its nest by putting on the wind a stronger scent than the bird produces. Various "smelling mixtures" are used. "Animal Oil," Mr. Fryer says, "is the most efficacious, but one must be careful to get it as strong as it can possibly be made.

A preparation named "Renardine" is largely advertised and sold. There are many testimonials from preserve owners and gamekeepers as to its effectiveness. One of the advertisements represents a mule backing off a bridge where a little "Renardine" had been spilled.

BETTERMENT.

With the present number The Game Breeder begins a new year. Our readers will be pleased to notice the new cover from a clever design by the talented artist, Mr. C. B. Davis, who will contribute much to make the magazine interesting and attractive during the coming year.



THE GAME BREEDERS' DEPARTMENT.

BY OUR READERS.

Pheasant Breeding.

By SPENCER BROTHERS.

The chief thing we try to do is to get good results with as little expenditure as possible. If one were to follow all the rules and ideas laid down in the books, good as they are, it would involve a heavy outlay.

Our pheasants generally start laying about the first week in April, and by feeding plenty of green food, meat scraps, etc., they average 70 eggs or more per hen. We set the eggs on the ground, with a little straw for the nest, and draw up a small wire run to the box and allow the setting hen just enough room for a dusting place and green grass. We try to arrange to set as many hens as possible on the same day, using any breed of healthy hen we can get, although we do not care for the Barred Rock as a rule because they seem to object so much to being changed and set on the ground.

Lately we have been raising game chickens for this purpose, also for sport and profit. They make the best of mothers and are a fine table fowl. We keep an incubator going constantly during the season at about 103°, and find it very useful for saving wet chicks or chilled eggs. We do not disturb the hen at all when hatching, but keep the box blocked up and dark until chicks are strong and dry. In about 24 hours the hens and birds are moved to some field

and we try to keep small colonies of birds of the same egg in various suitable localities where there seems to be plenty of insect life and cover. We keep the hens confined for about a week, but let the little pheasants run about, after that she is let out to roam at will, with nothing to return to at night but an open box, as the wire runs are needed quite often for the next batch of setting hens. The pheasants are fed for the first two weeks three times a day on nothing but hard boiled eggs, as they like it above all things, it is easy to prepare, and to regulate the exact amount of food required. We find that it takes about two eggs at a meal to satisfy 17 birds up to two weeks old. After this age we cut down on the eggs somewhat, and also give corn meal, rolled oats and boiled rice (dry and not messy).

When the birds are at an average age of six weeks, the hen is generally ready to leave them or they are getting too independent of her, so they are caught up and put in runs 50 feet by 200 feet, which gives them plenty of space to fly and develop. The runs are covered by cord netting, so that they do not injure themselves. We now cut out the egg entirely, substituting meat scraps, plenty of green food, wheat and meal and boiled rice, which is substantially what we feed our old birds.

We have found that the Mongolian Ringneck cross is an easier bird to raise than the pure Ringneck, as they are

hardier, grow and develop quicker, and the adult male bird averages about half a pound more in weight, and of course they are perfectly fertile hybrids.

Our worst enemies are dogs, cats, 'possums, etc., which do a great deal of damage sometimes and keep us busy. To give an instance of the way the o'possum multiplies, we once captured an old female and kept her in a pen where she gave birth to 13 and raised them all. When they got to be of goodly proportions, we chopped them up and fed them to the pheasants. Another occasional loss is when you find that a setting hen has killed all the little pheasants as soon as they hatch. This is more than you asked her to do and causes a slight strain on the temper. With best wishes for The Game Breeder.

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Breeding Pin Tails, Teal and Other Fowl.

One of our Illinois readers, Mr. C. H. Harris, in answer to our inquiry about the breeding of pintailed ducks writes: "In regard to raising pintail or sprigtail ducks, I have had them for three or four years and never had one to lay an egg. A Mr. Walter Evans tells me he has one once in a while to lay. The same may be said of teal. I have a few black or dusky mallards and have had them four years but I have never seen an egg from them. Tiger Brant and Snow geese have never bred for me. They will mate and the goose will get big behind like she was going to lay. A Brant gander will mate with a tame goose and their eggs will hatch. Wild geese breed well but they will have to be three years old before they will breed. Egyptian geese the same. I have had very good success with them but find they are terrible fighters. One gander killed a sprig and two green-heads the other day. I have to keep them in pairs during the breeding season. If one of their young gets away for a day or so they will kill it when it gets with them again. They lay from 6 to 8 eggs."

Since variety in shooting as well as on the table is pleasing, it is to be hoped that the breeders will succeed in breeding sprigtails, teal and other water fowl. The fact that the green-head of the barnyards is a common duck, descended evidently from the mallard, would seem to indicate that our ancestors found this the easiest duck to domesticate. One mistake some breeders make in beginning their experiments is, they do not give their ducks enough concealment. The wild duck requires cover just as the quail and grouse do. The black ducks, teal and pintails have been known to nest and hatch their young in captivity about secluded marshes and ponds where the ducks could conceal their nests. Eggs taken from ducks nesting in such places can undoubtedly be hatched under hens and the young ducks should be comparatively tame and it would seem that their descendants should be as easily handled as mallards now are. One of our Long Island readers had no trouble with the black ducks.

It is true in England also, that comparatively few teal and other ducks besides the mallards are hand-reared. It is to be hoped that our readers will get busy and see what they can do with the species which thus far have not been reared abundantly. There is a rare chance for experimental work in Louisiana and Florida, as well as in the Dakotas, and in fact everywhere, since the teal and Florida dusky ducks and some others nest in a wild state in the South and many ducks should be reared from New England to Oregon and Washington, when we have the secret of how to handle them.

We hope this subject will be discussed by our readers and that we shall have some interesting reports during the year of successful experiments.

Most gamekeepers advise starting with eggs and hand-rearing the young birds. We have had very tame black ducks produced in this way and they nested in the grass beside a pond and furnished a lot of eggs which were lifted and hatched under hens.

Hatching Pheasants.

By JOSEPH J. DEMENKOW.

In past four seasons I have tried many different methods in hatching out pheasants. I used common hens in the work, incubators and hens and incubators combined with entirely distinct results in each case. The best possible result obtainable comes by first method, with a live hen, especially when setting hen is a light weighing hen and kept perfectly contented and free from lice before and after hatching.

A Bantam is the ideal foster mother in raising pheasants. A bantam will comfortably cover from 7 to 9 pheasant eggs at the start of the season and from 9 to 11 eggs during warm months of June and July, and take care of the little ones at all times without any danger of smothering or maiming them.

The second method, by the incubator, proved a total failure with me. In the first place, I never could get with an incubator one-half as many chicks from a given number of eggs as by the setting hen, and "the worst is yet to come" in trying to raise them. It is not easy to find a hen charitable enough or stupid enough to accept a machine hatched brood, and to try and raise them under a brooder without the help of a hen is a hopeless task. In a short time young pheasants get used to a hen's talk very readily, but somehow they refuse to heed human language and every motion made in feeding and watering scares them away to all corners of their run; sickness and mortality soon follow and usually result in wiping out the whole flock.

I had fairly good results by using hen and an incubator combined. I resorted to this last method on account of the over heavy setting hens I had to put up with. When setting hens are too heavy they quite often smash a number of eggs during the period of setting and with their heavy body they smother young pheasants to death at the time of hatching. To avoid this loss I allow the hen to sit over the eggs for 22 or 23 days, then I take the eggs away from

her and put them into the machine to hatch. Of course I do leave one or two eggs under the hen to hatch and thus give her a chance to get acquainted with baby pheasants. When the hatching is over I take those that hatched out in a machine and put them all under the hen. I prefer to do this in the evening and the next morning I commence feeding the young.

Massachusetts.

Pheasant-Bantams.

Herewith is a copy of our record covering work with Pheasant-Bantams.

A one-year-old ringneck cock was penned up with a white cochin bantam hen, having fertilized two out of five eggs, twelve more hens (all virgin* pullets) were allotted to him. From the look of the record he seems to have served the first hen only.

The birds from No. 1, 2 and 3 hatch were all black; No. 4, 1 black and 1 about the color of a light ringneck; No. 5, 4 were of the latter color and 1 black.

As the picture will show, we still have six of these birds, three black and three light colored. [Picture was published last month.—Editor.]

Apr. 24	5	2	1	May 16—22 days
May 9	32	1	1	May 31—22 days
May 18	42	1	1	June 12—25 days
June 1	66	3	2	June 25—24 days
June 15	40	7	5	July 7—22 days
June 30	17	0	0	
July 8	13	0	0	
July 23	14	0	0	

*All white hens.

STATE GAME FARM,

WM. N. DIRKS, Supt.

Hayward, Cal.

Now Is the Time To Buy Eggs.

See Advertisements in this Issue. Advertisers report a bigger demand than last season. Better order quickly.

The Game Breeder

EDITED BY DWIGHT W. HUNTINGTON

NEW YORK, APRIL, 1915

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THE GAME CONSERVATION SOCIETY, INC.,
PUBLISHERS, 150 NASSAU ST., NEW YORK
Telephone, Beekman 3685.

THE ATTITUDE OF THE CAMP-FIRE CLUB.

Ernest Thompson Seton, ex-President of the Camp-fire Club, the best and most widely known naturalist in the club, in a letter to the Editor of The Game Breeder, says: "The way to make American game abundant is to commercialize it."

Many other prominent members of the Camp-fire Club are members of The Game Conservation Society and have said they favor the sale of game by all breeders in the best market, New York.

Professor Pearson, Secretary of the National Association of Audubon Societies, has endorsed this proposition.

Mr. Marshall McLean, at Albany last week, representing (or misrepresenting?) the Camp-fire Club as its attorney, opposed the Machold bill which provides for the sale (in New York) of game produced by breeders in other states only when the game is properly identified, tagged and shipped with the authority of the State Game Officers.

We believe the majority of the members of the Camp-fire Club are in favor of the idea expressed in Mr. Machold's bill. If so why should their attorney oppose it?

Here is a chance for the organ of the club to grind out one little tune. Is Field and Stream willing to have the tail wag the dog or should the dog wag the tail?

R. S. V. P.

WRONG END FIRST.

One of our Boston readers wrote that the professional game protectionist usually tackled the subject wrong end first. The wrong way of handling an important subject recently has been emphasized by the attitude of the professional restrictionists towards the proposition to permit the game breeders in sister states to sell the food they produce in the New York markets, where the prices are the best, of course. Hundreds of thousands of deer, pheasants, wild ducks, quail and other game, mammals and birds are now owned by American breeders. Some could send five or ten thousand birds, and even more, to the market every season. There are hundreds of elk and deer on many game farms.

It is proposed that the State Game Officers in the states where this food is legally produced shall properly identify the animals as the property of the breeders and tag the same with an official tag; it is proposed that before any shipment is made the shipper shall notify the New York State Game Officers about the shipment so that they can investigate it and see that the food belongs to the shipper and that it is properly and legally shipped.

A few professional protectionists claiming to represent two clubs, or the Game Law Committees of these clubs, say such shipments and sales of food should not be permitted under any circumstances no matter what safeguards may be proposed.

It can not be denied that during the last three years there has been one violation of the New York Game Laws relating to the sale of game produced by industry—an important violation, which resulted in a fine of \$20,000 being collected. The fact, however, that there has been one violation should not be made the excuse for strangling a great food producing industry throughout the nation. Because a stolen diamond occasionally finds its way to a pawn shop we do not insist that there shall be no borrowing or lending. We do not close every

bank in the country because money sometimes has been loaned on stolen collateral.

The remedy, of course, is to stiffen the criminal laws; to put the criminal out of business (by revoking his license) and in jail; if necessary. The innocent and worthy producers of food should not be the sufferers on account of the wrong doing of one or even a half dozen wrongdoers, if that number should appear during the next three years. A State Game Department that can not handle a few dealers has no excuse for its existence.

The people who make a business of game protection are well paid for their activities, no doubt, but there is no good reason why they should persistently handle the subject wrong end first.

GRATIFYING REQUESTS.

Often we receive unsolicited requests for *The Game Breeder* from libraries and scientific and educational institutions. This is gratifying. The story of the "more game" movement, as it runs through the magazine, we are told is well worth binding, and we are asked to prepare an index and title page for this purpose. From time to time we shall publish the portraits of prominent sportsmen, naturalists and successful game breeders who are contributing to make America the biggest game producing country in the world.

QUAIL ON TOAST.

We predict it will not be long before an almost forgotten dish, "quail on toast" is restored and we believe the quail soon will be as abundant and cheap in our markets as the gray partridges are abroad. Many readers now are aware that game produced by industry from stock birds legally procured legally belongs to the producer and that such game is not governed by the game laws. Intelligent State Game Officers do not often arrest breeders for producing food and we are glad to observe that many have accepted our idea that the State Game Departments should be of great

economic importance and that they should represent all of the people, especially the food producers and food eaters.

INCREASING PREJUDICE.

The State of New York may prevent the farmers in other states from selling the game they produce in New York. The State may insist that hundreds of thousands of dollars must be sent abroad annually for cold storage game, much of which is not very good to eat because of its long rest in foreign mausoleums before it is shipped to America. In some parts of the West it is the fashion to say, "We must keep moving or soon we will be as far behind the times as they are in New York." A lecturer recently made this statement from the platform.

Other states may possibly enact retaliatory measures and refuse to receive New York products. We do not think they will. They are too fairminded to indulge in such performances. Because New York goes wrong is no reason why more liberal states should go wrong. It can not be denied that a decided prejudice exists in some parts of the country against New York. The refusal to permit farmers to sell the food they produce will not tend to allay this prejudice.

A WARM RATION.

Mr. Chas. J. Vert handed the Conservation Commission some rather hot stuff, at the Albany hearing, when he pointed out the fact that they said they needed the tax of from 18 to 24 cents on all trout sold. No other countries tax foods at this rate.

Having helped Mr. Vert get the fish question properly settled, as we did at the start, we are counting on Mr. Vert to help us put game on the same basis. Trout are now freely sold by the breeders of all states in the New York markets.

EXCITEMENT.

We have a note from the President of the American Game Protective Association in which he says he was mis-

represented in the last issue of The Game Breeder when we observed that he opposed our suggestion that the resolutions offered at the Waldorf-Astoria Hotel meeting be amended so as to distinctly declare that game produced by breeders in other states should be sold in New York under proper regulations. He now says he did not oppose the amendment but simply insisted it was not a proper time to spring the subject. We had always been of the opinion that the proper time to offer amendments to resolutions was when they were presented for adoption. This was the time selected and we were surprised to see the excitement displayed by the President; our wonder is increased now that he says he is in favor of the principle involved. Why should he get excited?

In a second letter the president of the American Association says he is in favor of permitting the breeders of other States to sell their game in New York and that we misrepresented him for the purpose of injuring him. This idea is absurd. Our disposition is to be both friendly and helpful.

It is not too late for the president of the association to make it known at Albany how he stands and his association should be able to exert some influence in securing the passage of a bill permitting the game breeders of other States to sell the food they produce. He was in Albany the day the matter was discussed and it is fair to say he did not attend the hearing.

We shall be glad to notice any effort he may make to aid what we think is an important and a very good cause. He certainly created the impression that he was opposed to the idea of permitting breeders in other States to sell their food in New York. We discussed this matter with people who were present who formed the same opinion we did. We regret that we misrepresented him. Since the matter is still pending he easily can make a record by pushing the legislation at Albany, and we will gladly report just what he does.

CORRESPONDENCE.

Letters from Members of The Advisory Committee of the American Game Protective Association.

[Wm. Brewster is the foremost ornithologist in America. Dr. L. C. Sanford is a member of the Connecticut Fish and Game Commission. Dr. C. Hart Merriam is the ex-chief of the U. S. Biological Survey and one of the foremost naturalists of America. Judge Beaman is one of the leading practical conservationists in America, and the author of the Colorado Game Breeders' Law. With such advisers it seems strange to us that the President of the American Association should go wrong on an important question.—Editor.]
Editor Game Breeder:

Although the matter is of no personal concern to me, one way or the other, I certainly think that the bill introduced by Mr. Machold in the New York Assembly ought to prevail. For there would seem to be neither sense nor justice in forbidding the sale of game "produced by industry" in other states while permitting the sale of that imported from abroad.

Yours sincerely,

WILLIAM BREWSTER.

Cambridge, Mass.

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Editor of The Game Breeder:

Regarding the bill introduced by Mr. Machold in the New York legislature, I entirely approve of it, and at the present time I am interested in a somewhat similar bill which is pending before the Connecticut legislature. If these bills become laws in the various states they will prove of value to the farmer, the sportsman and to the community in general. There ought to be joint action in this matter on the part of the commissioners of adjacent states.

Yours very sincerely,

L. C. SANFORD.

New Haven, Conn.

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Editor Game Breeder:

I am very glad to know that a bill has been introduced in the New York legislature providing that citizens of other states engaged in legitimate game

farming may ship and sell in New York properly identified game raised on the farm.

The present law forbidding such sales is a severe blow to a worthy industry, and I trust that it will be repealed at an early day.

C. HART MERRIAM.

Washington, D. C.

=

Editor Game Breeder:

I never was able to comprehend the logic of the game protection idea that prohibits the sale of game in a state, which has been lawfully produced by breeders in other states, when properly identified.

The laws of Colorado have for many years encouraged such sales of game and fish to the very great convenience and advantage of the consumers and to a corresponding saving of our own game and fish. This upon the logical idea that if it were necessary or advantageous to us to protect and save our own timber or coal we would invite the importation of those articles from other states.

D. C. BEAMAN.

Denver, Col.

=

Charles Hallock, the Dean of American Sportsmen, covered the subject fully when he said: "Truly we need a revolution of thought and a revival of common sense."

A Talking Dog and a Good Shooting Ground.

By DR. HENRY HEATH, JR.

I have been out with several good dogs, but "Doc," an English setter, three years old, a descendant of "Pinehill Leader" (registered), belonging to Dr. J. Arthur Doshier of this place (Southport, N. C.), was hunting with me yesterday and if ever a dog knew what his business is and *could say it*, he is the dog. *He talks*. That is, when he is out of your sight in the bushes, etc. He barks until you come to him and when you get there, there are the birds. More remarkable still, when he ascertains that you know he has them he quits barking.

In other words he plainly says, "I have got 'em" and when you get there he keeps quiet meaning, "it's up to you." This happened several times yesterday afternoon. They had told me of the way he acted, several days before, but it did not impress me so much until I saw him work and may be I am not able to put it in a way to make it very vivid, but if you can tell of it in the magazine, with some catchy heading such as you editors know how to use, I should think it might interest some of the readers as it interested me when I saw it.

It is possible that other dogs may have developed this trait, but I never knew a dog that made manifest by sound that he had the birds. I thought if any had heard of such a thing it would be you. Southport itself is a very pleasant spot in the extreme southeast coast of North Carolina at the mouth of the Cape Fear river, with a fine harbor and a beautiful view from the shore. Several islands, among which Baldhead Island, is remarkable, and a fort (Fort Caswell) add to the picturesque character of the view. Baldhead Island looks as suitable for a game preserve as Gardiners and I think it is already taken with that end in view. One may come from Wilmington on the train to Southport or by boat down the pretty Cape Fear river, a distance of thirty-one miles in somewhere around a two-hour sail. The boat lands you near the quaintest little hotel, the Stuart House, run by a lady of Southport. It is right on the beach, and the first night I was here, as I heard the water lapping outside my door, I felt as though I was in "Peggoty's" boat, and wished I could have persuaded you, the day before, to share the sensation. The fare is fine and I am going away with receipts in my pocket for cookery which I hope to have duplicated as nearly as possible when I get home.

My quail are taken from my hand when I come in from hunting trips and nicely broiled for breakfast or for supper. You must see you made a mistake in not accompanying me. Southport I think, is a city of some twenty-five hundred inhabitants and back of the town

and for a distance of from ten to forty miles, we hunted. There are a considerable number of quail, wild turkey and ducks. Deer too. The gunners of the place gave me a hearty reception. We took two auto trips about forty miles into the wilds finishing with a trip across a little river over which a colored man ferried us in one of his boats, explaining that the others was "pretty well evaporated," as it was, seeing that the bottom was out. The "Ford" auto in which we traveled, carried five of us and sometimes three and sometimes four dogs, the roads right through the woods, enough to take the endurance of any car, but, very pretty country all around and looks fine for pheasants; lots of green stuff, grasshoppers, etc. Southport would be a very pleasant place to live in, and especially so for gunners, as they could make trips out from here, to so many good places to find birds, and I hope another year you can find opportunity to judge for yourself, and I hope in my company.



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CLYDE B. TERRELL

Naturalist

Department P OSHKOSH, WISCONSIN

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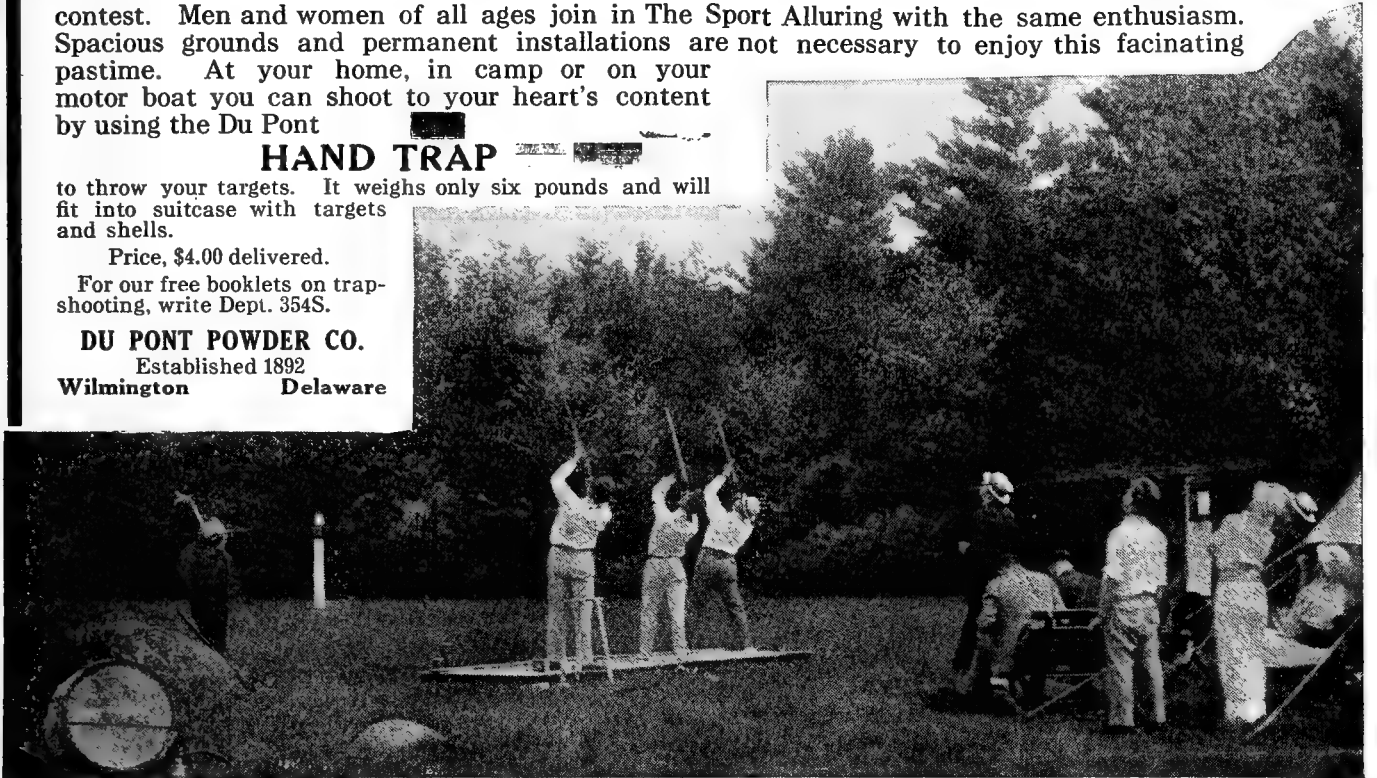
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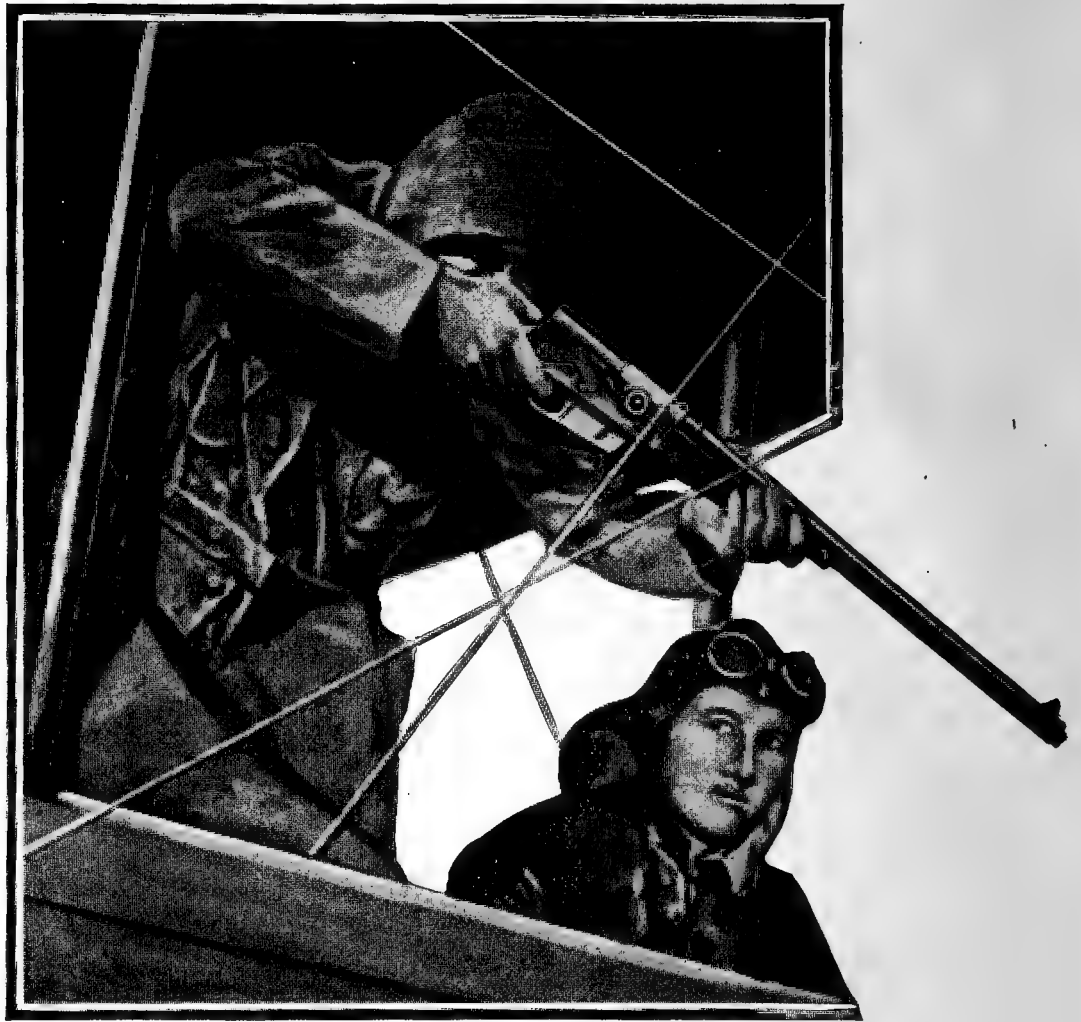
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The Pheasantries

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COYOTES SHOT FROM AIR CRAFT.

Inaugurating a new epoch in the hunting world and showing the ever-increasing practicability of aviation, Fred Mills, one of the best amateur marksmen in California, one day last week shot and killed from an aeroplane driven by Glenn Martin at a speed of between sixty and seventy miles an hour, and at an altitude of three or four hundred feet, two coyotes which had been loping along in pursuit of quail, little suspecting that they themselves would soon be quarries.

This stalking of game by aeroplane, which Martin declared marked the beginning of the revolutionizing of hunting, was accomplished in the San Fernando Valley, which was chosen by the ingenious aviator and the clever marksman as a likely area to demonstrate the possibilities in a combination of hunting and flying.

It was at 3.45 in the afternoon that Martin and Mills, in one of Martin's standard aeroplanes, left the aviator's Griffith Park hangar, near Los Angeles, and mounted skyward,

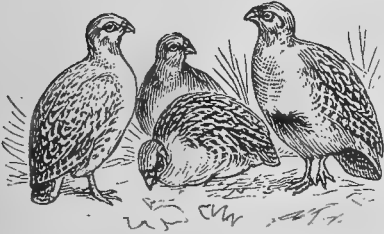
circled once over the aviation field in a farewell to a few friends who were interested in the exploit, and then sailed away to the north, while the reports of Mills' Remington auto-loading rifle, fired in joyous anticipation of "bringing home the bacon," mingled with the whirr of the machine's motor.

It was at 5.20, or an hour and thirty-five minutes later, that the aeroplane returned to the hangar, bringing a happy airman and an equally happy hunter, as well as three coyotes and two wildcats which Mills had shot about seven miles north of Roscoe, or about twenty-five miles north of their starting point.

Two of the coyotes were shot by Mills from the machine as it sped through the air at a speed exceeding sixty miles an hour. The other animals were killed by him on the ground after Martin had made a landing in order to take into the aeroplane the two Mills potted while both he and they were in motion.

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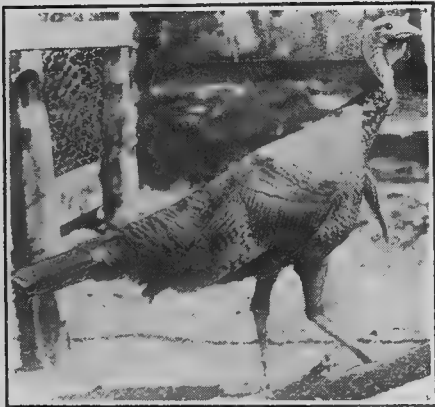
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THE GAME BREEDER

VOL. VII.

MAY, 1915

No. 2

THE OBJECT OF THIS MAGAZINE IS TO MAKE NORTH AMERICA THE BIGGEST GAME PRODUCING COUNTRY IN THE WORLD

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The State Game Departments—Game Permits, in Michigan—Letter from Hon. Wm. R. Oates, State Game, Fish and Forestry Warden—The Oklahoma Game Breeder's Law.

Editorials—It—A Meeting of Game Breeders—Cheering—Game Breeding in Oklahoma—Two Heroes—Correspondence—Book Notices, Etc.

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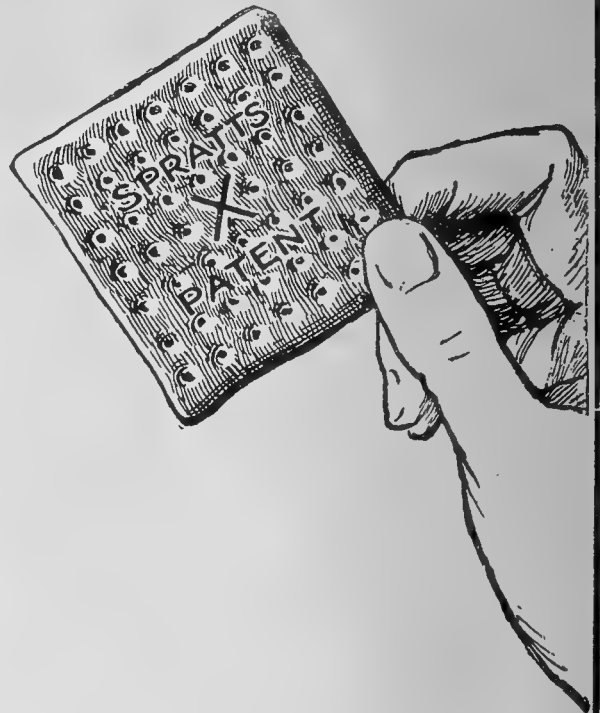
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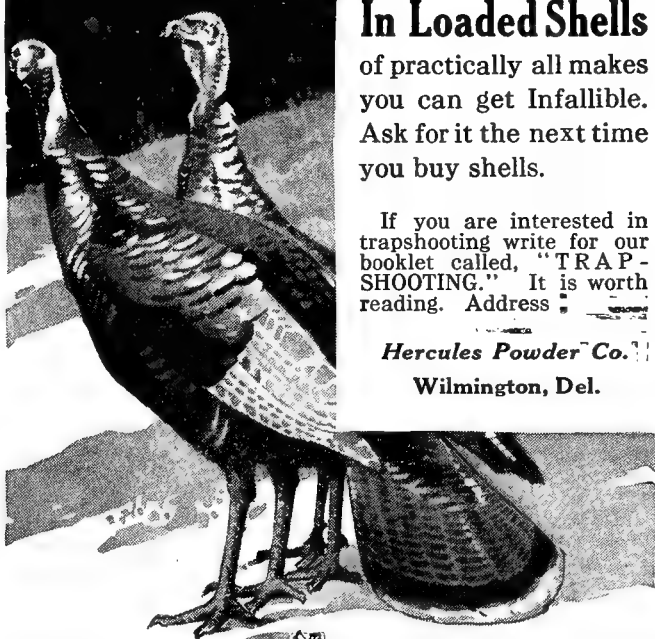
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“Otherwise than By Shooting”

This picture was made to illustrate Field Sports in New York as prescribed by one of the ridiculous statutes known as “fool laws.”

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Please enter my name as a contributing member of The Game Conservation Society and send me its publication, THE GAME BREEDER, for one year. \$1.00 enclosed.

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N. B.—Write Name and Street Address plainly and state if you wish back numbers of the magazine to the first of the year.

The Game Breeder

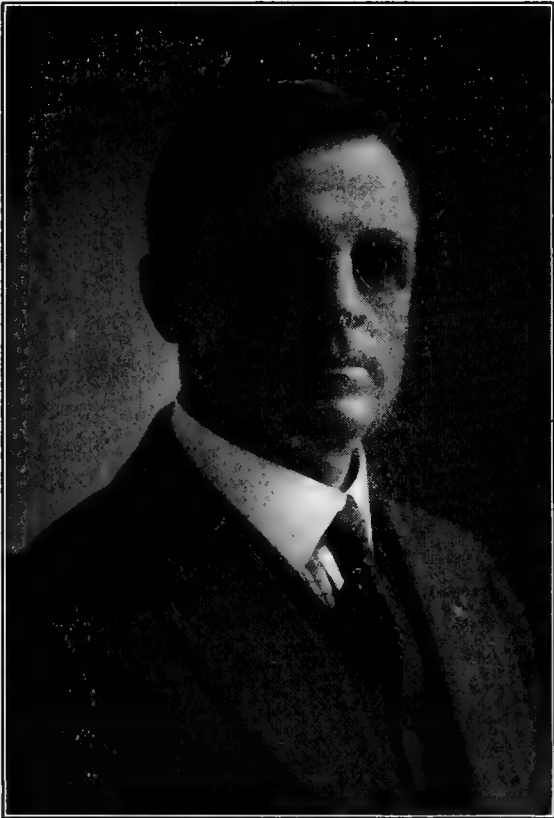
VOLUME VII

MAY, 1915

NUMBER 2



SURVEY OF THE FIELD.



Hon. W. R. Eaton.

Oklahoma's Opportunity.

A liberal game breeders' law has been enacted in Oklahoma providing, as all such laws should, for the profitable breeding of all species of game. Oklahoma is a splendid country for game, big and small, and as soon as the people of the State understand how to look after it properly and profitably vast quantities of game birds and deer will be produced. We predict that it will not be long before the game brings large sums of money to those who produce it. There is no good reason why the hundreds of thousands of dollars which now are sent abroad for cold storage game should not go to Oklahoma; there is no good reason why a good part of the vast sums which are now sent abroad

for live game should not go to Oklahoma.

Some very active members of the Game Conservation Society reside in Oklahoma. A number of pheasantries and game breeding associations will be started and we predict that the sportsmen as well as the farmers and those who like to eat game will be surprised and delighted when the results of practical game handling become known.

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Oklahoma Game.

Oklahoma is one of the best states in the Union for quail and other game birds and deer. Only a few years ago thousands of birds were trapped and sold alive at excellent prices. Since no one looked after the birds and everyone shot them who wished to do so, it would not have been long without the game breeders' law before the prohibition of shooting would have become as necessary in Oklahoma as it is in Ohio and in many other states which prohibit the profitable increase of game.

Under the new law thousands of quail, prairie grouse, wild ducks, deer, pheasants, and other game, should be produced and sold every year. The people of Oklahoma will be interested to know that wild ducks can be reared on suitable marshy tracts and about sloughs and small ponds cheaper than tame ducks can be raised; prairie chickens and quail and pheasants can be produced much cheaper than poultry can be produced on any farm. Having these facts in mind the people of Oklahoma will be interested to know that the birds named sell readily at the following prices:

Quail \$15 to \$25 per dozen in large lots.

Pheasants \$2.50 to \$5 per bird for common varieties.

Wild ducks \$2.50 to \$3.00 each for common varieties.

Wood-duck, teal and others, \$10 to \$30 per pair.

Prairie chickens \$8 to \$10 per pair.

We can put the Oklahoma game breeders in touch with customers who will take thousands of birds at the above prices.

We can furnish the names of people who have purchased thousands of birds at the above prices and who want many thousands more. There is a demand for hundreds of thousands of birds and the business of producing them is most interesting work for women as well as for men. We can give the names and addresses of some women in other states (where the laws are not so favorable as they now are in Oklahoma) who are making a lot of money selling game birds and their eggs. Miss Helen Bartlett, of Michigan, Miss A. Hope Pickering of Rhode Island, who advertise in the magazine, are successful game breeders. Mr. W. J. Mackensen, of Yardly, Pennsylvania, can furnish many names of customers who are successful in breeding for sport.

Oklahoma a Good Egg State.

Hundreds of thousands of game eggs are now bought and sold by readers of The Game Breeder every year. The demand is increasing far more rapidly than the supply is increasing. The eggs are now sold by the thousand at the following prices:

Wild ducks, mallards, \$25 per 100 eggs.

Wood ducks, \$100 per 100 eggs.

Other species, \$50 to \$100 per 100 eggs.

Pheasants, common varieties, \$25 per 100 eggs.

Pheasants, other species, \$50 to \$200 per 100 eggs.

It is not a difficult matter to gather and sell wild duck and pheasant eggs when you know how to keep the birds laying well. Quail eggs can be sold readily at \$6.00 per dozen and more. It is an easy matter to have an abundance of quail nests and penned birds persist

in laying when their eggs are gathered so that each little hen should produce more than \$15 per year for its owner, at a low estimate.

The eggs of prairie grouse will bring fabulous prices for some time to come and by selling the eggs the birds quickly should be made abundant and kept so on many farms. They should be kept abundant for the very good reason that it will pay to keep them abundant on game farms.

The New Oklahoma Law and the Sportsman.

The sportsmen of Oklahoma will rejoice in the new law as soon as they understand it and take advantage of it. They should remember that it is an absolute natural law that when any check to the increase of game (shooting for example), is added to the ordinary causes of destruction (hawks, snakes, foxes and other natural enemies) the game must vanish from the earth, as it always has, because nature's balance is upset. It is necessary, therefore, for those who would shoot to persistently destroy the natural enemies of the game to make a place for the shooting. In Ohio the sportsmen are not permitted to do this because field sports are prohibited and of course no one will look after the game when it can neither be shot nor sold. In Oklahoma the sportsmen have a rare chance to form inexpensive shooting clubs and to shoot all the game they can eat and some for those who do not shoot. Quite near New York our readers have formed quail clubs which have excellent quail shooting every year at a cost of from \$10 to \$15 per gun. This is far better than the prohibition of shooting which is favored by those who see the game vanishing in many states.

Every gun club and every trap-shooting club in Oklahoma should have a game shooting ground. The Game Breeder will furnish information about the organization of the game breeding Associations of various kinds which now have excellent shooting every year. The magazine contemplates offering a substantial prize for the Oklahoma club

showing the best shooting and the biggest bag for the smallest cost. It is possible for a good game breeding club in Oklahoma to have excellent shooting at grouse, quail and other game and at hand-reared wild ducks and pheasants for a very small expense per gun. We shall not be surprised if some of the clubs which will be formed get their shooting for nothing; possibly they may declare a dividend. There is room enough for all who wish to shoot, on the farms which are now posted. Many farmers will encourage shooting on fair terms.

=

New York's New Commissioner.

Mr. George D. Pratt has been appointed as State Game Officer of New York at a salary of \$8,000. The commissioners who were bounced by the legislature, as we predicted they would be, received \$10,000 each, so that it would appear that there is some economy contemplated.

Mr. Pratt is a member of the Montauk Club, the Camp Fire Club and possibly of some others and he no doubt is aware that game usually is plentiful when it is properly looked after and that it uniformly vanishes when it is not properly looked after. As a good business man we are sure Mr. Pratt will agree to the proposition that no one can be expected to do anything unless it pays.

There are many intelligent men in the Camp Fire Club like Mr. Ernest Thompson Seton, the eminent naturalist, and members of many game producing clubs who know that the breeders of game should be encouraged to produce game profitably and not prevented by legislation. Unfortunately these men are not lobbyists or collectors of funds to save the game by procuring additional foolish enactments such as those which tend to "protect the game off the face of the earth."

We believe Mr. Pratt will conduct his office on business lines and that he will prefer the advice of those who know why our game vanishes to the advice of those who seem determined to add to

our ridiculous game laws more of the same kind.

=

Alien Hunters Forbidden.

When Game Warden John C. Reinbold of Hackensack, was murdered by an Italian hunter three years ago, in the old Tappen Woods, the game wardens throughout New Jersey declared they would have a law enacted to prevent another occurrence of the kind. The murderer had no license and was unnaturalized. He escaped and was never located.

Gov. Fielder has signed a bill which prohibits the hunting of wild birds or other game by unnaturalized persons, and also forbids such persons to own rifle or shotgun or have them on their premises.—The World, N. Y.

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Hungarians in Ohio.

The Ohio game warden is reported to have received many favorable reports about the so-called Hungarian partridges (gray partridges) in Ohio. Thousands of these birds were turned down last season on many farms and undoubtedly the birds nested in many places and reared young birds. Last month we printed an excellent photograph of a nest full of partridge eggs which General John C. Sparks, the capable State warden, sent to The Game Breeder. Additional birds will be liberated this year and we hope the experiment will be successful. Thus far we believe there has been no gray partridge shooting anywhere in America due to the introduction of these birds by State game officers. Some of the clubs have been successful in producing some shooting but thus far we have heard of no big bags of partridges and none have appeared in the markets. They are a common and cheap food in foreign countries. It is to be hoped they may become common and cheap in America. We should remember, however, that the abundance and cheapness abroad is due to the work of skilled gamekeepers and we fear we will have no partridges in America until we have the skilled labor to look after the birds properly, and protect them from their numerous natural enemies.

Why Not Elephants?

The World, N. Y., says: "The worst of the shortage of elephants due to the European war is that it cannot be offset by any stimulation of the domestic industry."

Why not? The superintendent of the Zoo has a good sire on chain and no doubt there are a lot of female elephants in the country. The World should remember what an alderman once said about the purchase of a male and a female gondola for the park: "Let nature take its course."

=

More Ducks.

One of our Western readers writes that he has decided to start a big wild duck ranch and will hatch many thousands of eggs this season. This, of course, means tens of thousand next season. We are quite sure the New York markets will be ready to receive these ducks and other game birds which soon should come from the Western game ranches.

Why should not the ranch owner breed deer, ducks, pheasants, prairie grouse, quail or any other desirable food for the market? He has been permitted to breed cattle and sheep for many years and game preservers know that cattle and sheep have put an end to the shooting on many ranches and farms. We are always glad to learn that game production is to go on even in places where it may seem to be an illegal industry. It really is not since the laws protecting wild game never were intended to apply to game produced by industry and owned by individuals.

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The Anna Dean Farm.

A letter from the Anna Dean Farm indicates that a new department has been added. The words "Game Department" on its stationery look good to us. We understand the new department has several hundred game birds which means many thousands of eggs and young birds this season and the usual geometrical increase next season. The manager of the department says he cannot fill the orders already on hand. This in a

State where our game breeders' law has not yet been enacted is "going some." Any up-to-date Western farmer will find it profitable to add a game department with a good gamekeeper to produce the birds and eggs.

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A Prairie Grouse Department.

We hope soon to see "prairie grouse department" on the stationery of some of the big Western wheat farms where the grouse have been exterminated because the land has been too closely cultivated. A few wild rose bushes and sunflowers and a little prairie grass can be made to yield prairie chickens in good numbers and at a minimum of cost since they will find most of their food in the stubbles. They must have rose hips for winter food and the briars for their protection against the vermin. Sunflowers and other foods can be planted to advantage.

We hope to see broiled prairie grouse on the New York bills of fare not later than A. D. 1916.

Wild Ducks in Australia.

A few years ago wild ducks were so numerous in Australia that no one could have imagined that protection would have to be given them. The birds have gradually diminished in numbers and the Shooting Times and British Sportsman says: "It may be in the future we shall have to adopt rearing to increase the numbers of birds and animals threatened with extinction."

New Booklet on Hand Trap.

The latest practical device for throwing clay targets is the hand trap. It is gaining in favor every day being used both by trapshooters and field sportsmen.

The Du Pont Company has issued an interesting booklet on its use and value. It describes the hand trap in detail, also the many pleasures derived from its use.

The company will furnish a copy of this book on request.

BREEDING CALIFORNIA VALLEY QUAIL.

By C. H. SHAW.

I consider the experiment of breeding the California Valley quail which has extended over a period of three years, a success.

First, by hatching the eggs and brooding the young with bantams; given a bantam hen inclined to stay with the eggs, a large percentage, averaging 90 per cent., are hatched and there are no losses of young birds except from the hen stepping on them. We have kept them with the hen in a coop until four weeks old.

Using an incubator to hatch the eggs, the percentage hatched is even higher. Our first attempts at artificial brooding were a failure, due principally to keeping the brooders at too high a temperature and crowding. Later this method was worked out satisfactorily.

Perfect results were obtained by allowing the parent birds to hatch the eggs and rear the young. Even where as many as forty-five pair of old birds were in one enclosure, they hatched the eggs left with them at the end of the season, although it was necessary to remove the young birds when hatched to prevent injury by old birds which were fighting over them.

My conclusion is that splendid results can be had with raising these quail under the following system: Take say the first fifteen eggs laid by each female and

hatch them either in an incubator or under bantams, and brood them with bantams. The old birds being placed in separate enclosures for each pair, allow them to keep the eggs laid after this and they will hatch them and rear all of the young.

I am prepared to dispute absolutely the theory that they will not rear their young, or even hatch the eggs, in captivity. The secret of success in this is to use breeding stock at least one generation removed from the wild condition.

Am sorry not to be able to send you any good photographs of these birds. I have made very little effort to obtain any as this bird is so well known to everybody on this coast, but I am enclosing you two or three which may serve to show the type.

I consider this the finest game bird in this country, for many reasons. It is very hardy and very alert in keeping safe from its enemies. It roosts in trees or other thick cover off of the ground, and is seldom harmed by animals or owls at night. It will adapt itself to civilization and become entirely tame around house grounds where not molested and even thrive in a town. As a game bird for the sportsman it has few competitors.

It may interest you to know that I am in a position to ship say 250 of these birds to the East for breeding purposes.

PHEASANT BREEDING IN CALIFORNIA.

By MARY P. MARSHALL.

Pheasant breeding is still in its infancy in California, although it has become quite popular of late years and will be permanently introduced all over the country. A visit to an aviary will convince one that these beautiful birds are not a picture dream, but one of Nature's charms for the eye. The culture of them is a wonderful industry and full

of pleasure, and it is a joy to know that it is growing.

Pheasants are raised easier than chickens are, and they are more profitable. They mature early, being full grown at five months. They are small feeders, and all diseases common among chickens, such as roup, etc., seldom occur with them. There are no culls as in so-called

fancy chickens. All varieties breed the first year although those two and three years old breed much better. Breeding qualities in these birds lasts from twelve to fifteen years.

Some breeders and even government bulletins advocate feeding at regular intervals, while I find it better to keep feed before them all the time, as an adult bird will never overeat. I feed somewhat along my own lines, and I have an egg yield of ninety and ninety-five eggs per bird. The percentage of fertility in pheasant's eggs is remarkably great. I find "scratch food" particularly adapted to their needs. Green feed must be fed continuously and they must be

kept busy. I sow wheat, oats or barley in the pen and let the birds work for it.

