

TEXAS *Game AND Fish*



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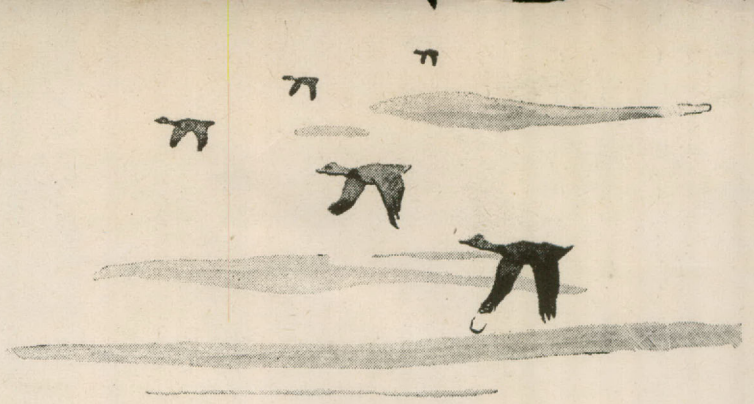
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Austin, Texas

TEXAS Game AND Fish

A MONTHLY MAGAZINE DEVOTED TO THE PROTECTION AND CONSERVATION OF OUR NATIVE GAME AND FISH; AND TO THE IMPROVEMENT OF HUNTING AND FISHING IN TEXAS.



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COVER—Original Painting
By ORVILLE O. RICE

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ROGER M. BUSFIELD
Editor

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HUNTING

Flying Foxes

in the

PACIFIC AREA

By A. J. NICHOLSON

FLYING foxes are in reality bats, but because of their size and habits offer sporting opportunities comparable to some of the hunting in the States.

Flying foxes occur on most of the temperate and tropical islands of the Pacific. There are many different species, of a variety of colors and sizes; several species attaining a size of a pound and a half to two pounds, with a wing spread of three and a half to four feet. Flying foxes live exclusively on fruit and flowers and are more technically known as fruit bats. Fruit bats are called flying foxes because of their fox-like face. For the most part, these animals are nocturnal, flying after dark in search of food; but unlike their smaller counterpart, the cave-dwelling, insect-eating bat, they rest in trees during the day. The flying fox is gregarious, ordinarily living together in large numbers, although individuals are occasionally found living alone. Flying foxes live in forested areas known as camps. As many as 10,000 to 20,000 animals have been reported as living in one camp in Australia. I know of several camps where anywhere from twenty-five to two or three hundred bats can usually be found, and I visited one camp site in which there were between 1000 and 1500 animals. Still another camp, seen from a distance, perhaps contained 2000 or 3000 flying foxes. Camp sites are usually located in heavy timber, frequently covering several acres, and are often quite inaccessible. The animals roost in the tallest trees in the forest. Camp sites are utilized year after year, although the number of animals found in a particular camp may vary somewhat with the seasons since the animals tend to migrate with the food supply and seasonal changes.

OSCAR maneuvering along a branch. Flying foxes travel around trees in this manner.



OSCAR, a pet flying fox, just folding his wings around himself preparatory to going to sleep. Flying foxes always hang head downward.

Perhaps you do not think it would be very sporting to hunt animals that congregate in such numbers. I have found, however, that it is quite thrilling to see several hundred, perhaps a thousand bats circling above me; to try my hand at pass-shooting as they leave the roost; to attempt to shoot them through the small openings in the foliage above or to try my skill as a rifle marksman on a bat, gently swaying in the breeze, high in the tree tops.

For the shotgun enthusiast, bat or flying fox hunting is somewhat similar to grouse shooting except the shooting is on the vertical rather than the horizontal. One must be as quick on the trigger to shoot a flying fox through the openings in the foliage as to shoot a grouse as it dodges behind a tree or bush.

To get the most out of this type of shooting it is best to quietly approach and enter a camp area being careful not to disturb too many bats. This is not always an easy matter, however, as these animals have extremely sensitive ears and, unlike their insect-eating cousins, can see very well in the daytime. As already indicated, camp sites are often inaccessible and frequently have a thick undergrowth of brush which makes quiet progress extremely difficult. Once one is within the camp site, a loud noise will frighten the animals from the roost. When frightened the animals take off in a short, downward swoop, then start circling to gain altitude. Ordinarily they circle twice before taking off for new territory. The fun begins in this interval

of circling; snap-shooting at momentarily glimpsed forms as they glide over the narrow openings in the foliage some 50 to 100 feet above.