Sunshine is necessary for their health and comfort as is sand for a dust bath to keep their plumage fine, glossy and free from insects. Pheasants prefer to sleep in the open, even in rain.

Pheasant hens in confinement are poor mothers and for this reason common hens are used to hatch the eggs taken from the pheasants. For the best results I advise bantams (Cochin bantams are perhaps the best).

I find pheasants very easy to raise; I raise 80 per cent. of the hatches. It is all in knowing just how. Get the pheasant craze—they are a continual delight!

SUCCESSFUL PLANTING OF QUAIL ON LONG ISLAND.

By WILLIAM B. BOULTON.

Two months ago I made my annual report to the club and called the attention of the members to the fact that there were so many quail on our preserve that their numbers might prove detrimental when the next nesting season came around, and I incautiously showed this report to two of the officers of the American Game Protective Association, who thereupon requested that I should speak on this matter at the present conference.

During the autumn of 1904 there was an extremely heavy snowfall at the eastern end of Long Island averaging over fifteen inches on the level in the open fields and about thirty inches in the woods where the underbrush helped to bear up the snow. At the end of that storm I went out on an inspection of our property and after two or three hours' search I found three quail, one of which I shot. When I picked it up I found that it was nothing but a framework of skin and bone covered with feathers. We immediately took steps to obtain a fresh supply of birds to be delivered to us the following spring, as we were convinced that our native stock was practically exterminated. For the years 1905, 1906

and 1907 we obtained birds from Mr. Payne of Wichita, Kansas, which came from Oklahoma and the Indian Territory, and we liberated part of these birds early in March of each year and late in December toward the close of the shooting season. The old native Long Island stock were large plump birds, averaging 7 to 7½ ounces in weight, while these liberated quail did not run much, if any, over 5½ to 6 ounces.

As the years passed by we noticed that the descendants of these liberated birds were reverting more and more to the type of the natives both in size and color, until to-day there are many which are scarcely distinguishable in their markings and weight from the original Long Island stock.

This experiment, if indeed it may be called an experiment, of restocking our preserve has been so highly successful that I think it is worth being called to the attention of all shooting clubs and individuals in this vicinity who may suffer from a temporary shortage of quail. With us it was not altogether an experiment because I find that as far back as 1891 the Flanders Club purchased quail coming from Virginia, North Carolina

and Tennessee, which were liberated in the more accessible portions of our territory. Some few birds were obtained from Florida and these retained their distinctive marking through the third generation, being much darker on the throat and breast. These birds were even smaller than the Western quail but caught up with them in about five years.

After the almost total destruction of our native birds by snow storms the liberated quail, let out in March, nested freely and replenished the preserve by the following autumn. The Florida birds increased more rapidly, that is to say, produced larger bevs than any of the birds that we liberated, but we very quickly desisted from buying them because we found that a whole bevy would light in trees instead of on the ground; although it is fair to say that subsequently they outgrew this habit and acted like the original native birds.

The success of the transplanting I have just described really depended on the maintenance of our preserve. Left to themselves, without adequate protection, the birds would have succumbed quickly to the free shooting that prevails on unprotected land. This brings up the important question of the value of the preserve in the protection of game. Probably no other one factor is of greater importance than the preserve in increasing the supply. Speaking broadly, there are two ways of attempting to protect game—that practiced in this country and that practiced in Europe and it is worth while to attempt to compare the two methods. In this country we have a mass of detailed legislation, all well meant and with the honest purpose of protecting the game supply. The chief characteristic is a multitude of restrictions regulating how game shall be shot or captured and imposing limits on the daily or season's bag for each individual sportsman. Practically all these laws ignore the rights of the farmers and other owners of the land and whether by intention or not, are framed almost entirely in the interests of that very large class of sportsmen who come from the cities and towns and who obtain their

shooting on lands which do not belong to them, without paying for it and by counting on the good nature of the land owners for their negative permission to do so.

A weakness of our legislation lies in the fact that not sufficient police power is provided to secure enforcement and the further fact that even if there were sufficient police power it would be exceedingly difficult to obtain a strict enforcement of the bag limits. A greater weakness still lies in the fact that our legislation is not founded on the right principle. It aims at protection only by endeavoring to restrict the number of birds killed instead of striving for means by which the amount of game can be increased. If the amount of game in a district can be increased the restrictions as to the bag limit may become a matter of indifference. In extreme cases too much restriction of shooting may even effect a decrease. For example, it is a well-known fact that on a Southern plantation where all shooting of quail is stopped for a series of years the number of birds on that plantation tends to decrease.

On the other side of the ocean, and especially in England and Scotland, they go at the problem in a very different way. Instead of a mass of laws which would require for their enforcement a great police force they adopt this course: for all practical purposes they say to the land owners—"You are more concerned in the preservation and increase of the supply of game than any one else. If we can make it worth while, your selfish interests will turn you into a great volunteer army of game wardens and save the state the expense, bother and care of maintaining a police force for the enforcement of its game laws." So the land owners have been given the benefit of two rather simple weapons of legislation—a trespass law which has effectually reduced the army of shooters. An interesting point about the gun licenses in England is that they are sold to all alike, resident or non-resident, for short periods or for the year, and the highest price charged is \$15.

Given these two weapons to protect themselves, the land owners soon realized that the crop of game was in its way as important as any other crop, and that if they themselves did not care to shoot, the right to shoot could be sold to others for a very respectable sum. They also found that the larger the crop the more they could get for it, so their selfish interests made them study how to increase the supply and they succeeded so well by improved methods of keeping down the vermin, by limiting the season's bag for the ground and by increasing the food supply that game in England and Scotland has, during the past hundred years, increased by leaps and bounds. The same results could in a measure be obtained in this country provided similar methods were used, but first the people must be educated as to the rights of the land owners and the immense value of preserves or restricted areas as a factor in increasing the game supply. It has long been a source of wonderment to me that the farmers of

this country do not realize what they are losing by neglecting their game crop. In the South some progress has been made in this direction, but the farmers there have yet to learn that it lies completely in their own power greatly to increase the stock of game on their lands. Careful killing of vermin and a limit placed by the owner of the covers on the bag that might be taken during the season would accomplish wonders. Is it not possible that by combining the best of our laws and that part of the English and Scotch laws best adapted to conditions here that we could make progress far more rapidly than under present conditions?

In conclusion, I desire to acknowledge my indebtedness to Mr. Frederick S. Mead of Brookline, Mass., who has aided me greatly in preparing the latter part of this statement, and I venture to say the Game Commission of his State would be able to profit largely if they should call on him to give them the benefit of his experience.

QUAIL BREEDING ON ROCKEFELLER ESTATE.

By ARTHUR M. BARNES.

Ever since Mr. William Rockefeller built Rockwood Hall at Tarrytown, N. Y., he has endeavored to stock the grounds with quail.

The method which he employed was to purchase Southern birds in New York and liberate them. This did not prove successful, as the quail soon disappeared, there being no grain fields to attract them.

In the fall of 1912, Mr. Herbert K. Job visited the estate on several occasions, explaining fully the details of his system of quail breeding.

A supply of breeding stock was obtained from the West, and they arrived in good order January 17, 1913, their wings were clipped and they were placed in a large enclosure in which there was plenty of cover of evergreen boughs and low board shelters.

In the early spring a man was secured

to give his whole time to the game, and I wish to give Tom Warne credit for the hard season's work he put in with quail and other game birds. We had not only the usual enemies of a game preserve, hawks, crows, foxes, skunks and weasels, but also the predatory animals of civilization, cats, rats and even the pet bull terrier at the Hall could not be convicted of murder till he was caught with the goods in the shape of a bantam hen, the mother of twenty little quail. This was the third large brood of tender age that he had rendered motherless.

We built a dozen breeding-cages 8 feet long by 4 feet wide, covered with wire netting. We now use $\frac{1}{2}$ inch square mesh to keep out weasels and have the frame set upon another frame of 2x4 lumber to which is nailed a strip of $\frac{1}{2}$ inch netting sunk six inches in the ground to discourage animals from bur-

rowing under the cages. A small box coop was also found very convenient to drive birds into when found necessary to move them.

About April 1 we mated up the breeders, putting a pair in each breeding cage, which we had prepared by placing hemlock boughs within for shelter from the sun.

The meadow in which these dozen pairs of birds were placed was soon made cheerful by the spring call of the bobwhite and by the last of May we began collecting eggs from the pens. Thereafter they were gathered every few days and as soon as we had twenty-five eggs they were set under a bantam hen. Nests were made on the ground in special coops of three nests each, which gave the hens a small yard for feeding and dusting. Buff Cochin bantams were found to make the most satisfactory mothers although some silkies were used the first year. The percentage of fertility in the eggs ran very high and a number of hatches gave us as many as twenty of the little bumble bees from twenty-five eggs.

The season of 1913 was unusually favorable for rearing game, at least in Tarrytown, June, July and August being very dry and what showers we had came generally at night.

The young birds were left on the nest with the foster mother for a day after hatching and then if weather was favorable they were removed to a small coop.

Around this coop had been placed a fence of $\frac{1}{2}$ inch wire netting $2\frac{1}{2}$ feet high, fastened in place by stakes driven in the ground. (The small quail try hard to get out and there must be no chinks under the wire.) For a week the brood would remain in that yard learning to follow the hen and feed at her call. When we felt sure they had learned their lesson they were removed to the spot where we wished to rear them. Some would be placed on the lawns near the Hall, where a similar coop was provided and a similar yard surrounded them, but soon that yard was taken away and they were free to run over the grass in search of insects. How-

ever, having learned dependence on the mother hen they would follow her even when fully grown.

To one used to handling hens with chickens it is surprising to approach a brood of quail after they are well feathered and see them fly away when surprised, leaving the hen clucking frantically. They do not go far and soon return to the parent.

Careful attention in closing up the coops at night is a necessary detail. When the lawns were parched for want of rain we put the late broods in the meadow where the grass is left uncut for the benefit of bird life. Swaths were mowed through the long grass as for pheasants. The birds reared in the meadow grew well, but never became as tame as those reared on the lawns where gardeners, lawn mowers, tree doctors and a flock of sheep were continually present.

Three good-sized patches of buckwheat were planted and these doubtless tended to hold many birds that might otherwise have left the region. The Hungarian or gray partridge also enjoyed the grain and have reared nice broods which have stayed with us.

The season mentioned we reared to maturity about 150 quail. While we find that they have not always consulted the county map and settled on Mr. Rockefeller's land, many of them have remained in the vicinity and have reared broods. We send feed to parties as far as two miles distant who inform us of a covey and are interested enough to feed them.

The feed used for young birds was dry bread crumbs mixed with hard boiled eggs, fed five times a day for the first few days, gradually changing to fine pheasant meal to which was added ants' eggs or baked flies caught in wire traps. This was fed four times a day. Maggots were substituted occasionally.

When a month old we began feeding fine grain and in a few weeks they had only this ration, being then able to obtain themselves all the animal food necessary.

The question of raising quail for food is not worrying us very much just yet.

Others will tell you of greater numbers reared, but the principal point I wish to make is that the natural shyness of the quail can be overcome when they are reared quietly with bantam hens within sight of passers-by.

To-day we have some of these com-

panionable birds which were reared under the terrace of Rockwood Hall, being fed daily from a certain window of the house, and they are so tame that they show no alarm when the grain rattles down on their backs.



HOW WE RAISED 500 QUAIL

By MALCOLM DUNN.

There is no reason to my mind why quail cannot be raised profitably, but they should be by themselves, and not where there are a lot of pheasants in process of rearing. You can give better attention to them under such conditions. Last year we hatched out 600 and raised 500. I consider that good. The main thing is to feed light and not to overcrowd.

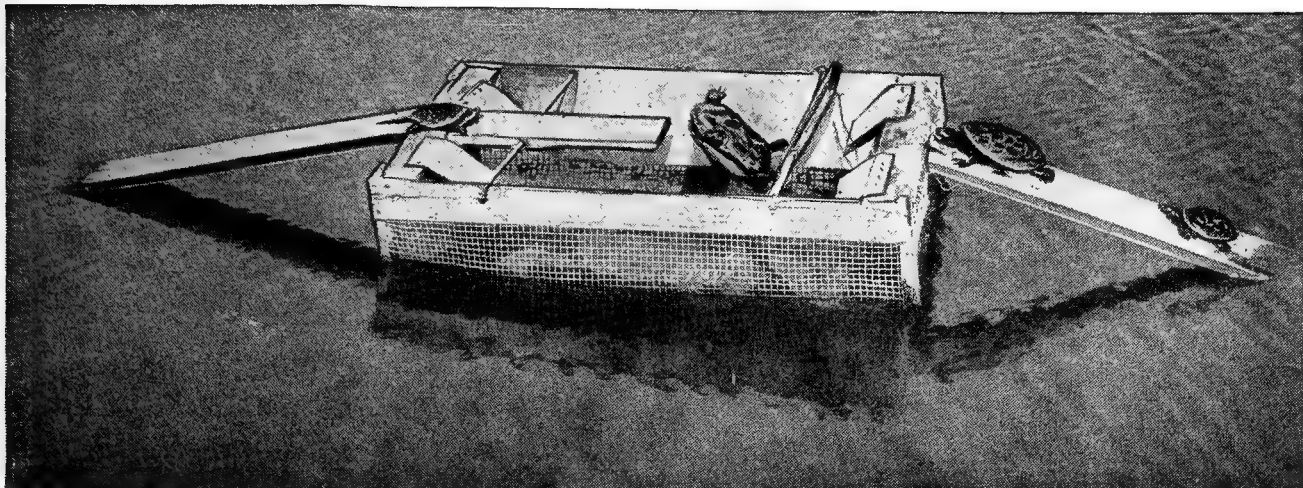
In the spring of 1913 the New Jersey Game Commission received a shipment of quail from Oklahoma. We put twenty-five pairs in small movable pens and ten pairs in a pen one hundred feet square. They began to lay the last week in May. We got forty-six eggs from one pair. Some of them did not lay at all. We gathered the eggs once a week and always left two eggs in the nest. We tried taking all the eggs away from some, but we soon found out it paid to leave some in the nest, as when we took all the eggs away it stopped the laying for approximately a week. We put the eggs under small bantams, and when they hatched out, after twenty-four hours, we placed them in a field as we do young pheasants. We found out that

the birds do much better if each brood is kept separate. We start feeding them with a custard—three eggs to a cup of milk. We use this for a day or two, then we feed a mixture of seeds, Spratts, chick grain, canary seed, ant eggs, and green food. We feed every three hours until a week old.

We raised 350 in 1913 and last year we raised 500. In the winter we put them in a large pen so they will have lots of room. The secret is to have pens enough to keep moving them into fresh ground.

The ten pairs we put in the large pen started laying sooner than those in the small pens, but we did not get so many eggs from them. Therefore, we think it best to pair them off in the small coops. We hatched quite a number out in the incubators, then put them with the bantams that hatched out. They did all right. We leave the birds out in the field until half grown before we put them in the pens. All the surplus cock birds and those we did not need for breeders were put out through different parts of the State.





A Turtle Trap.

TURTLES AND BASS.

By PROF. L. L. DYCHE.

It was about 4 o'clock in the afternoon when we had an unexpected opportunity of making observation which we considered a rare one. We were delighted to see a turtle of the variety usually called a "skillypot" or "painted turtle" slowly making its way up this narrow channel in the direction of the bass nests. This turtle came along in turtle fashion, slowly and carefully, until it got within five or six feet of the nearest nest. Being on the bottom and moving slowly the fish did not seem to notice the turtle until it got within a short distance of them. When the fish did recognize the turtle they immediately became very much excited, swimming over and around their nests and around and over each other. Finally one of them made a frantic dart at the turtle, which was an animal with a shell some six or eight inches long and some five or six inches wide. After the first two or three movements there was such a commotion in the water that it was hardly possible to see just what took place. Apparently the bass grabbed the turtle by the head, which would seem an unreasonable thing to do. However, this was the best observation we could get at the time of what took place. The turtle was turned upside down, at any rate it appeared that way.

All three bass made an attack on this

animal, swimming past, around and under the turtle and striking the animal in some manner. It was not possible to see whether they grabbed the turtle with their mouths or whether they raked the animal with their dorsal spines. Apparently they grabbed him by the feet or tail or most anywhere with their mouths. They must have used their sharp dorsal spines as they passed under the animal. The turtle was on his back or side part of the time, and was apparently turned over by the fish grabbing it. Finally the turtle got his feet in some weeds, which enabled him to get to the bottom, and he immediately disappeared under a bunch of water plants that was near the shore. The fish were very much excited and swam up and down the small inlet for some time. It took several minutes to become quiet and settle down to their regular work of guarding and fanning the eggs in the nests.

Since the above observations were made we saw a rock bass grab a turtle by the head and turn it completely over. At the time we were watching the rock bass perform on its nest at a distance of not over two feet. The turtle, a small one with a shell not over five inches in length, came along almost crawling into the nest before it was discovered. The fish grabbed the outstretched head of the

turtle and there was an immediate commotion in the water that left the turtle on its back a foot or more from the nest. The turtle immediately disappeared and the fish was soon settled over the nest that it was guarding.

The nests were visited the following morning, but no observations of importance were made. We caught three snakes with which to perform experiments by turning them loose near the bass nests. However, we did not succeed in inducing the snakes to swim near the bass as we desired. The snakes would not perform as we hoped they would. They were stubborn and mulish, and always went in the wrong direction. We have on other occasions seen bass tackle snakes and dis-

able or even swallow them. One snake that was apparently too large to be swallowed was so disabled that it could not swim except in irregular curves. During the afternoon of the same day these nests were destroyed by parties who were seining for minnows, and who were unaware of the presence of the bass nests and of their value to a student of fish culture. A minnow net had been pulled over the beds, and the following day there were no eggs in the nests and no bass present guarding them, which goes to show that if the nests are disturbed by pulling a seine or net over them the parent fish do not return, and the eggs, if not destroyed or eaten by small fish, would soon die of white fungus disease.

THE RAINBOW TROUT.

By JOHN GILL.

Perhaps before this chapter is in print there will be no Rainbow trout. The debate of the question whether the Rainbow and Steelhead trout are one and the same has waxed warmer for some years among learned men. The greatest American ichthyologist, Dr. David Starr Jordan, has during the past twenty years held four opinions on this question, and may even now have changed his mind again. This readiness to reconsider his views on the subject indicates a broad and receptive attitude, and it also indicates to the layman that this question is a difficult and puzzling subject.

In one of his earlier descriptions Doctor Jordan has written: "There are no circumstances in which I have not been able to distinguish the Rainbow from the Steelhead." In a work by Doctor Jordan and Charles F. Holder (1909) the opinion is less positive, as follows: "Very careful comparison of specimens leaves no doubt that the two are distinct."

Two years ago Doctor Jordan told the writer of this article that he thought it probable the two types sprang from a

common parentage and might be one and the same fish. The apparent difference between a Steelhead recently from the sea and a typical adult "Redside" or Rainbow is surely greater than the difference between a Rainbow of a pound weight and a Clark trout of that size; yet we have no confusion of the two latter. The greatest chance for doubt is when the Steelhead, in the spawning season, acquires a red side and enlarged head and jaws.

Let us leave out any consideration of the fish least known to both scientist and angler—Mason trout, which is believed to inhabit only streams west of the Cascade summits—and take into account the type which most anglers know as Rainbow or Red side, found only in streams of the Cascades and eastward, at least in Oregon, Washington and northward.

The first and most prominent distinguishing trait of a Rainbow adult fish, of two years old and more, is the peculiar red stripe along the side, following pretty closely the median line from the opercle to the tail. This mark in the Rainbow is a narrow stripe, not half an inch wide in fish of a pound weight,

and not much wider than half an inch in very large specimens of even five pounds and more. Both sexes bear this mark, but it is brighter and bigger on males.

On a typical Rainbow this stripe is densely red, nearly Indian red, and so clearly defined that it appears as if painted with one sweep of a narrow paintbrush. It is not a rosy blush such as we see on the side of a male Cutthroat, but a dense, livid, narrow bar. This mark is more brilliant at the beginning of the mating season, and grows misty and faint after spawning. I think this mark is more pronounced on Rainbows of waters east of the Cascades. Certainly no such vivid band is seen on Clark or Mason or Dolly Varden trout, nor ever on the Steelhead of my acquaintance. On any but the Rainbow, where a rosy or purple tint is seen on the sides of the trout it is a thin, transparent tint, extending over more than half the side of the fish vertically. In the Rainbow typically marked the stripe is vivid, dense in color, sharply defined—not shading faintly away into the general color as it does in other species—and is a narrow stripe, not more than one-sixth the width of the side.

There seems to be no good reason for naming this fish "Rainbow," but it is a splendid name. In no trait save the red side does he resemble the bow of heaven more than his fellows; and the stripe instead of being seven-hued is one bright, dense, brick red. A trout so marked is certain to have all the other traits of the Rainbow and to be no more readily mistaken for any other species than a carp for a salmon.

But not all Rainbow are thus distinguishable. Until two years old, when they first spawn, all the family are much less vividly marked, and may be readily mistaken for Clark trout when the latter are adult and in spawning dress, when the male Clark or Cutthroat trout has the wide, faint, rosy sheen which then appears.

Old males of the Irideus or Rainbow family frequently take on livid, blotchy colors and the whole fish is sometimes as red as a spent dog salmon.

From an Angler's Diary these notes will help to fix the "stripe" feature. The reader will observe that one lot of fish is from Blue mountain waters and the other from Cascades.

"May 28, 19—, Reuben Montgomery displayed in a window a lot of fine trout caught by him in the McKenzie river. One was a big Dolly Varden, 28 in. long, weight $8\frac{1}{2}$ lbs. dressed. Eight were Rainbows of one to two lbs. weight. The red bar on side was very striking; as deep as if painted in Indian red. On every fish this extended from opercle to base of tail."

"Oct. 28, 1912, Mr. Finley has fine specimens of Rainbows caught yesterday in Umatilla by C. K. Cranston. All typical, no doubt about them. Eight to twelve inches long. All bear distinct stripe of deep red along median line and a little below. In the largest this stripe is half inch wider midships. It begins rather narrow and fainter in color at the opercle and diminishes near the tail."

Two great ichthyologists state that the "Rainbow may be known by the numbers of scales in a line from head to tail, which is about 120." Both say its scales are larger than in the Steelhead or Clark trout.

One of these scientists is Doctor David Starr Jordan. He named this trout "Rainbow" in 1870, the specimen being taken in San Leandro creek, near Alameda, California.

The description given by Doctor Jordan of the Rainbow seems to be followed implicitly by many writers, though very incomplete, and even questionable. The statement that "its head is larger than any other Pacific trout" is open to question, the pictures illustrating the article showing the Clark trout's head to be the larger of the two. Perhaps the Rainbow trout of California differs from ours, but two-year-old Rainbows, eight to ten inches long, from Oregon waters, show a considerably smaller head length than Clark trout of the same size. In unusually large fish of either species, especially breeding males, the head is disproportionately large.

In all under-size trout the tail is much

more deeply indented than in mature, large specimens. All big Rainbows I have seen show a "square" or nearly right line along the margin of the tail when fairly extended. This is so noticeable a feature that in many places this trout is commonly called "square-tailed trout."

Certainly the shape of the Rainbow's tail distinguishes him easily from Clark trout, which has a rounded hollow in the mid-margin, and the corners or lobes gracefully rounded. In the Rainbow the points are sharply angular, as in the Steelhead. The difference between the tails of all the salmon is easily learned, but is so little as to confuse Steelhead and Rainbow.

One of the characteristics given by Doctor Jordan is: "Head obtusely ridged above." Several other writers copy this description exactly. It is plain that they have taken the Doctor's statement without question, permission or examination. Look for the "obtuse ridge," and see if there's any such feature.

Doctor Jordan says, "the mouth is smaller than in Cutthroat," and so it is. This difference is evident. The gape of the Rainbow from tip of jaw to corner of the mouth is about one-fourth less than in Cutthroat. The angle of the open mouth in Rainbow is just in line with front edge of eye-pupil. In Cutthroat the mouth extends back to middle of pupil or farther.

In young and medium size fish the Rainbow's head is distinctly more blunt and rounded than in any other of our trouts. In this feature there is a noticeable difference from the adult Steelhead, which has a more pointed upper jaw.

Comparison, I believe, will establish this difference as one certain mark of recognition. There is an "innocent" air in the profile of the Rainbow, due to this roundness of the front of the maxillary.

The eye seems to be a very notable point too. In recent examinations I have observed the eye of Rainbows to be peculiar by reason of its larger size—one-fifth greater diameter than that of Clark trout—and by a staring look which the latter has not. The iris in Rainbow

is broader than the Clark and of a clear, pale yellow, with rarely any spots in or on the iris, while the eyes of many Clark trout examined recently show the iris to be almost covered by dark spots resembling the spots of the surrounding skin. The narrow band of iris surrounding pupil is also of a darker, rich gold.

My opportunity for observation of Rainbow is rare, and I do not venture to be dogmatic concerning him; but I hope this peculiar difference in sizes and marking of the eye may prove to be distinctive.

One other peculiarity marking the Rainbow is the usual presence of spots on the cheek or opercle, black and round. Color and shape of these spots, as well as the peculiarity of their placing, seems a distinct trait.

The general color of the Rainbow, except in breeding season, differs little from Clark trout, except the red bar. Sometimes a Rainbow is very profusely spotted, but usually the Clark trout is more numerously speckled.

There is, I believe, a real difference in the majority of the spots, in shape. I thought two years ago that in the spots was a sure mark. Specimens of Rainbow then seen were marked mostly by little crescent-shaped spots, sometimes joined together making a "3," and with occasionally a third crescent attached to the "3"; but I found some Clark trout with the same marks. However, the spots of the Clark are mostly larger, and are of an irregular circular or hexagonal type. The spots on base of tail are larger and blacker in the Clark trout.

The variation of spots and colors in all trout, at certain times, is so great that few naturalists would risk an opinion on these alone. The Rainbow frequently has red stripes under the mandible, but they are narrow. The Clark trout is sometimes almost without these, but where present they are twice as broad as in a Rainbow of the same size. Both fish return from the sea with hardly a trace of this throat mark.

Authorities referred to above state that the Rainbow is the typical trout of coastwise streams, and that it is not

found east of the Sierra Nevada or Cascade ranges; yet in the same chapter the waters of the Klamath lake and its tributaries are cited as the most remarkable Rainbow trout fishing in America.

The great typical Rainbow is not found in Oregon or Washington coastal rivers, though abundant in Rogue river above Grants Pass. Neither is it seen in the west-side streams of the Willamette.

It prefers, apparently, the large streams of the Cascades, both east and west slopes, and appears to be more abundant in the southern rivers—McKenzie, Rogue, Klamath, Shasta, etc. It finds its way up the Sacramento to Goose lake, and is also abundant in Deschutes, Klickitat, White Salmon and a few other mid-Columbia rivers.

Some of the finest specimens ever seen in Portland came from Silvies river, a large stream flowing into the land-locked waters of Malheur lake.

Lewis river is the farthest west that I have seen Rainbow trout, but probably Kalama has some too.

Naturalists speak of Rainbows (as distinct from the Steelhead) being found in the waters of the sea on British Columbia and Alaskan coasts. Dolly Varden trout of great size swarm in the Alaska seas in the neighborhood of the rivers, and thousands are canned as salmon on Bristol Bay, in the southeast corner of Behring Sea. Several times

I have seen Clark trout among young salmon from Puget Sound, and they had been netted in the same haul at sea. The eastern brook trout goes to sea from St. Lawrence river, and returns silvery and spotless as "seatrout." The tendency of this tribe of trout seems to be to go to sea, at least from adjacent rivers, and the Rainbow is probably no exception. Of the Clark trout's going to sea and return we know a little—more than is known of any of the others, yet very little. There are few things else that I would rather know with certainty than these times of the trout's sea-going, the trout's reasons therefor, the changes produced in their traits by this seawelling, and their return to the rivers. The difficulty of observation is very great, yet some of our coast streams seem to offer ready opportunities.

As to the sporting quality of the Rainbow, most of my readers are better informed than I. Men who write good books upon angling give this trout high praise, and some say he is the greatest fighter among the trouts. Most eastern writers think him inferior in this trait to the eastern brook trout.

The Rainbow has been successfully planted in many waters of the eastern United States, in Europe and in New Zealand. In the latter country it has increased enormously both in numbers and size, the giants of the tribe being numerous there.

THE STATE GAME DEPARTMENTS.

Hon. William R. Oates, State Game, Fish and Forestry Warden of Michigan, in a letter to The Game Breeder says: "This State has not yet attempted to legislate in the interest of game breeders.

"I have noticed the law which has recently been passed in Indiana and I am sure that a law of that kind would not be acceptable to people of this State as no safeguards have been thrown around this measure which would protect the

wild game, therefore this department has not recommended such a bill, although we have been urged to do so by a few people who desire to enter into the business of propagating game in private enclosures.

"If this State should ever adopt a law, having this for its object, I am sure it will be safeguarded to such an extent as to preserve the wild game of the State.

"This State has not yet attempted the

tag system, although this department has urged the Legislature to enact a law of this kind, as I believe it is the only way by which bag limits can be enforced. We are not sure, however, whether the Legislature will consider the proposition at this session or not.

"We are satisfied that game breeding is a very interesting industry and we expect, in the near future, to establish a State farm by which experiments along this line can be made. This department has extended to any person who desired to raise game in captivity, all the encouragement possibly under our existing laws. Where game can be legally secured from other States or during the open season for taking same, we are issuing permits by which they can be held in captivity during the closed season, for the purpose of propagation and scientific investigation."

[We prefer a game breeders' law similar to that of Vermont (and some other States) which provides for a low priced breeders' license and the regulation of the sales of game as food, either by requiring invoices as the Colorado law does or by requiring tags as other State laws do. Game owned and produced by breeders should, of course, be sold as food, and we doubt if the Indiana law will result in much wild game being so sold. If the law works badly it can be amended. The experiment is interesting and creditable.—Editor.]

The Oklahoma Game Breeders' Law.

[The following sections of the new Oklahoma game law are excellent. Oklahoma soon should produce game abundantly.—Editor.]

AN ACT RELATING TO FISH AND GAME AND PROVIDING FOR AND ENCOURAGING THE BREEDING OF FUR-BEARING ANIMALS, FISH AND GAME.

Be it enacted by the people of the State of Oklahoma:

Section 4. The State Game and Fish Warden is authorized to issue permits to propagate fur-bearing animals, game and fish, and he shall make rules governing such industries.

Section 5. The application for a breeders' permit shall be signed by the applicant and shall describe lands or waters owned or leased by such breeders, and such other facts as may be re-

quired by the State Game and Fish Warden.

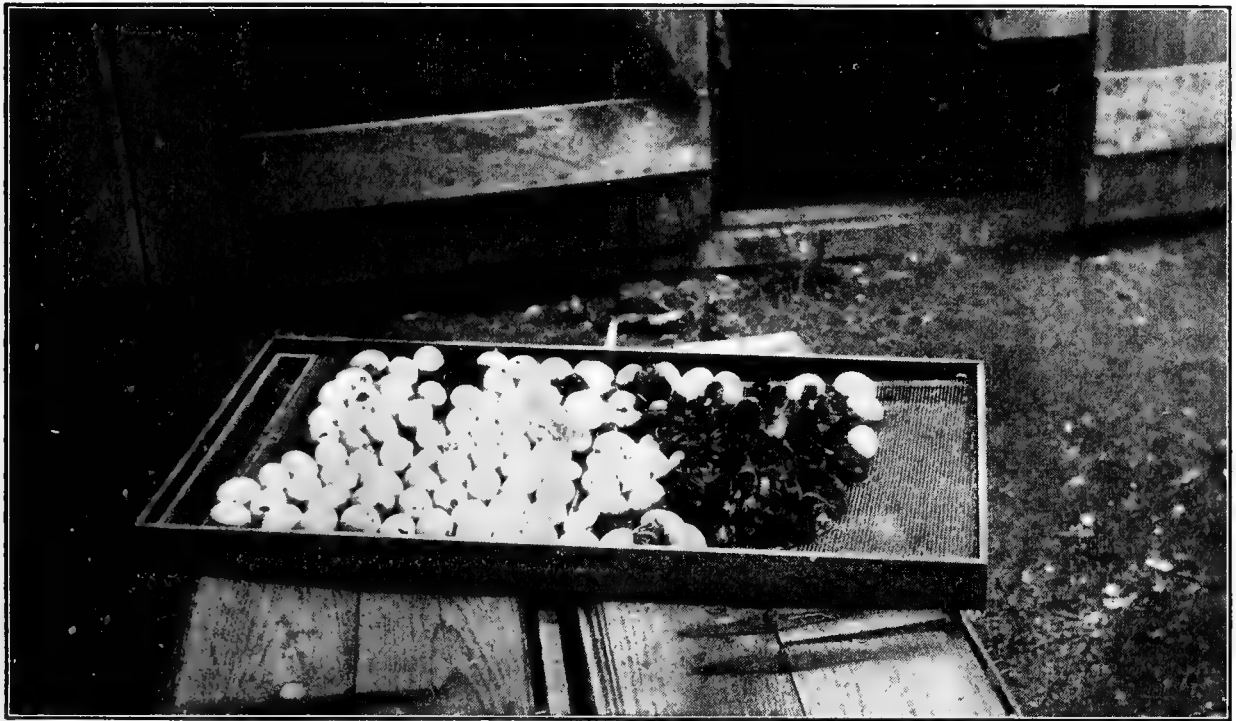
Section 6. When it appears that the application is made in good faith, the State Game and Fish Warden shall issue a permit upon the payment of the fee of two dollars, which, with the fees for tagging hereinafter mentioned, shall be paid to the State Game and Fish Warden.

Section 7. Licensed breeders shall be permitted to sell and transport fur-bearing animals, game and fish at all times, alive for propagation, and alive or dead for food, during such seasons as the State Game and Fish Warden may describe.

Section 8. Such fur-bearing animals, game or fish shall be properly identified, either by marking the packages or by individual tagging, as may be described by the State Game and Fish Warden.

Section 9. The licensed breeder selling game illegally procured from lands outside of his premises as described in his application for his license, or who violates the law relating to fur-bearing animals, game or fish, or a regulation made by the State Game and Fish Warden, except as permitted by this act, shall forfeit his license and be fined not more than one hundred dollars and in addition thereto shall be fined and imprisoned as prescribed for the violation of the laws relating to fur-bearing animals, game and fish.

Section 10. A person owning a natural pond of not more than twenty acres, or an artificial pond, entirely upon his premises, stocked at his own expense with fish artificially hatched or reared, may take fish from such natural or artificial pond at any time for the purpose of propagation or consumption as food, provided, the sources of the water supply of such natural or artificial pond are entirely upon his premises, and the fish do not have access to such pond from water not under said owner's control, or from waters stocked at the State's expense; provided, that it shall be unlawful to take, catch, possess, or fish for any black bass, small mouth bass, large mouth bass, strawberry or



Coming Events of Clove Valley Club—"More Wild Fowl."

calico bass, rock bass (otherwise known as goggle-eye) crappie, white perch, brook trout or speckled trout, from January 31st to May 1st, provided, further, that no bass under eight (8) inches in length shall be taken, nor shall more than ten (10) bass be taken in any one day; and provided, further, that it shall be unlawful to use in any manner whatsoever the young or any bass or game fish for bait.

Section 12. There is hereby appropriated out of the Game Fund, to be expended under the direction of the State Game and Fish Commission in the preparation and issuance of bulletins for the purpose of encouraging the breeding of game and fur-bearing animals, the following:

For the year 1916, \$500.00

For the year 1917, \$500.00

Passed by the Senate, February 18, 1915. M. E. Trapp, President of the Senate.

Passed by the House of Representatives March 6, 1915. A. McCrory, Speaker of the House of Representatives.

Approved this, the 5th day of April, 1915. R. L. Williams, Governor of the State of Oklahoma.

Back Again.

One of our Long Island, N. Y., readers writes that about twenty-five of his wild ducks which went South last fall are back again and nesting in the marsh. We hope some of these birds will be banded next season and it will be interesting to learn just where they go. Since some undoubtedly will be shot at different points on the line of migration it may be possible to learn just what course they take when going South.

More Reindeer.

Importation of reindeer from Siberia two decades ago was begun with the aim of furnishing a food supply and clothing to Eskimos in the vicinity of Behring Strait. Now there are 47,266 reindeer, 30,532 of them being owned by natives.

Although the state is said to own the game it appears that the natives own about two-thirds of the reindeer.

Professor Inyat Khan, lecturing on the influence of music upon animals, said at the sound of the bag-pipe, cows began to jump and dance, but whether this meant approval or disapproval the professor did not say.

The Game Breeder

EDITED BY DWIGHT W. HUNTINGTON

NEW YORK, MAY, 1915

TERMS:

10 Cents a Copy—\$1.00 a year in Advance.
Postage free to all subscribers in the United States.
To All Foreign Countries and Canada, \$1.25.

THE GAME CONSERVATION SOCIETY, INC.,
PUBLISHERS, 150 NASSAU ST., NEW YORK
Telephone, Beekman 3685.

"IT."

One of our Illinois members who placed a small advertisement of three lines in the magazine writes to say that it instantly sold hundreds of eggs. It would seem that there will be no danger of our wild life vanishing so long as a three line ad works wonders.

Our advertiser says: "YOUR PAPER IS IT!"

A MEETING OF GAME BREEDERS.

At the meeting of game breeders at the Waldorf-Astoria Hotel a number of interesting papers were read. These have been published in a bulletin issued by the American Protective Association. We reprint the three most important papers which describe quail breeding on Long Island, New York, at the State game farm in New Jersey, and at Mr. Wm. Rockefeller's, Rockwood Hall. Several score of sportsmen and State game officers attended the meeting. Considering the fact that it was not announced in The Game Breeder or the sporting magazines the attendance was as large as could be expected and the meeting was a great success.

CHEERING.

People out on Nassau Street who heard the cheering the other day are informed that it followed a motion by Mr.

Davis, of the Conservation Society, that three cheers be given for Talbott of Indiana and Eaton of Oklahoma.

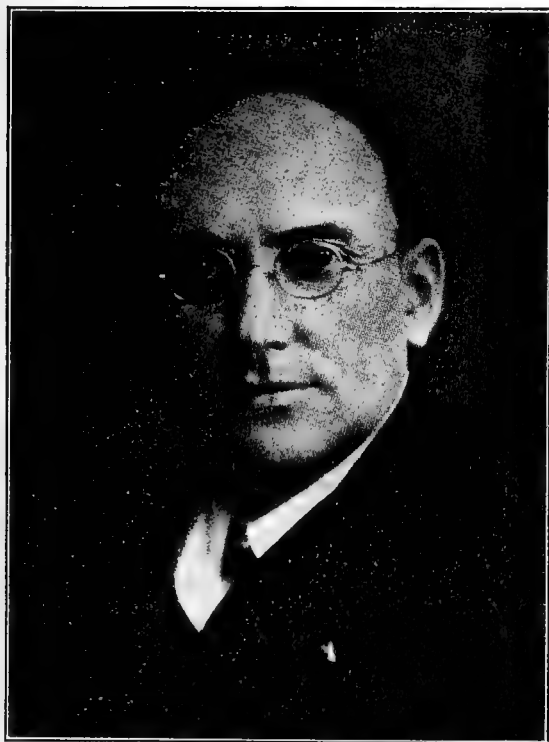
GAME BREEDING IN OKLAHOMA.

Three cheers for Oklahoma!

Hon. Walter R. Eaton, a member of the Game Conservation Society, is entitled to the credit of placing a good game breeders' law on the books of Oklahoma. In a letter to The Game Breeder, Mr. Eaton says: "I appreciate the assistance you have rendered in the matter. In my presentation of the law to the Legislature I was able to get people interested in the game propagation question who heretofore felt that all game laws were simply for the purpose of affording the town man the opportunity to come out and trespass on the farmer's land. When we convince the farmer that he too is to be benefitted by the game laws then we will have much better game laws than we have."

This is well said and quite true. Our readers are aware that one of the fundamental ideas of The Game Breeder is that since the farmers own the best shooting grounds their interests must be considered in our game lawmaking. Professor L. H. Bailey said long ago: "I am sure that your fundamental idea that the farming interests should be considered in game protection laws is sound." We printed this opinion on the cover of the March number in order to give it emphasis and importance, especially with members of the Legislatures in the States where we expect to have our game breeders' laws enacted.

At this writing it appears that the "otherwise than by shooting" nonsense in New York has gone where the woodbine twineth. We fired several broadsides at this nonsense and for the last time we reprint our cartoon illustrating field sports as they were constituted in New York by confirmed mischief makers. Farewell, "otherwise" nonsense, we are glad you're going.



John W. Talbot, of Indiana.

Two Heroes.

We print in this issue the portraits of two prominent members of The Game Conservation Society who won, recently, two important battles for the right against a field so full of prejudice, politics and graft that even the dean of sportsmen at one time regarded it as impregnable.

Mr. John W. Talbot, of Indiana, is entitled to the credit of putting through a most liberal game breeders' law in his State.

Hon. Walter R. Eaton is entitled to the credit of putting through a most liberal game breeders' law in his State—Oklahoma.

Both States undoubtedly will produce game abundantly and we promise their people that the food shall be sold in New York. We propose to dine on some Western game served in New York within a year. Some one may go to jail, possibly, but we think on the show-down the game politicians of the old school will pass; if they do not, they surely will hear from the people if some of them go to jail for serving or eating food legally produced on the farms under laws

specially enacted for that purpose. The more game crowd is an enthusiastic crowd, and some have volunteered in writing to go to jail in other States if they be foolishly arrested. Possibly we may show a New York diner behind the bars.

CORRESPONDENCE.

Editor Game Breeder:

When my customers ask for a periodical on game breeding I always recommend The Game Breeder as being the only thing worth while.

HELEN BARTLETT.

Cassopolis, Mich.

The Game Breeder Is "It."

Advertising Manager, Game Breeder:

A few days after my little ad appeared in The Game Breeder it sold 300 eggs to go to Massachusetts, 100 to go to New York and just now I have another good order. Your paper is it!

Yours for more game,

Danville, Ill. C. E. BREMAN.

The Boone and Crockett Club, N. Y.

Editor The Game Breeder:

Sickness and absence from home prevented my acknowledging yours of the 3d.

Though not authorized to speak for this club, I am personally strongly of the opinion that the commercial production of game should be encouraged, and I can see no reason why I should not be allowed to kill and sell a pheasant which was raised in my barnyard as well as the ducks and chickens which often eat out of the same trough in winter. The former cost me most and I am as good a judge of time and season in one case as in another.

Also the idea that birds will ever increase under the present laws so as to provide "free shooting for all men" and meet the demand is a hazy dream.

I cannot endorse the "Machold" bill because I have not been able to procure a copy and am going West to-night.

Yours truly,

W. A. WADSWORTH.

The Spraying of Plants.

The spraying of plants and trees with poisons in order to destroy insects undoubtedly has resulted in the destruction of some birds.

Eaton says "the opinion is usually held that this danger is largely exaggerated; but when we consider the fact that dead birds in any case are very rarely seen, the fact that we find so few which have been killed by spraying operations is not at all surprising. Dead birds are quickly put out of sight by cats, dogs and skunks, or buried by the sexton beetles and other scavengers. Sick birds almost always fly away to some shelter, an instinct which is universal among wild creatures, and thus the deadly effects of the spraying upon bird life are rarely observed. There can be no doubt that many birds such as cuckoos and orioles feeding continuously on poisoned caterpillars finally succumb to the cumulative effect of the arsenical poisons which are most commonly employed. There is some remedy in the fact that birds will rarely touch larvae that show evidence of sickness, and probably never touch them after they are dead. The author, however, has examined two cuckoos which evidently died from arsenical poisoning, and other instances have been reported by Brewster, Ridgway and Forbush, and by many inhabitants of New York State. We believe that the decrease of both species of cuckoos in the apple districts of western New York is partly due to their gluttonous desire for caterpillar diet.

We have often wondered how much damage was done to the quail and other game birds by spraying poison. Since no spraying was ever done on any of the places where we have made game birds plentiful we have had no means of observation. The farmers should understand that it is an easy matter when gamekeepers are employed to make not only the game birds but all other birds so quickly overabundant that there will be barely enough insects to go round and the birds, of course, prefer their insects alive and unpoisoned.

It is well known that in places where

game birds are preserved it is necessary often to supply extra insect foods or substitutes. Ant eggs and insect preparations are sold, and the Spratts of Newark, New Jersey, manufacture and sell large quantities of crissel, a substitute for insect food.

One thing is certain, it is far more interesting to have an abundance of game on a country place than it is to spray the place with poison. The game birds, especially quail and grouse, quickly can be made very profitable. We can find purchasers for extra stock birds at from one to several dollars per bird in large

Readers who have quail or grouse to sell will please write. These are sold without the necessity of advertising and the sales are increasing.

Pheasant Breeding in Ohio.

Senator Wickline's bill providing that it shall be lawful for citizens of Ohio to engage in the business of raising and selling English, ring-neck, Mongolian or Chinese pheasants, upon the payment of a fee of fifty cents for a breeders' license to breed the birds for commercial purposes, passed in the Senate and General John C. Speaks, chief game warden, writes that he thinks the bill will be favorably acted upon in the House.

The bill should, of course, provide for licenses to breed all species of game. All game is good to eat and the people who wish to produce any kind and the people who wish to eat it should not be regarded as criminals. Pheasants are very good to eat but wild ducks are easier to rear and equally good on the table. Most of the States which have breeders' laws permit the profitable breeding of wild ducks. Some States now permit the breeding of all species of game. Oklahoma has just enacted a law which permits the breeding of all species. Farms in Oklahoma are more valuable on this account than farms are in States which do not encourage the profitable production of game.

Members of the Game Conservation Society are requested to purchase from those who advertise.

More About Naked Ducks.

The law, intended to stop the importation of bird feathers for millinery purposes but which resulted in sportsmen being held up when returning from Canada provided their ducks did not appear in the altogether, or "naked" as one of our Boston readers said, is one of the numerous silly laws which the newspapers often term "fool laws."

The Audubon Association, which did most to secure the passage of the law, joined our Game Conservation Society in asking for a change in the treasury ruling to prevent the annoyance of sportsmen which was not contemplated when the law was enacted.

To-day the Assistant Secretary of the Treasury, Mr. A. J. Peters, who had charge of the matter, sends us the order made and provided to protect the returning sportsman.

The order indicates that the law remains in the "fool law" class. Sportsmen should not be required to leave "not less than \$10," or any other sum conditioned that they later file depositions proving that they have burned or otherwise destroyed their wild duck feathers after the birds were un-dressed, or dressed, as poultrymen say.

Deer Breeding in Minnesota.

My experience in propagation of deer was very interesting. I made a start with one pair, a buck and a doe of the Minnesota red deer. I put them in an enclosure about 50 by 100 fenced with wire netting 8 feet high and had a small shed in which they could go if they wished, but I found that the only time they seemed to care for cover was in exceedingly hot weather.

They were very much contented and seemed to enjoy, more than anything else the presence of the school children who would stop and play with them on their way to and from school.

I fed them on table scraps, corn and oats and gave them a little hay once a day; never more than they would eat up clean. They were also very fond of pumpkin and beets and would eat any kind of weeds. They kept the ground

absolutely free from vegetation but still they did well and at the end of four years I had thirteen deer.

I then thought that it was a shame to keep them in such a small enclosure so I fixed up for them what I considered an ideal park, on my Blue Mound Farm, where there was plenty of shade and an abundance of grass and some huge rocks under which they could take shelter if they wished, but they seemed to miss the company which they had in town and did not do well. The result was at the end of another three years they were all dead.

There is one thing in the connection of propagating of game of which the laws of most of the States are entirely wrong:

They permit a person under certain condition to raise game in captivity but will not permit them to be sold or slaughtered. This cuts off every possible means of revenue so a person really has nothing but the pleasure to reward him for the care he is put to and he is sure to entail a considerable expense.

If the different States would encourage raising game in captivity and with reasonable restrictions permit them to be slaughtered or sold at certain seasons of the year, then the raising of game could be made a profit as well as a pleasure and when there is profit and pleasure combined it gives that necessary encouragement which spells success.

I do not expect to again engage in raising any kind of game in Minnesota while the present laws exist, but I am expecting to make my winter home in the lower Rio Grande Valley of Texas, where I own considerable land, which is an ideal location for all kinds of game and as I like the laws of Texas much better than those of Minnesota, I believe that I can associate profit with pleasure in that locality.

R. B. HINKLY.

Wood pigeons and rooks are said to have become a perfect pest in parts of Yorkshire, England. It has been suggested that night shoots should be arranged for.

A Good Book and Two Bulletins.

We take pleasure in announcing a new book entitled, "Propagation of Wild Birds; a Manual of Applied Ornithology," by Herbert K. Job, economic ornithologist in charge of the department of Applied Ornithology of the National Association of Audubon Societies. This book, which soon will be issued, will contain much matter of especial interest to game breeders. In it are described in full practical detail the methods successfully used in America by various experts in the propagation of upland game-birds and water fowl, and also methods of attracting the smaller land birds. It is fully illustrated by photos from life and will be published early in May by Doubleday, Page & Co., \$2 net. To avoid mistakes, it has been read before publication, in part or entire, by such experts as D. W. Huntington, editor of The Game Breeder, F. C. Walcott, Dr. George W. Field, A. G. MacVicar and T. Gilbert Pearson.

Further to help the popular more game movement, the National Association of Audubon Societies is publishing, for free distribution, two handsome and extended pamphlets, with half-tones and colored frontispieces, on propagation of upland game birds and propagation of American water fowl, in a first edition of ten thousand each. These are also by Mr. Job, being abbreviated treatment of the same subjects as found in the book, where they are thoroughly handled. The first will be out before we go to press, the other shortly after. We want to place them where they will do good. Those who will be helped by them are invited to write to The Game Breeder, 150 Nassau St., New York.

Outings and Innings.

A man promptly gets thirty days for killing a cat and a boy ninety days for killing a rabbit. It is safer to kill human beings and get—off.

WILD FOWL EGGS

**Canadian Geese, Black—Wood—Mallard—Duck
and English Ring-Necked Pheasant Eggs**



Last season the State of Massachusetts bought my Mallard Eggs exclusively. The Mallards are warranted pure bred ducks, captured wild.



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JOHN HEYWOOD

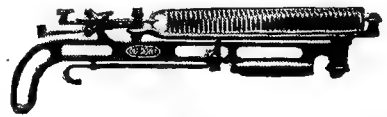
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THE DU PONT HAND TRAP

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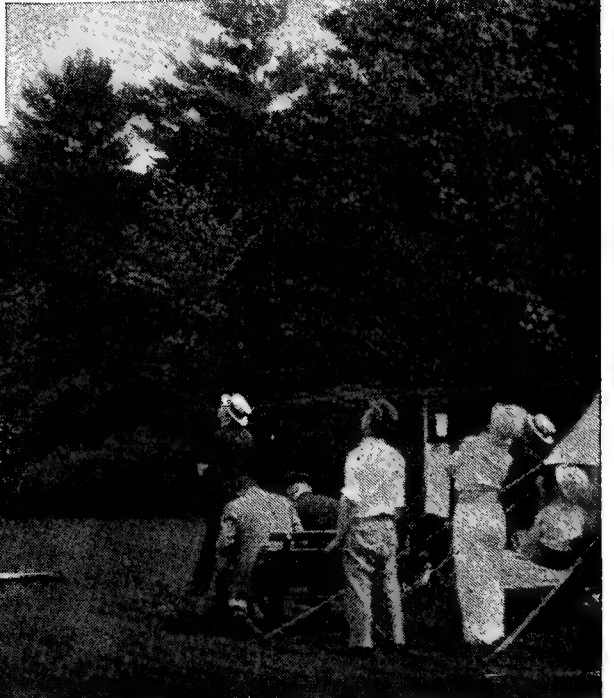
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Announcements inserted under this head in small type for 2 cents per word. If displayed in heavy type, 5 cents per word. No advertisement accepted for less than 30 cents. Postage stamps accepted in payment.

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150 Nassau Street New York City

LIVE GAME

PHEASANT AND JAPANESE PHOENIX FOWL
Eggs for sale; several varieties. S. V. REEVES, 114 E. Park Ave., Haddonfield, N. J.

GET WISE—RAISE PHEASANTS FOR PASTIME.
Profitable and fascinating. Send for prices. CONNECTICUT FARMS PHEASANTRY, Union, Union County, N. J.

QUAIL, PARTRIDGES, WILD FOWL, DEER AND
other animals. See display advertisement in this issue. WM. J. MACKENSEN, Proprietor Pennsylvania Pheasantry and Game Park.

WILD GEESE, DUCKS, SWANS, ETC SEE DISPLAY advertisement in this issue. WHEALTON WILD WATER-FOWL FARMS, Chincoteague Island, Va.

WILD TURKEYS—For prices see display advertisement in this issue. W. J. MACKENSEN, Yardley, Bucks County, Pa.

FOR SALE—Pheasants and eggs. Everything in the pheasant family. Pamphlet with order free. BUCKWOOD PHEASANTRIES, Dunfield, Warren Co., New Jersey. (101)

CASH PAID FOR PEA FOWLS. State age and sex. Will buy 500 Ring Necks, 100 Amherst, 100 Golden, 100 Reeves. State your best price. HELEN BARTLETT, Cassopolis, Michigan.

WILD DUCKS, GEESE, PHEASANTS, PEA FOWL,
Guineas, and Barred Rock Chickens of highest quality of perfection with a great show record back of them. OAK GROVE POULTRY YARDS, Yorkville, Illinois.

FOR SALE.—WILD DUCKS AND GEESE, MAL-
lards, Pintail, Snow Geese, White Fronts, Canadas, for propagating and scientific purposes, at reasonable prices. All birds in good condition. Write GEO. J. KLEIN, Ellinwood, Kansas.

PEACOCKS, ALL KINDS OF PHEASANTS, WHITE
African Guineas, for sale, pure blooded, non-related. I will buy Amherst, Reeves and Pea fowls. JOHN TALBOT, South Bend, Indiana. 9-14-6m.

WANTED—STAR AND SHORT STRIPE SKUNK.
Sharp-tailed grouse For Sale—Narrow stripe skunk, fancy foundation stock, \$5.00 pair. Wild geese and duck eggs in season. ENVILLA STOCK & FUR FARM, Cogswell, N. D.

WE CAN FURNISH PHEASANTS, WILD DUCKS,
rare animals, birds of all kinds. Pure bred dogs, Angora cats, monkeys, ferrets, etc. Circulars free. DETROIT BIRD STORE, Detroit, Mich.

FALLOW DEER, HARES, AND HUNGARIAN PAR-
TRIDGES wanted for March delivery; quote prices SAMUEL WILBUR, Englishtown, N. J.

FOR SALE — PEACOCK, each \$6.00; MAMMOTH
Flemish Rabbit \$4.00 a pair at six months. Angora rabbit \$1.00 a pair. Pigeons: silvered pouters \$5.00 a pair, white fantails \$2.00, white dragon \$2.00, red homer \$1.00. J. J. GAREAU, St. Roch l'Acigan, Quebec Can.

PHEASANTS OF NINE VARIETIES; STOCK AND
eggs. Ringnecks contractable by the thousand. DAISY FARM, San Lorenzo, California.

PHEASANTS WANTED. ONLY RARE VARIETIES
such as Tragopans, Manchurian, Firebacks, Impeyan, etc. Kindly quote price. A. J. MERLE, Alameda, Calif.

FOR SALE—IMPORTED AUSTRALIAN PAPEBAR-
RON geese, white India sacred doves, Australian crested pigeon, large bronze winged doves, pearl-neck doves and Mandarin ducks. THE AVIARY, East Lake Park, Los Angeles, California.

DOGS

BEARHOUNDS, IRISH WOLFHOUSES, BLOOD-
HOUSES. Fox, deer, cat and lion hounds. Trained and young stock. 50-page illustrated catalogue 5-cent stamp. ROOKWOOD KENNELS, Lexington, Ky.

NORWEGIAN BEAR DOGS, IRISH WOLFHOUSES,
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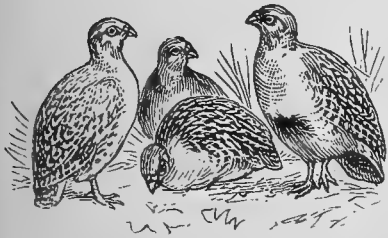
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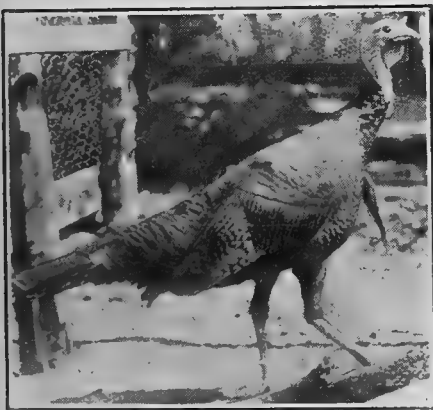
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THE GAME BREEDER

VOL. VII.

JUNE, 1915

No. 3

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The Game Breeder

VOLUME VII

JUNE, 1915

NUMBER 3



SURVEY OF THE FIELD.

Ohio Makes a Start.

A letter from the Ohio State Game Warden to The Game Conservation Society states that a law has just been enacted which permits and encourages the profitable breeding of pheasants.

There was some opposition to the breeding of wild ducks and other game but if the pheasant law proves to be satisfactory, as it will no doubt, other species will be added to the list of profitable foods.

Ohio has been practically a prohibition State in so far as shooting is concerned. The prairie grouse, deer and wild turkeys are extinct and the shooting of quails and doves is prohibited at all times. There is comparatively little duck shooting because there is not much land and water attractive to wild fowl. Many places can be made to yield wild ducks abundantly, when the breeding of these birds is permitted. The Game Breeders' Association proved that it is an easy matter to have thousands of ducks about a small artificial pond.

The breeder's license fee in Ohio is only 50 cents. This is enough. Massachusetts charges nothing for a breeder's license.

=

New Jersey Duck Law.

A new law passed April 6, 1915, provides that the open season for wild ducks in New Jersey shall be October 1 to March 15.

Evidently the people of New Jersey believe the Federal law prohibiting the spring shooting of wild fowl is unconstitutional. Some courts have so held, one at least has upheld the law.

We believe wild ducks should not be shot in the spring—an open season from September 1 to March 1 should be long enough. February 1, would be a better

closing date. Game breeders are aware that it is wise not to shoot their ducks after February 1. During the month of February, the ducks are kept quiet and are fed well in order that the egg production may be early and profitable. They should sell some birds as food if they wish to, of course, even later than February, because often they have more drakes than are desirable for the size of the waters used and if they have more ducks than they want and the prices are attractive, they should let the people have the food.

=

Advice to Clubs.

Mr. Forbush, in the article "Game Preserving," printed in the December number, well said:

The prejudice against game preserves arises largely from the fact that too many preserves in this country are merely lands from which the public is shut out, and on which the owner enjoys exclusive opportunity of shooting wild game which is, in law, the property of the people. In many cases the landowner does nothing whatever to propagate the birds or to increase them; but, instead, attracts them to his preserve that he may shoot them. This is not the kind of game preserving which should be advocated. The public has some rights. The law should be so drawn that a person desiring to establish a game preserve should be required to make it a game farm. In that case he must secure his stock from some private source—some breeder of game birds in his own or some other State—and must engage in propagating the birds; then they are as much his own as are poultry or cattle under the same conditions, and there is no reason why he should not prohibit other people from shooting them on his own land, nor is there any reason why he should not be allowed to sell them in the market under proper restrictions.

We would strongly urge all of our readers who belong to the thousand and more clubs which have not undertaken game breeding to get busy at once. It is a great advantage to own a lot of wild

ducks, quail, grouse, pheasants and other game, and to fix the seasons for shooting them.. It is fine to feel that arresting officers can give their entire time to public lands and waters, which need their attention, and to know that the game laws providing for the shooting of three birds in a season (or none as they provide in many states) do not apply to game farms and licensed breeders. It is a good plan to shoot enough so as to send some to market and let the dear people, who are said to own the game, have some to eat. Quickly they will cease to be enemies of sport.

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Trout Tags.

As we predicted, the New York law has been amended so as to provide that the tags used for identifying the trout sold by breeders shall be supplied at cost, instead of at three cents each. This will reduce the price of trout in the markets, no doubt, because the cost of the tags is very small. Mr. Charles J. Vert is entitled to the credit for securing this important amendment.

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Game Tags.

Game breeders in New York and some other states, are required to pay five cents for each tag placed on a bird or part of a deer sold. The cost of these tags should not be more than the cost of manufacture, a small fraction of a cent per tag. The laws relating to tags for game birds undoubtedly will be amended so as to conform to the trout law as soon as the attention of the legislature is called to the matter. Game production should be encouraged and not restricted or hampered more than is necessary to satisfy those who believe that the breeder's game should be distinguished from the state game on public lands and water.

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Friendly Advice to Rhode Island.

Most of the State game officers in the United States and some of the provincial officers in Canada, are members of the Game Conservation Society and read its publication, *The Game Breeder*. It is gratifying to observe that these game

officers do not favor the arrest of food producers and that they are in favor of game breeders' enactments intended to remove all doubt about the legality of an industry which promises to make the departments of great economic importance, representing all of the people, and not mere governmental side-shows.

It is fair to say that the Rhode Island officers are not members of *The Game Conservation Society* and that they do not read *The Game Breeder*. It is not surprising, therefore, that they should be working in the old fashioned way and that, possibly, they still believe that the right way to make food abundant is to arrest the producer. We would suggest that they get in touch with the Massachusetts, New York, New Jersey, Vermont, Colorado, California and other State Commissioners, who have had a chance to observe the operation of laws encouraging the profitable breeding of game. It might not be a bad idea for them to join *The Game Conservation Society* and to read its publication, *The Game Breeder*, regularly.

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The Modern Evil of Giving.

Urging a still further catch limit, Mr. J. W. Stuber of Sidney, Ohio, in *Sportsmen's Review*, says where many fish are caught, "there is a tendency on the part of some to risk a violation by sale or by GIVING THE BASS AWAY."

This would seem to indicate that it is not only an evil but a crime to give a fish to a friend in Ohio. How would it be if two fish were served at a friendly dinner by an angler? Would a game warden rush in and arrest him if he permitted his friend to eat one of the fish because it was given away just as the warden seized a New York man who was about to eat a bird sent to him by a friend who was shooting in Scotland? Should the shake-down be \$100 per fish, the amount charged for each of the grouse sent as a gift to the New York man?

We were taught that it is more blessed to give than to receive, but often we are told that we are too old fashioned to

understand modern game laws and game law crimes.

We thank the Lord that we still recognize common sense when we observe it, and we often think the good old dean of sportsmen, Charles Hallock, was right when he called for the present revival of common sense, which has worked wonders in some states.

It would be an easy matter to keep the Ohio markets full of game fish at reasonable prices.

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Dogs in the Adirondacks.

The New York law has been amended so as to make the provisions of section 193 against the use of dogs applicable, "in the forest preserve," instead of in "the Adirondack Park." The prohibition against dogs is now in force only on State lands within the Blue Line.

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A Bill of Fare.

The Weekly Report published by the American Association of Commerce and Trade in Berlin, Germany, prints the following bill of fare and says: "In reference to the much talked about food question I can safely say that this matter does not give cause for any fear. Recently I lunched with friends in the famous restaurant of Kempinski, in Berlin. Our check was—

1 Bottle of Wine (Berncastler)	.52 cents
3 Soups	29 cents
1 Portion Ham	36 cents
2 Trout	43 cents
1 Pheasant	22 cents
1 Goose	36 cents
1 Fruit Ice Cream	22 cents
3 Coffees (Mocca)	29 cents

Total\$2.69

Since the New York Hotels have been purchasing pheasants at \$2.50 each and up and they serve fractions of a bird at proportionate prices, 22 cents for a pheasant in Berlin, at this time, must seem reasonable to Americans.

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The Unnaturalized Foreign-born.

The World, N. Y., says:

By prohibiting all unnaturalized foreign-born persons from fishing and hunting in the State,

the Pennsylvania Legislature comes pretty near making it necessary for some would-be sportsmen to go equipped with their birth certificates, marriage certificates and naturalization papers, besides any form of license that Pennsylvania may require, when they want to catch a perch or shoot a rabbit.

Since the unnaturalized foreign-born had a habit of bagging a Pennsylvania Game Warden occasionally it seemed necessary to prohibit them from taking the field. There was a serious objection made to the law, the claim being made that it was in violation of treaty rights, but the courts have upheld it.

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An Economic Movement.

The Sportsmen's Review says:

Many people are still of the opinion that bird protection is wholly sentimental. Perhaps sentiment does play a great part in it as it does in all important things of life, but when one looks further into the subject he finds that the movement is largely economic. The Rockefeller Foundation has only recently paid \$225,000 for 85,000 acres in Louisiana which is to be used as a game refuge for migratory birds. There is without a doubt more than pure sentiment in this, for the promoters realize what these birds mean to the farmer and the agriculturist, and that it is necessary to keep these birds in order to have those who raise our crops succeed.

The property purchased by the Rockefeller Foundation is near Marsh Island, La., which was secured by 1912 by Mrs. Russell Sage for the same purpose. What makes it doubly valuable is the fact that it adjoins a 60,000-acre tract which its owner, Mr. E. A. McIlhenny, has devoted to bird protection. When the Foundation carries out its intention of acquiring all the available nearby land, these bird refugees in Louisiana will become one great game preserve of 500 square miles, covering a frontage of seventy-five miles on the Gulf Coast.

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The Hand Trap.

The du Ponts are advertising extensively the hand trap for clay bird shooting. Since the veteran, Fanning, is about showing how to use this new trap the sportsmen will no doubt soon use it extensively. The game clubs and preserves all have trap shooting and now that they have an abundance of game the members do a lot of preliminary work at the traps in order to be able to shoot well at the game. Many hand traps will be used at the game clubs, no doubt.

Praise for the Indiana Breeders' Law.

The American, in a long article praising the new game breeders' law, secured for Indiana by Mr. J. W. Talbot, says:

Give private parties the right to rear quail as a business and the interested persons will protect, feed and care for them, and as a consequence they will multiply. They will be reared and frequently sold to clubs and individuals who will liberate them for stocking purposes. Private and State hatcheries make possible the restocking of our fishing grounds. All the protective laws did not increase the number of fish.

A man will protect his money, and if his money is invested in quail he will protect the quail. It was Buffalo Jones who saved the buffalo in this country, because he bought a few specimens and kept them for their increase. It is not always the hunter that kills and exterminates game. Disease, starvation and lack of proper care is the biggest factor in game destruction. In a wild state it is estimated that it required all North America to support two hundred thousand Indians, and it is estimated the population of this continent was two hundred thousand when Columbus discovered it. But civilization and comfort enable more people to live in a given territory than can live in the same territory in savagery. What is true of human beings is true of game.

Also, the time is rapidly passing when farmers who own and cultivate the land will tolerate laws made solely to permit some loafer with a gun to tear down fences, destroy crops, shoot domestic animals, kill human beings and outrage generosity for the purpose of calling himself a sportsman and killing game that the farmer's land has protected and the farmer's grain has fed.

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New Instructions Concerning Naked Ducks.

The following are the new "instructions sent to the collectors of customs April 10th":

The Collector of Customs:

The attention of the Department has been called to the delay and inconvenience caused to passengers returning from Canada having wild ducks or other game birds in their possession by the requirement that they give a bond for the destruction of the plumage of the birds, which plumage is prohibited importation under paragraph 347 of the tariff act. It is represented that in order to give the bond required by the Department's regulations contained in T. D. 33944, it is necessary for the passengers to leave the train and in many instances wait over another train, thus missing connections for the remainder of their trip.

You are hereby authorized in such cases to permit a cash deposit to be taken by inspectors on the train, thus avoiding the delays complained of. Such deposit should be in an amount double the value of the ducks or other

birds, but not less than \$10 to be carried as a special deposit and refunded upon the production of evidence that the plumage had been destroyed.

Respectfully,
(Signed) A. J. PETERS,
Assistant Secretary.

The U. S. Treasury officials should not be blamed for enforcing the law provided they have interpreted it properly. Those who secured its passage say they did not intend any such absurdity as has resulted.

The trouble is too many laws are made hastily and soon they are found to belong in the "fool law" class. We invite the attention of Congress to this law and we hope it soon will be amended so as to permit wild fowl to come in in a presentable condition. We predict an early amendment, and when you see anything in *The Game Breeder* it usually happens, sooner or later.

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A Fair Price for Eggs.

Editor *Game Breeder*:

I would not care to sell any eggs at \$12.00 per dozen, as I can make more money by raising wild turkeys. Another year I will keep over twenty-five extra hens for the purpose of having the eggs for sale. I will then advertise.

H. P. B.

Baltimore, Md.

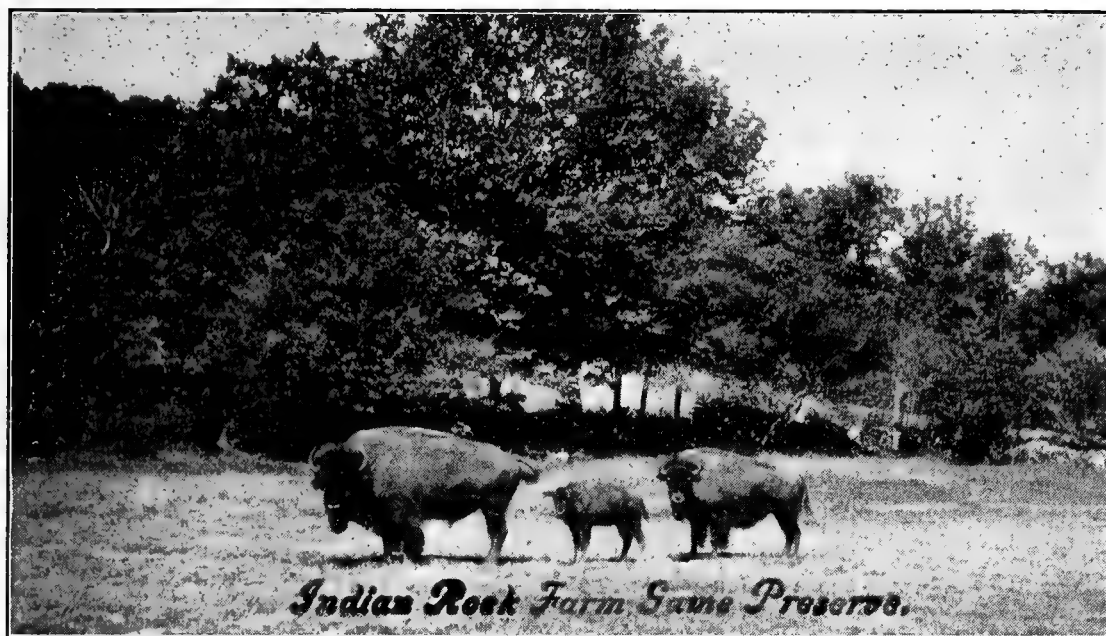
[We have just had a request for several hundred wild turkey eggs but could not secure them. The demand is increasing and we hope all the wild turkey breeders will arrange to sell eggs next season. It should pay to gather eggs at \$1.00 each.—Editor]

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More Pheasants.

A letter from the New York Game Commission says pheasant eggs were distributed by the State last year to more than two thousand persons. Granting that many do not know much about breeding the birds there should be "more pheasants."

Members of the Game Conservation Society are requested to purchase from those who advertise.



INDIAN ROCK FARM GAME PRESERVE.

[This is the twenty-third of a series of two hundred articles about American game farms and preserves. Mr. Richardson, like many other big game farmers, finds the business very profitable and sells all the game he can produce. Massachusetts is one of the leading "more game" States and the breeders are encouraged by the laws and by a capable Game Commission to breed all species of game for profit.—Editor.]

In the historic little town of West Brookfield, Massachusetts, within a golfer's drive of the site of the famous Quaboag settlement blockhouse of two centuries gone, a Massachusetts farmer, master of the Bay State grange and chairman of the State dairy bureau, has established a game preserve which has already made him famous throughout the world and which now bids fair to bring him great wealth.

From among the herds of deer, elk, antelopes, wild boars and other denizens of the great natural forest that sweeps over the valleys and craggy hills in the rear of the picturesque Indian Rock farm, Carlton D. Richardson is each year shipping scores of Massachusetts-raised wild animals to every part of the globe.

This experiment in a new kind of farming—the breeding of untamed animals—has resulted in a demand for Mr. Richardson's wild pets in such distant countries as New Zealand, Denmark and South America, not to mention many zoological parks and reservations throughout the United States.

The cleverness of the West Brookfield

farmer in originating the idea of a wild game nursery for the purpose of profitably utilizing the natural forest reserve on his New England farm, and his success in carrying out his plan, has already placed him at the head of the Bay State Farmers' Association, and he is constantly in receipt of letters from "grangers" throughout the country who own natural forest lands, and who are now beginning to see in them the possibilities of profitable game preserves.

To the people of the little town of West Brookfield, that nestles snugly at the foot of Foster Hill, there is always a charm in discussing with visitors the stirring events of centuries gone that took place "up yonder," and which on the summit of the hill have been commemorated by the tablets of the Quaboag Historical Society.

But as the climax to all tales historical, the listener is invariably informed, with much local pride of the beautiful reservation from which wild game finds its way all over the world.

Standing in the silently fading shadows of the Indian Rock game reserve,

with its vistas of towering firs and hemlocks peopled in the sun-flecked distance with the shadowy forms of slender-limbed deer, timid antelopes or stoical brown elks, each with his high-crowned, kingly antlers swaying as he swings across the light like branches in the wind, the visitor has but to hear the snapping of a twig, the creaking of a crooked branch above his head, to fancy the wild red man somewhere within dangerous distance, watching over this, his primeval home.

For much of Mr. Richardson's success, as he will admit, is due to the wonderfully primeval nature of his reserve. Once across the edge of the forest everything within becomes a part of an animal's paradise.

In the sequestered depths of this 15 acres of forest there bubbles from beneath a hillside a tiny spring continually open, no matter how cold the season, from which beaten trails threading away in many directions through the wood proclaim the spot well known to the wild inhabitants of the woods.

Screened by a thicket at the base of a rocky cliff in the deepest part of the wood yawns the opening of a cave, the haunt of an ugly-mannered wild boar, whose approach is the signal for the scattering of even the herds of huge elk.

Between the eight-foot wire fencing that incloses the entire reserve and the edge of the woods, a clearing of meadow land and rocky pasture threaded by a brook furnishes a home for the wild geese and different varieties of pheasants of which there are many in the preserve.

The inclosed park is in the shape of a diamond with a cross fence through the centre which gives the deer a chance to be separate from the elk, entrance being left of sufficient size for the deer to pass through at will, but not large enough for the elk.

In the wet and warmer seasons both sides of the inclosure contain many a larger pool fed by tiny hillside springs where the elk and deer come to wallow during the heat of the day.



The Deer Park.

On one of the high rocky cliffs commanding a splendid view of the surroundings through the dense growth of thickets the female elk retires to give birth to her young, the spot being one where she can watch for any intrusion.

A few hours after birth the baby elk is hidden here in the thickets by the mother, who goes forth to feed, returning each night for about three weeks until the young one has grown large enough to look out for itself.

In describing the habits of his elk and deer Mr. Richardson mentions the peculiarity of the animals in shedding their antlers each season.

The elk drop theirs in March or April, according to their age; the Japanese deer shed theirs the last of April, and the common deer about January 1.

In each case a new growth begins at once, continuing "in the velvet" through the summer months until about Oct. 1, when the antlers begin to harden for the winter.

At this season of the year the elk of the preserve are exceedingly dangerous and fierce, aggressive in the possession of their majestic defensive antlers, but as soon as their horns drop they at once become timid and are very hard to approach.

Six years ago Mr. Richardson began

his experiment by purchasing a single pair of elks. Coupled with a natural love for animals and a fondness for studying their habits at close range was a conviction that farming of this novel sort would in time add substantially to his dairy and agricultural revenues.

He has proved most conclusively that there is a field in Massachusetts for wild game farming.

Last year a shipment of 24 deer, 12 elk and 50 wild geese were sent by this practical farmer to New Zealand, where they had been contracted for by a government agent. One pair of giant elk were sent to Denmark, others to South America, and several animals went to St. Louis, Toronto and Montreal, Can., including buffalo and wild boars.

A number of Mr. Richardson's home raised wild animals now are on exhibition at the National Park in Washington. Seven deer, a number of elk and many pheasants have been sent by him to Forest Park near Springfield. Five of the wild boars from his preserve were not long ago shipped to Ringling Bros.' circus.

The expense of continuing the breeding of this class of large game, once the experiment is well under way, is very small. With the exception of the small amount of hay and grain that is given them during the poorest of the feeding season, the animals are able to satisfy all their wants from the reservation itself.

The prices that are obtained for them in every case show a handsome profit,

which at no time since his first success has Mr. Richardson's supply been equal to the many orders that he has received for shipments of live game.

The West Brookfield farmer also conducts a large stock and dairy farm in connection with the business of wild game breeding, and is also known as one of the most active members of the Massachusetts Grange.

The 95 acres of land which the whole of Indian Rock farm includes is the site of earlier events of much historical interest.

The first Brookfield settlement was made on this hill in 1660. The locations of the first and second meeting houses, of the fortified blockhouse besieged by the Indians in 1675, of the well at which Major Wilson was shot during the siege, and a massive boulder known as Indian Rock, from behind which the savages fired, are all upon or near the Richardson farm lands.

Over this historic land, where the game preserve lies, the forest remains as unbroken and as thickly populated by its native denizens, the Indians excepted, as it was two centuries ago. In fact, for a glimpse of the real New England as our ancestors found the forests into which they came with their oxen, one has only to visit Indian Rock farm and spend an hour in the heart of the primeval game preserve there.

And the best of it all, to the owner, is that it pays, and pays wonderfully well.

THE PRAIRIE GROUSE.

By DWIGHT W. HUNTINGTON.

No American bird, with the possible exception of the wood-duck, needs the attention of American game breeders more than the prairie grouse.

In a text-book used in the New York schools the children read that, "although the prairie grouse is protected for eleven

months of the year it is doomed to extinction." The distinguished naturalist, Elliot, in his book, "Game Birds of North America," says, "along the eastern limit of its dispersion the prairie chicken is rapidly diminishing, and like the buffalo and many other wild crea-

tures that once roamed in countless numbers over certain portions of our land, will doubtless soon entirely disappear."

Considering the game laws which prevent any one from looking after these birds properly and profitably, Elliot, no doubt was right in predicting their early extermination. No good reason can be assigned, however, why the birds should be "protected off the face of the earth." Audubon described the birds as a pest in Kentucky, but they no longer are a pest in that State or in Ohio or in other States where they have been exterminated. In Iowa and some other States the game departments are endeavoring to replace the prairie grouse with gray partridges imported from Hungary and other countries and they seem to be blissfully ignorant that the birds they are importing are abundant in foreign countries because they are properly looked after and that they will stand no better chance and, in fact, not so good a chance for their existence as the prairie grouse did provided they receive no better protection than the grouse.

The sportsmen in States like Kentucky, Ohio and some others where the grouse once were plentiful but where they now are extinct certainly cannot object to their introduction and profitable increase by game breeders. There is an abundance of land suitable for grouse breeding and no good reason can be assigned why they should not be made plentiful in a very short space of time provided the land owners can be made to understand that the grouse are desirable and that they can be produced profitably both for sport and for food.

Fortunately the laws in some States do not prohibit the necessary industry because the birds are not protected for the very good reason that they do not exist. The opportunity for grouse breeding for sport and for profit is, therefore, excellent and the only difficulty in the way of making the birds profitably abundant lies in the fact that it is almost impossible to get stock birds or eggs with which to start the much-needed industry. It is fortunate that some States where the grouse occur re-

cently have enacted game breeders' laws permitting the profitable breeding of all species of grouse and we hope soon to advise our readers where they can procure birds and eggs for propagation. When an Indiana or an Oklahoma farmer realizes that he can get a good price for grouse and that he can have all he wishes to eat there will be something doing unless we are much mistaken. The grouse are worth at least \$5 per bird. The eggs are worth from \$6 to \$10 per dozen. A start can be made with a very few birds or eggs and since the ratio of increase is geometrical the profits from the grouse industry will be even larger than the profits from pheasant breeding.

The grouse can be bred wild in the fields and at a much less expense than is required for the hand rearing of pheasants. Quail can be reared successfully on the same ground, and if there be any water suitable for ducks enough wild ducks can be reared to pay the entire expense of running a grouse and quail ranch.

We expect to see this industry started in Indiana, Oklahoma and other States, where the industry of grouse breeding no longer is criminal, and we hope to assist the grouse breeders by putting them in touch with those who have grouse and eggs to sell.

We know one place where a few grouse were introduced and where today there are thousands of birds in no danger of extinction. The absurd game laws prohibited the owners from selling stock birds or eggs but we believe this nonsense is passing rapidly and there will be no arrests made if the owners of the birds sell some of them and some eggs to those who will undertake their propagation.

Grouse are worth \$5 per bird as food in the markets. They can be produced in Kentucky, Ohio and many other States much cheaper than poultry. Since they will procure much of their food in the fields and they can be kept plentiful by supplying a very small amount of grain during the winter.

We are especially interested in making

these birds plentiful and cheap in the markets since we know the sportsmen will enjoy shooting them and the people will enjoy eating them. Let us stop saying the birds are "doomed to extinction" and lend a hand to making them profitably plentiful even in the States where they are extinct.

This is the first of a series of articles about the prairie grouse. It will be fol-

lowed by articles describing the food habits of the birds and the best methods of introducing them and propagating them abundantly.

Readers who can furnish any grouse or eggs are requested to write to our supply department. We wish to procure as many birds and eggs as possible. Our advertisers will pay excellent prices for any number of birds or eggs.

THREE PLANTS FOR DUCK FARMS.

By W. L. McATEE,

Assistant Biologist U. S. Department of Agriculture.

[This article is from an important bulletin, "Eleven Important Wild Duck Foods," by the U. S. Department of Agriculture. The Bureau of Biological Survey which contributes the bulletins about the game foods, performs an important and valuable service. This bulletin about duck foods should be followed by another describing the methods of breeding wild ducks for food and the profits which are made by wild duck breeders in the many States which now permit such industry. The Department should call attention also to the fact that the New York markets are closed to the breeders of other States and should suggest that the opening of this market soon would result in an abundance of game. Mr. Clyde B. Terrell, Oshkosh, Wisconsin, is the principal dealer in the plants eaten by wild fowl. His advertisement appears regularly in The Game Breeder.—Editor.]

The plants considered under this head are distinguished by rankness of vegetative growth, comparative unimportance of their seeds as duck food, and lack of fleshy rootstocks and tubers. These qualities render the plants generally undesirable for propagation as wild-duck foods, but they are the very things which make them valuable for duck farms. As a rule abundant green food is available to wild ducks, but the birds usually have to search for seeds, fruits, tubers, and like forms of concentrated nutriment. The conditions on a game farm are just the reverse. The birds are supplied grain food constantly, but need roughage, particularly of naturally suitable kinds. Plants of rapid, luxuriant growth are necessary and all requirements are fulfilled by water-cress, water-weed and coontail.

The three plants just mentioned are not recommended for planting in waters where any other growth is desired, since they are such rank growers that they are apt to take complete possession. One of them namely, coontail, has con-

siderable value as a wild-duck food, however, and may be tried in waters where other plants have failed.

On duck farms best results will be obtained if the unit system of ponds be adopted. Ducks can be turned into one pond at a time, and when a pond is eaten out it may be resown, screened off and allowed to make a new crop. Under favorable conditions water-weed and coontail will grow 6 inches a day.

WATER-CRESS.

Knowledge of the importance of water-cress as a duck food is derived entirely from breeders of wild ducks, who almost without exception consider it a valuable plant for a duck farm. Not only is it relished, but it is said to grow so fast in some places that the ducks cannot eat it out.

Water-cress (*Sisymbrium nasturtium-aquaticum*) either floats in the water, rooted only at the lower end, or creeps along on mud or in shallow water, throwing out roots at every joint. It is a smooth, fleshy plant, with divided

leaves and small white flowers (Fig. 18). The leaves consist of 3 to 9 symmetrically arranged oval or roundish segments, of which the apical of each leaf is the largest. The pods vary from one-half to one and one-fourth inches in length, are slightly curved, and contain numerous small seeds. There is a constant succession of flowers and pods throughout the growing season. The plant sometimes is strongly tinged with olive-brown, suggesting one of its common names, brown-cress. Other names are well-cress or -grass, water-kers, -kars, -karse, or -grass, crashes and brook-lime.

Water-cress occurs practically throughout the United States.

Water-cress usually is propagated by seed. This may be obtained from most seedsmen. The plant is also easily transplanted by cuttings. It grows in springs, brooks, small streams and shallow ponds. Waters in which it is found are usually cool and have some current. It may be sown in similar situations at any time during spring or summer.

WATER-WEED.

Evidence for the value of water-weed is of the same nature as for water-cress. The density and luxuriance of its growth are such that water-weed maintains its stand even when fed upon daily by a large number of ducks. Small quantities of the plant have been found in stomachs of the mallard, blue-winged teal and goldeneye.

Water-weeds (Figs. 19 and 20) have long, branching stems with luxuriant foliage and are of a beautiful translucent green color. The leaves which are set upon the stem in whorls of from 2 to 4 (usually 3), vary from ovate to strap-shaped, and may be pointed or obtuse, and are sometimes finely toothed. They are from one-fourth to one inch or more in length and from one-twelfth to one-eighth of an inch in width. The small flowers are borne on rather long stalks and open at the surface of the water. The fruit, which is rare, is few seeded and ripens under water.

This plant was introduced into Great



Fig. 18—Water-cress.

Britain in the middle of the nineteenth century, and spread rapidly, making such rank growth that it soon became a pest,

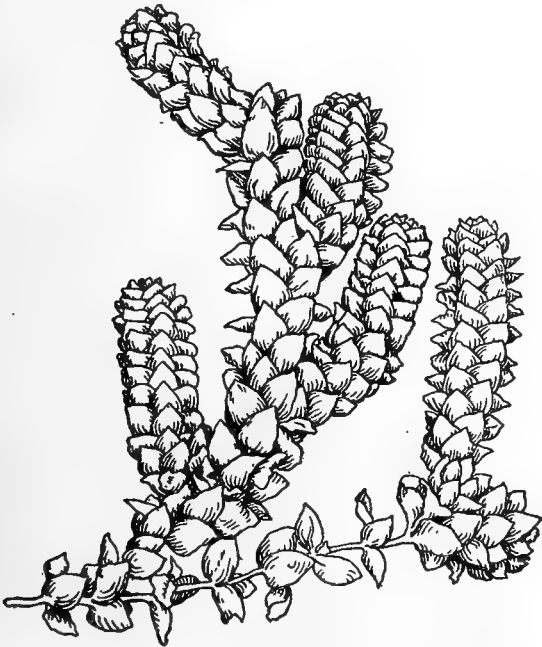


Fig. 19—Water-Weed. A Compact Form.

filling ornamental waters, mill races and canals. It became known there as American water-weed and Babington's curse (because introduced by a botanist of that name). Other names applied to the plant are ditch-moss, water-thyme, thyme-weed, cats-tails, and choke pond-weed.

Some botanists consider that there are several different species of water-weed in the United States. But, having in mind the entirely different aspect wild plants of water-weed assume when transferred to an aquarium, one is inclined to think that differences in the forms, which have been thought to represent distinct species, may be largely due to conditions under which the plants were grown.

Water-weed has had various scientific names applied to it, and the following may be encountered in trade catalogues: *Philotria*, *Elodea*, and *Anacharis*. The specific name that has been most commonly used in this country is *canadensis*. Dealers in aquarium plants usually list a form of water-weed known as *Anacharis canadensis gigantea*.

Water-weeds grow naturally throughout most of North America.

Water-weed propagates itself from pieces of leafy stem or root. It is tenacious of life, and if shipment in good condition is achieved, no trouble will be experienced in obtaining a stand of the plant. Bury the roots or bases of stems in the bottom in shallow water for quick results. The plant will grow, however, if only thrown in water shallow enough (3 feet or less) to allow it to send roots to the bottom. It likes a loam or

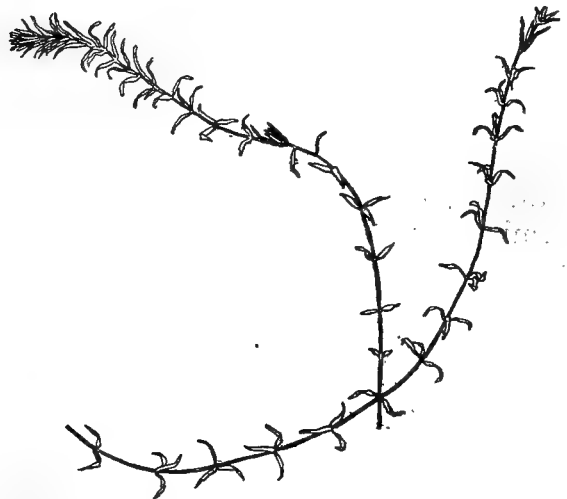


Fig. 20—Water-Weed A Diffuse Form.

sandy loam and does not grow in clay. Either still or running waters are suitable. When established it will spread to water up to 10 feet in depth.

COONTAIL.

The seeds of coontail are eaten by practically all wild ducks, but the foliage by a much smaller number and less frequently. Ducks known to feed on this plant are the following: Hooded merganser, mallard, black duck, Florida duck, gadwell, wigeon, green-winged and blue-winged teals, spoonbill, pintail, wood duck, redhead, canvasback, little and big bluebills, ringneck, goldeneye, buffle-head, old squaw, white-winged scoter, ruddy duck and the whistling swan.

The following instances show the local value of coontail to some of these species of ducks:

About 30 per cent. of the food of 171 mallards collected about Mansura and

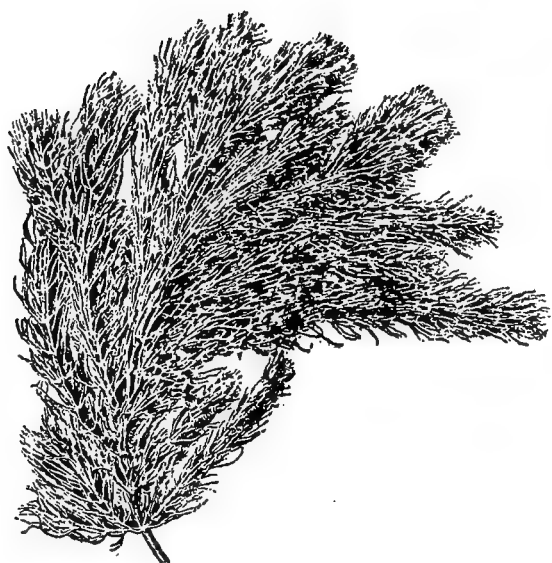


Fig. 21—Coontail. A Compact Form.

Marksville, La., from October to December consisted of coontail, and as many as 150 seeds were found in a single stomach. Much more than the ordinary proportion of stems and leaves of the plant were taken by these birds.

Another illustration of foliage eating is furnished by eight mallards and one black duck collected at Big Lake, Arkansas, in December, 1912. More than 85 per cent. of the food of the mallards was made up of the foliage of coontail, with a few seeds, while 90 per cent. of the black duck's food consisted exclusively of coontail foliage.

Sixty-four mallards collected at Menesha, Ark., in November and December, 1909, had fed on coontail seeds to the extent of 7.23 per cent. of their diet. Fourteen of the same species of duck, taken at Lake Wapanoca, Arkansas, in

November, 1910, had eaten enough seeds, with a little foliage of coontail, to form on an average more than half of their food.

The plant thus has considerable local value as a wild-duck food. However, its tendency to crowd out more desirable species makes transplanting unwise, unless in particularly difficult cases where other plants have failed. The very



Fig. 22—Coontail. A Diffuse Form.

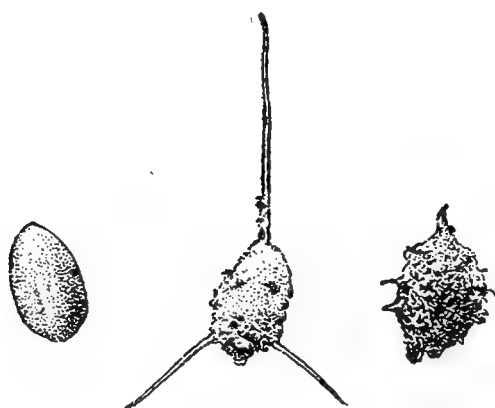


Fig. 23—Seeds and Fruit of Coontail.

qualities of coontail that make it a nuisance in natural waters commend it to duck farmers.

The stems of coontail (*Ceratophyllum demersum*) are thickly clothed with round, dense masses of foliage (Figs. 21 and 22), which in shape amply justify the common name so widely used in the South, and which is here adopted for the plant. Coontail is a submerged plant, but only exceptionally is it attached to

the bottom, as it has no roots; it usually grows in rather quiet waters from 2 to 10 feet deep. The leaves are composed of slender but rather stiff filaments, twice or thrice forked, and sparingly furnished with small acute projections. They grow in whorls of from 5 to 12, and are usually much crowded on the upper part of the stem.

The fruit of coontail (Fig. 23) is composed of a rather large, flattened seed, wedge-shaped at one end and rounded at the other, inclosed in a thin covering which bears various tubercles on the surface and spines on the margin. A common form has one spine at the apex and one at each basal angle of the fruit. One may examine many plants without finding fruit; nevertheless, the

frequency with which ducks find it proves that a good crop is produced. Coontail is known also as hornwort, horn-weed, morass-weed, coontail moss, fish-blankets and June grass.

Coontail is practically cosmopolitan and occurs throughout all but the extreme northern parts of North America.

Pieces of coontail broken off from the parent plant promptly make new colonies, a characteristic which makes transplanting easy. Care need be taken only to see that the plants do not lose their vitality either through drying or fermentation during shipment.

Plant in quiet water. As the plant has no roots, it is enabled to thrive over hard and sandy bottoms where many other plants cannot establish themselves.

PINIONED BIRDS AND THE GAME GUILD.

It is advisable in ordering live birds to state that pinioned birds are not wanted if such be the case. Otherwise there may be trouble.

One of our advertisers in filling an order for pheasants sent pinioned birds. Since the purchaser wished to liberate the birds on a club ground, for shooting, he was much dissatisfied and the advertiser suggested that the matter of damages be arbitrated by the editor of *The Game Breeder*, and agreed to abide by the result.

We had a similar case recently when pinioned wild ducks were shipped and the club wished to have birds which could fly. The claim in both cases was made that since the birds were ordered early in the year the presumption was that they were desired for breeding purposes.

The editor of *The Game Breeder* does not arbitrate controversies between advertisers and their customers for evident reasons. Where one or both of the parties are subscribing or contributing members of the Game Conservation Society and both wish to have their controversy arbitrated the matter is referred to The

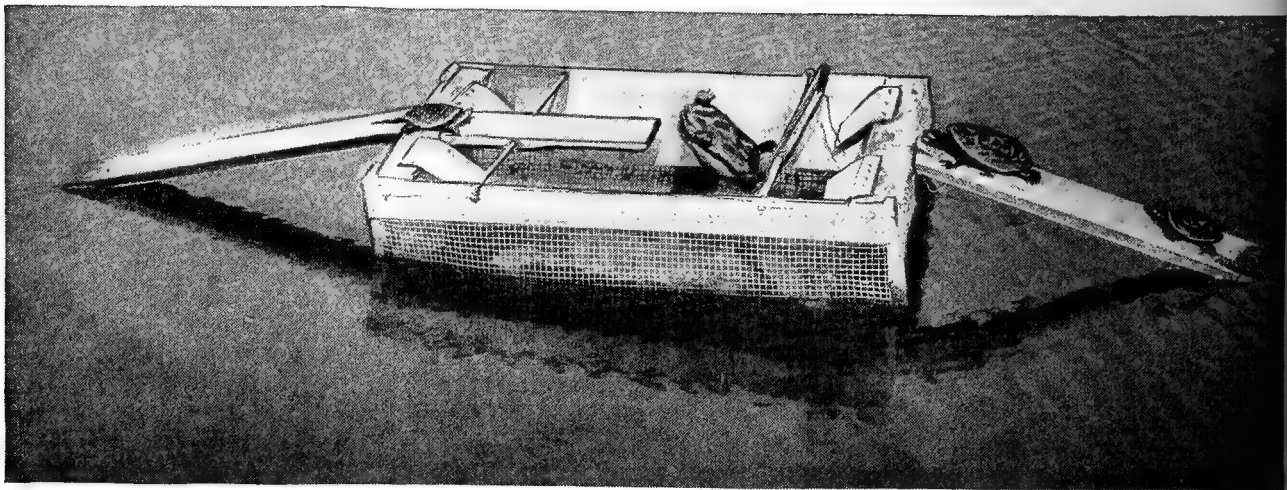
Game Guild, which is a committee of the Game Conservation Society, formed to pass on numerous matters of interest to the members of the Society. If the Guild, for example, orders that the advertisement of an undesirable or dishonest dealer be not accepted it will not appear in the magazine. Any one who has a complaint to make about unfair dealing can make it to the magazine and the matter will be promptly referred to the Guild for investigation. The decision of the Guild may be reviewed by the editors and the directors of the Game Conservation Society, provided either party is not satisfied with the award or decision. The managers of the magazine wish to have reliable advertisers only; and no unfair dealing will be tolerated. Since the Game Conservation Society has been formed to do good work in the way of encouraging game breeding and it is supported by its members who are widely distributed in all of the United States and in the Provinces of Canada, it is highly important that the members of the Association should be safeguarded against wrong practices and we rely on our readers to make complaints when

they should be made. We assure them they will be protected.