Promiscuous shooting through the foliage is almost useless, for, unless one makes a clean hit, he is not likely to get the animal. Flying foxes can carry away an astonishing amount of lead. If a bat is brought down but not killed outright, it will ordinarily clutch a branch as it plunges through the trees. Frequently it is necessary to shoot such animals again in order to get them down. This should be attended to right away too, for in the heat of shooting, it is very easy to forget the exact location of a wounded animal. Wounded bats usually move to a cluster of leaves and hang there quietly, perfectly camouflaged.

The flying fox, also, furnishes some

their shots as the animals pass over them upon leaving the roost. Even under such ideal conditions as this, the hunter will not always get his game.

If you are a rifle enthusiast, hunting flying fox with a .22 rifle will test your marksmanship. Hunting the flying fox with a rifle is somewhat comparable to squirrel hunting. Like the squirrel, a flying fox, with its wings all folded around itself, high in the tallest tree, offers a very small target. Head shots are almost essential to securing the game, too. When shot through the body these animals will almost invariably fly away. When hunting with a .22 rifle, several shots can usually be secured in each camp site, for rarely will the sound of a .22 frighten all the bats away. If all the bats do leave the roost, and there is no more disturbance than a few .22 shots, it



FLYING FOXES are found in thick, heavily wooded places.

Flying foxes are in reality bats but because of their great size offer the sportsman hunting opportunities comparable to some hunting in the United States

a habit that flying foxes have of clustering together, much like a swarm of bees, when it is cold or during heavy rains. Under such conditions the animals sometimes roost much closer to the ground than they ordinarily do. I have never witnessed this clustering together, but natives and white residents have repeatedly assured me that the animals act in this manner.

Natives, hunting primarily for food, like to lie in wait for flying foxes on the feeding grounds during the season when the guava is ripe. The guava is the fruit of a low-growing bush and is relished by the bats. At night, flying foxes sometimes gather in large numbers on these bushes. Because the flying fox requires a certain amount of drop in order to take off, it is possible for the natives to shake the animals to the ground and club many before they can again get far enough up on the bush to take off.

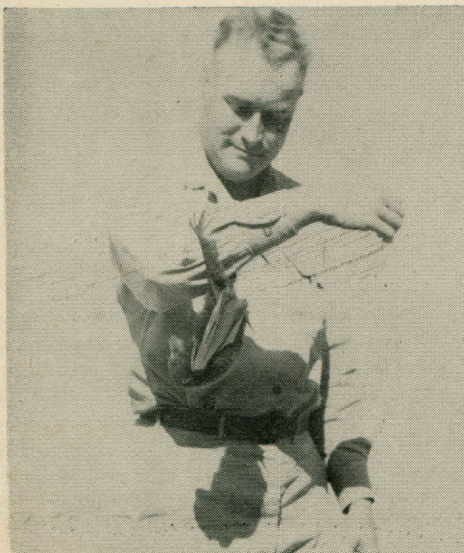
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excellent pass-shooting for those that prefer that type of shooting. Even though the flying fox is a relatively slow flyer, it flies high and will veer off its course at the slightest movement on the part of the hunter. Pass-shooting is sometimes done just at dusk, as the animals come off the roost on their way to the feeding grounds. Tricky light conditions and the evasive flight will cause one to miss many a shot. Some excellent pass-shooting can also be obtained during the daytime, under better light conditions, if there is more than one person hunting. The same procedure for approaching and entering the camp site is used as that outlined above for snap-shooting, but some of the hunters establish themselves on a nearby ridge, taking

is only necessary to wait fifteen or twenty minutes for some of the animals to return.

Unless you are out after meat (and the meat of these animals is good eating) it is best not to take a native with you. Natives prefer to sneak up on a tree filled with bats and kill as many as possible with the first shot. I have seen as many as twenty-five or thirty bats in one tree and on occasions when collecting specimens for various U. S. museums I have killed six or seven with one shot. A Mission Father told me he once killed 68 flying foxes with one shot. Actually he did not kill all 68 with the shot he fired but clubbed many of them after they had fallen to the ground. This feat was made possible because of

OSCAR, the pet flying fox, likes to hang from arm.