Not long ago we had a serious complaint from a member of the Society who said he had sent a cheque in payment for birds, but never received the birds. The matter was investigated and the advertisement was ordered out pending the investigation; but, later, it appeared that the error was excusable; the member wrote to say he had received his birds and they were fine ones—he was well pleased with them.

We suggested that our members endeavor to learn the cause of any delay or apparent unfair treatment before complaining to *The Game Breeder*, but if they are not satisfied with the result of their inquiries and will send us the correspondence the matter will be placed before the Guild promptly and passed on. There is no charge for this service.

The Game Conservation Society is now the largest association of game breeders in the world and our aim is to keep its standard high.



TURTLE TRAP.

This picture of a turtle trap, published in the May issue, attracted much attention, and it is repeated with the additional working drawings at the request of a reader. The photograph shows the trap in its natural position. Three turtles are on the boards that serve as roadways to the drop board. One turtle being dumped into trap from the drop or trap board.

FISH ENEMIES—THE TURTLE.

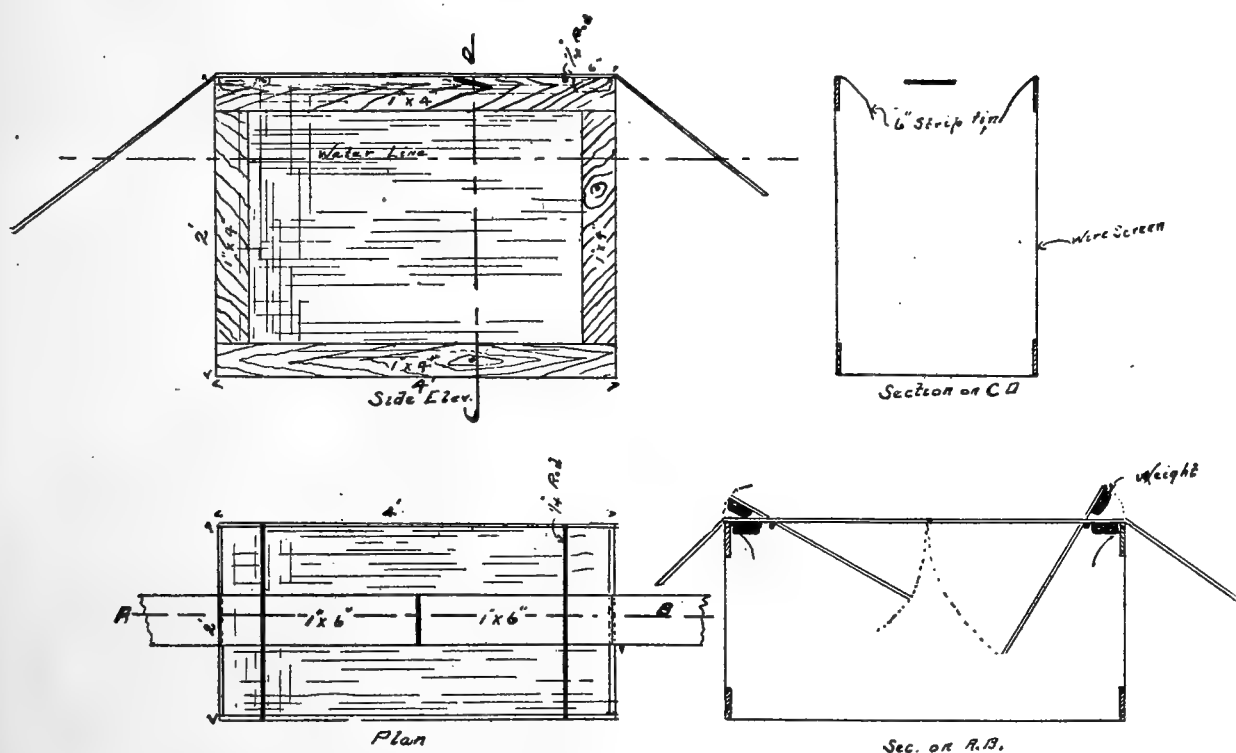
BY PROF. L. L. DYCHE,

Late Game and Fish Warden of Kansas.

[The picture of a turtle trap was sent by Professor Dyche a short time before his untimely death. At the same time he sent the working drawings of the trap which are published in this issue. Turtles are enemies of wild ducks also. At the Game Breeders' Association we ran a fence of small mesh chicken wire a few feet from the shore of the breeding pond, thus giving the ducks access to a narrow strip of shallow and comparatively warm water. Many turtles, which were observed trying to find an opening in the wire, were shot by the game keepers from the shore and from a boat.—Editor.]

One of the chief natural enemies, outside of the fish themselves, here at the State Fish Hatchery, is the turtle. There are different kinds of turtles, and outside of a few that seem to feed for the most part upon vegetable matter, we find that most of them are not averse to eating

fish. The snapping turtle is the worst, and on the Hatchery grounds destroys more fish than all the others combined. An examination of the stomachs of snapping turtles taken from the Hatchery ponds has shown that they are greedy feeders, and that in many instances a



TURTLE TRAP.

Fig. 1 shows side of the box trap, which is 4 feet long, 2 feet high and 2 feet wide. It is built by stapling $\frac{1}{2}$, $\frac{3}{4}$ or 1 inch wire screening on a framework built of boards from 4 to 6 inches in width and 1 inch thick.

Fig. 2 shows cross section of the box trap, and shows the 6-inch strip of tin or galvanized iron that has been tacked on the inside of the top of the trap and bent down. It prevents the turtles from crawling out of the trap.

Fig. 3 shows top of trap with arrangement of the 6-inch boards that drop as soon as the turtles crawl upon them and allow the animals to fall into the trap.

Fig. 4 shows these drop boards with weights near the end. The turtles crawl upon these drop boards, using the inclined boards that extend into the water as roadways. At the State Hatchery over fifty turtles have been taken from a single trap in a week's time.

large portion of their food is made up of fish.

Snapping turtles secrete themselves among the aquatic plants and apparently watch for fish that are passing by. They catch the fish by a quick stroke of the head, which their long necks allow them to throw out several inches from the body. We never had an opportunity of observing this operation until last year, when we saw a snapping turtle catch a Bullhead catfish. The fish was taken in the turtles mouth and without chewing or particular biting, was swallowed head first. A few minutes later we shot and secured the turtle, which was one that would weigh about twelve pounds. Dissection showed that the catfish that had been swallowed was lacerated in a few places by the sharp beak of the

turtle, but was not cut up or pulled to pieces. In the stomach of this same turtle we found two sunfish, a half grown bull-frog and a crayfish, in addition to the Bullhead catfish mentioned above. Altogether, a rather large amount of food—about a pound—for an animal that weighed only twelve pounds.

We get rid of the turtles by shooting them and by means of a wire screen box trap shown in the illustration. We also use steel traps set near the edge of the water and baited with a piece of fish for the capture of snapping turtles. The fish or part of a fish used for bait may be fastened near the shore and just under the water by running an iron rod or sharp stick through it and down into the ground to hold it in place. The chain of the trap should be fastened to

a wire, stake, or something that will hold it. Steel traps are used for the snapping

turtles as these animals do not climb into the box traps as readily as other varieties.

A TRIP TO OLD KENTUCKY.

By WM. J. LAURENCE.

Mr. Stanley Blake, very favorably known as a sportsman throughout this and many foreign lands, very kindly tendered me a special invitation to visit the Blue Grass Farm Kennels, of Berry, Ky., of which he is manager. The special invitation came to me by reason of the fact that a warm friendship had sprung up between us because of my having purchased several dogs from him which gave perfect and complete satisfaction. Having always had a very earnest desire to visit the southland and especially far-famed Kentucky, I promptly accepted the invitation of Mr. Blake and within a few days thereafter arrived in the beautiful and attractive little village of Berry. Upon my arrival at the station I was met and greeted by Mr. Blake, himself, who conducted me through the town and out to his farm, where I was hospitably received by the other members of his family, his office force, the overseer of the farm, kennel attendants, etc. Magnificent quarters were placed at my disposal and I was made to feel comfortable and perfectly "at home." Boys, Kentucky hospitality is no myth, as Mr. Blake and his friends certainly entertained me like a prince while there. The friendship that existed between us through our correspondence gained volume when I met and talked with Mr. Blake. He is a man of fine intellectual powers and brilliant personality.

Very briefly I shall endeavor to describe the quality of the dogs, the kennels and the surrounding country. Too much cannot be said of the dogs and their superb quality. But it is only natural that dogs of extraordinary quality should be raised with such environments as these dogs have. Being farm-raised they are naturally sturdy and hardy

physically and being of thoroughbred stock is another decided advantage they possess over the dogs of many other kennels of more or less mixed blood lines. Early in life they are vaccinated and made immune from distemper and other contagious diseases. Disease is practically unknown at the Blue Grass Farm Kennels; Mr. Blake tells me, only one real bad case of distemper having developed since the first of the year. The kennels are daily sterilized, fresh beds of straw placed in them, the kennels themselves being frequently white-washed as a preventive to germs getting a foot-hold on the premises and every precaution known to medical science and that years of experience has developed is used to keep down disease. Complete success has attended Mr. Blake's efforts along this line.

The kennels are located on a beautiful blue grass farm comprising eighty-odd acres, every rod of which is modernly equipped and improved. The main kennel is located on the southern side of a hill, protecting the dogs from the cold and severe blasts of winter winds and affording them the warm balmy air that comes from the south. The kennels are so located on the slopes of the hill that the sun can shine directly into them even in winter when "old glory" rises in the extreme southeast and sets in the extreme southwest. It is a well known fact that the rays of the sun are most deadly to the germs of disease. The kennels are supported by concrete foundations, which prevent their overflow in rainy weather. Setters, pointers, fox and cathounds, bear and lionhounds, coonhounds, bloodhounds, etc., too numerous to mention, all have separate apartments. Females and males are also kept separate. These dogs are farm-

raised, as previously mentioned, and only the best are bred to the best, thus with each succeeding litter they grow better and better. In fact I believe they have well nigh reached the height of perfection. It is impossible for me to see in what way they can be improved upon. The farm itself contains thousands of feet of timber, making an ideal retreat for game of all kinds, which abounds in plenty. Coon, especially inhabit this territory, as a river forms the southern and western boundary of Mr. Blake's domain. Mr. Blake tells me that his dogs are raised and trained by twenty-seven trainers and raisers, the most expert to be found. He employs two handlers to watch after the dogs at the main kennels. The office force comprises some of the most skilled men that could be possibly found. It is the duty of these men to handle the enormous correspondence incident to this business, which is no small task, as I personally can assert.

Dogs are shipped from there to every State in the Union, Canada, Mexico, South America, Central America, Philippine Islands, Cuba, and in fact to nearly almost every foreign country where game is found. The kennel will accommodate many hundreds of dogs as before mentioned. The average number on hand ranges from 250 to 400.

The surrounding country is beautiful indeed and Mr. Blake could not, in my estimation, have selected a better suited place for the raising and training of thoroughbred dogs than here. The kennels alone are well worth seeing and worth the price of the trip, aside from the beautiful scenery en route. Berry is situated on the Kentucky Division of the L. & N. R. R., fifty-four miles south of Cincinnati, Ohio. I am sure that anyone wishing a square deal in purchasing dogs will find Mr. Blake and the Blue Grass Farm Kennels on the square.

BREEDING CANADA GEESE.

By A. W. WHEALTON.

In breeding Canada wild geese the whole trick is to get a pair to lay one season and after that they will continue to breed every year provided they are given a proper chance to nest and be free from all disturbances during the breeding season.

We have small mounds, flat-topped, thrown up in the center or just at the margin of our ponds. Around the tops of these, rushes are stuck to afford shelter and privacy for the nests; straw or pine-needles are put in some place easily accessible, or in the nests themselves, and the geese will arrange the nests as they like. My pairs have been keeping the same nests for many years, some of the oldest pairs, from forty to fifty years.

Canadas lay from five to seven eggs and usually hatch all of them. I let the geese hatch out their own eggs and avoid going near the nests or disturbing

them. When the goslings are hatched out I leave them entirely in the care of the parents, feeding them moistened coarse yellow corn meal, although where there is plenty of fresh green grass they often ignore this food and subsist entirely on the grass. After a few weeks, I feed cracked corn, then whole grain corn. It should be understood that this ration is supplemented by the grass they forage for themselves, otherwise I should be forced to supply green foods, as well as a variety of mixed grain.

As soon as the goslings are hatched out, the parents and their brood are removed to another compartment to prevent their fighting other pairs of Canadas and while doing so neglecting their young or having the latter hurt in the frequent melees.

Canadas begin mating at three and

(Continued on page 90.)

The Game Breeder

EDITED BY DWIGHT W. HUNTINGTON

NEW YORK, JUNE, 1915

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THE GAME CONSERVATION SOCIETY, INC.,
PUBLISHERS, 150 NASSAU ST., NEW YORK
Telephone, Beekman 3685.

ANOTHER GAME BREEDING STATE.

Three cheers for Connecticut!

Just as we go to press the news comes that the Connecticut legislature has enacted a game breeders' bill permitting the breeding and sale of deer, pheasants and wild fowl. This has been signed by the Governor and is now a law.

As is usual in first attempts, an important subject is approached wrong end first. The law should have permitted the profitable breeding of all species of game. It is absurd to permit the saving of pheasants, which are in no danger of extinction, and to deny the care and attention of breeders to the indigenous upland game which most needs practical protection.

It is a distinct gain, however, to say, "wild fowl," and to not limit the industry to the common wild ducks, "mallards and black ducks," as some statutes do. These birds are in no danger of extinction as the wood-duck and some other wild fowl are.

We can promise the Connecticut breeders that the New York market will quickly be opened to the foods they produce. The Game Conservation Society, The National Association of Audubon Societies and other associations whose co-operation is assured will soon see that a common sense law is enacted permitting the sale in New York of the wild

foods produced by industry in other States.

It is absolutely safe to purchase cheap lands in Connecticut to be used for game breeding. Some sales will be made to people who take our advice. There can be no doubt about the matter. The New York market soon will be open to the foods produced.

Lands can be purchased at \$2.00 per acre and up. Pheasants sell readily at \$2.50 each; wild ducks sell at \$1.50 and \$2.00 each for common species; others bring \$10.00 per pair and more. The new industry is profitable.

A FRIENDLY DIFFERENCE.

We take pleasure in printing the letter of Mr. John W. Talbot of Indiana. Mr. Talbot has done something in his State which we believe it would be impossible to do in many States at the present time. Our admiration for what he has done is unbounded. We certainly had no intention of belittling or criticizing the Indiana law which places game breeding on the same basis as the breeding of poultry. This undoubtedly is right on private lands.

We said we preferred a breeders' law which licensed the industry and we do, for the present at least:

First—Because we believe it is possible to get such an enactment in States where it would be impossible to go the limit as Mr. Talbot has done. We are willing to back a compromise measure in localities where we are sure the opposition is strong enough to insist on such compromise.

Second—Because there is a difference between game and poultry. There is, and we hope there always will be considerable wild game, which is said to belong to the State because it has no owner—such as the game in public parks on wild and unposted lands and on public marshes and waters. The people who are interested in this game firmly believe, and experience has proved they have reason to believe, that if the game produced by breeders is sold legally it

may result in the sale of some of the so-called State game against the sale of which in some States there is a decided prejudice.

Third—Because, for the present at least, we believe the identification of the game produced by industry before it is sold, will be a benefit and not a burden to the breeders, provided no license or merely a nominal one be charged and provided the rules and rates applied to the identification be reasonable and small. Game is so valuable that there is a great temptation to steal it and sell it and this temptation will remain great until game becomes plentiful when the theft of game will be no more important than the theft of poultry now is. We should remember, also, that the best game is bred in the fields and woods, as it should be in the most sanitary manner; this is more easily stolen than poultry is. There is much poaching in England, although the incentive is small, because game is cheaper, often, than poultry. Many breeders while the prices for this desirable food are tremendously high will agree with us that it is desirable to have the food produced by industry, safeguarded against theft and the customers should be willing to pay a fraction of a cent per bird which is all the identification tags should cost. They should be furnished by the State to reputable breeders in large lots.

Mr. Talbot seems to have misunderstood what we said about our, "doubt if the Indiana law will result in much wild game being sold." We did not wish to convey the idea that we did not believe much game would be produced and sold: we wished to express the opinion that in Indiana we did not believe the sale of game produced by industry would result in much of the wild or "State game" being marketed. The temptation to sell game illegally is not so great in Indiana as it is in some States. On another page we predicted that Indiana undoubtedly would produce abundantly. We hope and believe it will; and if it does Mr. Talbot's excellent law undoubtedly will remain in the books, as it should.

We are not only in favor of the Indiana law but we are enthusiastic about it. We not only admire Mr. Talbot's work but we are enthusiastic about it. Mr. Talbot has performed a great service for his State and a great service for America. If the Indiana law works out well, it undoubtedly will be copied in other States and we will support the idea wherever it appears. The reasons why we favor, for the present, the regulation of the new industry have been stated. We hope the people of Indiana will appreciate fully what Mr. Talbot has done; if they will nominate him for Governor we will stump the State for him. We don't know what his politics are. We are for him.

Wild Game Legally Taken.

Mr. Talbot will agree with us no doubt that wild game (birds or mammals) legally taken in the chase belongs to the taker; that it is and should be his personal property. It becomes his because of his industry; because he has pursued it and reduced it to his possession. All that is or should be required is that the game be legally taken during the open season.

This was the Roman law from which many of the good laws of England and America were copied. It is nothing more than common sense to say that a game bird legally taken and in the pocket of the gunner is his. This being so he should sell it, if he wishes to do so, in order that some one of the people, who are said to own the game, may have a taste of it.

In England and other civilized countries the wild fowler or market gunner not only sells the wild game he may shoot but he is permitted to trap it for the market. He procures food for the people to eat just as the cod-fishermen go to the public waters in America and procure public fish for the people to eat. We have said that the market gunner has a better excuse for his existence than a sportsman who claims that he only kills birds for fun. We have visited and shot with good and entertaining market gunners and we hope to live to

see the day when they can have the same freedom in America that such gunners have in other civilized countries. We know that there is a big prejudice against these good old honest souls which somehow does not attach to similar characters who take fish for us to eat. We have been willing to compromise and let the market gunners be kept out of their homes in the country until such time as those who wish to destroy game for fun produce enough to help fill the markets. The reason market gunners can sell game abroad is, no doubt, that the farms and other private lands are made to produce game as they should. It has always seemed strange to us when a "true sportsman" remarks that the people own the game and therefore no one can have any but him. "I will consent," he says, "to a law that even I cannot give any away." Is it no longer more blessed to give than to receive? Game is a highly valuable food for invalids. Any physician will say that it has a special value besides tempting the appetite. When a "game hog" who had shot a few more birds than he needed proved that he had sent them to a hospital the great expounder of the "game hog" idea, Shields, frankly said: "That is an extenuating circumstance."

We are willing to go the limit, Brother Talbot, and we sincerely hope you will join us when we restore the good old wild fowlers to their cabins by the sea. As a matter of compromise, however, we consent for the present to delay them until game becomes so abundant that everyone can have it, "cheaper than poultry," just as the inhabitants of other civilized countries have it.

Again we say we are delighted that Indiana is in advance of the more game possession. We shall observe the industry in that State and we hope to report it fully. Our difference is simply one of expediency and we believe we know what can be done and what cannot be done just now in some localities better than Mr. Talbot does. We are willing to make haste slowly since we

believe this plan in many States will work.

Ohio is next door to Indiana. The best that could be done in that State this year, we are told, was to permit the profitable breeding of pheasants only under a law providing for a 50-cent license. If Mr. Talbot can reform his neighboring State, Ohio, we will shout for joy.

CORRESPONDENCE.

Editor Game Breeder:

This is for publication if you can give it space.

I thank you for the publication of my portrait in your May issue, but I would have been more grateful to you if you had taken a sane view of the Indiana law in that issue instead of criticising that law. It is no pleasure for me to see my portrait published in conjunction with a principle or argument that I know to be absolutely wrong, because it seems to lend my sanction to the erroneous views expressed by you concerning legislation.

Your idea of only permitting game breeding by private individuals for profit under a license from the State is entirely wrong. Your idea that game produced by private individuals should not be sold except after having been tagged or after a permit has been received from some State officer is entirely wrong. Your views on this matter will not make it right and it is your views on this matter that keep The Game Breeder from being the success that it should be.

If no one could raise ducks or chickens without a State license, practically no farmer would raise them. If no one could sell ducks or chickens without first obtaining a tag or a permit from State authorities, there would be very few offered for sale. Your ancestors who first domesticated animals did so because they were not hampered by any license foolishness or tag foolishness. It is all nonsense to say that such laws safeguard wild game. They do nothing of the kind. Laws prohibiting the killing or selling of wild game and placing upon any person prosecuted the burden

of showing that the game he sold was raised in domesticity would be a good law. A law that compels correspondence and expenditure of money in red tape as a prerequisite to game breeding is, if you will pardon the expression, damned nonsense, and you never can expect either through The Game Breeder or otherwise to do much toward proper laws and free game until you quit apologizing for proper laws for game breeding.

I noticed that when the Indiana law was first proposed you were inclined to find fault with its wording. Now you are inclined to find fault with it because it gives the people of Indiana an opportunity to raise game. It may interest you to know that I have on file clippings from twenty-seven Indiana papers endorsing this law and urging the people to begin game breeding. They take the common sense view, which is not your view. Your view that it will not result in game breeding is wrong. It is already doing so.

If it is your purpose to pay salaries to officers whether they be needed or not, you are adopting the right course in your editorial department.

I trust you will give publicity to this letter because I do not want to be misunderstood and I do not want anybody to use my name to mislead the people as to what should be enacted in the form of game laws.

Yours very truly,

JOHN W. TALBOT,
Secy. Game Bird Society.

Indiana.

=

Editor Game Breeder:

Some two years ago I wrote an article for Outing Magazine in which I discussed this very question, of markets for game under regulations. In this article I endeavored to show that considerable areas of our country, not alone in the West, but in the East also, contain large tracts of mountainous and other land that is not and never will be adapted to agricultural purposes but which would support deer and elk and other large game. In Dutchess County,

New York, the county in which I live, we have sufficient land of this character to keep the entire county in fresh meat, if it were fenced and deer and elk and other animals of this character were propagated upon it. These animals could be raised on such land at almost no expense—the expense indeed would consist of a little feeding during winter months when the ground is covered with snow, and in this part of New York State such periods are short.

I also endeavored to show in the article mentioned that our present restrictions stand in the way, pretty absolutely, of any investment along these lines. There is no one in this country who is more deeply interested in game preservation than myself, but at the same time I believe that our laws should be common sense laws that would permit us to propagate domesticated deer and sell them. Of course, this would have to be under supervision that would be strict enough to eliminate the possibility of wild game being killed and run in upon the market. It seems to me that a law might be framed which would safeguard our wild game and at the same time permit the domesticated game to be killed and sold in the open market and shipped from one State to another. Such a law of course would have to be strictly enforced. The trouble with a great many of our conservationists is that they are unpractical in their methods, and lean backward in the attempt to walk straight.

Yours very truly,

DILLON WALLACE.

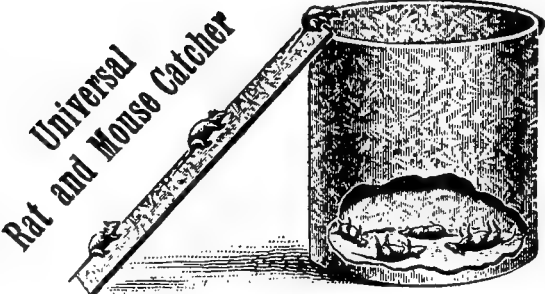
Dutchess Co., N. Y.

[The New York laws now permit the profitable breeding of deer, pheasants and two species of ducks for sale. Many deer and birds are bred in your county and sold in New York City at excellent prices. We hope you will favor the sale, in the New York markets, of game produced by industrious breeders in other States.—Editor.]

=

Editor Game Breeder:

The bill legalizing pheasants for commercial purposes passed both branches



**Universal
Rat and Mouse Catcher**

Caught 51 Rats One Week

12 one day in one trap, (resets itself). Catches daily, always clean, lasts for years, 22 inches high, made of galvanized iron, can't get out of order, weighs 9 pounds. When rats and mice pass device they die. Cheese is used, doing away with poisons. One sent prepaid on receipt of \$3. Mouse trap 10 inches high, \$1. Money back if not satisfied.

H. D. SWARTS
Inventor and Manufacturer
Universal Rat and Mouse Traps
Box 566 Scranton, Pa.

and is now a law. It did not include wild ducks. There was much opposition due no doubt to the fact that the proposition is entirely new, if not radical. The argument was used, and with good effect, that during the open season next fall, ducks would be slaughtered in the marshes by parties who had previously procured a breeders' license, and who would thus be protected. Ducks will no doubt be included next year if no unsatisfactory results follow the pheasant experience.

We are putting out a considerable number of birds and hope to distribute 15,000 to 20,000 eggs.

Thanking you for kindly interest in our work,

Very truly yours,

JOHN C. SEAKS,
Columbus, Oho. Chief Warden.

=

Editor. Game Breeder:

Answering your letter of April 26th. It is my belief that closing the market to game was a radical step in progress, and the only way for getting together

all loose ends of the question. Now that this has been done, the next step in progress will consist in allowing game producers to raise their very desirable food supply in great quantities, and to have such game animals and birds enter the market under the supervision of a State department.

ROBERT T. MORRIS, M. D.

New York.

MY LITTLE BOB-WHITES.

BY MARY C. WILKIE.

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(Continued from page 85.)

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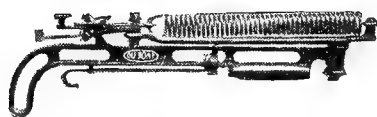
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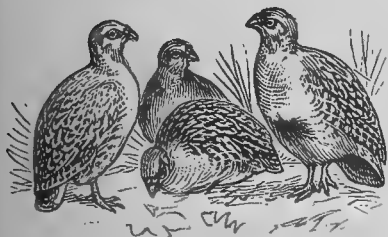
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VOL. VII.

JULY, 1915

No. 4

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PROFESSOR T. GILBERT PEARSON.

Professor Pearson is the Secretary and Acting Executive Officer of the National Associations of Audubon Societies.

He is an able biologist and he well understands why American game has decreased rapidly in numbers and what should be done to stop the decrease, and to make the desirable wild foods abundant and cheap. We shall have something more to say about Professor Pearson and his work in an article now in preparation.

The Game Breeder

VOLUME VII

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NUMBER 4



SURVEY OF THE FIELD.

More Fish.

The more game movement includes game fish of course. The truth of the matter is the right to produce game fish for profit is a little in advance of the right to restore quail on toast and other game bird dishes in some of the states. Some of our readers make ten thousand a year or more in their game fish industry and not many of them yet do as well with game, big or small.

Mr. C. H. Townsend, Director of the New York Aquarium, discusses the private fish pond as a neglected resource in Forest and Stream. He says:

It is possible for the private citizen to obtain pond fishes for breeding purposes, but he needs assistance and direction. Object lessons on approved methods of fish culture could be obtained by visiting public hatcheries, but this is not likely to be undertaken. It would be advantageous to the country if state fish commissions generally could supply the coarser fishes for cultivation in private waters and furnish the public free information as to the methods to be followed.

We should not rest content with the mere fact that such information exists in public documents. The edition of state documents are neither large nor well distributed, and rural populations may remain unaware that useful fishery information may be had for the asking. State fish commissions should not only prepare inexpensive pamphlets on the cultivation of common fishes, but see that they reach many communities and be announced and reviewed by the rural press everywhere. Model ponds distributed about the state for demonstrative work would, of course, be educational, like agricultural colleges and state experiment farms. I am not prepared to set forth the best means of doing this work, perhaps no two states would undertake it the same way.

Kansas issued a series of illustrated bulletins on Pond Fish Culture and we understand Massachusetts has this work started. It is quite as important to have more fish and fewer fish laws as it is to have more game and fewer game laws. We are glad to see our good neighbor,

Forest and Stream, getting interested in more fish.

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More Fish Raising and Less Fish Hatching.

Mr. Townsend well points out that the number of fish raised is badly out of proportion to the number of fry produced:

I am convinced that some of the energy put into the production of fry is misdirected. The output is amazing. Practically all of it is hurried into the nearest river and none of it raised. We are all doing about the same thing and have settled into the rut of fish hatching in hatchery buildings. No one is doing anything new except as connected with the competition for increased output.

Having practiced these wholesale methods for two or three decades, let us now consider whether we might not profit by a little less fish hatching and a little more fish raising. Does salvation lie only in a multiplicity of expensive Federal and state hatcheries? If our fishery establishments were equipped to raise and market one per cent. of the fry now being hatched and liberated, might not the quantity of food thus produced exceed that which eventually reaches market by way of the public waters? Let us simplify our art and teach it to the people, for they can surely help in the production of fish food.

The object of the Game Conservation Society and its publication, The Game Breeder, always has been to teach the people the art of profitable game and game fish production and incidentally to teach the game officers not to arrest them on account of their industry. We have labored to make it impossible for such absurd arrests and we have helped to have many absurd crimes removed from the statutes. It is gratifying to observe that the state game departments, for the most part, now realize that it would be an easy matter for all of the people to have cheap game and cheap fish, provided they can interest the people in producing them profitably. Syndicates of sportsmen using

only a few of the many posted farms in a state with the consent of their owners soon should be able to send a big lot of this desirable food to the markets and in this way they will make the people friendly to sport as we have pointed out often.

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Attitude of the Audubon Association.

The attitude of the Audubon Association is now decidedly in line with the remarks made by Mr. Townsend. Two attractive and well illustrated bulletins issued recently by the Association are intended to arouse an interest in the production of the wild food birds for profit. The bulletins are filled with practical information about the proper handling of quail, grouse, wild fowl and other game birds, and they will do much towards putting an end to the idea that game produced by industry should not be freely transported and sold to the people as food.

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The More Game Campaign Won.

The good old dean of American sportsmen was right when he observed that the campaign for more game had been won. We hardly believed it when we read his letter, but now we are sure of it. Many details remain to be worked out in the various states. These will be attended to by local interests, no doubt. Meantime, The Game Breeder, as the trade paper of the new industry, will continue to publish the news of the legislative amendments, and it will give more and more space to articles about how to rear successfully; how to shoot successfully; how to market successfully; how to cook successfully, and we have no doubt the dear people will do the rest with avidity.

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A Waste of Game.

The great waste of an amazing output of fry mentioned by Mr. Townsend suggests the great waste of valuable game birds which has occurred in the public plantings in many states. Hundreds of thousands of dollars have been expended in the purchase of live game birds which have vanished from the earth soon after they were liberated in states where shooting was prohibited to give the game a chance to multiply. Practical game

breeders know the reason why the birds disappeared. Many foxes and other creatures which are classed by game keepers as vermin no doubt smacked their lips and gave thanks to the state authorities if such animals ever give thanks for good things furnished as freely as the gray partridges, pheasants and other game birds have been furnished.

We are strongly in favor of the state game officers purchasing game even more liberally than they have in the past and they no doubt will when they understand, as many now do, how to liberate the game. It should be started on a number of game farms where good and skilled beat keepers are employed to look after it properly and it no doubt will multiply under such conditions, and spread out in all directions. Valuable game birds should not be scattered thinly over a state to fall an easy prey to vermin or a lack of proper natural foods. The best plan of course is to distribute the game to those who will agree to look after it properly. Every game protective association and every gun club should have some, provided they will look after it. They should sell some of the game produced to help pay expenses.

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Wild Ducks for State Game Officers.

Many State game officers are unaware that wild ducks are probably the best game birds they can invest in. Many think, no doubt, that wild ducks, being migratory birds, and very wild, would soon desert if they be purchased and liberated. This was the idea entertained by game keepers in England a few years ago.

Those who have read Mr. Huntington's book, "Our Wild Fowl and Waders," know that wild ducks are the easiest game birds to handle and rear; that they are almost free from diseases; that they can be kept at home, without difficulty, and allowed to depart a few at a time or many at a time. They will fly about and visit nearby waters, furnishing sport to many guns; they will fly home when too much shot at; they will breed the second season and thereafter if some stock birds be trapped and pinioned or wing clipped during the winter when (even in the

northern States) a cheap shed is all the shelter they will need. Many birds can be permitted to migrate. Some will be shot within the State; some without the State, no doubt, but the number which will return to nest in the Spring will be found to be quite satisfactory when the fact that the Winter feeding has cost nothing is considered. The danger is not that the birds will be too wild but that they will become too tame. By letting them fly about and by not feeding them too much this difficulty easily is overcome. The State would do well to encourage every farmer who has any water (the smallest creek or pond will do), to rear wild ducks for sport and for profit. Sportsmen can be found who will enjoy the shooting. The people who eat will furnish the money to pay for the sport.

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Raising Deer in Connecticut.

The Norwich Bulletin says:

There appears to be good reason back of the bill which would give the people of Connecticut the right to raise deer for the market, and it is not surprising that the hearing thereon should have brought forth no objection, but many advocates. At the present time the State of Connecticut is engaged in the business of raising deer at the expense of the individual raisers of crops, but it is against the law to kill them except under certain conditions, and the placing of the venison on the market is absolutely prohibited.

What is sought under the proposed legislation is the right to establish a new industry. The right to raise deer the same as other live stock, in an enclosure which would give them the proper protection, does not appear to be an unreasonable request. Cattle and sheep are to-day raised for the market and the business returns a good profit to a large number of farmers. Why shouldn't it be possible for them to raise deer under proper conditions? There can certainly be no more objection to the raising of deer to kill than there can be for doing likewise by domesticated animals. Though there may be less sentiment in behalf of the provision in the bill which would allow a person engaged in such business to sell shooting rights for sportsmen seeking deer because of the thickly populated conditions, there can be no apparent objection to the idea of contributing to the supply of fresh meat through the raising of deer. In fact, it would have been better if the State's activities in behalf of deer had been confined to that privilege which is now being sought.

The venison crop undoubtedly would soon be a big and profitable crop in Con-

necticut and it could be made to utilize much land which is now of little value and unused, provided the American breeders can have the same freedom which foreign breeders enjoy. We have seen wagon loads of imported deer going from the docks to the dealers in New York, but if any Connecticut breeder should send his meat to this excellent market the food would be seized and the dealer who handled it would be arrested. Even if the State game officers should tag the deer and notify the New York game police that it was the personal property of a Connecticut breeder who had the right to sell the food, this would make no difference. New York denies all wild food producers in other States the right to sell their food. The people have a Statue of Liberty but foreigners have the liberty in the New York market.

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Persistent Rumors.

During the last few days there have been persistent rumors, to the effect that Germany was seeking the Remington Arms-Union Metallic Cartridge Company and some of the minor concerns in America "not so much," the Commercial Financial World says, "on account of any shortage of ammunition for its own armies, as with a view to putting an end to the tremendous shipments which are going forward to the allies."

Mr. Samuel F. Pryor, Vice-President and General Manager of the Remington Arms-Union Metallic Cartridge Co., was emphatic in asserting that there was not the slightest foundation for the rumors. Mr. Pryor added that the additions to the plant did not constitute a mere temporary expedient, but were largely made in accordance with the general policy of expansion adopted by the Company before the beginning of the war and this policy would not be interfered with even if the war were to come to an end to-morrow.

This is good news. What would sporting America be without the Remingtons?

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The Game Conservation Society is now the largest association of game breeders in the world.

Don't Buy in Rhode Island.

People who wish to purchase farms or country places are advised not to buy property in Rhode Island. The arrest of farmer Austin for producing game food on his farm seems incredible but we have it over his signature that he was arrested twice for this remarkable crime—food producing! Think of it! in a land so near the land of the free, Massachusetts, that one can step out of one state into the other.

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"More Game."

Mr. C. M. Bernegau, President of The Game Breeders' Association sends the following statistics showing there is "more game" in Germany. Over fifteen million dollars worth is some game to be sure, but it is a safe bet that America will make these figures look silly in about three years. Germany is about the size of the American National Parks. We have a few extra prairies, mountains, fields, forests and farms outside the parks, all of which can be made to yield game abundantly. Hundreds of thousands of game eggs were produced by private industry and these are the eggs which count. People who buy things seem to do better with them than those who receive small donations from the State. The German figures are interesting and instructive. If our parks can be made to produce as much as Germany does what would the returns be if one half of the remaining land should be made to produce game.

"According to the German Imperial Statistics for 1912, the following game was killed in Germany and offered for public sale:

12,870	pieces of red deer,	Value M.	772,200=	about \$	193,050
8,940	" " bucks,	" "	402,300=	"	100,000
62,600	" " roe,	" "	939,000=	"	234,750
4,350	" " black game boar,	" "	152,250=	"	38,060
14,950,000	" " hares,	" "	31,395,000=	"	7,848,750
8,730,000	" " rabbits,	" "	5,238,000=	"	1,309,500
5,260,000	" " pheasants,	" "	7,890,000=	"	1,972,000
18,970,000	" " partridges,	" "	15,176,000=	"	3,794,000
96,400	" " mountain cocks, wood cocks, ducks, heath cocks, snipes, etc.,		144,600=	"	38,150

Total value of game offered for sale.

Marks: 62,109,350, or about Dollars 15,529,000.

The Merry Dachshunds.

A Chicago reader, writing to the Rural New Yorker, says:

I noticed the unsatisfactory reply to "A Curse of Rabbits," in Dec. 26 issue. I have been in a similar position but rabbits, skunks and weasels have become rare guests on my poultry farm, as well as rats, since I have bought German dachshunds. These little fellows are bred to a size that allows them to enter a badger's or fox's hole, weigh about 12 to 15 pounds. They are not able to race a rabbit, but since they have an excellent scent they will dig out every one of them. If they scent a rabbit in a hole you cannot drive them away with a club. On my wood lot rabbits keep themselves mostly under brush and not so much in holes, but skunks have troubled us more. It takes a courageous dog to get a family of skunks out, to brave that blinding smell, to go in again and again, although half blind, and the saliva running out in white streams from their mouth. It is a pleasure to watch these little fellows bite roots one inch thick with their teeth in order to get nearer to the animals. My German tenant paints all my small fruit trees around the ground with a mixture of lime and cow manure, and claims this prevents damage from rabbits.

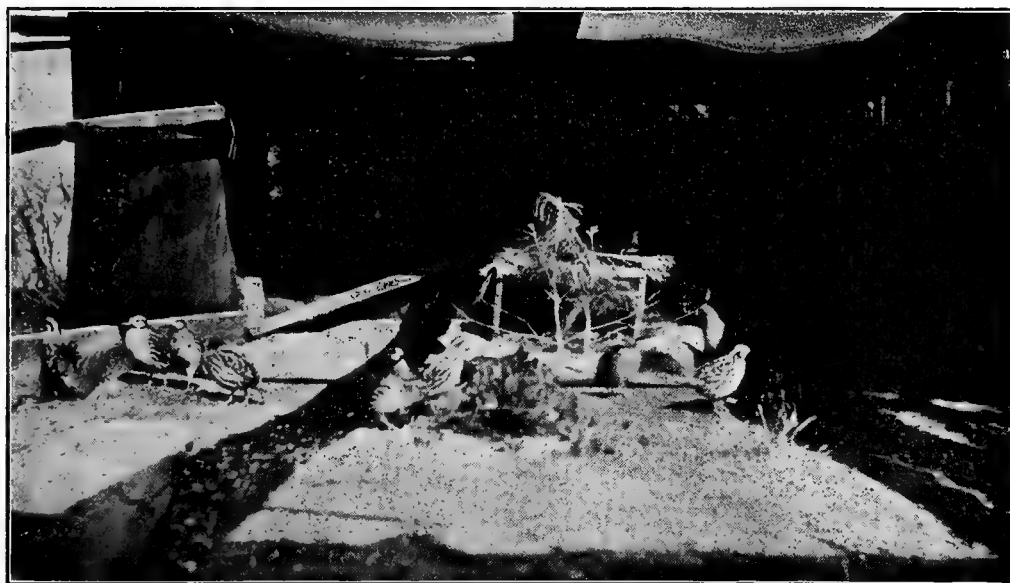
The curious little German dachshund—a dog and a half long and half a dog high—as a comic paper described it, is quite popular among rabbit shooters. Many good dachshunds are owned and bred in America. Some of our advertisers can supply the best.

Falling Straight Ahead.

Jay Green—I had a ride in my cousin's automobile while I was up t' the city.

Aaron Allred—Ye did? How'd seem?

Jay Green—Waal, it felt a good deal like fallin' into a mighty deep well, only ye dropped straight ahead instead of downward.—Chicago News.



Bobwhites—Tame as Chickens.

QUAIL BREEDING IN VIRGINIA

By W. B. COLEMAN.

I will try and give you some idea how I care for my bobwhites. My breeding pens are 15 feet long by 5 feet wide. In these pens three hen birds may be kept with one cock during breeding season and eggs be set under bantam hens. They may also be penned in pairs. They will make nice nests, lay, set and hatch wonderfully well. Of course young birds must be taken from the mother quail before they are well dry and put with bantam hens. For the first few days they will run off from hen, of course, and they have to be confined in a close place for several days, after which time they may be permitted to run at large.

It is surprising to see how soon they learn the call of the bantams and follow her as well as chickens. I raised nine bobwhites in our orchard with bantams and they were never confined at all except I drove the hen and birds in a box with a fly screen door every night just as you do chickens. All of my young bobwhites were reared in this manner.

My old birds are as wild as they ever

were and have to be penned always. They never become tame except when taken from the wild birds as soon as they are hatched. The birds I reared by bantams are as tame as chickens and fed from the first on yolk of hard boiled egg and curd. Feed wheat bran later and when old enough to eat it let them have crushed grain such as wheat, oats and corn fed dry. When penned green food must be furnished, also ground oyster shells, crushed fine. They should have a good dust wallow of dry ashes and all such things must be looked after. For pens I use some poultry wire, $\frac{1}{2}$ inch mesh, but find fly screen wire best; this keeps out rats, etc.

It is wonderful to see how well the wild quail will do in the closest confinement. I have one pair of birds in a pen made of some wire I had left over which is only three by nine feet and the hen bird made a beautiful nest and laid thirteen eggs. I had one pair of birds in a little larger pen than this and the hen laid fourteen eggs and hatched thirteen bobwhites. Before they got out of the the nest I took them from the hen quail

and put them with a bantam hen. The photograph I send you was made of some of these fourteen birds.

I have lost very few. They can be reared in large numbers successfully. I do not believe they can be profitably raised for certainly not less than \$25 per dozen. Owing to the laws of our State I have not been allowed to realize anything from my birds, although the

experience has cost me a good deal. However, I do not believe the day is far off when game breeding will be looked after with a great deal of interest. A number of our people are beginning to realize that quail shooting will soon be another one of the past sports if game farms are not established.

I expect to restock some of this section this spring.

THE PRAIRIE GROUSE.

Second Paper.

By DWIGHT W. HUNTINGTON.

The late Dr. Sylvester D. Judd performed a great public service when he wrote the bulletin on "The Grouse and Wild Turkeys of the United States, and Their Economic Value." This bulletin was issued by the U. S. Department of Agriculture in 1905 as Biological Survey Bulletin No. 24.

Inviting attention to the fact that the prairie hen was nearly or quite gone from large areas in the West, where it was numerous a few years ago, and that a number of our game birds are now gone or fast disappearing from their former haunts, Dr. Judd said: "An awakening appreciation of the real value of some of the species and of the indirect danger of their extermination is evinced by protective laws that have been enacted in recent years throughout the country. These laws are mainly the outcome of a realization of the value of the birds from the sportsman's point of view. The investigations upon which the present report is based show that the farmer has a vastly greater interest at stake in the increase and protection of some of these birds, notably the bobwhite, than has the sportsman. The importance of the prairie hen as a destroyer of weeds and insects has been demonstrated and its value as a food and game bird is well known."

I had the opportunity to shoot the prairie grouse when they were abundant in Illinois, Kansas, Nebraska and some other States. I have had some good

grouse shooting in Indiana and I used to shoot in the Dakotas when the prairie grouse was extending its range to the northwest, and bagged some of the prairie grouse when shooting its northern relative, the sharp-tailed grouse, which were at the time tremendously abundant in the Dakotas, Montana, and many other States, westward to the Pacific Ocean.

Since 1905 the restrictive laws, to which Dr. Judd referred, have been multiplied; the seasons have been made shorter; the bag limits have been made smaller; and, in some States, the shooting of prairie grouse has been prohibited for years. Those familiar with the grouse are well aware as the country becomes more densely populated they have decreased in numbers almost everywhere and on vast areas they have become extinct. The reasons why the laws do not produce the desired results and make the game plentiful are well known to naturalists and to sportsmen who read *The Game Breeder*. When the additional check to the increase of the grouse (shooting) is added to the ordinary checks to their increase (vermin), the grouse must vanish because nature's balance is upset in the wrong direction. There are other reasons why the grouse must go more quickly than the quail when any shooting is permitted. They are birds of the open country, easily found and followed with the aid of good dogs and they are large and correspond-

ingly easy marks. The size of the birds and their toothsome flavor make them very tempting to those who are not familiar with the game laws or do not heed them. Where there are open seasons some farmers naturally entertain the opinion that it is wise to take the field early in order to anticipate the town gunners who often shoot without permission and are considered a nuisance in many cases. When there is a rivalry between two classes of gunners as to who shall have such desirable food it is not surprising that nature's balance quickly is upset. The stopping of the sale of grouse may have delayed matters a little but it also has made it not worth while to protect the game properly since it cannot be done profitably. We should always bear in mind the statement of the naturalist, Seaton, that the way to make American game abundant is to commercialize it.

I have reports of the grouse vanishing from places after the laws prohibited all shooting. It is easy to understand why this should occur. All birds need their natural foods and all need cover not only at the nesting time but throughout the year as a protection against their natural enemies. When the grouse were abundant on the great western prairies, prairie grass, wild roses, wild sunflowers and other plants were abundant. The birds had opportunity for concealment and could procure winter foods above the snow. On many farms and cattle ranches the covers and foods have been entirely destroyed and the laws stopping the sale of the birds and the other destructive enactments cannot possibly make them plentiful in places where the natural conditions are such that they cannot escape from their natural enemies or secure any food in the winter.

It is evident that these birds must be properly looked after; that some of the necessary covers and foods must be restored; that the grouse must not be destroyed by fire and flood and farm machinery and by dogs, cats, rats and illegal gunners and egg gatherers, before we can restore these splendid food birds to our markets or ever be able to restore them to our list of game which can be

shot. It is very evident that some land is needed where the wild grasses, wild roses, sunflowers, and many other foods and covers should be permitted to grow. It must be evident to sportsmen that the farmers will not donate the needed land for such food and cover unless they be compensated. It is evident they will not put in their time controlling the many enemies of the grouse so long as the sportsmen claim to own the game and insist upon the right to destroy it without providing any means for its protection and increase. Dr. Judd pointed out that the grouse could be restored to Ohio, Kentucky and other States where it is extinct but where it once was plentiful. Ten years have elapsed however since he wrote his bulletin and practically nothing has been done for the very good reason that it does not pay to do anything in the way of practical propagation or in the way of introducing or restoring the game. The laws in fact now make it impossible to procure stock birds or eggs in most places, and Dr. Shufeldt, no doubt, had these facts in mind when he said he was opposed to laws protecting the game off the face of the earth.

The Game Breeder's enactments which already are in the books in some States, and will be in all we hope soon, will make it possible to get stock birds and eggs. The opening of the markets to the desirable food will make it quite worth while to produce it on many of the farms where it no longer occurs and which are posted against all gunners. Mackensen, and the other dealers in live game, who advertise in The Game Breeder, will pay excellent prices for grouse and grouse eggs and will be the first to sell them. The birds will go to people willing to look after them now that the laws provide that they can shoot and sell some of the game to help pay expenses if they wish to do so. In order that sportsmen of small means may form game clubs and have good shooting during a long open season it is quite necessary they should have the right to sell both birds and eggs produced by their industry on the farms where the farmers are compensated.

It is all important that those willing

to help save the grouse and make them plentiful should know how to go about it. The birds can be most successfully and inexpensively reared in a wild state,

but first of all the ground must be made inhabitable. How to do this and where to get the stock birds and eggs will be discussed in another article.

THE FISH AND GAME CLUBS OF QUEBEC.

What They Mean to the Province. What Privileges They Enjoy.

By HON. E. T. D. CHAMBERS.

The Province of Quebec is the only one of the Dominion which offers to sportsmen the practically exclusive privileges of fishing and hunting over large tracts of forest, lake or river territory. These privileges are leased to residents, non-residents alike, and non-residents who are lessees of such privileges, or who are members of a club leasing the same, are entitled to non-resident fishing and hunting licenses at the lowest rates, which are only one-half the prices charged to other non-residents, and in some instances even less.

The unsettled territory of the Province of Quebec is enormous, so that notwithstanding the fact that over five hundred leases have already been granted to sportsmen, there are thousands of miles of good sporting territory still available for private preserves. Many of the leases of fishing or hunting territory, or of both fishing and hunting privileges combined, are held by private individuals; but over two hundred fish and game clubs are incorporated in the Province, nearly all of which are lessees of fishing and hunting territories.

Some clubs, having a large membership and controlling fishing and hunting rights, exercise these rights over extensive tracts of country, from one to two hundred square miles each in extent. Others are, of course, very much smaller. The law limits to two hundred square miles the extent of territory that may be held for hunting and shooting purposes by any one club, and three dollars per mile per annum is the minimum price that can be charged for shooting privileges.

The amount of rental charged for fish-

ing privileges depends upon both their quality and accessibility. Less than fifty years ago, a season's lease of the salmon fishing in the Grand Cascapedia was offered for \$100. Today no less a sum than \$12,000 a year is paid for the angling rights of a portion of the river.

The prices paid for fishing privileges are in every case exceedingly reasonable. Leases for both shooting and fishing privileges are usually made for a term of five years, but are renewable for similar terms, though always at a comparatively slight advance in the rental, because of the increasing demand for such rights and their rapid improvement in actual value.

Many clubs and private individuals erect comfortable camps upon their leased fish and game preserves, and some of them have erected really luxurious summer homes in the gorgeous woods of our entrancingly beautiful North Country, often overlooking a charming bit of lake or river scenery. Here they spend their summer vacation, or come to enjoy their autumnal or winter hunt, often accompanied by the members of their families. In no part of the world is there to be had better water or more healthy and ideal camping sites than among the Laurentian lake and mountain country of the Province of Quebec.

The fishing rights in the inland waters of the Province, wherever the land remained the property of the Crown, became vested in the Province in 1882, in virtue of a judgment of the Supreme Court rendered on the 28th day of April of that year, which decided that the right of fishing in inland waters belongs to the owners of the lands in front of, or

through which such waters flow. Up to that time, practically nothing had been officially done towards developing the great sporting attractions of this province, outside of the salmon fishing, for which a few leases had been granted. The provincial authorities at once sought means to develop the rights, in the possession of which they had been confirmed as above related. During the first few years of their administration by the Province, the inland fishing privileges were leased on a somewhat limited scale. But in a short time the leasing system attained considerable proportions.

The protection of fish and game was the main purpose of the leasing system, and this purpose it has admirably served. In the incorporation of fish and game clubs, it is the principal object for which the incorporation is granted, and in all leases of either fishing or hunting territories, the main condition of the lease is the protection of fish and game and the enforcement of the fish and game laws. It is in consideration of this protective work that the valuable privileges of practically exclusive fishing, hunting and camping are leased on liberal terms to Fish and Game Protective Clubs and to individual sportsmen. The advantages enjoyed by these lessees cannot be had anywhere else, and amply justify the constantly increasing popularity of the system. Some of the clubs have quite a large membership, and in addition to their club houses, their territories can now boast the existence, in various picturesque surroundings, of private camps or bungalows or other summer homes. Others might well follow their example. There are many lovers of the woods, in both Canadian and American cities, who, whether sportsmen or not, would be glad to learn of the opportunities of enjoying club privileges in the Province of Quebec, and of either sharing the accommodation that more commodious club buildings or cottages could supply, or of erecting summer homes in the woods for themselves.

The advantages to the Province of Quebec from the existence of Fish and Game Protective Clubs and from the

system of leasing fishing and hunting privileges are enormous. Without the efficient protection afforded by the members of these clubs and by the guardianship which they are required to maintain over the territory entrusted to their care, large tracts of country now serving as fish and game preserves, whence large game, fur, fin and feather overflow into the surrounding woods and waters, would now be destitute of game and game fishes, some of which might even have shared the fate of the wild pigeon and the buffalo; for it is patent to everyone conversant with the tremendous extent of our provincial territory and with the fish and game conditions thereof, that nothing short of an army of thousands of men could suffice to constitute a perfectly efficient system of governmental guardianship.

To the people of the Province, both the establishment of Fish and Game Clubs and the leasing of fishing and hunting territories to private individuals have proved extremely advantageous. The amount of money spent here by non-resident anglers alone is much larger than usually supposed.

An estimate made a few years ago for the Commission of Conservation pointed out that in one year nearly eleven hundred non-resident anglers purchased licenses for fishing with rod and line in the Province. About two hundred of them were salmon fishermen, who paid \$25 each for their licenses, whether fishing on the open salmon waters of the Province, or being lessees of government fishing rights, members of clubs holding such leases from Province, or non-resident guests of clubs or of owners or lessees of salmon fishing rights. Nearly four hundred non-residents, not being lessees of provincial waters or members of incorporated clubs, paid \$10 each for licenses to angle for other fish than salmon, while considerably more than five hundred non-resident anglers paid \$5 each for licenses for similar fishing rights, the reduced cost of such licenses being due to the fact that the holders were lessees of Crown fishing rights or members of clubs. The total amount of

government revenue from angling licenses was thus nearly \$11,000, and leases of angling waters brought in \$50,000 more.

This direct revenue from game fisheries is a very small fraction, however, of their actual money value to the Province. One American salmon fisherman claims that each of his fishing trips to the Province of Quebec costs him over \$4,000. Some salmon fishermen lease private waters, and when, in addition to what it costs them for fishing rights they pay for their travelling expenses in Canada, their hotel bills, guides, canoes, camps and equipments, supplies, etc., \$500 each is a reasonable estimate, and often it amounts to many times that sum. At least two hundred non-resident salmon fishermen must have angled in Quebec waters last year, representing a total expenditure of \$100,000. At least a thousand non-resident anglers fish in the Province of Quebec for ouananiche, trout, bass, maskinongé, and other fish, and it is well within the mark to place their average expenditure in the province at \$100 each. This adds \$100,000 to the money value of Quebec's inland game fisheries, making a total of \$200,000.

Hunting licenses yielded the Province of Quebec in the same year well over \$10,000, and leases of hunting territories amounted to some \$20,000 more. In addition to such revenue, it is well known that the money spent by sportsmen every year amounts to a very considerable sum. It has been estimated that each of the 576 non-resident hunters who visited the Province in 1913 spent on an average \$400. This would mean a total of \$230,400 received by people of Quebec in one year for their game resources alone.

That the above estimate of the amounts spent in this Province by non-resident sportsmen is far below the actual figures may well be assumed when we take into consideration the expenditure of one or two out of the hundreds of clubs leasing fishing and hunting territories from the Province.

The Laurentian Fish and Game Club has expended very nearly \$1,000,000 in the Province, as will be seen by a state-

ment published below. For the last few years it has paid out over \$30,000 a year in wages alone, to guardians, guides and other employes, and for provisions and other expenditure its outlay runs from \$12,000 to nearly \$20,000 a year. These figures do not include the amounts paid out to the railways, hotels and merchants of the Province, which are estimated to amount, for the last 25 years, to over \$300,000 additional.

The Squatteck Club (Temiscouata County), spent over \$14,000 in the Province in one year alone,—1912,—and the members of the organization have also expended upwards of \$10,000, as individuals, and as a club, in the erection of camps and other permanent improvements upon their territory. Almost all these amounts are laid out in the immediate vicinity of the territories leased and occupied by these clubs, so that the value of the system should be apparent to everybody. Moreover, the greater number of these fish and game territories are wild lands, often unsuited for agriculture, so that the money expended in their vicinity is doubly welcome to the residents of the neighborhood. Where there are farms in the vicinity, the farmers usually find a good cash market at the club camps for all their fresh meat, poultry, milk, butter and eggs.

It must not be supposed that all the wild land of the Province is for lease to sportsmen. Not every visiting sportsman nor yet every resident of the Province, is a member of a fish and game club nor can all of either class afford to lease a private preserve. For the use of these individual sportsmen, it is planned to reserve large tracts of fishing and hunting territory, especially in the newer parts of the Province, which will be open to all anglers and hunters in the open season, without fees of any kind to residents of the Province, except for tags for the shipment of game; while the non-resident's license fee will be the only charge upon non-resident sportsmen.

See Advertisements in this Issue. Advertisers report a bigger demand than last season. Better order quickly.

PHEASANTS AND QUAIL.

By HELEN BARTLETT, WITH A NOTE BY THE EDITOR.

Miss Helen Bartlett, a skillful game breeder, in a letter to *Forest and Stream*, says: "Reading in your last issue, I find a letter from Mr. Griffith, Columbus, Ohio, dated April 10th, in which he gives the views of General Speaks, the game warden of Ohio, on the subject, 'Is the Mongolian pheasant a menace to the native game birds of the State, especially the quail?' I feel that it is due you that I should give you the facts within my knowledge on this proposition.

"I am no doubt the largest and most successful raiser of game birds and quail in this part of the country. My Ringneck and Mongolian pheasants are penned in compartments fenced with two-inch poultry netting. These pens, holding the pheasants, run in a square about a field that we use for general gardening. My quail are turned loose in this garden field. They are not pinioned and their wings are not clipped. They come and go from the garden at their pleasure. We are accustomed to feeding them in the evening, and a great many of them always gather in from the outside alfalfa and other fields of the farm for the sweets that we throw to them.

"In going from their garden, they must fly over or run through the pheasant pens, and as a consequence they usually pass through the pens, because they are averse to flying when running or walking will accomplish their purpose. They frequently remain in the pens with the pheasants all day. There is not a time when I go into the pheasant pens but what I find quail in some of them. I have never known a quail to be hurt by a pheasant and I have never known a pheasant to attack one. They eat together and appear to be either on the most friendly terms or indifferent to each other.

"These statements of mine can be verified, if you desire to have them verified, by the Hon. Wm. R. Oates, Commissioner of Fish and Game of the State of Michigan, and by his deputies, Messrs. Jones, Hunter and Condon, who recently visited my place and spent a pleasant half day with me among the birds. Mr. Oates on that occasion stated to me that it was indeed a convincing surprise to him, after all he had read on the subject, to see the pheasants and the quail in such close and peaceful association."

Miss Bartlett writing to *The Game Breeder* says:

"As to the quail. I have reference to the Blue Valley quail. I have one particular pen about 40 feet by 100 feet containing 15 Ringneck hens; it is sodded with white clover and I often see from

four to ten or twelve quail in this pen. They eat of Spratts game food and the grains given at night. I often put out "corn bread" crumbled fine and this they devour readily, I think because it always has sugar in it and it is the corn bread I termed "sweets" in the letter you refer to. I have never seen a pheasant molest them in any way. They seem to like them and even during the breeding season the quail and male Ringnecks eat side by side off of the same board. I am sure if there was any tendency to be quarrelsome the quail would not frequent the pheasant pens, and some time we would see the results of such encounters."

We had a somewhat similar experience at the preserve of *The Game Breeders' Association* on Long Island, N. Y. Some quail which had been placed on arrival in an old hen house soon appeared to be affected by a disease and some died. I immediately ordered the birds liberated and many of them remained in and around the garden back of a large pheasant pen. The quail soon after liberation seemed to be entirely free from the complaint which had begun to decimate them.

I often saw quail in the pheasant pen and when alarmed they took wing and flew through the overhead wire much to my surprise, since the openings were just large enough for a quail to pass through with its wings closed. The birds whirred up to the openings evidently closed their wings as they passed through the small openings, then the whirring continued. Upon one occasion when I was standing near the pen with a visitor to the preserve he noticed the quail and I told him they could fly out through the wire netting over the pen. He expressed surprise at this but a few moments later, when our backs were turned, a quail which we had been observing took wing, whirred up to the wire and made it ring as it passed through. We turned quickly just as the

whirring began again and saw the quail fly on from the roof of the pen.

The only record I have of pheasants annoying quail is a statement made to me by a farmer on a preserve in New Jersey who said he had seen the pheasants, repeatedly, chasing quail in a corn field, down one row and up another. Game keepers seem to think it is not wise to have too many pheasants on partridge rearing grounds and some believe they disturb the nesting partridges. Numer-

ous opinions on the subject were collected by Capt. Alex. Maxwell and published in his book on Partridges and Partridge Manors. Some of these opinions were published in *The Game Breeder*.

One of the game keepers at the Rassepreague Club told me he had a large flock of quail which fed regularly with his pheasants and that he had never observed any disturbances. He had often seen the birds associated.

MUSK GRASSES AND DUCKWEEDS.

Second Paper.

By W. L. McATEE.

[The Bulletin on "Eleven Important Wild-duck Foods" issued by the U. S. Department of Agriculture is especially interesting to the owners of wild duck farms and preserves. Mr. McAtee has performed a public service in recording many of the foods eaten by wild ducks. We hope the bulletin may be followed by one on mast as a food for game and that Mr. McAtee can tell some of our readers where they can purchase acorns and other mast. There seems to be a demand for this food.—Editor.]

Musk Grasses.

Parts of musk grasses (algæ, Characeæ) have been found in the stomachs of the following 14 species of ducks: Mallard, black duck, pintail, wigeon, gadwell, green-winged and blue-winged teals, buffle-head, goldeneye, ruddy duck, little and big bluebills, ringneck, and red-head. The small tubers of these plants are eaten in large numbers; more than 1,100 were contained in the stomach of one goldeneye and more than 1,500 in that of a pintail. However, all parts of musk grasses are eaten. Certain ducks spending the late autumn on Currituck Sound, North Carolina, were feeding extensively on these plants. Three-fifths of the food of 70 little and 35 big bluebills taken in that locality in November, 1909, consisted of musk grasses. The stomachs of 3 pintails collected in the same locality in September contained on the average 52 per cent. of musk grasses, and of 2 in October, 90 per cent.

Musk grasses belong to the great group of plants known as algæ, which include forms commonly known as frog spit, green slime, and seaweeds. Most of the musk grasses (Characeæ) live in fresh water and are among the most highly or-

ganized algæ that do so. They are attached to the bottom, and over it often form a fluffy blanket a foot or more in thickness. Small round white tubers occur in numbers on the rhizoids (root-like organs) of some species. The slender stems are jointed and bear at the joints whorls of fine tubular leaves, which usually have a beaded appearance (fig. 1), due to the reproductive organs growing there. These are of two sorts; the antheridia, which are spherical and red when mature, and the oögonia, which are ovoid and black, more or less overlaid with white. The oögonia correspond to the seeds of higher plants, and are about half a millimeter in length.

These plants are translucent and fragile, dull green in color, and often (*Chara*) incrustated with lime. This has given them one of their common names limeweed. Other names are stonewort, fine moss (Michigan), oyster grass and nigger wool (North Carolina), and skunk grass (Massachusetts). The latter name and that here adopted for these plants, namely, musk grass, refer to a strong odor given off by a mass of the plants when freshly taken from the water.

Probably no part of the United States



Fig. 1.—A Musk Grass (*Chara*).

entirely lacks representatives of *Chara* or *Nitella*, our two genera of Characeæ. They require lime, however, and hence reach their best development in regions where that mineral is plentiful.

For transplanting, musk grasses should be gathered in quantity in late summer or fall, when some or all of the oögonia are mature. For shipment they should be packed in small units (as in berry crates) open to the air on all sides. This will prevent fermentation; a little drying will not hurt. If they are to be transported long distances, the package should be iced. For planting, bunches of the plant may be weighted and dropped to the bottom. Growth should appear the following summer. Musk grasses will grow on almost any kind of bottom, but it must be remembered that they will not thrive permanently in the absence of lime.

Duckweeds.

Duckweeds are abundant only under special conditions, but these conditions exist in some of the favorite haunts of our wild ducks. In the still recesses of southern cypress swamps, where duckweeds cover the entire water surface,

these plants contribute to the support of all species of wild ducks. A statement of the duckweed content of two lots of stomachs collected at Menesha, Ark., in November and December will serve to show the importance of these plants in that locality. In the first lots were 8 Mallards, and duckweeds composed an average of more than 62 per cent. of their stomach contents. The proportion in other species was as follows: Spoon-bill (1 stomach), 55 per cent.; redhead (10) 50.3 per cent.; and little bluebill (6), 8.33 per cent. In the second lot were 64 Mallards, and they had eaten duckweeds to the average extent of more than 49 per cent. Fifteen ringnecks had consumed on the average 21.7 per cent. each, and two wood ducks, 95 per cent. In the woodland ponds also of the Northern States duckweeds abound. Here in the breeding season the wood duck still manifests its preference for these little plants. Some stomachs are filled exclusively with them, thousands being present.

Duckweeds are relished by most of our ducks and have been found in the stomachs of the following species additional to those above mentioned: Pintail, gadwell, black duck, wigeon, blue-winged and green-winged teals, and big bluebill. As duckweeds sink at the approach of cold weather, they are available in the North during only the warmer months. In the South, however, they remain at the surface practically all the year.

The duckweeds most commonly seen are the green disks (sometimes more or less tailed on one side, fig. 2, *a, b, c, d*) which cover the surface of quiet and usually shaded waters. These disks are really leaves, the plants being reduced to a leaf, with one or a few roots on the under side. Duckweeds multiply largely by budding, and the parent plant and offsets often cling together in clusters. Individual plants vary in size from one-twelfth to three-fourths of an inch in diameter.

Two genera of duckweeds lack roots. One of these (*Wolffia*, fig. 2, *e, f*), contains the smallest flowering plants. These appear as green granules, one twenty-fourth of an inch or less in diam-

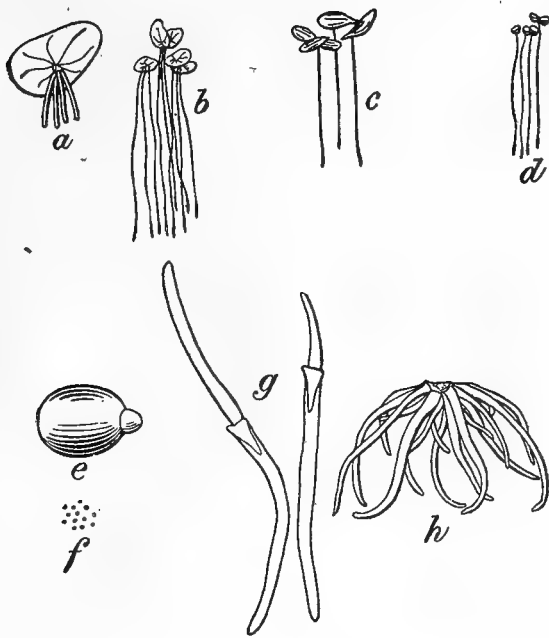


FIG. 2.—Duckweeds: a, b, *Spirodela*; c, d, *Lemna*; e, f, *Wolffia*; g, h, *Wolffiella*.

eter, and are often abundant among other duckweeds or about the margins of lakes and ponds. When the hand is dipped into the water large numbers of the plants adhere to it. They look like coarse meal, except for their green color, and feel like it, so that a good name for them would be water meal.

The other genus of rootless duckweeds (*Wolffiella*) consists of strap-shaped plants (fig. 2, g, h), narrowed at one or both ends. They are from one-fifth to three-fifths of an inch in length and commonly cohere in radiate bodies or in large masses of less definite structure.

Duckweeds are known also as duck's meat, water lentils, and seed moss. The latter term, in fact, is used in Arkansas to cover all components of the vegetation of the water surface. Besides duck-

weeds, this mass includes that green or red, velvety, mosslike plant, *Azolla caroliniana*, and the branching straplike liverworts, *Ricciella*. Both of these are eaten by waterfowl along with the duckweeds, but being less plentiful are of minor importance.

Most of the species of duckweeds are wide ranging. Of the single-rooted kind (*Lemna*, fig. 2, c, d), three species occur throughout the United States, two others are confined to the southern part, and one to the eastern. The one many-rooted species (*Spirodela*, fig. 2, a, b), is of universal distribution. The granule-like rootless forms (*Wolffia*, fig. 2, e, f), so far as known, are confined to the eastern half of the country, and the straplike rootless species (*Wolffiella*, fig. 2, g, h) to the southeastern quarter.

The seeds of duckweeds are minute and seldom mature. The plants, therefore, must be transplanted bodily. There is no difficulty about this, for if they are not crushed or allowed to ferment or dry, duckweeds are perfectly at home from the moment they are placed in a new body of water. Fermentation may be prevented by shipping in small units freely exposed to the air. Plants which are to be transported a long distance should be iced.

It is useless to put duckweeds in large open bodies of water. They thrive best in small pools and ditches where the water surface is rarely disturbed. In ponds entirely surrounded by forest growth and wooded swamps, duckweeds also abound, but they are equally at home in small pools and other openings among the reeds and sedges of marshes. They are strictly fresh-water plants.

A LETTER FROM TENNESSEE.

C. LOVETT.

I never like to estimate how many birds I am going to raise. The inclosed picture will lend emphasis to my remark. It was taken on a rearing field in Colorado after a fifteen-minute cloudburst. We had just finished rescue work. You

will note the coops floating upside down and the hens perched on top to prevent drowning. It is only one of many unexpected incidents encountered in game preserving.

I can raise pheasants and other game



Rearing Field After Cloudburst.

birds but I do not feel able to write about them. I have not so much time to devote to the pheasants, as I have other duties to attend to.

The Tennessee sportsmen are just beginning to realize that something else besides the passage of new laws by the legislature is needed to check the rapid

decrease of their game birds. I am fully satisfied from my experiences with small numbers that the bobwhites can be propagated successfully if given proper attention in the Southern States. I hope to see the experiment tried out in the near future by the State game warden.



GRAY PARTRIDGES IN ENGLAND AND AMERICA.

English and Asiatic Partridges.

It has become a well established custom to replenish the home stocks of partridges from Belgium, Germany and Hungary. In all likelihood these sources will not be available for the next few years and proprietors and tenants must take the best means they can of keeping up their head of game.

For some time partridge rearing has been conducted with much success. The tasks of hatching are entrusted to any light variety of domestic fowls capable of close setting. The youngsters are gradually introduced to a male adult of their own species, who eventually takes full charge of them and marches them off to their natural habitats.

It has been suggested that the lerwa partridges of Asia might prove excellent

substitutes for Belgians and Hungarians so far as turning-down purposes are concerned. They are handsome birds with upper parts black, striped with gray, and feet and bills red. They feed principally on the tender shoots of plants and once on the wing they are capital fliers. Many naturalists are of the opinion that they would do admirably in this country (England).

Another foreigner which the Hon. Walter Rothschild strongly recommends for importation is the bearded partridge, the home of which is in Siberia. It is to be feared, however, that nothing can be done in the way of introducing strange birds from abroad until the war is over.—Shooting Times and British Sportsman.

It is difficult and almost impossible to

get gray partridges to be turned down in America on account of the war. One of our advertisers had several thousand birds shipped to Rotterdam but could not get them shipped to America and the birds were sent back to Austria.

Perhaps some of the larger dealers may be able to get the lerwa partridges and the bearded partridges from Asia to fill the big State orders and the many

orders from clubs and individuals.

It will not be long, we firmly believe, before quail will be produced abundantly in the States which permit such industry and our readers can get these birds to liberate on their farms. It is high time that we produced these birds as abundantly and as cheaply as the gray partridges are produced in Belgium, Germany and Hungary.

NOTES FROM THE GAME FARMS AND PRESERVES.

Although the season was somewhat late reports coming to the Game Conservation Society indicate that hundreds of thousands of eggs were sold and that the number of ducks, pheasants, and quail reared this season will be several times as large as it was last year. We hope to publish some fairly accurate figures later showing the number of eggs sold.

Next season we predict that many of the State game officers will be in the market for wild ducks and duck eggs. They are just beginning to learn that wild fowl are about the easiest game birds to rear and that very small waters can be made to yield wild ducks abundantly. Our readers may anticipate big sales of wild ducks and eggs since many new clubs are forming and many individuals will start duck breeding for sport and for profit on their country places.

The opening of the New York market to the sale of game produced by breeders in other States will give a great impetus not only to the breeding for profit but also to the breeding for sport. Those who rear ducks for shooting had in many cases more than they could possibly use. They should, of course, sell the food they produce in the best market and when they find that such sales will pay the expenses of the shooting they will of course breed abundantly.

Several of our advertisers in the Eastern States sold hundreds of wild duck eggs to go to California. We are promised reports of the results of the hatching

and we await these with interest. One preliminary report says the eggs arrived in good condition and that no trouble was anticipated.

Our mail is getting to be tremendous and some days we have difficulty in handling it. We know all of our readers are interested in the work of others and we hope they will send us notes of their experiments; notes of their failures as well as of their successes. Miss Mary Wilkie's account of the White Leghorn which "gobbled up" her young bobwhites, which was published in the June issue, should be a warning to others not to let barnyard hens eat young quail. We all have a big lot to learn and the exchange of views in *The Game Breeder* promises to make this department especially interesting in the future. Members of the Society are urged to send us interesting notes early and often.

The supply department has sold a big lot of wire, traps and other appliances. Hereafter this department will be conducted by Mr. F. T. Oakes, who will endeavor to see that readers of the magazine get the best appliances at the lowest prices. There has been a good sale for egg boxes, turners, pole traps, etc.

The trout breeders report this industry as flourishing and profitable. Many say they can not fill their orders and for this reason they do not advertise. The big reduction in the cost of identification

tags, properly provided for by the New York legislature, will reduce the cost of trout in the New York markets or it may increase the profits of the breeders because there are not enough trout to fully supply the demand. It seems likely the prices will remain up for a year or two since the demand is increasing.

A number of new bass breeders have started breeding black bass and these, like the trout breeders, find the industry profitable, without advertising. We often have requests for both trout and bass and we hope it will not be long before the number of breeders is large enough to supply the demand for these desirable fish and that the breeders will let our readers know that they have fish to sell.

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Many elk and deer breeders who have these animals to sell complain that they cannot sell the meat they produce in the best market. Much venison is imported from foreign countries and it is absurd to prevent American deer farmers from selling in the best market and to compel the people to send their money abroad.

Towards the end of the season the prices for pheasant and ducks eggs went up instead of down. A few breeders who sold their eggs for fifteen and twenty dollars per hundred easily could have obtained twenty-five and even thirty dollars per hundred had they not advertised them at lower prices. Some of the largest breeders quickly sold all the eggs they could supply and we heard of good sized checks being returned because the orders for eggs could not be filled. Many pheasant eggs were sold as late as June at \$25 per hundred. We predict that although hundreds of thousands more eggs will be offered next season the prices will remain up.

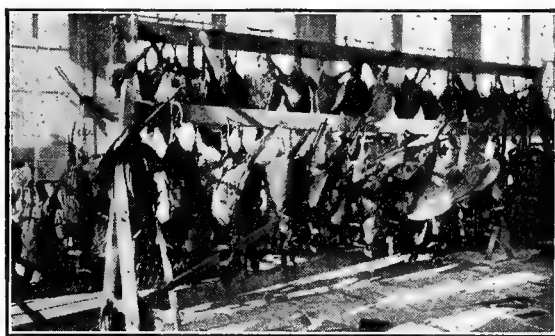
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A number of the State game officers have been urging the people to have private fish ponds and to breed all species of fish food in suitable waters. Many private fish ponds have been stocked. Wild ducks are as easily handled as fish are and they have been found to be interesting and profitable. The State game officers should issue bulletins telling the

people how to breed wild fowl on small waters.

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The Spratts Patent Limited, the American dealers in game foods, have reported to the Game Conservation Society that their sales of wild duck foods have largely increased, indicating that the new industry is growing rapidly. It is only a few years since it became known in England that by using the proper foods it was an easy matter to rear wild ducks. The Spratts have sent us the names of a number of game keepers for whom we secured employment.



Dutchess Co., N. Y. Pheasants.

A Game Census.

The Game Breeder wishes to obtain detailed information about the number of deer and other game mammals and about the wild turkeys, quail, grouse, pheasants, wild fowl and other game birds owned by game breeders in the United States and Canada. The census of deer and elk in game farms, parks and preserves and the census of wild turkeys, pheasants, wild ducks, and other hand-reared game birds can be made very accurately; the census of quail, grouse, and other birds, and deer and other mammals, reared by breeders in a wild state on game farms and preserves can be made fairly accurately.

One of our readers, for example, writes that he had at the end of the shooting season, one hundred and forty-three covies of quail within the limits of his grounds; that the average number

(Continued on page 121.)

The Game Breeder

EDITED BY DWIGHT W. HUNTINGTON

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CANADIAN CLUBS.

The Canadian Province of Quebec properly leases shooting and fishing rights to clubs and individuals. Many citizens of the United States and of the other provinces of Canada are members of these clubs which properly look after, protect, and in some cases propagate, the game and game fish and see that they are always abundant.

The Supreme Court has decided that the right of fishing in inland waters belongs to the owners of the lands in front of, or through which such waters flow. The unsettled territory of the Province of Quebec is enormous and notwithstanding the fact that over five hundred leases have already been granted to sportsmen, there are thousands of miles of good sporting territory still available for private preserves. There are besides vast areas where the public, resident and non-resident can shoot and fish and the shooting and fishing on these lands and waters are benefitted, we are told, by the protection afforded to the game and fish by the clubs.

Many readers of The Game Breeder are members of one or more of these Canadian clubs and we hope to interest them in breeding wild ducks on the club grounds. Easily they can make the ducks very abundant and by housing a few stock birds in winter they always can have breeding stock in the spring. It would be a good plan after the ducks

are well established to band some of them and let them go South for the winter. No doubt many of them will return safely to nest beside attractive ponds where food is made plentiful. Some of our readers who let their ducks go South for the winter report that many return in the spring. We shall publish a number of illustrated articles about the attractive clubs and preserves in the Province of Quebec.

HARMONY.

The Game Breeder is growing. New members join the Game Conservation Society daily and we often wonder how they heard about it when their applications and the money comes in the mail.

The interest taken in the work of the society by prominent scientific men; the requests from libraries and scientific associations for the publication of the society and the prompt notices which are received when for any reason a copy of the magazine does not reach a member, all indicate a gratifying interest in our work.

We are pleased to observe that the National Association of Audubon Societies has created a department of applied ornithology, which is intended to encourage the profitable breeding of the wild food birds as well as to encourage the practical care and protection of the song birds and the smaller insectivorous birds which, of course, should not be killed because they are not good to eat.

We are pleased to observe that the American Game Protective Association has given some attention to game breeding and that it favors it.

The Game Conservation Society does not give as much attention to the non-edible species of birds as the Audubon Association does, but it is interested in these birds and is aware that they are tremendously benefitted by the practical protection given to the edible species.

We are pleased to observe that the many game protective associations, formed to secure restrictive laws intended to save the game, no longer oppose the activities of the game breeders and rapidly they are becoming aware

that the places where game is produced in big numbers are beneficial to the sport in which they are interested because such places tend to restock vast neighborhoods.

There was some friction at the start. All of the game law enthusiasts did not take kindly to the activities of the game breeders. Some were afraid that public sport might be hampered in some way. It is now well known that the opening of many of the posted farms where no shooting was permitted, and the breeding of vast quantities of game has been highly beneficial to the public and that the people are becoming more friendly to sport now that they are beginning to eat game.

It is gratifying to observe that harmony prevails. All are in favor of "more game" and such little differences as may remain are mere matters of detail which will be worked out harmoniously during the next year. The opening of the New York market to the sale of game produced by industry in other States is the most important unfinished business on the "more game" calendar. This we are assured will be attended to promptly. The claim is now made by those who opposed the Machold bill, that they simply were opposed to the form of it and not to the idea.

Mr. Machold and others present will remember the proposition made at the hearing to change the form to suit any opposition. It is now understood this will be done as it could have been done at the time.

We are glad to announce that the Game Conservation Society, The Audubon Society, The American Protective Association and all the rest now appear to be perfectly harmonious. As we have said before there is honor enough for all.

CORRESPONDENCE.

This Sounds Good.

Editor Game Breeder:

I am much pleased with the magazine. I raise a large number of pheasants and quail annually and find there is a good profit in doing so for the market. I am

doing all in my power to encourage it in this State.

California.

O. B. FINCH.

Good for you!

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Proposed Constitutional Amendment.

Editor Game Breeder:

Why not have the State Constitution amended so as to provide that not more than 118 game laws creating new crimes shall be enacted in any one year in New York State. I believe the highest number of laws relating to game introduced in any State thus far is about 100, in one season. One hundred and eighteen therefore would seem to be a liberal allowance for those who enjoy the game law lobby and the limitation seems reasonable.

A RURAL NEW YORKER.

[We see no objection to the proposed amendment since there should be some limit to making game laws. We insist, however, that these laws shall be kept off the farms where game is produced by industry—otherwise there will be no industry and the game will be "protected off the face of the earth," as the distinguished naturalist, Dr. Shufeldt, has well said.—Editor.]

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Editor Game Breeder:

There are many reasons why I am in favor of such a law as you propose. It does not seem right that a man who has no time to hunt must go without even a taste of game bird or game fish unless he is willing to break the law or get some one else to break the law by selling him game. The present law seems to me to put a standing premium on the evasion of law in this respect. I believe there is any amount of game sold indirectly. There are no accounts kept and no direct payment, but both parties to the transaction trust each other fully and know that recompense will be given in due time.

E. R. H.

Connecticut.

This is quite true. There are many people throughout the country who like to eat game. There are various ways by which they can procure it from local gunners, compensating them later, in some manner. I once, thoughtlessly, asked a local gunner who was showing

me some ruffed grouse shooting to let me have the birds he shot. He regretted to inform me they had been spoken for by a lady who was to give a dinner to some friends. The temptation to forget the game laws is always present.

Selecting the Ground.

It is important in selecting the ground for a game farm or preserve that it be visited in the spring or summer. In the winter the land may be covered with snow and it may be impossible to determine its fertility and suitability for the rearing of pheasants or other game. The game farm or preserve should be started in the summer or early fall since there is much to be done in the way of making enclosures, securing appliances and the stock birds should be purchased early and introduced into their new home if they are expected to breed well the following spring.

It is important to know what one can legally do. No one should think of buying land in Rhode Island, for example, so long as State game officers persist in arresting game farmers because they have stock birds, legally obtained, in their possession. In Michigan permits are issued to breeders permitting them to have birds in their possession but we are informed they cannot sell the food they produce. In Ohio a new law permits the profitable breeding of pheasants and the State is a good one for pheasant breeders only.

Massachusetts, Vermont, New York, New Jersey, Indiana, Oklahoma, Colorado, California, Ohio and some other States now have liberal laws which permit the profitable breeding of all or several species of game. These States have capable and intelligent State game officers.

Our supply department is prepared to advise purchasers about the desirability of many localities, the attitude of the residents towards game breeders, etc., and it can actually put intending purchasers in the way of securing desirable properties. The department soon will be equipped to furnish everything from a

farm or an automobile to a roll of wire or a pole trap. This service is free to members of the Game Conservation Society. The department can save money for them in any transaction.

The Game Conservation Society.

A brief statement of its organization, object and membership.

The Game Conservation Society which has been conducted as a somewhat loosely organized syndicate of enthusiastic game breeders has been incorporated in order that its important work can be carried forward with more efficiency.

The charter of the association is a broad one and permits the association to conduct a game farm, make experiments in game breeding and carry on an educational campaign, publish books, pamphlets and magazines, etc.

The principal publications of the society will for the present be *The Game Breeder* and certain books about game and game breeding already issued and in preparation.

The officers of the society are: President, Dwight W. Huntington; vice-president, A. A. Hill; treasurer, F. R. Prixotto; secretary, John C. Huntington.

The stock of the society is \$10.00 per share.

Subscribing members pay \$1.00 per year and receive the magazine, *The Game Breeder*.

Contributing members pay \$5.00 and \$10.00 per year and are entitled to have 10 and 20 copies of the magazine sent to persons named by the contributors.

Life members of the society pay \$100 each.

Donors—The society receives donations from persons wishing to aid the cause generally or in any particular locality. The amounts received are expended in educational campaigns usually in sending a large number of copies of the magazine to a particular State or locality where it is desired to secure legislation. The society needs funds to employ counsel to appear before legislative committees and in certain court cases in

which the society and its members are interested.

The society favors protective laws intended to save the remnants of wild game where such game still occurs, but it is especially interested in seeing that the restrictive laws do not interfere with or prevent the profitable breeding of all species of game and fish.

The society has done much and its members promise to do much more in the way of organizing game breeding associations and game shooting clubs. It is especially interested in the work of introducing the prairie grouse, quail and other indigenous game to places where they have become extinct and where they can be made profitably plentiful.

The Game Conservation Society is in no way opposed to the American Association or the other game protective associations. Representing as it does the interests of sporting and commercial breeders The Conservation Society devotes its energies exclusively to those engaged in the new industry and to seeing that it is not interfered with or prevented.

The chief object of the society is to make America the biggest game producing country in the world and it is pleasing to observe that this object rapidly is being obtained. The Game Conservation Society works hand in hand with the Economic Department of the National Association of Audubon Societies and it is pleased to give credit to all associations which show any interest in the industry of game breeding.

Worth Having.

The National Association of Audubon Societies has issued two good bulletins: (1) The Propagation of Upland Birds; (2) The Propagation of Wild Waterfowl. Both are beautifully illustrated. The picture of wild geese is from a painting by Horsfall and is so good that we have decided to frame it for the wall of The Game Conservation Society.

These bulletins cost 25 cents each, but we have made an arrangement with the

Audubon Association under which we can send them to any of our readers who will send us a 2-cent stamp for mailing each bulletin.

The object of the bulletins is to encourage game breeding and, as our readers are aware, the National Association of Audubon Societies now takes as much interest in this subject and in securing sane game laws, encouraging game breeding, as we do. It is a graceful act on the part of the Audubon Association to permit us to offer these two good bulletins, written by Mr. Job, whose good book we noticed recently. Now that we are all pulling squarely together there will surely be "more game" than was ever before known in the land.

(Continued from page 117.)

of birds in each covey is about fifteen. Since the birds are properly looked after, (vermin is controlled and food is supplied in winter) there should be at least six or eight thousand quail on this ground at the opening of the season next fall.

We desire to have reports from all members of the Game Conservation Society about the number of deer and birds they own at the end of the present breeding season and also reports about the deer and birds owned by their neighbors. Since practically all of the owners of game in America are subscribing members of the Game Conservation Society, our census of the game owned by breeders in the United States and Canada will be very accurate. We wish all of our readers to send in reports stating the number of breeding fowls and deer they own and the number of young on hand in the month of August. A special mail will be sent out to special reporters for the survey of the field in all parts of the country, but we hope our readers will take an interest in this census and that they will send in their reports without further notice. The money expended annually by the Society for postage is large and we hope our readers will bear this in mind and report without waiting for special letters. If a large number of breed-

ers will report in response to this request they will reduce the amount of our work and our expenses in connection with the game census materially.

We shall be obliged to our readers if they will state if we may mention their names in connection with their reports or if they wish simply to have the amount of game they own included in our total estimates. We wish to have the number of each species stated and in no case will we publish the names of the owners unless permission is given to do so at the time the report is sent in.

We have a general knowledge, of course, about what many hundreds of breeders are doing and about how much game they own. We know enough to know that our readers will be surprised when they read the total amount of game owned by breeders in the United States and Canada.

We shall be obliged to State game officers if they will send us an estimate of the total number of game mammals and birds owned by breeders within their respective States if they have or can procure any such estimates. It should be an easy matter to have the wardens report the number of game animals owned in their district and it will be interesting to compare the State reports with the totals furnished by members of the Game Conservation Society.

We request the State game officers, most of whom are subscribing members of the Game Conservation Society, to report, also, the number of game birds reared this season on the State game farms in the States which have State game farms. We would suggest that all estimates be made as early in August as possible. They should be addressed to THE GAME CENSUS, THE GAME BREEDER, 150 NASSAU ST., NEW YORK.

Notes from the State Game Departments.

Henry Rief, a State game warden of Washington writes:

I have been engaged in the breeding of wild life for many years. I have made a life study of this and know of what you speak.

It is absolutely necessary to propagate, consequently you are making a step in the right direction, but allow me to suggest that while advocating propagation you place reasonable safeguards around protecting game so that it will not open the gates for the poacher to go out in the fields and destroy what is still left. This is an angle that should not be overlooked. I am with you on all of your good efforts.

Game can be propagated in captivity as easily as domestic birds and animals. They are even more hardy than the domestic creatures, but at the same time ninety out of every hundred make a failure of them for the reason that they do not consider nature. Important things to consider are—first, cleanliness. Second—feed according to natural habits and prevent close confinement. If these are observed there is no reason why propagating game in captivity should not be a success.

Editor Game Breeder:

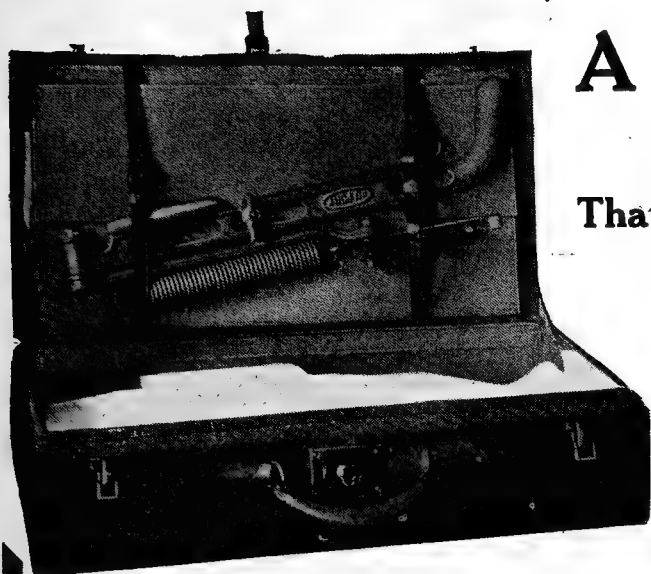
Your reader should have no difficulty in keeping at least fifty deer in a 200 acre inclosure. This is a very conservative number for a tract of that size.

All our deer are the common American white tail deer. We have sold a few from time to time as our herd became too large.

E. I. PHILBRICK,
Supt. Dept. Parks.

Virginia, Minnesota.





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DELAWARE

"EXHIBIT A."

Recently we printed a cartoon on the cover of the magazine showing bobwhite in a canary cage, in order to call attention to the attempt which has been made in some places to put our best game bird on the song bird list. Farmers have been urged to prohibit the shooting of this bird on account of its being beneficial to agriculture, but seldom are they told that the birds can be made and kept very plentiful and profitable provided they be properly looked after and protected from their natural enemies. Shooting paradoxical as it may seem, can be made to cause a rapid increase in the number of the quail and many can be safely shot and sold every season.

Recently the bag limit was nearly doubled on Long Island, N. Y. The quail shooting was very good last fall and promises to be even better next season for the simple reason that the birds

are properly looked after by sportsmen. Recently we printed the story of one of the Long Island shooting grounds

Petitions have been circulated calling for the prohibition of quail shooting on Long Island and the enemies of sport seem determined to add Long Island to the list of places where the quail can not be shot at any time. Should they succeed it will be bad for the birds because no one will look after them.

Long Island should remain a good quail shooting ground in striking contrast to the places where the birds can not be shot at any time.

We shall insist upon keeping Long Island open as "Exhibit A" (as the lawyers say) to be used in evidence when the attempt is made to put bobwhite on the song bird list in other states.

— — — — —
More Game and Fewer Game Laws.

CLASSIFIED ADVERTISEMENTS

Announcements inserted under this head in small type for 2 cents per word. If displayed in heavy type, 5 cents per word. No advertisement accepted for less than 30 cents. Postage stamps accepted in payment.

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150 Nassau Street

New York City

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BEARHOUNDS, IRISH WOLFHOUNDS, BLOOD-HOUNDS. Fox, deer cat and lion hounds. Trained and young stock. 50-page illustrated catalogue 5-cent stamp. **ROOKWOOD KENNELS**, Lexington, Ky

NORWEGIAN BEAR DOGS, IRISH WOLFHOUNDS, English bloodhounds, Russian wolfhounds, American foxhounds, lion, cat, deer, wolf, coon and varmint dogs. All trained. Shipped on trial. Satisfaction guaranteed or money refunded. Purchaser to decide. Fifty page highly illustrated catalogue, 5c. stamp. **ROOKWOOD KENNELS**, Lexington, Kentucky.

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CHESAPEAKE BAY DUCK RETRIEVERS—THOROUGHbred Stock—Bred and raised on the James River and Chesapeake Bay. Shot over almost every day of the Duck Shooting Season. Dogs and puppies for sale. Just right to break this Fall. **JOHN SLOAN**, Lee Hall, Virginia.

CHESAPEAKE BAY DUCK RETRIEVERS. Thoroughbred stock. Bred and raised on the James River and Chesapeake Bay. Shot over almost every day of the duck shooting season. Dogs and pups for sale. 4 fine female puppies, 6 months old, at \$5.00 each. Just right to break this season. **JOHN SLOAN**, Lee Hall, Virginia.

MISCELLANEOUS

RUFFED GROUSE WANTED, STATE PRICE. A. I. W., care of The Game Breeder, 150 Nassau Street, New York.

WANTED—ACORNS, STATE PRICE PER BUSHEL. A. I. W., care of The Game Breeder, 150 Nassau Street New York.

WILD MALLARD DUCKS—RAISED AND REGISTERED in old Wisconsin. Eggs \$1.25 per 12; birds \$1.50 each. Excellent decoys. Order now. **E. G. SHOWERS**, Onalaska, Wisconsin.

WANTED—COPIES OF THE GAME BREEDER FOR June, 1913; September, 1913; April, 1914; June, 1914; December, 1914. We will pay 20 cents per copy for a few copies of the issues named in good condition. **THE GAME BREEDER**, 150 Nassau Street, N. Y.

WHITE'S PRESERVE—WILD CELERY AND ALL kinds of wild duck food, plants and seeds. Also entertain sportsmen. Waterlily, Currituck Sound, North Carolina.

WANTED—ACORNS. State price per bushel. **M. TAN ENBAUM**, 149 Broadway, New York City.

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PHEASANT AND JAPANESE PHOENIX FOWL. Eggs for sale; several varieties. **S. V. REEVES**, 114 E. Park Ave., Haddonfield, N. J.

GET WISE—RAISE PHEASANTS FOR PASTIME. Profitable and fascinating. Send for prices. **CONNECTICUT FARMS PHEASANTRY**, Union, Union County, N. J.

QUAIL, PARTRIDGES, WILD FOWL, DEER AND other animals. See display advertisement in this issue. **WM. J. MACKENSEN**, Proprietor Pennsylvania Pheasantry and Game Park.

CANADA WILD GEESE AND THEIR GOSLINGS— A limited number for sale now—the surest way to start breeding this species. We are the oldest and largest breeders of Canadas in this country. Black and White Swans, Wild Ducks, etc., for sale. **WHEALTON WATER FOWL FARMS**, Chincoteague Island, Va.

WILD TURKEYS—For prices see display advertisement in this issue. **W. J. MACKENSEN**, Yardley, Bucks County, Pa.

FOR SALE—Pheasants and eggs. Everything in the pheasant family. Pamphlet with order free. **BUCKWOOD PHEASANTRIES**, Dunfield, Warren Co., New Jersey. (107)

CASH PAID FOR PEA FOWLS. State age and sex. Will buy 500 Ring Necks, 100 Amherst, 100 Golden, 100 Reeves. State your best price. **HELEN BARTLETT**, Cassopolis, Michigan.