A FRIEND of the author with a freshly killed flying fox. This one has a wing spread of about three and a half feet.



Coral Fishing Banks

off the Texas Gulf Coast

By J. G. Burr

TOILERS of the Sea" is a notable story by Victor Hugo but it is not recalled that he devoted any time to seaside resorts or the fishing opportunities of the French coast. It was a story of toil and adventure. Perhaps Texas has the raw material of similar adventures of toilers of the Gulf but the creative faculty of our writers, as yet, has not been active in that direction. So, the Texas coast for the present is assigned the role of Playground of Texas.

It was not always a playground. In the days of the buccaneer, vessels had to go armed and fight it out with pirates. It was a battleground then. Most of the fishing at that time was in the bays and few had the hardihood to venture upon the open seas. Just how long piracy continued after the expulsion of Jean Lafitte from Galveston, in about 1821, the writer is not informed. In this connection it is to be noted that the Republic of Texas had a navy and its most valued work, it is said, was to shoot away or sink pirate vessels. The little war ships were making the Gulf safer for fishermen who dared to extend their operations beyond the chain of islands that hug the coast. An early U. S. government report mentions the late forties as the probable date when "fishermen ventured into the Gulf of Mexico in pursuit of snappers."

If you are not familiar with sea-food menus the word *snapper* may not be entirely clear. For, as you know, the eyes snap, a dog snaps and there is the cold snap and the gingersnap. A person may say his job is a snap but the word "snapper," according to the dictionary, means any of the various flesh-eating, bass-like edible fishes of tropical seas. It is a deep sea fish of the great family of the Lutianidae, of which about 250 species are known. The vernacular name of the Gulf species to be considered is Red Snapper and the technical name is *Lutianus campechanus*, suggested no doubt, by the Campeche fishing banks of Yucatan, easily the most important in the Gulf. There the coral shoals are abundant. On these and other rocky shoals are the feeding grounds of the red snapper, a voracious fish that subsists on animal life, including small fishes, shrimp, and the polyps that grow on the coral. Contents of the stomach are easily learned for when a fish is brought to the surface from a depth of 200 feet or more its food is disgorged

as it lies on the deck. Bottom pressure being relieved, the fish is in a relative vacuum.

In the development of the snapper industry the introduction of ice was the first great step in broadening the boundaries of the fishing grounds so that they could be caught from as far as the region of Tortugas, Florida, on the east to the western end of the Campeche Bank, some 700 miles from Pensacola.

Port Aransas and Port Isabel boats visit nearby shoals which are 40 to 50 miles away. Galveston also has some nearby shoals but the bulk of its catch is from the Campeche Banks 600 miles away and this catch approximates a million pounds annually. Writing on the subject fifty years ago David Starr Jordan declared that the "red snapper is, economically speaking, the most impor-

tant of all these fishes (snapper species) in the United States. It is a large, rather coarse fish, bright red in color, and it is taken on long lines on rocky reefs." Continuing, says Jordan, "These fishes of the warm seas are all carnivorous, voracious, gamy, excellent as food though seldom of fine grain, the flesh being white and not flaky."

The red snapper should not be confused with the redfish which inhabits the bays and nearby Gulf waters, and which, in the opinion of the writer, has a flavor inferior to that of the red snapper. Caught at depths as far down as 600 feet the snapper is the cleanest of all fishes, safely remote from the contaminating effluents of the shore lines. What a fish feeds on has much to do with its flavor and the connoisseur has been able to detect differences in the flavor of fishes taken from different fishing banks.

How to locate these feeding grounds in the broad expanse of the sea has been variously determined. One method of sounding to spot the shell bottoms, where fish are usually found, is to insert a piece of soap in a ring and drop to the bottom. When the ring is hauled to the surface the soap will reveal whether the bottom is muddy, or sandy, or whether small shells adhere to the soap. Such a method may be used even when the skipper is

armed with rather definite information of other kinds.

The U. S. Coast and Geodetic Survey has charts showing the shoals and coral beds of the sea bottom. From these charts it is possible to locate any bank by calculating the latitude and longitude. To facilitate the finding of some of the Gulf banks (there are many of them) the writer has prepared condensed charts, giving their direction and distance in statute miles from indicated ports; also, the latitude and longitude of each bank.

Difficult though it may be to locate a bank it must still be ascertained whether fish are present. An experienced fisherman tells how they do it. "They are found by the continual throwing of a lead line, carrying a baited hook. A man standing on the weather rail, supporting himself by a hold on the main shroud, swings the line, to which is attached a nine pound lead; he releases it as it swings under and forward, and lets it swing to the bottom, as a forty fathom depth is reached (about 240 feet), and the hand of the leadman comes over the lead, although the vessel may be moving forward three or four knots per hour.

"If fish are present and are hungry, they snatch at the hook, and one is brought to the surface. As soon as a bite is announced, a dory with one man,

A thorough knowledge of the Gulf and a strong back are needed for commercial snapper fishing.

provided with fishing gear, is at once launched, and if the fish bite well the smack is brought back to the spot and either anchored or permitted to drift broadside across the ground. When she drifts away from the fish, she is again worked to the windward, and the same process repeated until the fish cease biting or the fare is completed.

"This process of sounding is sometimes followed all day without success; and again the fish are quickly found. Sometimes six men will catch a thousand fish in a few hours, and at other times two or three hundred fish will be the limit of a day's hard sounding and patient fishing. When the snappers are spawning, they often are so abundant around the smack as to color the water, but refuse to take the hook, and in such times the only recourse is to search for other schools."

Some of these banks have been fished for nearly a hundred years, and as far back as fifty years ago there was the belief that the supply of snapper was "comparatively less than twenty years ago." The complaint seems to have been that they had to go farther and consume more time on the trips in order to obtain the accustomed cargo. To overfish a limited area is certainly a possibility and the logical thing is to move into virgin waters. Where the yield of snapper, gulf trout, redfish and

drum remains fairly constant over a period of half a century there is certainly no occasion for hysteria because of vanishing species. Only a breakdown in the feeding grounds of the ocean could occasion such a catastrophe. Such a breakdown is hinted at by Vaughan and Wells in Special Papers 44 where Crosslands is quoted as suggesting tentatively that the present epoch of reef corals is now drawing to a close, and that there is a world-wide decrease in vigor. This view is supported by Verwey's conclusion that the coral reefs in the Bay of Batavia are gradually disappearing.

Coral reefs are not formed in all waters when depths are favorable, but they do occur somewhere in all oceans. In the western Atlantic and associated areas, the Caribbean reef coral fauna proper occurs within the area bounded by the southeastern coast of the United States, the eastern coast of Mexico and Central America and the northern coast of South America. They are most abundant in the West Indies away from the continents, and in the Bahamas and the Florida Keys. There are about twenty genera and thirty-six species. At Dry Tortugas, Florida, there are about twenty-five species; at Vera Cruz, Mexico, ten