PEACOCKS, ALL KINDS OF PHEASANTS, WHITE African Guineas, for sale, pure blooded, non-related. I will buy Amherst, Reeves and Pea fowls. **JOHN TALBOT**, South Bend, Indiana. 9-14-6m.

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PHEASANTS OF NINE VARIETIES; STOCK AND eggs. Ringnecks contractable by the thousand. **DAISY FARM**, San Lorenzo, California.

PHEASANTS WANTED. ONLY RARE VARIETIES such as Tragopans, Manchurian, Firebacks, Impeyans, etc. Kindly quote price. **A. J. MERLE**, Alameda, Calif.

FOR SALE—ONE PET DEER, ONE YEAR OLD. Address **ROY CLEWITT, Kerrick**, Minnesota.

GAMEKEEPERS

HEAD GAMEKEEPER OR SUPERINTENDENT—wanted by experienced man as above, 20 years' first-class character in England and America. Understand raising of all kinds of Game and Ducks, training and management of Dogs, trapping of all kinds of Vermin. **B**, care of The Game Breeder, 150 Nassau St., New York.

SUPERINTENDENT.—Wanted, by experienced man, 25 years, first-class references from large estates and game farms where 3,000 pheasants have been penned and 20,000 raised yearly. Understand the raising of all kinds of game and wild duck, management of incubators, testing of eggs, trapping of vermin, training and management of dogs and all duties making of rabbit warrens. **W. B.**, care of The Game Breeder, 150 Nassau St., N. Y. City.

POSITION WANTED AS SUPERINTENDENT OF large estate or game preserve by a professional forester and gamekeeper. Very capable man with fish and game production of all kinds; also breeding and training sporting dogs. Excellent trapper. Highly recommended. Address **SUPERINTENDENT**, care of the Game Breeder, 150 Nassau Street, New York.

GAMEKEEPER—LIFE EXPERIENCED REARING land and water fowl, training and handling high class shooting dogs, conditioning for shows. A-1 rearing puppies, well up in veterinary, competent manager of club or private estate. Distance immaterial. **J. H. W.**, care of The Game Breeder, 150 Nassau St., N. Y. City.

GAMEKEEPER—WANTS SITUATION FOR NEXT season. Skilled in pheasant and duck rearing. Will be open for employment January 1st. Reason for changing position is desire to get a change of climate for family. **A. E. JAMES**, care of The Game Breeder, 150 Nassau St., New York City.

HEAD GAMEKEEPER, SCOTCH, WANTS SITUATION. Thoroughly experienced in rearing pheasants, wild ducks, turkeys and partridges; 26 years' experience. Can be highly recommended. **R. J. M.**, care of The Game Breeder, 150 Nassau Street, New York.

GAMEKEEPER REQUIRES SITUATION, UNDER-stands all duties. Best references from Europe and this country. Address **M. F.**, care of The Game Breeder, 150 Nassau Street, New York.

EXPERIENCED UNDER KEEPER WANTED FOR Private Estate. Single man, age 20 to 24. Apply to **T. B.**, care of The Game Breeder, 150 Nassau St., New York City.

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BOOK YOUR ORDER NOW FOR CHINESE RING-neck pheasant eggs, Oregon's famous game bird. \$3.00 per dozen, \$20.00 per hundred. **OREGON BIRD & PHEASANT FARM**, Beaverton, Oregon.

FINEST STRAIN OF ENGLISH RING-NECKED PHEASANT EGGS for sale during June; \$5.00 per hundred, in lots of not less than 100 eggs. Apply to **DUNCAN DUNN**, Superintendent, State Game Farm, Forked River, N. J.

MALLARD DRAKES AND EGGS FOR SALE. Eggs at the rate of \$2.00 a setting. **REDDEN QUAIL CLUB**, Paoli, Pennsylvania.

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Peafowl, Pheasants and Ducks

White Peafowls, Black-shouldered or Java. In Pheasants any of Tragopans, Firebacks, Cheer, Soemmering, Elliott, Kalij White-crested Linneatus. Also Canvasback ducks. In writing, quote number, sex, lowest cash price.

We will on receipt of 20 cents in stamps send colortype catalogue of pheasants.

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THE NEW YORK TIMES

"The subject is the development of a new crop—a flesh crop which has especial timeliness in view of the general exhaustion of our food supply. Mr. Huntington discusses in the most practical manner the restoration of this crop of feathered game, and from the standpoint both of the sportsman and the market gunner, wild ducks, it seems, can be raised as easily and cheaply as domesticated ducks, and with equally excellent financial results. The way to do this is described with estimates of cost and citation of experience abroad, where the deficiency of food supply has led to the discovery and elaboration of many remedies to which we have not yet been forced. Mr. Huntington's book is illustrated with photographs, interesting alike to naturalists and breeders."

WILLIAM BREWSTER

"Our Wild Fowl and Waders' is obviously an able, comprehensive and very interesting treatise on a subject which has hitherto received but little attention from writers, especially in America, and concerning which naturalists, as well as sportsmen, will, I am sure, be glad to be thus credibly and pleasingly informed."

THE LOCKPORT UNION-SUN

"Mr. Huntington has given to the American people an admirable treatise on the practical methods of making these splendid and desirable birds profitably plentiful. Ponds, streams and waste lands which do not pay the meagre taxes upon them can be utilized and be made to yield both handsome profits and good sport. This American authority on wild game tells the farmers and land owners of this country how to do it."

CHARLES HALLOCK

"The wild fowl book is valuable, clear-sighted and scholastic. It is a direct appeal to sportsmen of common sense and generous behavior, and they will readily absorb its comprehensive pages and act accordingly—and live thereby."

DR. R. W. SHUFELDT

"I have enjoyed the treat in my reading of this book from frontispiece to finis, and I wager anybody else will enjoy it. . . . The author has placed every sportsman, every naturalist and a great many other citizens of other callings squarely under obligations to him. The book is a direct and logical argument setting forth the means for the preservation in the future of our wild fowl and waders. . . . The illustrations are judiciously selected, interesting and materially add to the value of the volume."

A. A. HILL

"This is not only a readable book, but it is important in an economic sense, and it will especially appeal to all who are interested in the conservation of wild life, and especially our game birds."

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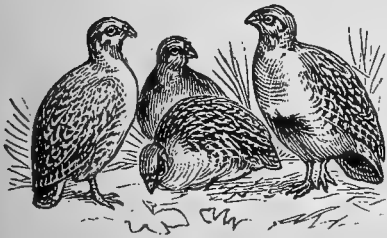
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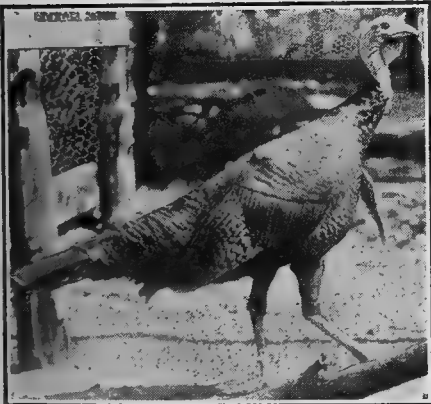
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THE

GAME BREEDER

VOL. VII.

AUGUST, 1915

No. 5

THE OBJECT OF THIS MAGAZINE IS TO MAKE NORTH AMERICA THE BIGGEST GAME PRODUCING COUNTRY IN THE WORLD

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PUBLISHED BY THE GAME CONSERVATION SOCIETY, Inc.

NEW YORK CITY U.S.A.

C. B. Davis - '15

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REG. U. S. PAT. OFF.

The Game Breeder

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AUGUST, 1915

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SURVEY OF THE FIELD.

Wild Fowl at Great Bend.

The Great Bend, Kansas, Tribune contains some good suggestions about the restoration of wild fowl in Kansas.

There was a time when the Great Bend country was the greatest hunting ground and natural game preserve to be found anywhere. * * * But where are the game birds and animals that made this valley a hunter's paradise? You answer that they have gone the way of the Indian and the buffalo. The Indian was given reservations in various parts of the United States and accorded protection of the government and offered every opportunity for his betterment. The buffalo has also received the protection of the law and efforts in various localities made to conserve them by establishing ranches and preserves for their protection and propagation. But what of the wild fowl? Are they given any effective protection anywhere? Can they be propagated here in the midst of modern civilization? The sportsmen and game men of Kansas and the Middle West say yes and call attention to the wild bird farm of George J. Klein to verify the statement.

Mr. Klein is a member of the Game Conservation Society and has reared and sold thousands of wild fowl. The Great Bend Tribune evidently is a wide-awake and enterprising newspaper and the copy containing the story about Mr. Klein contains many good half-tones which illustrate not only Mr. Klein's game farm but many other industries. We predict it will not be long before prairie grouse and quail are bred in large numbers and that the farmers and sportsmen will find these birds very profitable as they are in many places throughout America. The quail now more than pay all the taxes on hundreds of thousands of acres where they are properly looked after because it pays to do so. Kansas should have a game breeder's law similar to the laws in other States which have made game breeding profitable and the game abundant.

Another Good Bulletin.

The American Game Protective Association has issued another good bulletin which contains reports from a number of State game officers showing a good stock of pheasants. There is a story about the visit of Colonel Theodore Roosevelt to a Louisiana bird reservation which is illustrated by a picture of the Colonel examining a Royal Tern's egg and a snapshot showing a flight of the birds which have been disturbed by their distinguished visitor. Page three is devoted to an announcement indicating that the association proposes to help keep up the interest in game breeding "in captivity." We hope in time the association will not be opposed to the activities of members of the Game Conservation Society who prefer to breed their game wild in protected fields. Hundreds of thousands of quail are now bred in this way by readers of The Game Breeder, and they are better birds in our opinion for sport and for profit than any birds bred "in captivity." The gray partridges abroad are reared most successfully wild in protected fields. Since the committee on breeding is made up of readers of The Game Breeder we will have a chance to talk to them from time to time and we have no doubt they will agree to abandon the "in captivity" idea which too often means disease, expense and failure when applied to certain species which are not easily hand-reared.

=

Ruffed Grouse Breeding.

The bulletin above referred to discusses the desirability of ruffed grouse breeding and expresses the hope that this bird may be bred as the pheasants are. Grouse breeding abroad is highly successful, but the grouse are not handled

as the pheasants are, and we do not think they ever will be. They will be better birds if they are not. We know places in America where the grouse quickly have been made abundant in protected woods. It is well known to all game keepers that the removal of the checks to increase, which they term vermin, quickly will produce excellent results. We have been surprised recently at the results on a very small area. Another reader is conducting an experiment with the ruffed grouse on a large scale. His keepers are skillful and there can be no doubt about the result. For sporting purposes the wild bred birds are the best. We prefer them also on the table.

=

Refuges.

The bulletin favors the increase in the number of refuges. As we have said we see no objection to this although we think there are enough posted farms to satisfy the demand for refuges. The country is big; we are not opposed to quiet refuges; we have said we will favor them, but our preference is for the noisy refuge which produces a good head of game for sport every season. We are in favor, however, of anything and everything any one wants; all we ask is that if it is preventive it be kept off of the farms conducted by game breeders. "Keep the game laws off of the farm" is one of our favorite expressions—farms which have game for sport or for profit.

=

Pheasants and Quails.

The old problem of pheasants and quail is discussed in the bulletin. A statement that the pheasants were driving the quail from Rock Island (in the Mississippi) is discussed in a letter from Lieutenant-Colonel Geo. W. Burr, who says the quail have decreased in numbers on the island since the pheasants were introduced but this may have been due to trapping. He does not believe there is any real antagonism between the species.

=

No Trespassing.

We saw some years ago, in Ohio, a sign which read: "No Huntin and No Fotographin" on this farm. The spelling

should suit the most ardent reformer. The number and variety of the no trespass signs has increased rapidly in all of the States and it seemed that field sports were doomed until the "more game" movement began to put a little common sense in the law-books and a little life in our languishing sport. It seems ludicrous that any one should have imagined that sport could be perpetuated simply by licensing gunners to shoot up the farms without permission, under the assurance that "the State owns the game."

=

Setters and Pointers.

We can remember the time when most of the dogs advertised were pointers and setters. A glance at the dog advertising pages in the New York Sunday papers and in the dog magazines now indicates that the number of setters and pointers advertised is small comparatively. Since grouse and quail shooting have been prohibited in some States and the tendency has been to prohibit sport everywhere it is not surprising that the demand for good sporting dogs has fallen off. Many hundreds of dogs are now used on the game preserves where the restrictions have been removed by game breeders' enactments and we predict a big revival of setter and pointer breeding now that field sports are to have a boom in America.

=

A Fair Compromise.

If the people of Canada can be shown that wild duck-breeding on privately owned marshes can be made profitable and that the markets can be supplied from such places possibly the market gunning on public waters might be stopped for a time as a protection to the new industry. No back yard breeding "in captivity" will fill the markets with game or even save the marshes from being drained. If there is to be a compromise it should be a fair one intended to encourage the clubs and individuals to look after the ducks nesting wild and to keep the markets full of them for at least six months every year. Any farm which has a marshy

pond of a few acres should produce a few hundred or a few thousand wild ducks by simply protecting the nesting fowl from ground and winged vermin. Reduce the checks to increase even slightly and the species quickly will increase in numbers to any amount.

Of course breeding stock can be introduced to advantage in many places and there should be the most liberal provisions for trapping stock birds and for lifting eggs for purposes of propagation. The eggs of canvas back ducks which might be gathered by the million from protected marshes will sell readily at \$50 per hundred for some time to come. Let the people know that they can make a few hundred dollars a day by keeping the coyotes and the hawks from destroying the nesting fowl and their eggs and the people will gather and sell the eggs and see that many young fowl are reared for the markets. The arrest of the breeder for having a stock bird in his possession has not produced the best results in the United States. Liberality should be the rule in Canada.

Minks and Muskrats.

A reader sending the following clipping wishes to know if the State owns the minks and muskrats. Probably the breeder would answer as an Illinois deer breeder once did that, "This is a mistake. The State does not own my animals."

J. E. Reeves & Co. have started what promises to be one of the first muskrat and mink farms in Fond du Lac County. The plot selected is a tract of marsh land of thirteen acres in size and is situated between this city and North Fond du Lac on the east side of the street car line and north of the Princeton tracks.

Three workmen are now busily engaged in constructing a fence that will reach to the bottom of the marsh and is for the purpose of keeping the rats within the bounds. According to a statement issued by J. E. Reeves it is the plan of the company to build a house next spring on the "farm" for the keeper. At present there are 150 rat houses on the place inclosed.

The present plans of the company are not to disturb any of the rats until the "farm" has been established about one and a half to two years.

Mr. Reeves also stated that he had allowed trappers to trap rats on the marsh for the

past fifteen years and had not demanded an indemnity. At present several signs bearing the inscription "no trespassing" have been placed at various conspicuous places.

A Non-beneficial Hawk.

Mr. Pringle in "Twenty Years' Snipe Shooting," says: "A snipe getting up behind me I took a long snap shot at it; it flew a little way and then towered, dying in the air about 100 ft. high, and as he was falling dead, a hawk swooped down and caught him in the air about 50 ft. from the ground and carried him off."

A War Dog.

An English correspondent of the New York Herald says:

British prejudice against Germany has been turned even against the kind of dog that bears "the unfortunate name of dachshund," complains a writer in the *Daily Mail*, who says:

"May I protest against the cruel and senseless manner in which some people are treating the unfortunate turnspit dogs because these poor dumb friends have been called by the German name of dachshund. These dogs, although very popular in Germany, are our old English turnspits, used in bygone days to turn, by means of a wheel, the roasting jack in the same way as the donkey at Carisbrooke Castle draws water from the well. On account of their name these poor dogs are now being treated not as enemy aliens to whom we are unpatriotically lenient, but most unjustly."

Private Fish Culture.

The Sportsmen's Review prints the following about fish farming. It will not be long, we hope, before this good old magazine opens its pages to items about the game breeders' industry. It should remember that "more game" means more shooting and more shooting means more shooting dogs—more advertisements of course.

A new method of livelihood, as well as a new method of living, is afforded by fish farming, which is a rapidly growing industry. It may be a lazy man's job, but for development beyond an addition to the family living, of course, it takes time and attention. A running stream or an acre of land can be made to earn more money than a well-tilled five-acre farm, says the *People's Magazine*. The national government, as well as many states, through their fish commissions, not only give free instructions in fish farming, but will also supply the young fish or eggs most likely to thrive best in the locality. But best of all, perhaps, is the recognition that farmers all over the country

are coming to, that a private fish pond is a splendid source of food supply. It was not long time ago when such a thing had not been thought of. Now generally there is a comprehension that such a private pond costs little to maintain, and is almost sure to furnish far more fish than any one family can eat. The demand for fish adapted to this kind of pond culture is greater than the supply, and farmers enterprising enough to have ponds have no difficulty in selling the product. Many farmers sell eggs as well as fish to other farmers and to the government of state and nation. Private fishing clubs are a great aid in the same way. Fish can be shipped anywhere if they are kept cool and moist, and this makes it easy to find a market almost boundless in extent. But fish, of course, are subject to diseases that at times cause large losses, and the official fish service is at work constantly finding out these diseases and their remedies. Most of these diseases, it is said, come through impure water caused by contaminated streams. If the water is kept pure, the fish farmer has little cause for worry as to his "crop."

More Pheasants.

We wish to inform The Sportsmen's Review, Cincinnati, Ohio, that Ohio is to have "more pheasants." This is official. The license to breed the birds and to shoot, sell and eat costs only 50 cents and a capable state game officer will supervise the new industry. Our readers are sending thousands of eggs and pheasants into Ohio and we predict the Parker gun and the Remington guns and ammunition will be used extensively in that State—now that a limited amount of sport will be provided. The prohibition of sport in Ohio touched us keenly since the State used to be a good shooting ground, one of the best in the world.

More Tuna.

The Sportsmen's Review says:

In California the tuna industry has grown to such proportions that at the present time it is one of the largest among commercial fisheries.

The tuna industry has grown until now it is the largest of our commercial fisheries. During the past season, the canners of southern California put up 3,500 cases, which were worth, wholesale, about \$1,000,000. The weight of the fish required for this number of cases was 25,000,000 pounds, or more than double the total weight of salmon taken in the state. Besides this, 1,000,000 pounds were salted, dried or fresh. The long-finned tuna, the only variety canned, is a fish of wide distribution, and spawns in the tropical waters of Mexico.

It comes north in countless numbers, following the schools of sardines upon which it feeds. It is not believed that the present large take of tuna will seriously reduce the supply. At least, no action is contemplated to restrict fishing, as no young or spawning fish are taken in the state waters.

Conservation in Minnesota.

Fins, Feathers and Fur, the official bulletin of the Minnesota Game and Fish Commission, well says that the complicated and more or less stringent laws have failed to save or stay to any great extent the sure and steady diminution of the game for the reason that adequate machinery for the carrying of the laws into effect has not been provided. Laws alone never have and never will save the game from extermination. A comprehensive, honest and intelligent system of enforcement is as essential as the laws themselves. Minnesota, we are told, was one of the earliest of the States to set up the stringent safeguards.

We read in a Maine report long ago that the entire State militia would be inadequate to properly save the game. This is quite true everywhere. The trouble is, as we have often pointed out, that the shooting of only two or three birds in a season by a big army of sportsmen is entirely too much because it is an extraordinary destruction and tends to destroy the stock birds left by vermin. The game never vanishes in places where the shooting is heavy provided it is properly looked after and protected from its natural enemies. We have seen thousands of birds shot on a few hundred acres year after year without any danger of extinction because vermin did not get much game and the sportsmen left some for breeding stock. It requires persistent daily effort to keep the game sufficiently plentiful to warrant any shooting. Sportsmen willing to make such effort should be encouraged to do so.

Subscribe for The Game Breeder. Our slogan is "More Game and Fewer Game Laws."

Advertisements in The Game Breeder produce results.

THE PRAIRIE GROUSE.

Third Paper.

By DWIGHT W. HUNTINGON.

In my article last month I referred to the competition between the farmers and the town sportsmen in places where any prairie grouse occur. One of our readers has invited my attention to another competition between the local gunners and those who come from the cities to pursue these most excellent game birds. This reminded me of a shooting trip which I once made to Northern Indiana. The prairie chickens were reported to be plentiful and I was invited to join a small shooting party of four guns, one of the number having arranged, with a farmer who owned a large farm, to entertain us.

We made our plans to arrive on the ground the day before the shooting season opened and we were met at the station by the farmer, who expressed his regrets that we did not come a week earlier. The shooting had been very lively he said and he found most of the birds had been shot. He was not a sportsman, but said he would go out with us and show us the ground and his neighbors would give us permission to shoot.

The following morning we took the field with four excellent dogs, my own brace being the best dogs I ever owned. On the farm owned by our host we found one grouse which flushed wild but which I fortunately stopped by a snap shot, and during the day, tramping over many miles of excellent grouse country we flushed several sadly depleted covies and a few single birds, the bag for the day being seven birds. During the week we explored the county for miles about, having a wagon at our disposal to move from one likely ground to another, but the birds evidently had been shot out and we seldom found more than four or five associated, and the bag for four guns, if my memory serves me, did not average a half dozen birds per diem.

The ground we shot over easily should yield a few hundred birds per diem to a party as well equipped as we were, but, no doubt, there are few if any grouse on it today. Many of the fields had been made uninhabitable for grouse by reason of the destruction of their natural foods and covers. No attempts were made to protect the game from its natural enemies and the competition between the gunners of course resulted in the destruction of the stock birds which were left after vermin had freely dined. Not a bird should be shot on such grounds, if we would expect to see the game perpetuated, until some of the natural covers and foods are restored and until the game is protected from its natural enemies in order to make a place for the shooting. It is very evident why the shooting of prairie grouse has been ended on vast areas and it is evident that the laws prohibiting shooting at all times are necessary and will remain so until the grouse are properly looked after and multiplied by game breeders for sport and for profit. Those who wish to restore the grouse and to make and keep them plentiful should be encouraged to do so. The grounds must be made attractive and the natural foods and covers must be restored. Since the valuable bulletin by Dr. Judd, to which I have referred, is out of print I shall reprint a good part of it in order that those who undertake grouse breeding, in the states where such industry now is legal, may know what natural foods the grouse require. The papers on the food habits of the grouse will be followed by a paper on grouse enemies and a paper on how an inexpensive grouse club easily can have splendid shooting on grounds where few, if any, grouse occur, and where there will be no shooting until practical game breeding and preserving is undertaken.

A WEST VIRGINIA GAME PRESERVE.

[Mr. J. A. Viquesney, who sent us the following account of the big game reserve for West Virginia, is the state forest, fish and game warden for that state. He is one of the most capable state game officers and is fully aware that private industry must be encouraged and not prevented by legislation.—Editor.]

Wilderness embracing over 50,000 acres in the counties of Pocahontas and Randolph is to be converted into the greatest game preserve in the United States.

A deal has been closed by which J. A. Viquesney, State Forest, Fish and Game Warden of Belington, and H. M. Lockridge, of Huntersville, president and vice-president, respectively, of the Allegheny Sportsman's Association, have purchased from Colonel William Seymour Edwards of Coalburgh and Charleston, a lease on this tract which will extend over a period of thirty years.

Colonel Edwards was the founder of the Cheat Mountain Club, the purpose of which was to make the wilderness a private preserve with its products enjoyed by the club membership. He enlisted a large number of persons in this movement, but because of failing health was unable to continue to carry out his original project, although he has established a mammoth fish hatchery on the property and made many other expensive improvements.

The property under lease is that of the West Virginia Pulp and Paper Co. It was purchased in 1899 from the Dewings, pioneer purchasers of Kalamazoo, Mich. The price paid was \$585,000. The timber wanted by the company has all been cut and no further effort will be made to remove timber from the tract until a new growth has grown sufficiently. In the meantime the property will be the habitat of wild game, of which bears, deer and turkeys now abound. This game will be given protection out of seasons and will be made to afford sport for the lessees and their friends in certain seasons.

When Colonel Edwards first obtained the lease, he associated with him prominent men from all over the country. The late Senator Steven B. Elkins

of West Virginia was one of those who saw in the movement the carrying out of a plan he had himself long had in mind.

Pennsylvanians interested in the old club formed by Colonel Edwards included E. J. Allen, H. J. Bailey, J. M. Bell, the Mellons and other prominent Pittsburghers; H. S. Brunot, of Greensburg; C. C. Chalfant, Eta; Dr. H. C. Daly, Gibsonton, and many others.

Among the New Yorkers interested are W. Hartley, of Ilion; F. S. Caldwell, George Innes, Jr., Charles M. Pratt, H. Phipps, Jr., of New York City.

The Ohioans included D. J. Sinclair and C. H. Steele of Steubenville; Henry H. and John T. Stambaugh of Youngstown; R. Bentley, Lowellville; J. G. Battelle, Columbus.

The West Virginians included John T. McGraw, Grafton; Henry G. Davis, Elkins; J. J. Holloway and R. C. Dalzell, Wheeling; W. G. Brown, Kingwood.

T. Wallis Blackistone, of Baltimore; W. R. Gorby of Detroit; Harold Pierce of Philadelphia; Alex Reynolds, San Diego, Cal.; J. S. Schoonmaker, Plainfield, N. J., were among the others.

This mammoth preserve commenced at the very top of the Cheat mountain range on the west and takes in the Valley of Shaver, a fork of the Cheat River, across to the summit of the back Alleghenies or Shavers Mountains, as they are commonly called, on the east. On the northwest it is bounded by what is known as the old Fish Hawk trail, and continues up the Cheat River a distance of nearly fifty miles to Elk Mountain. It has long been known as a hunting and fishing grounds and is so marked and denominated in Bradley's Atlas of the World.

The Cheat River flows through this preserve a distance of about fifty miles, while the Greenbrier River on the east

side of Shaver's Mountain flows south. These rivers, with their various tributaries, furnish this preserve with over 200 miles of trout fishing, while the mountains abound in black bear, deer, turkeys, grouse and various small game.

The Parkersburg and Staunton turnpike runs from east to west through the property and this is designated as the automobile route, east and west, by the Blue Book for this year.

There is already a main mammoth club house on the preserve. It is one of the most picturesque buildings in West Virginia. It is constructed of cherry and pine logs. It is forty by sixty feet and two and one-half stories in height. The house is finished inside with cherry and pine, and has several baths of various kinds. It has a comfortable capacity for thirty or forty guests. Other lodges are maintained throughout the preserve for the accommodation of the hunters who get far away from the main quarters. A huge chimney sets off this structure. It is made of cut stone and itself cost \$2,000.

The streams are restored with fish every year. Trout in this territory are more numerous than any place else in this part of the world. Colonel Edwards tells of having caught many trout from his horse as he traveled through the mountains in former years by his old

friend, the late Colonel A. H. Winchester.

The elevations of the preserve range from 2,000 to 4,440 feet. That at the main club house is 3,450 feet.

It was the high elevation and the natural adaptability of the preserve that induced Colonel Edwards to start the movement to make it a giant venture, and the same inducements led Mr. Viquesney and Mr. Lockridge to take the land from his hands and agree to carry out the plans that were originated by him. The purchasers are not only the principal officers, but the most active members of the Allegheny Sportsman's Association. It is their intention to lay off 10,000 acres of the land as a game sanctuary or refuge to be bountifully stocked with deer and other kinds of game. An addition will be built to the main club house and new lodges will be built.

The preserve will not only be arranged for accommodation of West Virginians who enjoy hunting and fishing, but will be made sufficiently attractive to enlist those of similar inclinations from all over the country. For the next thirty years or more West Virginia will have what no other State has, a well-protected game preserve, second in size to none, and equaled in but few particulars by any.

PLANTING TROUT FRY.

By D. C. BEAMAN.

Lack of success sometimes attends efforts at trout propagation. This comes generally from improper handling and injudicious planting. I have been for the last 15 years engaged in the cultivation of trout in Colorado waters, and believe that trout fry can be shipped almost any distance under proper care, and when judiciously planted will nearly all live. The things that lessen the vitality of the trout are careless handling in transit, being planted in water either much colder or warmer than that in the cans, and, where there is deep water,

too much current and no shade. If the following suggestions are heeded there should be but little loss.

1. In case the distance from station to place of planting is more than one mile, or there is likely to be delay in transit, ice should be provided and placed in the cans in small quantities from time to time as required to keep the temperature of the water about the same as when received. In case the water where they are to be planted is known to be warmer than that in the cans, the latter may be allowed to slowly warm up while en

route from the station, but the cans should be protected from the sun.

2. If the temperature of the water is kept substantially as when received, and the wagon kept moving, the fry will require nothing more while in transit, but if a stop exceeding ten minutes is made the attendant (having provided himself with a dipper) should every few minutes dip water from the cans and pour it back into the cans, from a height of one foot, to thoroughly re-aerate the water. This is better than to change the water and substitute some water possibly unsuitable for fish life.

3. At time of planting there should be not more than three degrees difference in the temperature of the water in the cans and that in which the fry are planted. This equalization can be accomplished by dipping up the water from the stream or lake in which it is

proposed to plant them, and pouring it into the cans, until the temperature is about the same in both, as the water being poured into the cans, and permitted to run over for a few minutes, will practically substitute the stream or lake water for that in the cans, and do it so gradually that the trout will feel no ill effects. A thermometer is desirable, but not necessary as the equalization can be tested by the hand.

4. In planting, pour out the fry and water from the cans gently, and not too near together, and if possible in small channels or bayous of gently running water, where there is grass and willows, as the fry will there be in less danger from larger fish, get feed and shade and stay until they have strength to tackle the current in the main stream; otherwise plant in shallow places near the shore where there is shade.

ELEVEN IMPORTANT WILD DUCK FOODS.

Third Paper.

By W. L. McATEE.

[This valuable paper about the natural food of wild ducks is printed from a bulletin issued by the Bureau of Biological Survey, United States Department of Agriculture.]

THALIA.

Value as Duck Food.

The writer's only experience with thalia (species *divaricata*) as a wild-duck food was on St. Vincent Island, Florida. Here a slough filled with a tall growth of these elegant plants was a favorite resort of ducks, especially mallards, which could always be flushed from this place. However, at the time of the writer's visit only one bird was obtained and its stomach contained a few thalia seeds. Another mallard collected at a later date in the same place, by the late Dr. R. V. Pierce, had fed almost exclusively on these large seeds, and its gullet and gizzard were well filled by 144 entire seeds and fragments of others.

The evidence is sufficient to show that thalia has great possibilities as a wild-duck food. The seeds are large and nutritious and are borne in great abund-

ance. They ripen in July and August and are available to ducks throughout



Fig. 5—*Thalia divaricata*.

the winter, if the water is not frozen over.

A single plant of *Thalia divaricata* is

a stout, one-leaved stalk from 4 to 15 feet in height, rising from a large tuber-like root, and the stems are usually clustered (Fig. 5). The leaf is much like that of canna, is stalked, and may measure 5 inches wide and 15 inches long.



Fig. 6—Seeds of Thalia.

The top of the stalk divides and subdivides into a large fruiting head which may bear from 200 to 300 seeds. The ultimate branches of the fruiting head are strongly zigzag. The flowers and seeds are borne in husks, each of which is formed by two purplish bracts, one much larger than the other. The oblong seeds (Fig. 6) are plump and vary in length up to three-eighths of an inch.



Fig. 7—Leaves and fruit of water elm.

They have thin, closely fitting individual husks, are slightly curved, and bear numerous longitudinal rows of small irregular elevations which are lighter in color than the rest of the surface.

Distribution.

Thalia divaricata is native from Florida to southern Arkansas and Texas and southward into Mexico, and doubtless it will thrive as far north as South Carolina and Missouri. Two other species (*T. dealbata* and *T. barbata*) occur in the region from South Carolina and Missouri south to Florida and Texas. Their value as duck food is unknown.

Propagation.

Thalia can be propagated from either seeds or rootstocks. The seeds have a thick shell and the rootstocks are mas-



Fig. 8—Seedlings of water elm.

sive, so that neither should be injured if transported with ordinary precautions. *Thalia* occurs in greatest abundance in muddy sloughs, but it will grow in open water from 2 to 3 feet deep. If planted directly into open water, rootstocks should be used. Seeds should either be placed in shallow water or sprouted in a protected place and the young plants set out after they have attained some size.

WATER ELM.

Value as Duck Food.

That trees should produce food for wild ducks is at first thought surprising but many do, as oaks, thorns, hollies, ashes, hackberries, and others; none is of more value for this purpose, however, than the water elm.

The most common wild duck in central Louisiana is the mallard; in fact it outnumbers all other species combined.

Foods important to it, therefore, are the important duck-foods of the region. One hundred and seventy-one mallards collected in the vicinity of Mansura and Marksville, during October, November and December, had fed on the seeds of water elm to the extent of 45.5 per cent. of their total subsistence. The largest number of seeds taken by a single duck

on the margins of sluggish streams. Normally it grows in water which is permanently 2 to 3 feet deep, but it survives prolonged inundation of much greater depth. The tree seldom exceeds 40 feet in height and 20 inches in diameter, and usually is much smaller.

The bark is much like that of the hop hornbeam or ironwood, and the leaves

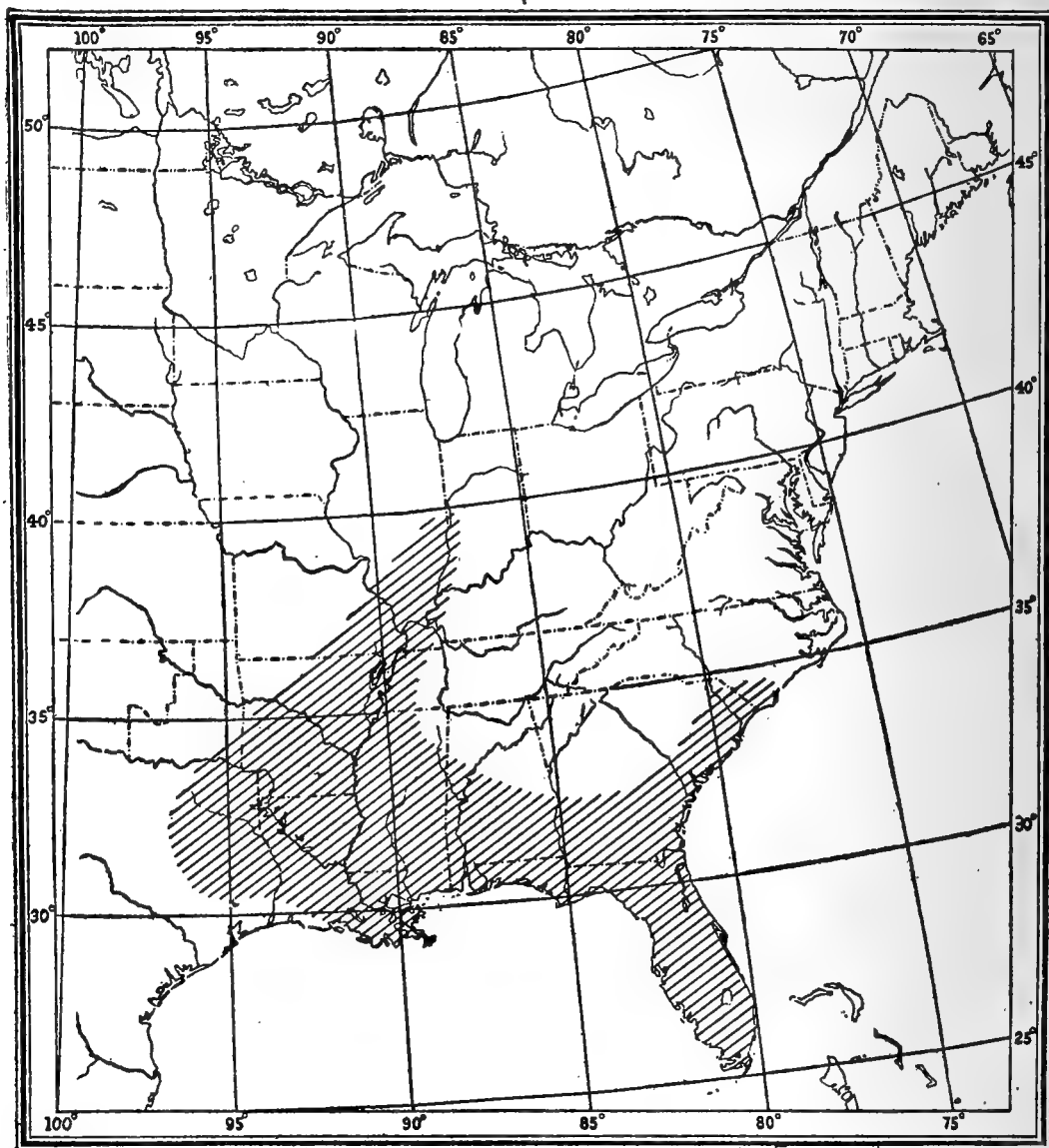


Fig. 9—Range of water elm.

was upward of 200. These tightly filled the whole gullet and gizzard.

Other species of ducks seem to be fond of the seeds, judging from smaller numbers examined from this region. These include the black duck and the ringneck. Water-elm seeds are eaten by Arkansas mallards also.

Description of Plant.

The water elm thrives in swamps and

(Fig. 7), while obviously similar to those of our other elms, are smaller and have blunter marginal serrations.

The water elm flowers very early, from February to April, and the fruit usually ripens and falls in a month or six weeks, but occasionally is found on the trees as late as August. The extreme length of a single specimen of the fruit is about a third of an inch. It con-

sists of a plump seed with a shiny blue-black coating, inclosed in a burrlike hull (Fig. 7) which is ridged and provided with numerous fleshy projections. The fruits, which are very numerous, drop into the water immediately upon or even before ripening. Seedlings (Fig. 8) come up by the thousand in midsummer and young plants in all stages of growth are abundant, proving that, for increase, seed is the main dependence of the tree.

The water elm is also known (in books) as planer tree, and among the French-speaking people of Louisiana as chataignier and charmille.

Distribution.

The range (Fig. 9) of the water elm (*Planera aquatica*) extends from the lower Wabash Valley in Indiana to the river bottoms of eastern Texas, and from western Tennessee and southeastern North Carolina to Florida.

Propagation.

Seeds of the water elm do not seem to be ripe at the time they usually fall; the real ripening probably occurs as they lie in the water beneath the parent tree.



Fig. 10—Leaves of swamp privet.

While it is difficult, therefore, to collect seeds in proper condition for planting, young plants of water elm abound and if carefully lifted and packed should stand shipment well. Great care must be taken to prevent the roots from drying. They should be embedded in balls

of earth and sewed up in burlap. Transportation should be as rapid as possible and the young trees should be set out or heeled in immediately upon receipt. Transplanting should be done when the trees are leafless.

SWAMP PRIVET.

Value as Duck Food.

The swamp privet is included principally on account of the testimony of

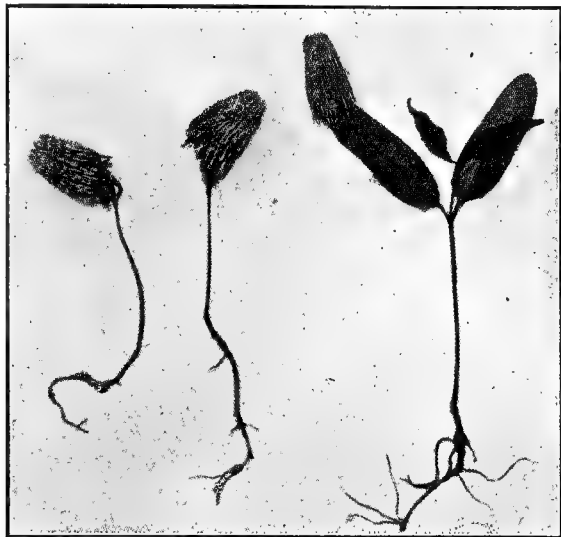


Fig. 11—Seedlings of swamp privet.

numerous hunters as to its usefulness. Wood ducks in particular are said to feed extensively upon its seeds. Weeks before other species of ducks arrive these birds are abundant in the country where swamp privet grows and are said to consume most of the crop of seeds, leaving little for other ducks. The seeds have been found in numerous mallard stomachs, but in quantity in only one.

Description of Plant.

Swamp privet (*Forestiera acuminata*) or bois blanc, found in the same kinds of localities as the water elm, is a smooth-barked shrub (sometimes a small tree) usually with drooping stems, which frequently take root at the tip. The smooth, light-green leaves (Fig. 10) are opposite, oval, taper-pointed at both ends, and with rounded serrations which are more prominent on the apical half. The fruit of swamp privet is a blue watery berry from one-half to three-fourths of an inch in length. Greatly subject to insect attack, it is usually distorted. The

pit is nearly as long as the berry, pointed at both ends, and has numerous lengthwise, fibrous ridges. The seed within is white and smooth. The flowers, borne in clusters, bloom in March and April, and the fruit is ripe in May and June.

As is the case with seeds of the water elm, those of the swamp privet may remain under water for a long period without apparent deterioration. Probably most of the seeds are exposed by the annual lowering of the water level and germinate the summer they are produced (see Fig. 11). Whether those which fall in deeper water ever germinate is unknown, but it is certain, so far as utility as duck food is concerned, that they keep in perfect condition far into the succeeding spring.

Swamp privet is native from central Illinois and Tennessee, near Nashville, south to Texas and Florida (see Fig. 12).

Propagation.

Fruits of swamp privet fully ripen upon the tree. The seeds, being protected by a fibrous cover and the pulp of the berry, undoubtedly will stand shipment for ordinary distances. Prompt handling is advisable, however, and the usual precautions against fermentation should be taken. The seeds should be sown in well-watered beds and the young plants grown to some size before setting out. Collected young plants and the offshoots produced by the rooting of the tips of branches of older ones may be handled like those of the water elm.

PHEASANT BREEDING.

By C. W. MACKLIN.

It is needless to say I was very much interested in *The Game Breeder* for the very objects of *The Game Conservation Society* are such as appeal to me, and they should to every other game breeder and sportsman in the United States and Canada. I wrote Mr. John Talbot, pointing out the need of just such an organization, also an official organ or publication such as *The Game Breeder* promises to so admirably fill before I knew such a paper and society were an accomplished fact. My thanks go to Mr. Talbot for bringing my name before you.

I have been exceptionally busy of late attending the many pressing duties of this season or you would have heard from me promptly. I have been working in a quiet way with you. From this date I intend to give more time and energy to the achievement of our common interests. Perhaps a little of my experience as a pheasant breeder would be of interest to you. From the first time I saw a pheasant I was an admirer. However, I was told they could not be raised successfully here, the young being so delicate, or that only an expert could hope to raise any and he only a

very few. Fearing I had not the qualifications of an expert, and having a dislike for failure I was tardy about buying. A few years since a breeder offered me a pair (cheap); I purchased. When the birds arrived here and I liberated them I soon concluded they were dear at any price. The female lived one month. The cock joined her in the happy hunting grounds two weeks later.

The next pair I purchased from another party at regular prices. The hen commenced laying early in April, laying in all 26 eggs. One egg was dropped from the roost and broke, another got frozen, one was crushed in hatching. The other 23 hatched, all strong, cute little birds.

The first six hatched died in less than two weeks. Knowing that others would soon be through the shell caused me to do some thinking along common sense lines. The result was I reared the entire seventeen that followed later. Finding a great pleasure in those birds, also a ready sale, as they were ornamental, I felt encouraged to try my hand with other varieties. I found also that patrons I had supplied with stock were

of the same mind. Two years ago I had such a demand that I was sold short of breeding stock before I was aware of it, causing me to import a number of birds to replenish.

Up to this time I had only attempted to raise a few, neither had I read a work on pheasants, preferring to study it out by close observation of their nature and the results of different kinds of food and pens, etc.

A gentleman from Pennsylvania came over to see my pheasantry last June. As I showed him the different systems of management, from the first pen to the more elaborate and much enlarged system used at present, and as he watched me prepare food and noticed how the healthy young poults eagerly devoured it. "Delighted," he exclaimed, "this is the best trip of my life."

What pheasant books have you read, he asked. I told him I had none.

Well, he said, I have read everything I could get hold of; I have visited many of the pheasantries, but say, you have them beat. He has become a customer since and a good friend.

From the stock I had last season I expected to rear about 200 birds but they hatched out well and were as hardy as nails and I reared over 450. This I did as a side line, in addition to general farm work on 250 acres, with only the assistance of one man and my son, age 13 years, and, sir, I reasonably conclude, were I to give my entire attention to this work I could raise pheasants by the thousand. What can be done here can be done most anywhere, as I have no natural advantages of location.

I have raised the young of many varieties. I find very little difference in results obtained from young hatched, some varieties requiring more seclusion or warmth or shade or more meat in rations. All require just a little study on the part of the attendant. But, sir, in considering rearing pheasants on a large scale I find myself seriously handicapped in marketing. While there is a demand for ornamental varieties, for various purposes the covert species or commoner varieties are used more especially for

shooting and supplying our tables with the most dainty game meat. That these cannot be sold as food I find the greatest grievance. The unreasonableness of our present game laws are most apparent. Naturalists agree that in their wild state pheasants reproduce more males than females and a number of males are never selected by the females. The extra cocks either are killed off by those selected or live solitary lives.

In their somewhat demoralized condition in a state of captivity I find this the case. Again one cock will mate with from one to a dozen or more hens. What is to be done with the extra cocks? I have yet to learn that I can legally kill one of those birds and reduce it to food. I am sure I cannot offer it to another. I wish to be law-abiding but I am up against it right now. In trying to solve this proposition I liberated some. I find while I cannot shoot, others do. Neither can I afford nor have I the inclination to go to the great expense of importing birds, putting up equipment simply in order to turn them out for some sneak of a pot hunter to kill.

Sir, I would suggest the laws should be so framed as to foster and develop the highest type of manhood. As it is, the tendency is to demoralize. Laws should encourage and protect industries that are for the betterment of mankind making the way for their maintenance easier. We hear of the high cost of meats. Would not the hundreds and thousands of pheasants help in that direction? Were the markets open on this continent for the sale of such foods it would be a great boon to an industry filled with promise.

I am frequently asked by those proposing to engage in pheasant breeding, what is the price of pheasant meat on the open market. When I have to acknowledge that it is against the law to offer the food the answer is, "What good are they," or "How do you dispose of surplus stock?" All say the law is wrong if it will not allow a man to dispose of his own pheasants the same as he can chickens or turkeys.

Well, I am with you for "more game

and fewer game laws" and I feel confident that by a united, earnest effort of

all concerned we shall finally accomplish our desired object.

NOTES FROM THE GAME FARMS AND PRESERVES.

A Deer Trouble.

One of our Iowa readers says: "I would be pleased to have you give me some information how to keep and feed deer so they will live and keep thrifty. I have some of the North American white-tailed deer. They will start to get thin and keep falling away and then finally die. If there is anything that can be done to avoid this I would like to know it."

The trouble may be due to the lack of proper foods. We have written for full particulars about the ground, the food, the water, etc., and we hope then to make some suggestions and that many of our successful deer breeders will also give their opinions as to the cause of the trouble.

Blasting Doesn't Harm the Chickens.

"During the past year I have been very much interested in the use of dynamite and have taken to using it for various purposes on our little three acre place in the suburbs of Belvidere.

"I recently had an experience that I thought might interest you. Five feet from my poultry house I decided to put in a gate post so as usual I put in my bar about 18 inches loaded up with one-half regular sized stick, retired to a safe distance to see her go up, when I remembered I had three hens setting inside the wall where I was about to shoot. The explosion was heavier than usual as it was in gravelly soil and threw dirt and stones in all directions.

"The hens had set for 10 days and were covering 44 fertile eggs (Rhode Island Reds) having already been tested out. Contrary to the predictions of my neighbors, I to-day had 41 first-class healthy chicks hatched out which I think settles the theory that dynamite kills germs in eggs (or rather does not). The hens were setting on a platform 12

inches above ground, 1-inch boards in back of coop on a 6-inch concrete foundation and the shot about 4½ feet from the wall.

"Yours very truly,

"WM. E. ANDERSON."

Note. In spite of Mr. Anderson's experience we advise against blasting near eggs intended for hatching or which have been set on for only a day or two. Eggs set on for 10 days contain a live foetus which would survive a shock that might kill the life-germ of an unhatched egg.—Du Pont Magazine.

Use of "Black Oil."

Some one asked about painting chicken houses with "black oil" for roup. We use black oil by the barrel; it is a very cheap oil, used among other things to lubricate certain parts of engines, and other machinery. It is black, dirty-looking and very greasy. You know some oils seem more greasy than others. It is made from petroleum, in fact is the residue after some of the lighter oils have been taken out. Probably it is the cheapest oil on the market, except the "crude," wholesale worth probably four cents a gallon, and obtainable from any mill supply house.