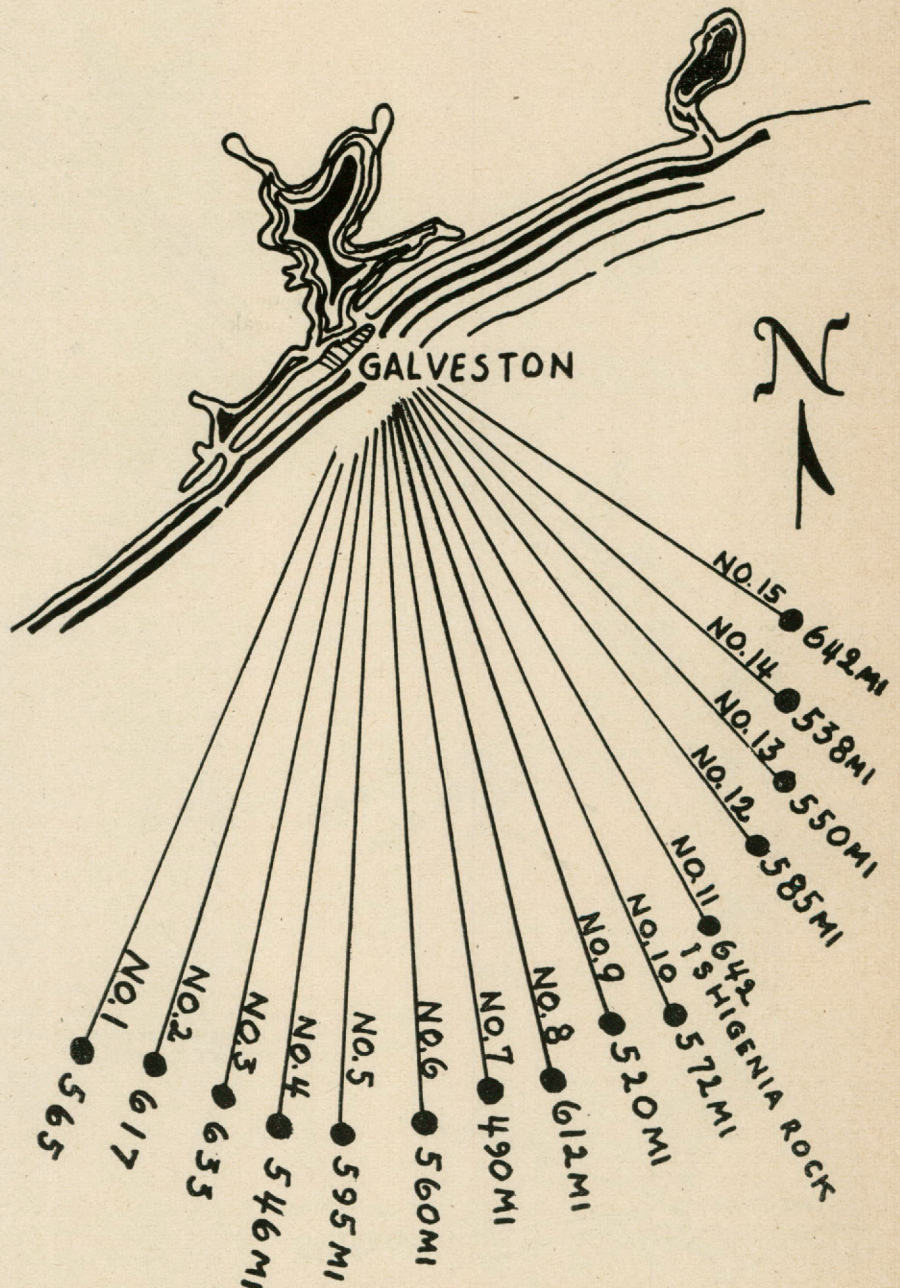
The reef coral referred to above is the kind of coral that builds reefs. There is another kind of coral that does not build reefs. They occur in all suitable waters and at greater depths than the reef coral. In the Atlantic basin the area includes the Gulf of Mexico, Caribbean Sea, the waters around the West Indies and the waters covered by the Gulf Stream as far north as Newfoundland. The total number of species is about eighty-four. The non-reef-building corals are called *ahermatypic*. The reef-builders are called *hermatypic*. They grow in the warm seas at no greater depth than about 150 feet and at a mean temperature of 68 degrees F. They must have clear water and are never found near the mouths of great rivers. The non-reef-builders grow in cold or warm water and at most any depth as far down as a mile or two where sunlight does not reach. Both of these types of coral are found on the feeding grounds of the Gulf but in what ratio of abundance they occur is not known. A majority of the shoals listed on my charts are in depths of less than 200 feet.

The recent war in the Pacific has made newspaper readers familiar with the atolls (ring-shaped coral reefs) and the coral islands on which our soldiers landed. How these are built up is explained in this manner: At the bottom of the sea is a volcanic ridge or peak round which grow and multiply myriads of tiny sea animals. As they die, their remains fall on the volcanic rock and build up a shoal or bank. When this bank grows up to within about 150 feet of the water surface, reef coral begins to grow and to take over to a large extent the building process which may con-

THESE LINES RUN FROM GALVESTON TO THE CAMPECHE FISHING BANKS.

The direction to each shoal is accurately drawn and the distance in statute miles is approximately correct. The shoals are numbered 1 to 15, indicating the Latitude and Longitude.