What is it good for? As a poultry-house paint, to keep out mites and lice, I doubt if there is anything better, it being greasy and staying that way. You can neither paint nor whitewash over it. I should judge it was a good disinfectant, doubtless retaining a little phenol, but for use as a preventive of disease, I would put no faith in it, though it is harmless. I have cured several pet dogs of the mange by rubbing them with black oil, then shutting them up where they could not come in contact with civilization for a few days. It has a very soothing effect. For several years ago I had

a little fox terrier who had the mange. He scratched and scratched one night until it got on my nerves, so I took the bottle of black oil and gave him a soaking on the mangy places. In about 15 minutes the scratching stopped, the dog evidently went to sleep, and in a few days he was cured of scratching, and in a couple of weeks the mange was gone and new hair growing. I have tried all kinds of mange dope, but now use black oil, as it has proved a positive cure. I just soak it in without washing the place, and it seems to be absorbed by the scabs and held on until they drop off. I have never used it internally, except on chicken houses, and it did not hurt them. I doubt if it is any good whatever for the interior decoration of animals.—M. A. P.—Rural New Yorker.

Mast a Valuable Game Food.

Acorns, beech nuts and other nuts are valuable foods for game, both deer and birds. In Germany we are told that acorns can be purchased by the car load and having had a number of requests for acorns we endeavored to ascertain if they could be purchased to advantage in America. A large dealer in seeds reported that he could only procure acorns at a price which would make this food dearer than corn.

It would seem that in places where oaks are abundant acorns should be gathered cheaply and that they should be marketed as a game food. It is well known that the flesh of all animals is affected by the food they eat. The mallards we used to shoot on the Kankakee and other western rivers were excellent food because the birds fed on acorns and wild rice. The mallards in California often are said to be comparatively poor birds for the table because in many localities they do not get the best foods. Mallard reared in captivity and fed only on corn should be no more valuable as food than any barnyard ducks. We should aim to supply the natural foods on our game farms and preserves.

Notes From the State Game Departments.

Hon. Walter B. Fraser, State Game and Fish Commissioner of Colorado, says in his last report:

Both the bob white, and Gambel's partridge, the so-called crested quail, are protected under our laws, and I am pleased to state that these valuable insect-destroyers are fast multiplying and, in practically every locality, receive the protection merited.

Leading agricultural specialists of the United States agree that the quail render the farmers and fruit-growers of our country services which in actual value run into millions of dollars annually. One authority states that each quail is worth five dollars per year to the farmer.

Government reports are my authority for the statement that "the American sparrow family saved the sum of \$89,260,000 to the farmers in 1910 in consuming weed seed, and that one-half of the daily food of the quail consists of undesirable weed seeds."

I have recently issued several permits to responsible parties residing in localities adapted to quail, and where there are but a few, authorizing them to arrange for the trapping of such birds, in numbers of from two to five dozen, the trapping to be conducted in localities where the quail are plentiful, with the express understanding that the birds are to be shipped and liberated in new districts.

It is the intention of the department to assist our citizens, who will guarantee protection to the birds, in securing a proper number for liberation, where feed is plentiful, and where the winters are not too severe.

For several years the quail have been increasing rapidly upon the western slope, especially in the fruit-growing sections of Mesa, Delta, Montrose, and Fremont Counties, and it is reported that large numbers are to be found in the Arkansas and Platte valleys on the eastern slope.

Inasmuch as the value of these birds

is admitted, it is most assuredly the solemn duty of our people to resist the killing of quail, and, in so doing, conserve this valuable asset.

[We regard it as the "solemn duty" of the Colorado people to restore quail on toast. Let them know that quail breeding is a very profitable industry and they will get busy, no doubt.—Editor.]

OUR SHORE BIRDS AND THEIR FUTURE.

The United States Department of Agriculture has issued a pamphlet, under the above title, which deals with the habits and migration of this interesting class of birds. Their decrease in numbers is deplored and measures are proposed to prevent a still further loss.

It might not be a bad plan, in addition to the restrictions proposed, to make every life saving station a shore bird refuge, setting aside a few hundred feet or a few miles of shore and marsh about such stations as refuges, where the birds would be safe from persecution. The merit in this suggestion lies in the fact that the life saving stations all are inhabited by capable national servants who could easily give the birds some practical protection. We would be in favor of giving the guards some extra pay for this service.

At present members of life saving crews undoubtedly take a crack at the shore birds and wild fowl when they come within range, and it is greatly to the credit of those who like to shoot that they can supply desirable food for the table. We would not deprive them of shooting during a long open season but would suggest that they shoot a short distance away from any refuges that may be established and, as we have said, that they be compensated for looking after the birds seeking a rest near the stations. Shore birds might also be given a rest on small reservations about the lighthouses. One trouble with most laws, national and state, is that they cannot be executed. The area is too big for the force. A life saving crew always on the ground might protect many birds on many small areas.

The story about the shore birds was

written by Wells W. Cooke, one of the most capable assistant biologists of the Bureau of Biological Survey. It is printed as a Year Book separate, No. 642, U. S. Dept. Agr.

OUTINGS AND INNINGS.

A Kentucky Circulation.

A country editor wrote to a catalogue house for some advertising. They replied that they would be glad to use his space but would like to know what territory his paper covered, whereupon he told them: "This paper goes from New York to San Francisco, from Canada to the Gulf, and it keeps me working until 2 o'clock in the morning to keep it from going to hell."—From the Falmouth Outlook.

Minister Got Even.

The minister was delivering his farewell sermon. He had been having tough luck in collecting his salary and concluded to quit. Here is what he said:

"Now, brethren, I have been appointed chaplain of the penitentiary of the State, and this will be my last Sunday among you. I will preach from the text, 'I go to prepare a place for you,' after which the choir will sing 'Meet Me There.'"—Kiowa (Kan.) Review.

Men who sit still in the street cars while women stand and give as their excuse the assertion that women do not thank them when they do offer their seats will like this story: The man arose and gave his seat to a girl. "Oh, thank you, most kindly, sir," she replied. "Don't mind her being polite," explained a sad-faced woman. "I'm taking her to a sanitarium."—Kansas City Star.

They had just finished taking a new film in a big German moving picture studio near Berlin. Among the properties was a live stork which had been trained to reach out one of his long legs and shake hands with people. Everybody was gathered around the bird trying out his accomplishment. A little six-

year-old girl was among them. The stork shook hands with her, too. Then she ran beaming to her mother crying, "Mamma! Mamma! he knew me again at once!"—New York Evening Post.

It is a good plan to have two guns exactly alike, of course, in balance, weight and in every particular. Something may happen to a gun at any time and the sportsman who has a second gun at hand which fits him will be glad of it. Those who can afford to do so should have two guns, exactly alike. When they come to shoot at ducks or pheasants in big numbers they can use them both by having a loader present to do the loading. The Parker Bros., Meriden, Conn., make excellent shot-guns. Write to them for a catalogue.

A Good Book.

BIRDS OF NEW YORK. By Elon Howard Eaton. Part 2. Land Birds. The University of the State of New York, Albany.

This is the second volume of the splendid work on the birds of New York. It is published as memoir 12 of the New York State Museum.

The book opens with a chapter on bird ecology or the relationship of birds to their environment and their ability to adapt themselves to new conditions as they arise. There are some useful hints for game preservers in this chapter. We are told that private preserves have been the salvation of many birds and quadrupeds in various countries of Europe and that this method of salvation is gaining ground in America.

The author takes the modern and the right view about the handling and control of the predacious species. He says, some hawks, including the red-tailed hawk, and some owls are more beneficial than harmful, but in some cases they are found to do much damage. "If a bird lover finds the red-tailed hawks are destroying all the grouse in the coverts which they frequent these particular hawks should be removed from the scenes of their operations, and the same principles should govern our attitude toward all those species on the doubtful list."

This is exactly what occurs on all of the American preserves and the results due to the control of the predacious birds and mammals are found to be as highly satisfactory in this country as they are abroad. The chapters on the birds of prey are especially interesting. As the author says, comparatively few persons can distinguish the various species of hawks

and other predacious birds, some of which do more harm than others. It is wise to let the farmer or game keeper decide what enemies are destroying the game and they will deal with them properly.

There are few references to the game birds, these having been fully described in Volume 1. The pheasants, we are told, have been destructive in some localities, digging up the newly planted corn, following the rows and destroying each hill in succession.

On the English preserves the sportsmen deal fairly with the farmers. Scare-boys are employed to keep the pheasants out of the fields when they are found to be doing much harm and a fair sum is agreed to and paid willingly by the sportsmen when the game evidently has done any damage.

The chapters on the song and insectivorous birds will interest sportsmen who have country places and who enjoy seeing the small birds plentiful. The book is illustrated with many half-tones of birds, nests, and eggs, and a series of large color plates made from drawings of L. A. Fuertes. This talented artist has added much to the value of Mr. Eaton's great work.

A Double Victory.

E. A. Randall, of Portland, ran away from the field for the trapshooting honors of the Maine State Shoot. He not only won the State championship with 99 x 100, but made his victory more complete by winning the high general average of the tournament, scoring 390 x 400. Throughout the entire meet Mr. Randall used Remington-UMC Arrow Steel Lined Speed Shells.

The Portland team—E. A. Randall, S. B. Adams, G. A. Blanchard, W. D. Hinds and O. P. Weymouth—all shooting Remington-UMC Nitro Club and Arrow shells, carried off the honors in the Interstate Team Match with a score of 473 x 500.

A feature of the meet was Randall's fine work the second day. He broke 199 of 200 birds and won easily from the rest of the field.

[Now that the "more game" movement is decidedly on in New England we predict that the aforesaid shooters soon will let fly a big lot of arrows at pheasants, wild ducks, quail, etc., etc. We expect to attend some big shoots in New England next October, when there will be more game killed than ever was known in the land.—Editor.]

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THE GAME CONSERVATION SOCIETY, INC.,
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J. C. HUNTINGTON, Secretary.

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"IN CAPTIVITY" NONSENSE.

It is quite as absurd to insist that all game must be reared "in captivity" as it was to insist that it must be killed, "otherwise than by shooting."

The "otherwise" nonsense has been removed from the statute books and we would strongly urge our readers to prevent the perpetuation of the "in captivity" nonsense whenever this absurdity makes its appearance.

Farmers and fruit-growers are not obliged to raise their corn, or hay, or apples in greenhouses. The laws permit them to do so if they wish to do so, and thus it should be with game; the breeders should be permitted to rear game birds in captivity or even under glass if they wish to do so, but they should not be compelled by law to rear "in captivity" the species which do not lend themselves to hand-rearing. The most sanitary methods; the best; the cheapest; the most successful methods of breeding quail, grouse, teal and some of our other splendid game birds are wild breeding methods far removed from the ideas of "in captivity" cranks. Many readers of *The Game Breeder* now rear and shoot thousands of quail every season under the most natural conditions. Some of our readers now rear thou-

sands of grouse wild in their woods. Unfortunately it is difficult to get them to write stories about their successful enterprises since they wish to escape the attentions of their "in captivity" friends. They believe, as we do, that they own the grouse and quail and ducks which they produce. They harvest them in big numbers and fortunately, in most cases, they escape the attention of "in captivity" mischief makers.

The laws do not provide that one must rear his turkeys in the way which is sure to produce "black-head," or his chickens in a way which seems certain to produce roup. If he prefers to rear them in a sanitary way least likely to produce diseases he is permitted to do so.

We are by no means opposed to the many interesting experiments which are being made with hand reared quail and grouse. Similar experiments have been made with the gray partridges and red grouse in Europe; but the big numbers of these birds annually shot, marketed, and eaten are reared wild in protected fields and woods. The pheasants and the mallards are hand-reared abroad in big numbers just as they now are in America.

A BIG MISTAKE.

It is a mistake of large proportions to say that game breeders can only deal with deer and foreign fowls and the more common species of wild ducks. This nonsense has appeared in several states following the compromise in New York, where the celebrated Bayne bill, intended to prohibit the sale of rabbits was amended so as to permit the sale of deer, pheasants, mallards and black ducks. We urged at the time that it was even more important to encourage the practical protection of quail and grouse and the vanishing wood-duck and woodcock. Mr. Roosevelt, the chairman of the Senate Committee, recognizing the fact that it was "going some" to make a bill intended to prohibit the sale of a rabbit read so as to permit the sale of deer and game birds, remarked to the writer that in the future the law undoubtedly would be further amended so

as to give the native quail and grouse a chance. In the meantime those interested in these birds have kept Long Island open to shooting and the shooting, paradoxical as it may seem, has tended to increase the game.

QUAIL AND THE AUDUBON SOCIETY.

A writer for the bulletin of the American Protective Association says: "The closed season on quail throughout the year, that has prevailed, was continued at the last session of the Ohio legislature, over the protests of sportsmen, but through their efforts the continuation was for two years and not for ten, as desired by the farmers or perpetual as favored by the Audubon Society."

We presume the reference must be to the local Audubon Society since we are assured the National Association is not opposed to field sports or to sportsmen. Whatever its attitude may have been in the past it now has a department of applied ornithology intended to encourage the profitable production of the wild food birds.

The United States Agricultural Department has been pointing out to the farmers the value of quail as destroyers of insects and weed seeds and the farmers everywhere, having become tired of trespassing gunners who too often do not heed trespass signs (and in fact often shoot them up) have been quite willing to put an end to shooting in order to put an end to a nuisance. Naturalists are fully aware that where shooting by a large army of guns is permitted the extra check to increase is too much for the game provided no one looks after it and protects it from its natural enemies. Since the sportsmen must expect the prohibition of shooting on the farm, if no game breeding is carried on in order to keep up the supply, many now are fully converted to the idea that it pays to deal fairly with the farmers and to look after the game.

Since practical game protection costs something even when the game is bred wild in the fields, the shooting syndicates should sell some of the game pro-

duced to help pay expenses. Game preserving heretofore has been, for the most part, a rich man's game. We have always favored clubs with small dues and we are much interested in a number of these clubs which have an abundance of game every year at a very small cost per gun—in some cases only \$15.

Advantage of Game Breeders Laws.

Sportsmen who are organized to secure more game laws should not be opposed to the industrious activities of those who deal fairly with the farmers and have very good shooting. Under game breeders' laws they are permitted to shoot big bags during long open seasons and no one is damaged by such activity because without it soon there would be nothing to shoot. Long Island, New York, has been saved, fortunately, as an exhibit. Thousands of quail are shot there every season not only on club grounds but outside of them. There is no quail shooting in the other counties of the state. It should be remembered that about one-twentieth of the entire population of the United States resides within a few miles of this good shooting, in the great city of New York.

It would be an easy matter to restore quail shooting in the great central and western states provided one gun club, or one protective association in each county, would provide a noisy sanctuary for the members and insist, as they do on Long Island, that the shooting prohibition be removed from all the lands in the county or state. The clubs look after this matter and in providing shooting for their members they provide shooting for all others, and they keep the season open from year to year. Mischief-makers have looked longingly at Long Island. We have often caught them gazing, but the fact that the bag limit has been increased and that more birds are shot every season and, best of all, the numbers are increasing, is enough to make a confirmed mischief-maker worry.

OUR POLICY.

Many of the American game laws are wrong in theory because they create fanciful crimes in which the element of

wrong doing is absent. Our readers are interested especially in having the laws amended so that it will no longer be considered a crime to produce the wild foods profitably on the farms and to dispose of such foods in the best market.

While we would gladly see many reforms in the game laws and we believe that many fanciful crimes could be done away with to advantage, we have not the time nor the space to do more at present than push the two ideas: (1) that it should not be criminal to produce foods, profitably: (2) that such foods should be sold in the best markets without fear of the police.

The Dean of Sportsmen, Charles Hallock, announced some time ago that our fight for "more game and fewer game laws" had been won. It is true that many States have amended their laws so as to permit the profitable breeding of all or certain species of game; it is also true that the food legally produced and coming from other States can not be sold in New York although similar game coming from abroad in cold storage is sold in New York.

There are some ridiculous details to be worked out and our policy now is to see that these absurdities be made to disappear in order that game breeding be further encouraged.

Arrows Old and New.

We once shot over a wide stretch of excellent quail ground, in Ohio, where many Indian arrow points were scattered liberally in the fields. We picked up some of the flints and preserved them.

Recently we wandered with a friend over a vast shooting area where practical game preserving has resulted in many thousands of quail, pheasants and ducks being shot every season. The ground was literally covered with "arrows"—the empties of Remington U-M-C steel lined shells. There were a few thousand "nitro club" also, and my friend, as he picked up one "arrow" after another, remarked: "This must be a Remington place." We replied: "It pays to advertise. Practically all of our readers now say 'Arrow' when they shop in the gun-stores."—The Game Breeder.

The Parker Try Gun.

Parker Bros' Try Gun permits of being so adjusted that most accurate measurements may be secured for a perfectly fitting gun. In order to secure these measurements the makers have designed a Try Gun with a grip which moves in relation with the stock, thus giving a perfect fitting grip, no matter whether the stock may be made with very little drop or with the maximum drop. This is accomplished by means of a universal joint which is located between the tang and the trigger plate and is adjustable, both up and down or to right or left. This permits any variation of heel drop, from one extreme to the other, and also gives any desired cast off, either to right or left. These adjustments are secured by means of socket headed adjusting screws, which are located in the tang and trigger plate and also on either side of the frame and are adjusted by means of the small wrench shown in the illustration. Adjustments of the comb are made by means of knurled nuts which are let into the body of the stock, and are held from turning by spring pressure. The rear end of the comb may be raised or lowered so that a Monte Carlo effect may be secured. The length of stock is also adjustable by means of similar knurled nuts, and the angle or pitch of butt plate may also be changed at will, so that any pitch desired, may be secured. A still further refinement may be had by swinging the toe of the butt plate either to right or left in relation to the stock. This latter adjustment is made by means of a screw operated by the small wrench. After proper adjustments are secured, the gun may be used, as all parts are amply strong so to permit the use of the gun in demonstrating. In order to secure the dimensions after the proper adjustments have been made, a special measuring device has been designed. It is firmly fastened to the top rib of the gun by means of locating pins and a thumb screw, and a vertical slide, which may be moved from one end of the horizontal bar to the other, gives the correct drop measurements at any point of the stock. The pitch is also read by sliding the vertical slide to the end of the stock, and pushing it down across the butt plate, swinging it in its bearing so that the slide touches the butt at heel and toe. The graduations on the vertical slide holder are in inches and will show the desired pitch of the gun. The cast off may be also read by measuring the distance of center lines, which are on the heel and toe of the butt plate, from the end of the vertical slide, which is exactly central with the barrels. For determining the length of stock, the measuring device is removed from the barrels and is used as a pair of beam calipers, a small finger attached to the bar being held against the trigger and the vertical slide held against the center of the butt plate. The horizontal bar is graduated, and the length easily and quickly read.

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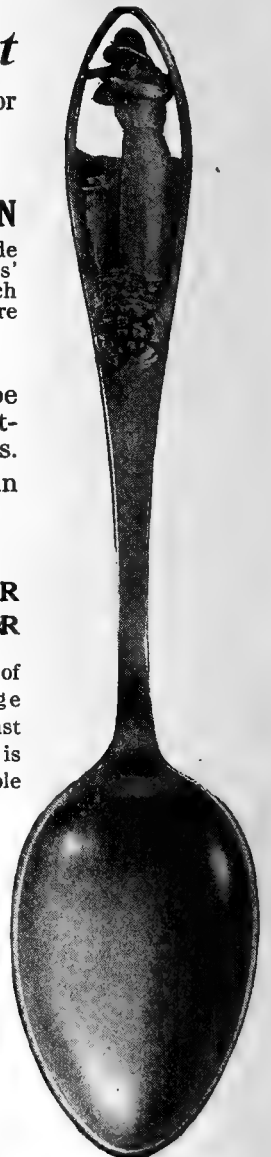
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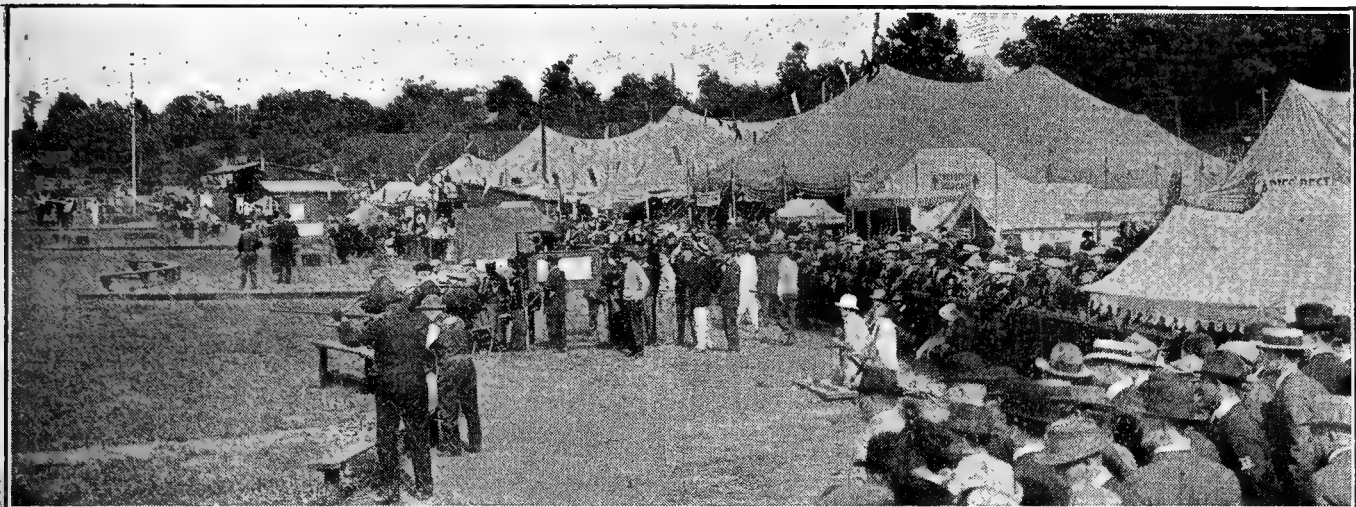
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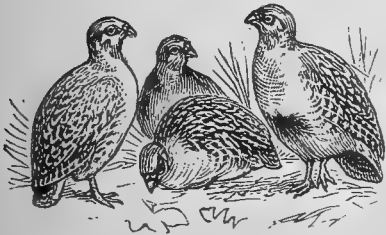
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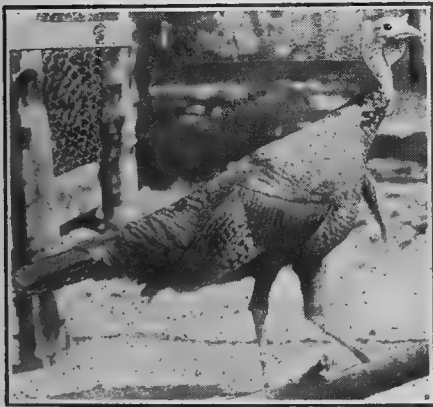
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THE GAME BREEDER

VOL. VII.

SEPTEMBER, 1915

No. 6

THE OBJECT OF THIS MAGAZINE IS TO MAKE NORTH AMERICA THE BIGGEST GAME PRODUCING COUNTRY IN THE WORLD

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Notes from the Game Farms and Preserves.

Editorials—Correspondence.

Outings and Innings—Trade Notes, Etc.

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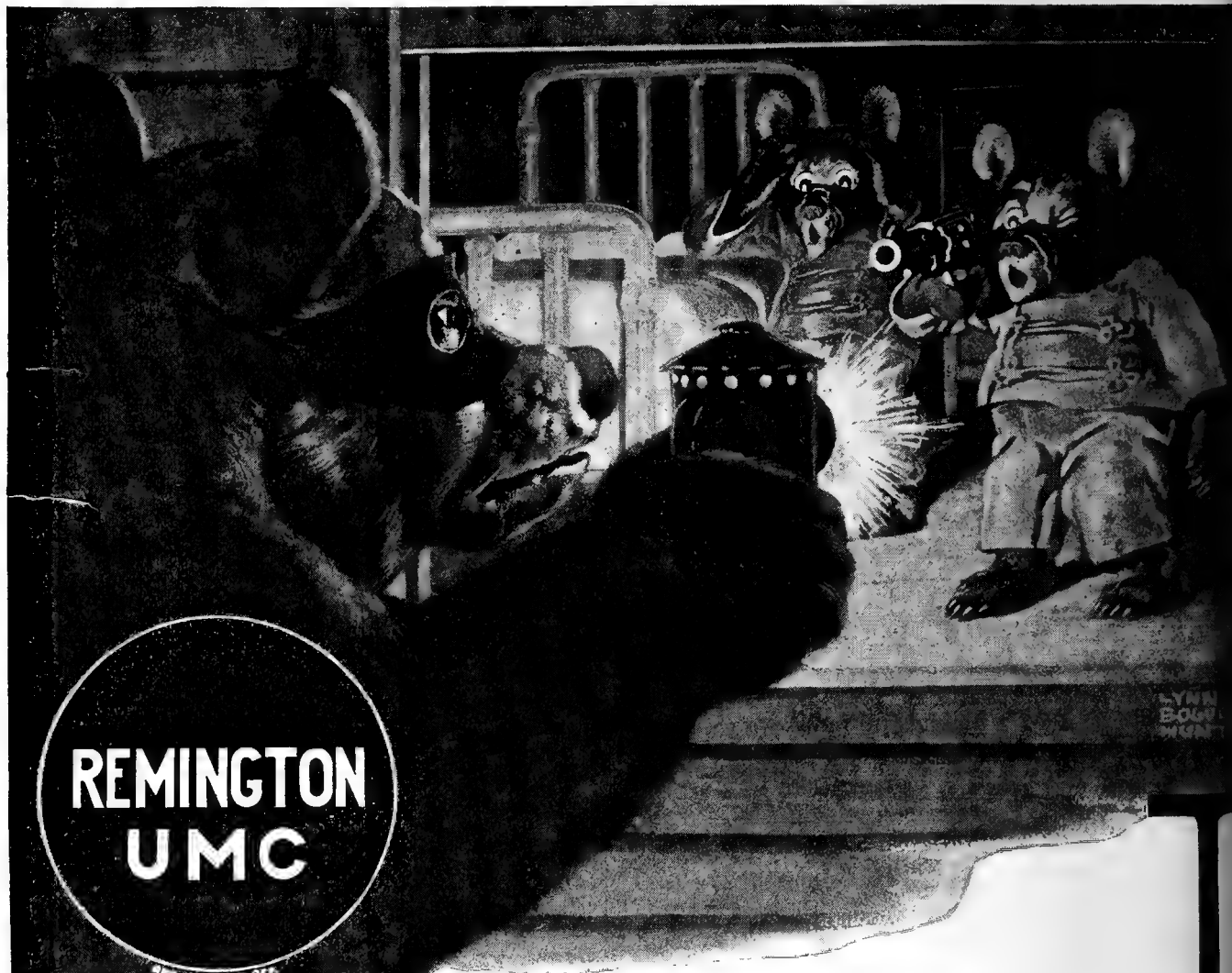
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The Game Breeder

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VOLUME VII

SEPTEMBER, 1915

NUMBER 6



SURVEY OF THE FIELD.

Good Appointments.

One of our Ohio readers writes that Dr. W. J. Kirgan, of Cincinnati, and Mr. I. S. Myers, of Akron, have been appointed by Governor Willis as members of the Agricultural Board to represent the fish and game interests of Ohio. Our correspondent says: "I believe these men are both of progressive ideas and that the matter of game breeding in Ohio will receive much attention on their part."

Ohio progressed slowly last winter. The laws were amended so as to permit the profitable breeding of pheasants only. The absurdity of permitting the profitable breeding of foreign fowls, and at the same time preventing the profitable breeding of our native game will permeate in Ohio, no doubt, before long, as it has in many other States which now have thousands of wild ducks, grouse, deer and other game to illustrate the rapid increase due to the work of industrious game breeders.

We recommend to the Ohio officers that they memorize the good old law Latin maxim, which translated reads: "The laws should aid the vigilant and not the sleeping."

More Game in Minnesota.

A correspondent of the New York World says:

More than 100 residents on the 65,000 acres of land within the Minnetonka game refuge will raise mallard ducks, pheasants and quail next season and if their experiments prove as successful as those of people in other States, these three varieties of game birds may soon be as readily obtainable in the markets as chickens, turkeys and geese now are. From 5,000 to 10,000 eggs are to be distributed among those who will encourage the propagation of wild life and if the ratio of young

birds to eggs holds true, the refuge will be heavily stocked, while outside of it by 1917 there should be more birds as fair marks for sportsmen than are now under protection.

We learned with regret sometime ago that the large area referred to would be added to the big lot of posted farms in Minnesota and closed to shooting. A large part of the shooting area is now posted and, since some sportsmen do not heed the warning signs and persist in shooting until driven off, it is no wonder that the farmers have been in favor of putting the quail and the grouse on the song bird list, and in favor of laws protecting them from the guns at all seasons. A license to shoot is not worth much in many States.

A Low Estimate.

The estimate of Mr. Frank B. Blair as to what will happen on the Minnetonka reservation is very low, absurdly so, if any considerable number of the people go in for "more game" for profit. The increase would be still larger if the game could be produced for sport, also, because the sportsmen could furnish a good part of the money needed to purchase stock birds and eggs and to pay for gamekeepers. The combined area of a few places near New York very much smaller than the area of the Minnesota reservation will produce next season far more game than the amount named by Mr. Blair.

We would be pleased to have Mr. Blair inspect some of these places and we can see that he does so if he ever comes to New York and would like to see the results of the "more game" movement in this vicinity.

Mr. Blair's opinion is given in full but

we would like to know if the Minnesota laws permit the marketing of all species of game.

It is estimated by Frank D. Blair, Field Superintendent of the Minnesota Game and Fish Protective League, that within the proscribed territory about 1,000 mallards, from 5,000 to 10,000 quail and no more than a dozen pheasants have been taking shelter.

At the end of two seasons he believes that there will be 30,000 or 40,000 birds, the most marked increase being among the pheasants—now very rare which should be 5,000 strong.

"The rate of increase of these wild birds in captivity is remarkable," said Mr. Blair recently. "Mallards will lay an average of forty eggs a season, quail from thirty to fifty, and pheasants from thirty to forty. When they are living in a wild state, they usually lay several batches of eggs and then hatch out only one batch, while in captivity all the eggs are saved. Birds hatched will average roughly about sixty per cent. of the eggs.

"The most serious difficulty confronting those who experiment in the propagation of wild birds is in keeping them separated from poultry. They are especially susceptible to diseases that are communicated from coops and land where chickens have been. A bantam hen is most generally used to set on the eggs and frequently breeders make the mistake of turning the young birds loose in the chicken yards along with the hen.

"The Minnetonka residents who expect to raise mallards, pheasants and quail are actuated by a desire to increase the number of birds within the refuge. Though they will be put to some trouble, the returns eventually, they believe, will more than offset the tribulations."

Stock Birds and Eggs.

We are glad to know that a big lot of stock birds and eggs will be needed for the Minnetonka reservation. Our advertisers furnish the best. We shall spread *The Game Breeder* abundantly in the neighborhood so that all intending purchasers may know just where to get the

best and the cheapest (for the best are the cheapest) stock birds and eggs.

Aviary Species.

Reports coming to our game census indicates that the number of pheasants which are bred for ornaments in the aviary is increasing rapidly. Some of these species are bred on foreign preserves for sport but they are nowhere as common as the ringnecked and dark-necked pheasants and the various hybrids produced by these birds and by crosses with the Mongolian and Prince of Wales pheasants and some other species. One of our Kentucky breeders reports that he has 6 of the rare *Impeyan* pheasants; 4 *Manchurian eared* pheasants; 2 *Elliotts*; 6 *Swinhoe*; 3 *Mongolian*; 8 *Prince of Wales*; 10 *Versicolor*; 12 *Amhersts*; 2 *White Crested Calij*; 12 *Reeves*; 9 *Silvers* and 7 *Golden* pheasants.

An Insular Preserve.

President Wilson has just issued an order authorizing the use of a small island lying about three miles south of Lake Mille Lacs, Minn., as a federal game preserve and a breeding ground for native birds. The island is locally known as Spirit Island, and hereafter will be called Mille Lacs reservation.

The Presidential order also provides that the Klamath Lake reservation in California and Oregon, which is used for the protection of native birds, be reduced in area, by eliminating considerable land on the east and west boundaries.—*The Globe*, N. Y.

The Maine Meeting.

The 20th annual outing of the Maine Sportsman's Fish and Game Association was held at Kineo. President Robert J. Hodgson said, "The important mission of this association is the preservation of game and wild life and to aid in the enactment of such laws as will best protect all wild life and at the same time give the sportsmen from within and without our State the best fishing, the best hunting possible." He added that the members of the Legislature have given a great deal of honest thought upon

this subject. "They may not and did not agree with this association when it came to passing *all the laws that we asked for*, but they did listen to us and passed some very helpful laws."

After reading the long list of new laws, printed in *Maine Woods*, the most ardent game law enthusiast should say the Legislature did very well indeed. We doubt if there is a lawyer in Maine who could name one-half of the laws enacted. It would seem that after conferring for twenty years the sportsmen of Maine should be able to formulate a simple law which might have some permanency.

Mr. Hodgson well said that laws are not sufficient to stay to any great extent the sure diminution of game. He pointed out the importance of seeing the laws executed. The two things needed in the opinion of the orator are "*more money; more service.*"

We read in a Maine State report long ago that the entire State militia would be inadequate to properly protect the game, and this is undoubtedly true and will remain so as long as all of the people, resident and non-resident, destroy game, and no one is permitted to properly look after it and produce it. A few noisy sanctuaries in Maine where thousands of game birds could be produced and shot annually would help matters much in that State just as they have in other States which now have game breeders' laws encouraging game production. Game easily could be made abundant and cheap in the Maine markets for six months every year and all of the people, including the sportsmen, would be benefited.

=

Legislative Gains and A Laughing Stock.

Hon. H. B. Austin, chairman of the Maine Inland Fish and Game Commission, spoke of the large gains that had been made in fish and game legislation. The closed season for moose and the lowering of the non-resident license were referred to. A resident hunter's license was advocated. Mr. Austin well said: "The mass of special and private laws is making us the laughing stock of

the other States." He referred to the 700 special laws which were wiped out two years ago and deplored the fact that many of them had found their way back into the statute books.

Maine is not much, if any, ahead of a number of other States which delight in the game law industry but we believe it will not be long before the sportsmen become aware of the fact that it does not pay to produce hundreds of game laws every year, and year after year to shorten the season, limit the bag and, finally to prohibit field sports. Ohio acquired a resident license and laws prohibiting quail shooting, dove shooting and since there are no deer, wild turkeys, prairie grouse, and only a very few ruffed grouse and wild ducks in the State it became evident that it was hardly worth while to acquire a license to shoot and the practical prohibition of shooting at the same time. It is now legal to have pheasants in Ohio.

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The Convention Habit

The Maine sportsmen seem to have acquired the convention habit. They meet and have a good time; a little trap shooting, dancing, dining and card playing. They meet the politicians, candidates for governor and other offices; they resolve on tinkering the game laws; creating more officers, but it never seems to occur to them that they should have "*more game and fewer game laws.*" We would suggest that they study the game breeders' enactments now on the books in many States and that it would be wise for some of the Maine sportsmen to investigate the shooting in places where game always is abundant.

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A Game Breeders Law Needed.

The Lamar Democrat, under the heading, "*Missouri Sportsmen's Extremity,*" says:

About two more years will finish up the squirrels. The quail is just about extinct. Ducks are getting scarce. About the only thing for a real sportsman to do is to spit on his hands and get him a fly swatter.

Missouri should at once enact a law encouraging the profitable breeding of game. The Oklahoma law would be a

good one to copy. Breeders' laws have resulted in a big lot of game being produced annually in many of the States. New York, New Jersey, Massachusetts rapidly are becoming game producing States. Much of the game is sold in the markets.

=

Proposed New Conservation Commission for New York.

The committee on conservation of the Constitutional Convention has reported, or soon will report, to the convention a proposition for a commission to consist of nine unpaid members, each to serve a term of nine years, one to be appointed by the Governor from each of the judicial districts of the State. The nine members are to appoint a superintendent who will be the executive head.

The idea of having a game commission to serve for a long term of years is good. Our State game officers, appointed for one or two years, never have been able to accomplish much. Some of them have found it necessary to devote much of their time to politics. The game commission in Massachusetts has done good work because various governors (elected for very short terms) have decided to let the commission carry on its good work.

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A Grand Prix "For Modern Arms and Ammunition."

There is much interest among sportsmen in the announcement, that the Superior Jury of the Panama-Pacific International Exposition, have awarded the Remington Arms-Union Metallic Cartridge Company the Grand Prix—highest of honors—"for modern firearms and ammunition." This distinction is all the more creditable when it is considered that the exposition is international in character—exhibits being entered not only from the United States, but from many foreign countries.

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An Absent Minded Bostonian.

We received in the mail the money for a subscription to The Game Breeder with nothing to indicate from whom it came excepting the postmark on the envelope—"Boston." Since we had sent a large mail to Boston it was impossible to de-

termine who sent the money. It was wrapped up in our circular letter which simply was addressed "Dear Sir," being sent broadcast as such letters are, the writer evidently thought the return of the circular letter would indicate the sender of the money, but the best we can do is to enter "Dear Sir" on our subscription list and hold the magazine for a better address.

=

Game Abundant in Massachusetts.

We often wonder if the Massachusetts game commissioners realize the importance of the work they have accomplished and if the people of the State realize how much excellent food has been produced. Where game is made so abundant that sentimentalists are horrified at the amount of food birds destroyed and eaten, when they complain in the newspapers, as they did last fall about the shooting, the people should take notice that most capable officers have made it possible for those who wish to do so to have an abundance of a highly desirable food. We suggested at the time that the "mollycoddles" get after those who produced poultry and other foods and that they give the game breeders a rest.

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Oklahoma a Good Place.

A clipping sent to The Game Breeder says that Hon. James W. Gerard, U. S. Ambassador to Germany, has written to a real estate dealer in Oklahoma that he wishes to purchase a large place for shooting. No better State could be selected. Oklahoma has just enacted one of the most liberal game breeders' laws and all species of game can now be profitably produced there. When a few good game farms and preserves are started the State should have a boom. Lands used for game can be made more profitable than lands used for cattle breeding or farming. The game, in fact, can be made to yield an additional revenue to the farms since many species are beneficial and the harm done by those which are harmful can be largely prevented by the use of scare boys and in other ways known to game farmers and preserve owners.

THE PRAIRIE GROUSE.

Fourth Paper.

BY D. W. HUNTINGTON.

I have made excellent bags of prairie grouse in many of the prairie states when the birds were abundant. I had no thoughts then of the necessity for preserving and paid very little attention to the food habits of the birds, but, of course I observed that both the prairie grouse and the northern sharp-tailed grouse were more plentiful in certain places where natural foods were abundant and where the long grasses and the wild roses offered protection from their natural enemies. Wild sunflowers, wild roses, sumac and the prairie grass were abundant in the places where the grouse were most plentiful, and those who would restore the grouse and keep them plentiful should restore the prairie grass and the other covers and foods mentioned, and still others referred to later.

When shooting in more recent years on ground where corn and wheat were grown we found the birds in the stubbles and corn fields and undoubtedly the grain constituted a large part of their autumn and winter food. The birds easily could be fed on grain in the winter and, having proper cover including briars of the rose, blackberry and others, it should be an easy matter to preserve the game in cultivated regions, provided always they have grass for nesting sites.

The rose hips are a very important winter food since they can be procured above the snow and are said to be both grit and food.

On many of the big wheat farms where every sunflower and wild rose and every other cover and food including the prairie grass had been removed and where the grouse had no protection from their natural enemies, to which they were unduly exposed, they quickly disappeared entirely throughout vast regions. I have tramped for miles over such ground without finding a single grouse and I observed that the hawks were plentiful, using the telegraph and

telephone poles as lookout places from which they easily could see any moving object in the fields below. One can readily imagine that the grouse can not exist on wide areas planted with fall wheat since they have neither cover nor food at the time when they are most needed.

It would be an easy and profitable matter to convert the great bonanza wheat farms into game preserves where thousands of birds could be shot every season without danger of extermination. Some of the land should be devoted to grass, wild roses, weeds, sumac and other foods and covers, and the better way would be to plant these foods and covers in long strips between the fields where the wheat is grown.

The vast corn fields of Illinois, Kansas and other corn States have afforded much protection to the grouse, but when the corn is harvested the birds are exposed to their natural enemies and the introduction of prairie grass and rose and other briars would result in saving many birds. Their natural enemies should be controlled, of course, to make a place for the shooting. On the moors of Scotland, since game keepers have been employed to exterminate the vermin, the grouse have increased in numbers rapidly although thousands of birds are shot every season.

Grouse should not be bred in captivity. They should be bred wild in protected fields where the natural conditions have been restored, partly at least.

Mr. Judd, in his excellent bulletin to which I have referred, has listed the foods of the prairie grouse and since the bulletin is out of print I shall quote from it at length. Those who would preserve the grouse will find that if they will restore some of the more important foods enumerated and if they will destroy some of the natural enemies of the grouse that it will be an easy matter to keep the birds plentiful and the shooting

good. Success surely will follow the restocking of thousands of miles of the former range of the grouse provided the work be undertaken in the proper way and competent game keepers be employed to look after the game.

Mr. Judd says for the purposes of his report the contents of 71 stomachs of prairie hens were examined. Fortunately this material represents not only

the shooting season, but all other months except July. Most of the stomachs came from the Dakotas, Minnesota, Iowa, Wisconsin, Nebraska and Texas. Illinois and Ontario furnished the rest. The food consisted of 14.11 per cent. animal matter and 85.87 per cent. vegetable matter. The former was insects; the latter seeds, fruit and grain, leaves, flowers and bud twigs.

(To be continued.)

ELEVEN IMPORTANT WILD DUCK FOODS.

Fourth Paper.

By W. L. McATEE.

EEL-GRASS.

Value as Duck Food.

Few who have written of the habits of sea brant have failed to mention its fondness for eel-grass. The relation between this species of bird and plant seems to be as close as, if not closer than, that existing between the noted fresh-water pair, the canvasback duck and wild celery. So far as investigations of the food of the brant are concerned the published record is thoroughly substantiated. All normal stomach contents of the common brant thus far examined consisted exclusively of eel-grass. Other salt-water fowl also feed on eel-grass, as the surf and white-winged scoters. Six birds of the latter species collected at Netarts Bay, Oregon, had made 43 per cent. of their last meal of it. The list of other ducks feeding on the plant includes the golden-eye, old squaw, bufflehead, mallard and black duck, the last-named species sometimes devouring the seeds of eel-grass in large numbers. The stomachs of 5 black ducks collected at Amityville, Long Island, N. Y., in October and November, contained on the average more than 66 per cent. of eel-grass seeds, the number of seeds per stomach varying from 700 to 4,000. Eleven birds taken at Scarborough, Me., during the same months had eaten enough eel-grass seeds to make up 51 per cent. of their food. In three cases fully 2,000 seeds had been taken. Thir-

teen ducks of the same species collected in Massachusetts in January and February had taken eel-grass, including both seeds and leaves, to the extent of more than 11 per cent. of their food. The wigeon, a species which prefers foliage to the seeds and roots of aquatic plants, sometimes visits salt water to feed upon this plant. Five of these birds taken at South Island, South Carolina, in February, had made one-fourth of their meal of the leaves of eel-grass.

Description of Plant.

Eel-grass (*Zostera marina*) consists of bunches of long tapelike leaves which rise from a jointed fibrous-rooted creeping stem (Fig. 13). The leaves bear a strong superficial resemblance to those of wild celery, but they are rarely more than a fourth of an inch wide, while those of wild celery are seldom as narrow. The leaf of eel-grass, furthermore, is tougher and more leathery than that of wild celery. When a mature leaf is torn across, numerous white fibers may be seen at the broken ends. Wild celery lacks these. The color of eel-grass leaves is olive or dark green, that of wild celery clear light green.*

The leaves grow in small bundles

*Under the microscope the leaves of these two plants are very unlike. The *Chlorophyll* granules of *Zostera* are arranged in regular longitudinal rows, and the edge of the leaf is smooth. The *Chlorophyll* granules of *Vallisneria*, on the contrary, are irregularly arranged and the edge of the leaf is sparingly beset with minute teeth.



Fig. 13.—Eel-grass.

from the end of the rootstock or its branches, and may reach a length of 6 feet. The rootstocks, which usually are reddish, have joints about every half inch, at which they are easily broken. The numerous fibrous roots spring from these joints. Seeds of eel-grass are formed in sheaths alongside the leaves. They are about one-eighth of an inch in length, are placed end to end, and are barrel-shaped, with the surface conspicuously longitudinally ribbed (Fig. 14). Eel-grass has numerous common names, among which we may cite sea-wrack or grass-wrack, sea-, sweet-, barnacle-, turtle- and wigeon-grass.

Distribution.

Eel-grass is strictly a maritime species. In its natural habitat it is cosmopolitan. In North America it is found from Greenland to the Gulf of Mexico, and from Alaska to California.

Propagation.

This plant grows only in salt water. It is common along shores facing the open ocean, but also grows in bays and



Fig. 14.—Seeds of Eel-grass.

even lagoons where the water must be far less salt than the sea. The seeds are not well protected against drying and for that reason are unsuitable for transplanting.¹ Moreover, unless they can be

¹They undoubtedly can be preserved in cold storage in salt water, but considering the limited use that can be made by seeds on account of the heavy wash along most shores, this probably would not be profitable.

sown in a very quiet place the chances are against securing a catch. The rootstocks, however, are rather tough and resistant and, furthermore, can be fastened to the bottom. They must not be allowed to dry, but should be shipped wet and handled as rapidly as possible. Bury or fasten to the bottom in water a few feet deep where there is little surf. Once established the plant will spread to more exposed areas.

More game and fewer game laws.

THE GRAYLING.

By Hon. M. D. BALDWIN,

Game and Fish Commissioner of Montana.

The game and fish commission having recently planted in the waters of Flat-head valley nearly a million grayling fry, it may be of some interest to the public to give a brief description of this beautiful fish known for its active and gamy qualities as well as for its delicious flavor.

There are three species of the grayling found in American waters, the Michigan Arctic or Alaska, and Montana Grayling. The grayling agrees very closely with the Salmono idea in external character and habits, and they are regarded by some as intermediate between the white fish and trout. Only the Montana grayling receives the attention of fish culturists. Its technical name, "Thymallus tricolor montanus," is said to be due to the fact that it feeds on water-thyme—which it smells very strongly of when first taken out of the water. St. Ambrose, the bishop of Milan, calls the grayling "the flower of fishes," and the French call the grayling "ununble chevalier," and say he feeds on gold.

There is no species of fish sought for by anglers that surpasses the grayling in beauty. They are more elegantly formed and more graceful than the trout. The caudal fin is strongly forked, its coloration is gorgeous and their great pluce-like dorsal fin is of remarkable beauty. The color of the back is dark grey, with purplish reflection; the sides of the head and body are lighter, with purplish iridescence; the belly is pure white, and there are a few v-shaped black spots on the anterior of the body; a dark heavy line, most distinct in males, extends along the upper border of the belly from ventral to pectoral fin. Its crowning glory, its immense plume-like dorsal fin, is dotted with large brilliant bluish purple spots surrounded with splendid emerald green, which fade after death.

The Montana grayling is native only in streams emptying into the Missouri river above the Great Falls, principally

in Smith or Deep river and its tributaries in the Little Belt mountains, the Sun river, Jefferson, Gallatin and Madison rivers and their affluents. It prefers streams of clear cold water. The spawning season of the Montana grayling is in April and May, depending upon the temperature of the water. In the North Fork of the Madison river the water is comparatively warm, and the grayling spawns a month earlier than in other waters of Montana.

The artificial propagation of Montana grayling was begun at the United States Hatchery at Bozeman in 1898, and in 1899 upwards of four and one-half million fry were distributed from this hatchery. The number of eggs varies from 2,000 to 4,000 to the fish.

As to its game qualities, the Montana grayling is regarded as fully the equal of the brook trout and cut-throat trout. It puts up a good fight, and often leaps above the surface of the water when hooked. It takes the artificial fly, grasshopper, angle worm and similar bait. The best artificial flies to use are those with bodies of peacock, or yellow-bodied flies, as Professor, Queen of the Water, brown and gray Hackle and the like. Small flies should be used on hooks Nos. 10 and 12. Grayling may be taken from May to November, the best time being in the summer. The average size of this fish is from ten to fourteen inches in length, and from one-half to one pound in weight, although many attain a length of twenty inches and a weight of two pounds or more.

The grayling is not native to the waters west of the Rocky mountains, but several years ago fry from the Bozeman hatchery were planted in Georgetown Lake, an artificial body of water about eighteen miles from Anaconda. This lake is nearly ten miles in length and about one mile in width, and the success of the grayling in this lake has been re-

markable. Georgetown Lake is now fairly alive with grayling, which afford rare sport to the Butte and Anaconda anglers. This lake is also well stocked with cut-throat, rainbow and eastern brook trout, and owing to the abundance of fresh water shrimp and other fish food in the lake, there is no reason why its reputation as a fishing resort should deteriorate.

To Mr. E. P. Mathewson, chairman of the game and fish commission, more than any other, is justly due the credit for the fish prosperity in Georgetown Lake.

Hon. Walter M. Bickford, of Missoula, also a member of the fish and game commission, has written a very interesting article about the Montana grayling which was published in the last annual report of the American Fisheries society. The anglers of Montana are indebted to Mr. Bickford for the good work he has accomplished in the matter of stocking the waters of Montana with trout and grayling, and it is with much gratification to the writer to serve upon a board

containing men like Judge Bickford and E. P. Mathewson, who have so disinterestedly and zealously devoted their time and best efforts towards making Montana the best State in the Union for those fond of the rod, gun and field sports.

Grayling fry have heretofore been planted in several of the streams of Flathead county, but with what success we are unable to say. Nearly three years ago, Grayling fry were planted in Bitter Root Lake near Marion and to-day many grayling are being caught in this lake.

Owing to the success of the grayling in Georgetown as well as Bitter Root Lake, it is believed desirable to stock our lakes with grayling as well as trout, hence the large consignment of grayling just received from the Anaconda hatchery will be planted in the lakes of Flathead county, and it is the purpose of the game and fish commission to keep the waters of Flathead county well stocked with grayling as well as other desirable fish.

THE MOUNTAIN QUAIL.

By HAROLD C. BRYANT.

The mountain quail, sometimes known as the plumed quail or mountain partridge, is the largest and most beautiful of all the members of the quail family found in North America. The bird is found throughout the mountainous districts of California from the Oregon line to the Mexican line. Along the northwest coast region this quail is of a darker color and is, therefore, considered a different variety. This coast form is usually called the mountain quail by scientists, whereas the one found in the Sierras is called the plume quail. As a rule the mountain quail of the Sierras dwells above 5,000 feet altitude, but during the winter season it is found lower down and sometimes even associated with valley quail. The coast form dwells at much lower altitudes. On the eastern bases of the southern ranges the moun-

tain quail occurs about springs well out on to the desert.

From other quail found in California the mountain quail may be distinguished by its large size, rich chestnut throat and flanks, sides broadly banded with white, and by the long crest plume made up of two jet black feathers. Whereas the crest of the valley quail hangs over the bill, that of the mountain quail is either erect or pointed backward. The two sexes of the mountain quail are so near alike that the two are hard to separate unless a close view of the crest can be had. The crest of the female is considerably shorter.

The mating season begins the latter part of March or the first of April. By May nests are to be found. They are constructed of leaves, pine needles or grass placed in a small depression and

usually under the protection of an overhanging rock, log, bush or tuft of grass. From six to fifteen eggs of a pale reddish buff color are laid. The earliest date at which a complete set of eggs has been found is April 7, and the latest August 15. The usual statement that an egg is laid each day is probably not literally true, for, at least in one case, additional eggs were found in the nest every other day.

During July and August young mountain quail are very much in evidence. They are cared for by one or both of the parents and some people believe that the male bird sometimes cares for a brood while the female is incubating a second set of eggs. The young, unlike adults, often take flight and seek cover in trees or brush. When well hidden one may almost step on the little fellows before they will fly.

Mountain quail are noted for their altitudinal migrations. Even before the snow begins to fall flocks of the birds may be seen traveling to lower altitudes. They travel almost wholly "on foot," usually following along the ridges. By October 1 most of them have abandoned elevations above 5,000 feet, and when the winter snows arrive they have found a habitat far more congenial. In the early spring and summer they begin their upward journey. At this time of year they are seldom seen in large flocks, but ascend singly or in pair and follow up the ridges as the snow melts from the ground.

The food of the mountain quail consists very largely of vegetable matter—seeds, fruit and leaves. A very few grasshoppers, beetles and ants are taken. The mountain quail is a vigorous scratcher and will jump a foot or more from the ground to nip off leaves. In the fall the service berry is a staple article of diet.

The large size and exquisite coloring of the mountain quail make it an at-

tractive bird to the hunter. Its flesh also is excellent, being declared juicier than that of the valley quail. The scarcity of birds and the difficulty attendant upon reaching their habitat alone deter many from hunting this quail. As a rule mountain quail when hunted in the brush run some distance before flying and then rise singly, so that only one can usually be killed at a shot. Hence a limit bag is hard to obtain. However, when these quail are numerous in the foothills during the winter they sometimes become so befuddled that they can be driven into a shed or cage and captured by hand.

In former years mountain quail were very numerous and were commonly sold on the markets in San Francisco. They were trapped in the high Sierras and sent to the markets alive.

Owing to the migratory movements of the mountain quail it is only just that the season open earlier in the foothills of the Sierras than in the coast region. Otherwise the birds are not available to the hunter on the western slope of the Sierra Nevada. In the coast region the migratory movements of this quail are not so noticeable and there is not the same necessity for an early season.

The rapid diminution in the number of mountain quail has already given hunters and others considerable concern. A few years ago a close season of five years was given this bird. When the season was again opened an increase of birds was to be noted. Apparently the main thing needed with such a prolific species as the quail is proper protection. There should always be a home for the mountain quail, for it inhabits the uncultivated districts and is therefore not subject to any great degree to the destructive forces of encroaching civilization. A short season and small bag limit with an entire close season for a term of years when the species is too greatly reduced should be sufficient to ensure the permanency of this beautiful game species.



CHINESE PHEASANTS.

By Professor W. H. OLIN,

Industrial Commissioner D. L. & N. W. Ry. and Ex-Professor Agronomy, Colorado Agricultural College.

The pheasant, especially the Chinese ring-neck and English varieties, are the most valuable insectivorous birds, as well as the most attractive and eagerly sought game bird of all the species that can be reared in captivity or in a semi-domestic way and be kept in the district in which it is propagated.

The great majority in numbers and kinds of the insectivorous birds are migratory—are only with us a short time—while the pheasant, especially the kinds above mentioned, become attached to the locality and will breed and remain there as long as they are protected and can secure food.

Thousands of these gorgeously plumed pheasants with a wealth of feathered adornment, some of which shine in the sunlight as burnished gold and bronze or many shadings, with grace of form and carriage, (the private property of W. F. Kendrick, in charge of his game keeper), are kept on exhibit at City Park, Denver, for the education and entertainment of the visitors. Thousands of tourists as well as local people visit this exhibit and carry away many pleasant memories, giving City Park an international reputation, yet few realize their economic value other than their beauty, which always appeals to the finer sentiment and love of nature's inimitable handiwork. Within another year the popularity of the pheasant because of its usefulness, which even exceeds its great beauty, will become extensively recognized throughout America.

The pheasant is naturally an insectivorous bird, and where such food is obtainable he will eat comparatively little else.

The variety of the insect food of the pheasant is larger than any other bird, so far as known. Investigation showed that over 130 species of insects, including earthworms, are eaten by the pheasant,

and doubtless many more will be found to share in its menu.

In addition to this it is especially fond of small rodents, such as field mice, young gophers and small snakes. In England a number of pheasants have been found choked to death in the attempt to swallow worms larger or longer than they could manage; also several pheasants have been found dead, choked on small rodents.

The keeper of most any large pheasantry has seen his pheasants catch mice that were stealing the grain from the birds. This is verified by Mr. Fred Barnett, superintendent of the pheasantries at City Park, Denver, Colo. Mr. Barnett says that a pheasant hen will catch and destroy a mouse as quickly as a cock pheasant or cat, as he has frequently watched them in the act. They usually pick the head off first, then tear and eat the body or swallow the small ones whole.

Among the insects destroyed by the pheasant are included smelling bugs, that most birds will not touch—this makes these birds more valuable to the farmer than any other.

Prominent among the pests ravenously destroyed are the Colorado potato beetle, the squash bug, the cucumber beetle, the bean leaf beetle, tomato worms, cut worms and the millers which deposit the eggs for the wire worms. The pheasant also digs for and eats the wire worms, as it does all ground worms and bugs, and practically all kinds of ground beetles. Most birds avoid the potato and other bad smelling bugs on account of their obnoxious odors, but the pheasant hunts and eats them.

The Southern people are importing the pheasant to eat the cotton boll weevil and its larvae, stating that one pheasant will eat as many of the destructive pest as a number of quail. Many of the in-

sects that are injurious to the corn crop are destroyed by the pheasant, and the pheasant will not attack the grain or ear of the corn until late in the season, after insect food is scarce.

The professors of agronomy of our agricultural colleges state that the chinch bug, which destroys \$100,000,000 worth of wheat annually, is hunted and eaten by the pheasant, both summer and winter; also the bugs and insects which destroy the foliage, especially of ground plants and crops of the farmer.

The difference between the pheasant and the ordinary fowl in eating insects is largely that the pheasant is continually hunting for the eggs and larvae of insects. In the grain fields and meadows the insect eggs are usually laid on the under side of the leaves of the plants. The pheasant as it passes through the growing grain keeps its head near the ground and turns one eye up and the other down so it sees the larvae and eggs on the under side of the leaf. It takes hold of the leaf with its bill, throws its head up and clears the plant of the eggs and larvae without injuring the leaf; thus in one stroke destroys four or five or possibly one hundred embryo insects and in a single meal often destroys many thousands of insects in the egg and larvae form, which, when matured, would have destroyed a large amount of crops, and furnish enough bug food for a turkey gobbler for several years. The pheasant destroys the pests before they do any damage to the farmer's crops; the turkey and common poultry afterward.

Pheasants are fond of grasshopper eggs, especially those of the locust, that deposit their eggs in the earth in dry places, and also larvae of any insect that may be found there. Pheasants in captivity have been known to dig up light ground, where there were many larvae, so that they dug under the fence four inches in the ground. On examination this ground was found to contain insect eggs and larvae of insects.

The pheasant chooses the dandelion and the bulbs of buttercups as two of its greatest vegetable delicacies. He eats but comparatively few buds from bushes and trees, excepting in severe winters.

In this way he is quite different from the grouse. Of the grasses he has liking for white and red clover, alfalfa and red and yellow sorrel, but when there are plenty of dandelions and buttercups he will make those his principal vegetable diet.

In the winter time pheasants can be seen turning over forest leaves and examining them and picking off the larvae of different tree insects deposited on the under side of the leaves; also picking over the top soil around bushes and trees for the bugs and larvae.

Along the streams and wet grounds the pheasant finds many snails and crustaceans for food. The pheasant being a terrestrial, it eats mostly from the ground or within twelve inches of same when food is abundant, and seldom eats grain, such as wheat, oats and barley, until late in the season, after it has been harvested and threshed, when insect life is scarce. It cleans up the grain stubble fields, being especially fond of buckwheat, millet and common ordinary wheat, and when hungry will eat most any kind of grain, including beans.

Tegetmeier says: "The value of pheasants to the agriculturist is scarcely sufficiently appreciated; the birds destroy enormous numbers of injurious insects—upwards of 1,200 wire worms have been taken out of the crop of a pheasant; if this number was consumed in a single meal the total destroyed must be almost incredible.

"There is no doubt that insects are preferred to grain. One pheasant shot at the close of the shooting season had in his crop 726 wire worms, one acorn, one snail, 9 berries and 3 grains of wheat. From the crop of another pheasant 440 grubs of the crane fly and the daddy-longlegs—these larvae are exceedingly destructive to luscious vegetables. From the crop of another pheasant 48 snail shells were taken. Eight young vipers, weighing about one-fourth of an ounce each, were taken from the crop of a hen pheasant.

"An instance is reported in the London field of a pheasant which, when found, had swallowed about six inches of a viper, whilst about eight inches of the tail part of the reptile was protrud-

ing from the mouth of the bird; both the bird and the viper were dead.

"Another instance is recorded of a pheasant which, on being killed, had no less than 1,225 leather jackets—a most destructive larvae—in its crop.

It is fond of carrots, potatoes, beets, cabbage and turnips in the winter time although if dandelions are fed to caged pheasants they will eat them in preference to most any vegetable food, roots and all.

The pheasant is also very fond of many of the wild weed seeds, such as legumes, thistles, especially the burr thistle, wild carrots, sunflowers, wild lettuce, mayweed, marsh elder and mustard seeds.

As a table food, and also as a game bird, the pheasant has been held as the leading bird for these two qualities by the kings, royalty, wealth and educated people of the world for more than two thousand years as being of the greatest sport and richest delicacy. No other bird has held such a position, and it will be a long time before any other bird can gain such distinction.

The home of the Chinese ring-neck is largely in the mountains, as well as in the valleys of China, and they are accustomed to very severe weather, as it inhabits the high altitudes, and yet adapts itself to the lower altitudes, as low as sea level. It is a thoroughbred bird and has been imported into England in considerable numbers to breed up the English pheasant.

Chinese ring-neck pheasants are doing well, liberated in the mountains of Colorado up to 9,000 feet altitude.

The Feathered World, London; Frank Finn, F. Z. S., says: "The Chinese pheasant, like his human fellow countrymen, is very hardy, and will thrive anywhere, bearing the cold of a northern United States winter and the heat of a Bengal summer quite well. It is also a good breeder and bears confinement well."

The government statistics show that the damages done to the growing crops by insect pests, largely owing to the destruction of insectivorous birds, is estimated at something like \$800,000,000 per annum. This amount would feed and care for many millions of pheasants and other insectivorous birds.

At the last annual meeting of the New York Zoological Society \$60,000 was given to be used entirely for the study of pheasants and the best methods to be adopted for the introduction and distributing of these birds into the United States.

In a number of States the next Legislature will be asked to pass liberal appropriations for propagating the pheasant and other insectivorous and game birds and the distribution of literature to instruct and aid the people in the hatching of the eggs and rearing of the birds about their country homes.

If every farmer, landowner and bird-lover in the country would either secure a setting of pheasant eggs and hatch them under a common hen and rear them like young chickens, or buy a pair of these birds, the problem of how to destroy insects would soon be solved, and I would recommend that farmers avail themselves of this economic opportunity.

FUR FARMING.

J. E. BRIGGS.

Fur farming for profit, or the successful raising of fur-bearing animals in captivity has now passed the experimental stage; the average well-informed man has heard of the fabulous fortunes made during the past decade in the raising of silver black foxes on Prince Edward Isl-

and, and now this industry alone has extended to the country adjacent thereto and grown to large proportions, hence we find that fur farming is rapidly coming to its own, and will in the future form a splendid field of labor for many intelligent young men who possess a

fondness for healthful country life and a warm place in their hearts for the most beautiful and interesting of our country's fast disappearing wild animal life.

In years gone by our sturdy pioneers depended largely upon the furs of wild animals for clothing for themselves and families and also for the furnishing of their homes. While the march of progress has made these same furs largely articles of adornment, the advent of the automobile and its general use together with the increasing custom and desire for out of door life adds an ever-growing demand for fine, warm furs.

The ever onward rush of our civiliza-

tion, the converting of nature's "silent places" into the haunts of men has naturally crowded our fur bearers back like "Lo the poor Indian" almost to their extinction, therefore it becomes imperative that man come to their assistance if this and future generations are to wear furs.

Surely the practical fur farmer has a golden opportunity before him.

[The propagation of fur bearing animals requires the same amount of industry which is needed to save the game and make it plentiful and cheap in the markets. Since the fur bearers are destructive to game many of them should be bred in captivity. Where the fox is preserved as a sporting proposition he should be bred wild.—The Editor.]

THE CALIFORNIA VALLEY QUAIL AND INTRODUCED GAME BIRDS.

By GEORGE NEALE,

Assistant, California Fish and Game Commission.

Civilization and population forcing itself westward and into communities where game is or was once abundant, make new measures necessary in order to protect the existing game fauna of California. When these measures are not taken, history shows that certain species, those most easily killed or captured and those whose reproduction is less prolific, will be eventually exterminated.

The band-tailed pigeon is a good example of a species nearing extinction. This bird was once almost as numerous in California as the passenger pigeon was in the eastern and middle states. Only a remnant of the former numbers now remains. The records of the cloud-obscuring flights of the passenger pigeon seem like a fable, except to those who have seen and know. The few remaining mourning doves, once so numerous in California, furnish another example of the passing of species. The western mourning dove, sometimes called Carolina dove, is nearly as strictly migratory as waterfowl. Especially in northern California is the dove a resident species. It nests throughout the State but its win-

ter home is the southwestern portion of the United States as far as Mexico. The writer has seen the fall migration through New Mexico and along the line of the Mexican Central Railroad from the Rio Grande nearly to Mexico City. It is true that some doves remain in the southern valley portion of the State the whole year, as do a few migratory ducks and other birds.

Our laws have not given the dove proper protection. We have permitted them to be killed in the nesting season and on the nesting grounds, in what we term the open season. If this killing were permitted on the northern breeding grounds of the ducks and other waterfowl, what a protest would be made from California! From my own observation it is a conservative statement to say that the dove and band-tailed pigeon have decreased eighty per cent. in northern and central California in the last twenty-five years.

The most flagrant cause of the near extermination of species is to be found in the unthinking or uncaring attitude of the people of the State. An added factor to be considered is the fact that cer-

tain species are not prolific in their reproduction, rarely having more than one or two eggs. Hence, in many seasons the whole, or at least part of the total increase of these birds may be destroyed by predatory animals or by human beings. This is true not only of the family Columbidae to which the dove and pigeon belong but of the family Ardeidae (egrets, herons, etc.) which are so much sought for by plume hunters, especially in the mating season. These birds are of a confiding nature, easily approached on the nest, and so make an easy prey to the gunner or netter. Consequently, our efforts should be centered in protecting those birds which are under natural disadvantages. But this is not enough: all of our game birds need to be intelligently conserved.

The protection now given many species of migratory birds by the United States Department of Agriculture have a beneficial effect in perpetuating those birds not entirely exterminated.

The only game bird that has proved itself able to survive in the face of all the obstacles presented by encroaching civilization is the California valley quail (*Lophortyx californica*). This bird is able to care for himself under any and all existing conditions if given a square deal. It adapts itself readily to all conditions, and is the peer of any game bird in the world. This bird is also capable of taking the conceit out of any champion at the traps, and makes a dog well-trained on other game look like a tyro. It uses judgment in flight, when flushed, which a military expert would call masterly; and even when wounded it shows all the qualities of a strategist. Always willing to match its brains against those of the gunner, it, in most instances, meets with success. In egg production the valley quail excels all other game birds, not excepting the pheasant, partridge, grouse or sage hen, scarcely ever laying less than eighteen eggs at one year old, and at three years frequently laying twenty-two or more eggs. Furthermore, it usually succeeds in hatching and raising all or a very large percentage, and frequently hatches a second brood. This is nearly always the case if the first nest

is destroyed. Quail eat almost any seed or wild berry. Noxious weed seeds are destroyed in great numbers; hence they are most useful birds to the farmer, orchardist or vineyardist. I believe the quail ranks highest as an insectivorous game bird.

The quail is one of the only game birds which is attracted by civilization, and if not molested this bird will make its home near a farm cottage. The valley quail is king of all he surveys, pugnacious to a high degree, and will hold his own against any other bird encroaching on his domain. He is always true to his mate, is invariable non-polygamous and always chooses his own mate in captivity or freedom. This bird has survived a four months' open season with a bag limit of twenty per day, or 140 per week. It has been hunted with the best dogs in the world, chased with something like 121,664 automobiles fully armed, and rapid fire automatic and pump guns in the hands of 159,164 hunters. It is surely a marvel that any of these birds still remain.

The range of the valley quail in northern California is from sea level to 3,000 feet above, rarely ever being found above this elevation. The valley quail is not migratory, except under adverse food conditions. Only at times do they wander far from their feeding grounds, and they invariably return each season to the place where they were raised.

In over thirty years' experience in the field with this bird, from the south line of its range to its northern limits, I have never seen a sick or diseased valley quail. They are strong moulters, and this perhaps insures their being practically immune from disease. Of all the gallinaceous birds, *Lophortyx californica* is the fittest representative of the game bird family. Hence he will continue to prove the survival of the fittest. If the time ever arrives in California when all our game is on the verge of extermination, this grand game bird will be one of the last to disappear.

Our efforts to avert this rapid extermination of bird life by the introduction of new species of game birds into California has not met with success commen-

surate with the expenditures of money. One reason for this may be the pugnacity of native game species. Wherever other varieties of game birds not native to California have been introduced on lands where California valley quail live, failure has always followed. This bird will always fight against the usurpation of his territory by other birds. It will attack a cock pheasant as readily as a small bird. Hence there are good reasons why it should be the one dominant game bird.

The following instance of pugnacity on the part of the valley quail has come to my notice. Mr. Hollenbeck, of Ryer Island, California, who is a great lover of birds and animals, encouraged a large band of quail to remain on his land by prohibiting shooting. He fed the birds every few days, and they became so tame that they even came inside the house when called. In fact, they were so tame as to almost be a nuisance. Knowing Mr. Hollenbeck's fondness for birds, I obtained for him some ring-necked pheasants. The quail, however, have driven away these pheasants, so that they are now to be found only in localities where quail are not found.

There may still be another reason why introduced game has not increased. Many people believe that all that is necessary in the introduction of a game bird into any locality is just a matter of securing the species to be introduced, giving the birds their liberty and awaiting favorable results. But the fact that a Master

Hand has not only distributed game birds and animals, but has adjusted the flora and fauna of the universe to certain life zones most suited to their existence, is often overlooked. We must know the conditions and seek to introduce such birds as will thrive under them. No game bird has as yet been introduced into California which has proven to be adapted to the geographical and climatic conditions obtaining here.

One of the principal reasons for our failure in the introduction of game birds in the past has been that none but ground-roosting birds have been selected. As a result they have been attacked by predatory animals. These latter are possibly of a larger variety and more numerous in California than in any other State. The valley quail has at some time had to adapt itself to these conditions. This bird is now a tree or bush-roosting bird, and this makes it practically immune from the depredations of these numerous animals. On the other hand the Hungarian partridge, bobwhite, pheasant and other quails are ground-roosting birds. Therefore these birds are subject to depredations from the many animals which roam and feed at night and cannot obtain the foothold which they should in California.

Let us keep in mind our experiences of the past and see that birds more suited to our conditions are introduced—or, better still, that such hardy birds as the California valley quail are sufficiently protected to make stocking with foreign game birds unnecessary.

NOTES FROM THE GAME FARMS AND PRESERVES.

One of our New York wild duck breeders writes: "I have a great deal of trouble with the wire enclosures which I had for my ducks as the wire rots out in one season when it is in the water. Can you tell me where we can get the best wire for this purpose? I have the regular one-inch galvanized mesh wire but it does not seem to be much good."

The letter was referred to the supply

department. There seems to be two methods of galvanizing wire one of which is much better than the other. It has been said that none of the galvanized wire made recently is as good as the wire made a few years ago, and that most of it rusts quickly. We should know what wire is the best and we shall be glad to hear from our readers if any of them have found a wire which will

stand moisture for several seasons without rusting. Our idea is that readers of *The Game Breeder* should have the best of everything from guns and ammunition to pole traps, coops and wire and other appliances. We are quite sure they are getting the best game birds and eggs from our advertisers and we shall be glad to know what wire is the best. This only can be determined by those who use wire.

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A member of the Fishers Island Club says: "Our pheasants at the club were doing very well indeed and we had over 2,800 young birds growing well, but a few days ago the same disease struck them that they had last year, a scale insect that they pick up on the shrubbery cleans them out at the rate of about a hundred a day and there seems to be no way of eradicating this insect that we can find."

This matter should be investigated by the Bureau of Animal Industry of the U. S. Agricultural Department.

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Notes for our game census are coming in more rapidly than they did at first. We are surprised at many of the returns. People we believe had only a few birds report a few hundred. There are far more in the thousand class than we thought there were. Any one who visits the game breeders and club preserves where there were a few birds last year will often be surprised at the big numbers this season if he visits the breeding grounds. This is especially true of the small breeders who are breeding for commercial purposes. It also is true of many small clubs and individual preserves. The number of these is increasing rapidly. Our readers are again requested to send in their reports of the amount of game they own. A post-card will do. We are sending out thousands of letters and thousands of extra copies of *The Game Breeder* but the truth of the matter is the work is much bigger, more difficult and expensive than we believed it would be.

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In many States which have not yet enacted our game breeders' laws we find

the breeders are not eager to have it known how much game they own. They do not care to have game officers visit them and arrest them or threaten them as has been done in some instances. Although they believe, as we do, that they own the food they produce, they are aware that some ignorant game officers are still inclined to make trouble. Under these circumstances it is highly important that we should not publish the names of hundreds of breeders and we have decided to only publish the total amount of game owned by breeders in the different States.

It is gratifying to observe that there is a decided change of sentiment throughout the country and that outside of a few benighted regions where old-fashioned game officers still hold office, no objection is made to the game breeding industry. In many places it has become popular and is favored not only by those who get game to eat but by sportsmen who find the "overflow" surprisingly attractive.

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One of our California readers writes that he purchased several thousand wild duck eggs last spring from our advertisers in three Eastern States. He says one large lot of eggs from a New England State came through in good condition and that sixty-five per cent. of the eggs hatched. Another lot of eggs did fairly well but one lot of a few hundred eggs purchased from a third dealer did not produce a single duck. He thinks the eggs were held too long before being shipped and that they were shipped too late in the season. As he says in his letter Eastern breeders when they receive orders from California and other distant States should ship their eggs quickly after they are laid and they should also send eggs laid early.

Contracts for eggs should specify the date of delivery. It is certainly unfair to accept an order for eggs early in the season and to not deliver the eggs until June. We had a complaint about such a late shipment of a few thousand pheasant eggs which went to one of the Central States.

The Game Breeder

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EDITED BY DWIGHT W. HUNTINGTON

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OUR GAME CENSUS.

Work on the game census is proceeding rapidly and we are more and more surprised as the returns come in at the amount of game now owned by individual breeders, game farms and shooting clubs. When Charles Hallock, the dean of sportsmen, wrote us stating that in his opinion our long fight for more game and fewer game laws had been won we could hardly believe that this keen old observer was right. The game law industry in many States which resulted in the enactment of hundreds of new restrictions appeared to be still flourishing and at times it seemed to offset the game breeders' enactments. We were not fully aware how many breeders there were in some States where the industry had been legalized and we were not as fully posted as we now are about hundreds of game breeders in States where they appear to be conducting their industry without waiting for the enactment of breeders' laws.

It appears that hundreds of thousands of game eggs were sold by breeders last spring and since the increase of game is geometrical when it is properly looked after it is safe to say that in two or three years at most America will be the biggest game producing country in the world.

The pheasants and wild ducks appear to be the most abundant according to re-

turns thus far received but this is quite natural since in some States it still is criminal to look after quail and grouse profitably.

There are, however, hundreds of thousands of quail on the game farms and preserves conducted by our readers and the bags run over a thousand birds at many places.

Enough elk and deer are now owned by breeders to quickly supply the New York markets with venison as soon as the law permits the sale of this desirable food.

The figures of our census will prove a valuable aid to those interested in securing permissive legislation. They should disarm the pessimists who lament the loss of the game and seek large appropriations in order to secure more restrictions.

MORE GAME IN MINNESOTA.

No good reason can be assigned why Minnesota, the land of sky-tinted waters, with its thousands of lakes and ponds which reflect the image of the sky, should not have wild fowl, grouse, quail and other game birds and venison cheap and plentiful in the markets during six months every year. There is an abundance of land and water suitable to the game which was abundant and if a very small part of the vast area of the State can be utilized to profitably produce the desirable food the State game department can be made of great economic importance, the people can have plenty of game to eat at moderate prices and the sportsmen of all classes will be tremendously benefited as they have been in other States which have enacted game breeders' laws and which are already beginning to have game for sale in their markets.

There is no reason why the sportsmen should continually face an impending prohibition of sport. They should get busy and go in for "more game and fewer game laws."

We refer especially to Minnesota because it appears just now there is a movement in that State for the profitable production of game. The other States

which do not permit and encourage game breeding should of course enact a game breeders' law as many of the States have.

FAITH AND WORKS.

We are gratified at the increasing number of letters endorsing the magazine which come in the mail from new readers.

We print in this issue part of a long letter received from a Virginia reader who says The Game Breeder is the best magazine he has ever read.

It always occurs to us when we read these voluntary testimonials that the magazine is by no means what it should be and what it can be made provided our readers will back up their faith with works. Many of them are doing this. They not only tell their friends about the magazine but they take their money and send it, with the request that we add the new names to our subscription list. Not a week passes without our receiving such orders and they are most encouraging.

We hope our readers will always bear in mind the fact that the magazine can be made far better, far more influential than it is when the number of our readers is increased and we have the money to do the necessary work.

Our advertisers write often to say the magazine is "it," or words to that effect. We are always glad to learn that they are getting good returns. If they did not we should not want them and we are quite sure they would not want us. It is important, therefore, for those interested in the "more game" campaign to deal only with those who advertise. It is not a bad plan to sign all letters, "Yours for more game."

TOO BAD! TOO BAD!

The game keeper of one of the game breeding associations in Pennsylvania writes to know if they can send game to the New York market. We believe the courts would say yes to this inquiry, but the New York laws say no, and absurd as "the fool" law seems, it might be executed. The Constitution of the

United States has attempted to emphasize the fact that we all are people of one country and that we should exercise common sense and the spirit of fair play in dealing with each other. Those who make a business of tinkering with game laws, however, have arranged to have pheasants and other wild foods shipped to the New York markets from foreign countries but they say no American farmer can ship such food to this market unless he lives within the State. He can buy the eggs and hatch the birds but he must keep them and not ship them.

A budding young statesman once said to the writer, "This is protection, good Republican doctrine, you know." Good Republican damned nonsense, we observed (in an undertone, however), because at the time we hoped to convert the bud who had a vote on a pending measure intended to put an end to the absurdity. To state that the law is intended to be a protection to the New York farmers, who now sell their food in New York, is to point out the fact that the law is clearly unconstitutional, because the Constitution says citizens of the several States shall enjoy equal rights and immunities. The only way such laws are ever held to be constitutional is to do a little lying about them and say they are not intended as discriminations, protecting residents, but that they are purely police regulations intended to save wild food birds which might be stolen or eaten.

MORE LAWS OR MORE GAME?

We are strongly of the opinion that the sportsmen who gather at State conventions are likely to succeed in getting what they want. If, for example, they decide to get more game laws restricting or prohibiting field sports they may acquire a vast number of these laws. At the Maine convention one of the orators deplored the fact that they seemed likely to restore the 700 local laws which were repealed a short time ago.

Of course the game politicians are interested in seeing that the sportsmen get what they want provided they are will-

ing to stand for increased revenues, and more wardens to see that the laws are executed. When the sportsmen become aware, as they have in some States, that a great variety of restrictive laws does not result in an increase of game; when they become aware that so long as any good shooting is permitted such legislation can not produce good results but that it must result in extermination, they no doubt will decide to go in for fewer laws and for "more game." In many places where the profitable production of game has been encouraged by legislation the sportsmen who look after the game shoot big bags during long open seasons and they sell some of the game to help pay expenses. The result is that much of the game on the "noisy sanctuaries" departs to restock the surrounding country and the producers being fair minded and liberal are glad to see the game shot on unprotected areas, and they are glad to see the laws restricting sport repealed so that the shooting seasons can be long for every one. The shooting on Long Island, quite near New York, is improving because a number of clubs keep up the stock of game.

CORRESPONDENCE.

Editor Game Breeder:

I promised to let you know how the experiment with duck eggs from the East turned out.

One lot, shipped here fairly early, hatched fairly well—sixty-five per cent. of the total number. The next lot, two weeks later and not carefully packed, hatched only fifteen per cent. Still later we hatched twenty-five per cent. These eggs were from Connecticut.

The best results were with an incubator, and quail eggs in the machine at the same time made an eighty per cent. hatch.

A lot of eggs from Wisconsin produced only eight per cent.

A lot of 300, shipped from New York on June 30th, and all placed in an incubator, failed to show life in a single egg. A few quail eggs in the machine for the

same period all hatched to-day. Do you think I should pay for this lot of eggs?

My conclusions from the experiment are that if the eggs are shipped from the East while still fresh, and early in the season, with some care on the part of the express company, they can be hatched here and produce good birds.

I certainly wish to try it another year on a large scale, if I can have any assurance of obtaining the eggs early, and that they will be sent as fast as gathered instead of being held there a couple of weeks to accumulate a large number. It is a long way to send them and the dealers ought to give special consideration to a customer at this distance, instead of leaving him till the last. There is a great field for this business here as the wild ducks have greatly diminished in number. It is the lack of a home-breeding stock which has made the mallard a scarce bird here although it furnished a large part of the shooting ten years ago.

Very truly,

California.

C. H. SHAW.

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The Best.

Editor Game Breeder:

The July and August numbers of The Game Breeder came duly to hand. Allow me to state it is the best magazine of its kind I have ever read, and my hope is that it will reach all the good sportsmen in the country, and that even those who are not sportsmen will read it and become interested and that it will open their eyes to the vanishing game of our country and they will talk the subject up with their neighbors and co-operate to save what is left by propagation and protection.

D. H. SELDEN.

Richmond, Va.

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Editor Game Breeder:

I have just renewed my subscription to The Game Breeder.

I have not forgotten that you asked me to write something of my experience with American green-wing teal ducks in captivity. I have a female teal duck incubating now on 6 or 7 eggs and barring accidents I shall be successful I think this year. Last year I got fertile eggs

but so thin-shelled nothing short of an incubator could hatch them, but this year I solved that problem and my eggs look to have good shells. I will write an article for The Game Breeder in a few weeks and I think I have learned some things about teal, at least, that are not found in any of the books on the breeding and rearing of wild ducks.

A. F. WARREN.

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Editor Game Breeder:

I am interested in anything pertaining to bird or wild animal life, and I predict for you great success, both for your paper and the Game Conservation Society.

Denver, Colo. W. F. KENDRIC.

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A DEER TROUBLE.

Editor Game Breeder:

In reply to your inquiry as to how I keep and feed my deer I will say that I keep them in a four-acre lot of natural timber of several different kinds of trees, such as oak, elm, ash, basswood and box elder, but the trees are large so the deer cannot reach very many of their leaves. And the ground is covered with all kinds of weeds that would grow in natural timber, also wild gooseberries and buck bushes. It seems to me it would be an ideal place for them. They have plenty of salt and fresh water.

In winter I give them clover hay and cornmeal and bran mixed with a little condition powder that is recommended for horses, cattle and sheep. The lot they run in also contains blue grass, timothy and white clover. They show no symptoms of sickness and will eat well until they get so weak that they cannot stand up. The season of the year don't seem to make any difference.

My deer are the North American white-tailed deer or natives of this part of the country. My idea of the matter is that they get too much blue grass and timothy and would do better in a dry lot the whole year round.

When I bought these deer they were kept in a small lot that did not contain any green vegetation and they were fed alfalfa hay and bran and meal. They

were sleek and fat but when I turned them in my lot they just seemed to go downward until I have lost about half of them.

I also have a herd of buffalo and would like to know if they require salt or not. My buffalo are in very fine condition at present.

JOHN REINHART.

[We believe the trouble must be with the food (possibly with the condition powder). The fact that the place is overgrown with weeds and gooseberries indicates that the deer do not eat these. If they did they would soon clear the lot. Evidently they can not reach the trees and they certainly would do better in a brush lot full of small trees. Mr. James W. Greggs, a successful Iowa breeder, says "blue grass and timothy are useless." He plants red clover, mustard, rape and seeds of different kinds of weeds and says corn is the principal grain he feeds. A number of deer breeders say that pure running water is highly desirable for deer. Mr. Reinhart's letter has been submitted to a number of successful deer breeders and we hope to print their opinions as to the cause of the trouble.—Editor.]

[We hope to print the article referred to in our October number.—Editor.]

What do you know about this? At the Minnesota State Fair we understand \$250 will be given in prizes for wool and \$900 for dog prizes.—Rural New-Yorker.

Quite a sporting affair. — Game Breeder.

Lady (at the telephone)—I want my husband, please.

Voice from the Exchange—What number, please?

Lady—He's my third, if you wish to know, you impudent thing.—Australasian.

"Why do you think he has a family tree?"

"Because he's a nut."

"Is that dog of yours intelligent?"

"Yessuh," replied Erastus Pinkley. "He kin do everything but talk, an' sometimes when he's been out late wif me in de evenin' I's kind o' skeered dat he might take a sudden notion to do dat."—Washington Star.

Our Game Census.

Returns for the game census are coming steadily but not as rapidly as we would like to see them. Some days only three or four breeders report. The special reporters at work in several States soon will bring up the number and we hope to publish the result in our special fall number, October.

One of the reports which came to-day from California is especially interesting because of the variety of birds owned by the breeder. We are quite sure Mr. A. J. Merle will not object to our publishing his list. We hope it will result in stirring up the more tardy breeders who can save us hundreds of dollars if they will send their reports in response to our printed notices without waiting to hear from our special enumerators. Mr. A. J. Merle (and not the State) owns the following:

Mountain Quail	4
Valley Quail	4
Ringnecked Pheasants	3
Prince of Wales Pheasants	3
Versicolor Pheasants	4
Silver Pheasants	5
Reeves Pheasants	2
Milanotos Pheasants	3
Impeyan Pheasants	2
Tragopan Pheasants	2
Manchurian Pheasants	3
Golden Pheasants	3
Swinhoe Pheasants	3
Amherst Pheasants	2
Siamese Fireback Pheasants	2
Peacock Pheasants	3
Mongolian Pheasants	4
Hungarian Partridges	2
White Peafowl	2
California Wild Doves....	100
White-winged Doves	8
Other doves, including	
Crowned Pigeons	60

223

The largest number of game birds reported by an owner is a little over 900. A number of the clubs, no doubt, will beat this figure. We have been surprised at many of the returns. Some experimenters whom we thought had only a few pairs of ducks and pheasants have

reported hundreds. The figures in all of the States are running higher than we thought they would. The number of new breeders owning farms who joined the Conservation Society in July was 74. Many new members will start game breeding this year as the letters seeking information indicate.

Beg Pardon; Three Kinds.

California Fish and Game says "there are two kinds of conservationists: the conservationists of the folded hands and the conservationists of the clenched fist."

If a "folded-hander" can be considered a conservationist at all (we do not so regard him) there certainly are to-day three species of conservationists. The "clenched-fisters" are usually loud shouters, who, like the fat girl in the side tent, undoubtedly often take in a good deal of money, but we have failed to observe where they have saved any game. It has vanished so rapidly that it seemed to us it might have been scared by the noise of the "clenched-fisters" out hollering for "stuff."

The third class of conservationists, the game breeders, go quietly about their work of production and restoration. Already they have produced hundreds of thousands of elk, deer and wild food birds and they are beginning to supply the dear people (who have been told that they own the game) with good big consignments for the table.

The advice given by California Fish and Game that those who have the welfare of our resources at heart join some society is good. The list is not so good; it gives the Humane Society and local Audubon associations as desirable societies. The National Association of Audubon Societies should have been mentioned first of all. It is of more importance than all the others put together. The Game Conservation Society and all of the game breeding associations in the country now are aware that the National Association of Audubon Associations favors their industry and there can be no doubt whatsoever that America soon will be the biggest game producing country in the world.

OUTINGS AND INNINGS.

The codfish lays a million eggs,
 While the helpful hen lays one;
 But the codfish does not cackle,
 To inform us what she's done;
 And so we scorn the codfish coy,
 But the helpful hen we prize;
 Which indicates to thoughtful minds
 It pays to advertise.

—Credit Lost.

The Butcher—I have some fine canvasbacks to-day, ma'am.

Mrs. Newlywed—Do you sell them by the yard?

Puns as He Pays \$140 Fine.

"A dear deer," commented Elmer Dingo of Bulls Bridge to-day when fined \$140 for shooting a deer.—The World.

Teacher—Now then, all together, once more: "Little drops of water"—and for goodness sake put a little more spirit into it!—Melbourne Leader.

Judge—Where have I seen your face before?

Prisoner—I am the dentist who pulled your tooth last week.

Judge—Fifteen years!—Credit Lost.

"My boy has the whooping cough."

"That must worry you."

"Well, maybe it's all for the best. When he's whooping he can't ask questions, and I get time to read up on the inquiries he has already made."—Washington Star.

A Prize Contest.

What State has the most "fool game laws?" The Game Breeder offers a fully paid up life membership in the Game Conservation Society and a year's subscription to the magazine to the first one who answers this question correctly. Three noted game law experts, each one of whom is said to know 5,000 more game laws than any lawyer now living, will be asked to judge this contest.

**This is the Hunter's Practice Month**

The game season will soon be here. Prepare for it now. Make sure of a full bag. Be ready to drop your bird when the fun starts. Get out your gun. Go out to the gun club and true up your aim. Get your arms—your eyes—and your mind—in alignment. Practice makes perfect and

TRAPSHOOTING

is perfect practice. Learn to hit the flying clays. Combine training, pleasure, recreation and sport. If a gun club's not handy get a

DU PONT Hand Trap

—a simple, practical, portable device that throws all kinds of targets from easy gliders to "birds" that tax the skill of an expert.

JOHN D. BURNHAM

President of the American Game Protective and Propagation Assn.

says:

"The hand trap gives a shooter the kind of practice that he can get in no other way except on the birds themselves. I have seen some great improvement in field shooting in cover as a result of a moderate amount of hand trap practice."

\$4.00 at your dealer's. Sent direct postpaid, if he can't supply you.

Write for Booklet 354S

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PHEASANTS WANTED

Two thousand English Ring Necked Pheasants. Kindly quote price and particulars. "A", Roslyn, Long Island, N. Y.

WILD MALLARD DUCKS—DECOYS; GOOD FLYING strain. 100 birds, \$110.00; 12 birds, \$15.00; (less, \$1.87½ each), no limit. Order now and from this advertisement. Send draft. Shipped Mondays. Eggs in season, \$10.00 hundred, March 1 to July 15. C. E. BREMAN CO., Danville, Ill.

WE HAVE A FINE LOT OF PINIONED PHEASANTS for sale. Prices on application. THURSTON COUNTY GAME FARM, Olympia, Wash. H. W. Myers, Supt., R. F. D. No. 1

PHEASANTS—Having plenty of breeding stock. Golden, Silver and Ringneck Pheasants, I would take a position on a Private Estate or Club to raise game, commercial or otherwise. W. M., care of The Game Breeder, 150 Nassau Street, New York City.

YOUNG GOLDEN PHEASANTS FOR SALE at reasonable prices. C. SIEGLER, Bangor, Wis.

GAME EGGS

BOOK YOUR ORDER NOW FOR CHINESE RING-neck pheasant eggs, Oregon's famous game bird. \$3.00 per dozen, \$20.00 per hundred. OREGON BIRD & PHEASANT FARM, Beaverton, Oregon.

GOLDEN AND RING-NECK PHEASANT EGGS for sale. cheap. CONNECTICUT FARMS PHEASANTRY, Union Union County, N. J.

FOR SALE—PHEASANT EGGS FOR HATCHING. Golden and pure Lady Amherst. One pair year old hybrid birds for sale. E. R. ANDERSON, So. Hamilton, P. O., Mass.

PHEASANT EGGS IN JUNE, \$4.80 PER HUNDRED. THOS. COWLEY GAME FARM, Mawdesley, Ormskirk, England

GAMEKEEPERS

HEAD GAMEKEEPER OR SUPERINTENDENT—wanted by experienced man as above, 20 years' first-class character in England and America. Understand raising of all kinds of Game and Ducks, training and management of Dogs, trapping of all kinds of Vermin. B, care of The Game Breeder, 150 Nassau St., New York.

POSITION WANTED AS SUPERINTENDENT OF large estate or game preserve by a professional forester and gamekeeper. Very capable man with fish and game production of all kinds; also breeding and training sporting dogs. Excellent trapper. Highly recommended. Address SUPERINTENDENT, care of the Game Breeder, 150 Nassau Street, New York.

GAMEKEEPER—LIFE EXPERIENCED REARING land and water fowl, training and handling high class shooting dogs, conditioning for shows. A-1 rearing puppies, well up in veterinary, competent manager of club or private estate. Distance immaterial. J. H. W., care of The Game Breeder, 150 Nassau St., N. Y. City.

GAMEKEEPER—WANTS SITUATION FOR NEXT season. Skilled in pheasant and duck rearing. Will be open for employment January 1st. Reason for changing position is desire to get a change of climate for family. A. E. JAMES, care of The Game Breeder, 150 Nassau St., New York City.

HEAD GAMEKEEPER, SCOTCH, WANTS SITUATION. Thoroughly experienced in rearing pheasants, wild ducks, turkeys and partridges; 26 years' experience. Can be highly recommended. R. J. M., care of The Game Breeder, 150 Nassau Street, New York.

GAMEKEEPER REQUIRES SITUATION, UNDER-stands all duties. Best references from Europe and this country. Address M. F. care of The Game Breeder, 150 Nassau Street New York.

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HEAD GAMEKEEPER, SCOTCH, WANTS SITUATION. Thoroughly understands Pheasant and Wild Duck raising, (will rear Pheasants by contract), Incubators, management of deer, rearing and training of dogs, vermin trapping. Well recommended. Address W. S., care of The Game Breeder, 150 Nassau St., New York City.

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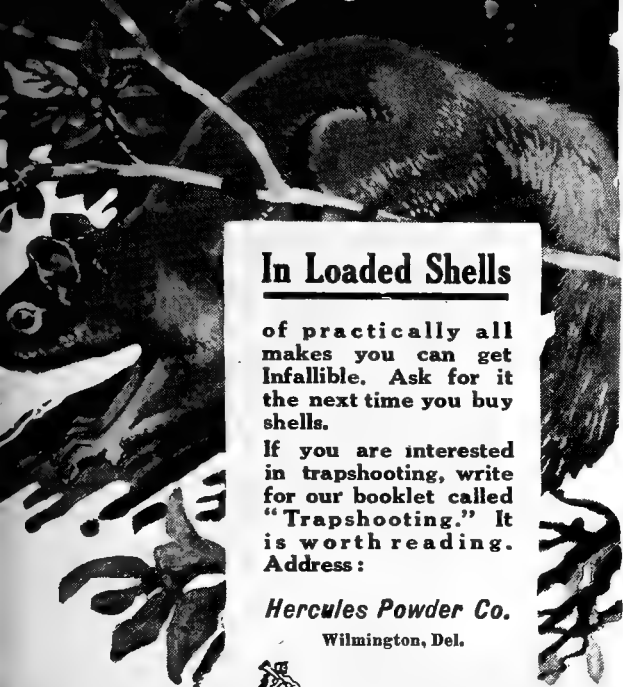
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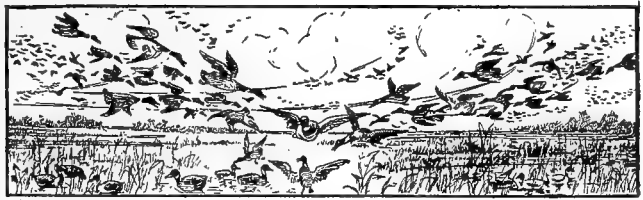
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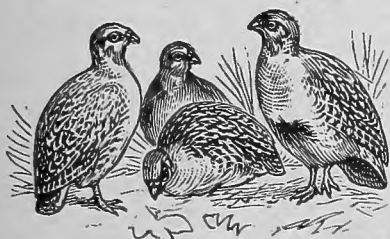
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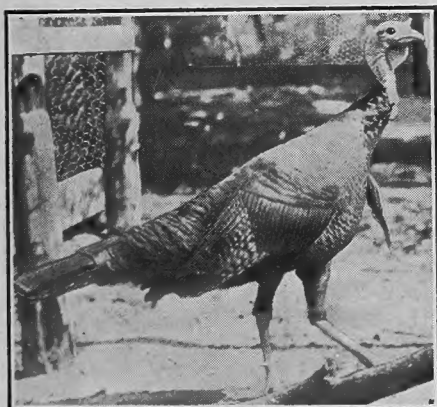
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