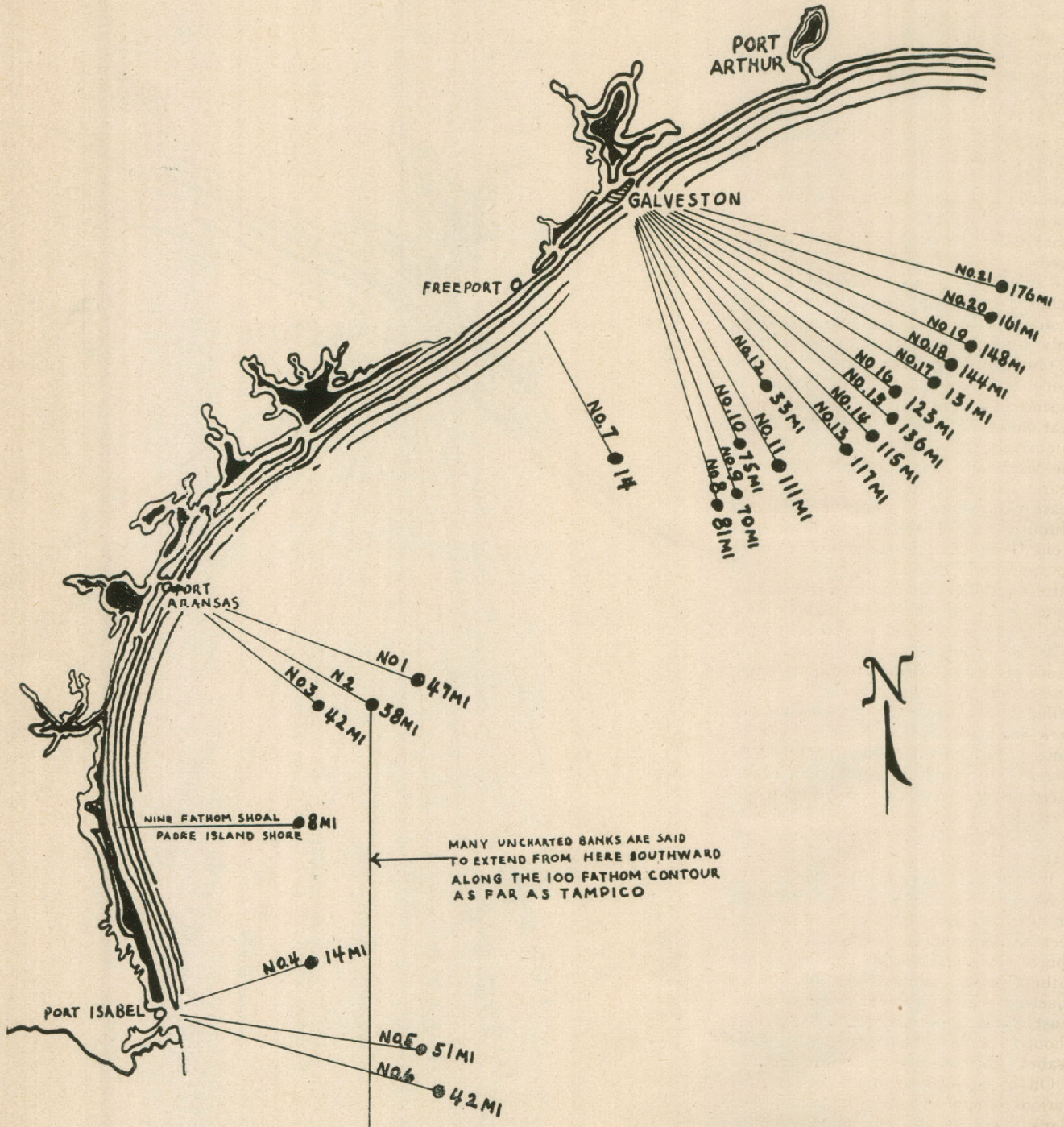
No. 1—Lat. 21° 23'	Long. 92° 11'	No. 9—Lat. 23° 00'	Long. 90° 10'
No. 2—Lat. 20° 43'	Long. 91° 55'	No. 10—Lat. 22° 30'	Long. 89° 41'
No. 3—Lat. 20° 33'	Long. 91° 52'	No. 11—Lat. 21° 58'	Long. 88° 37'
No. 4—Lat. 21° 50'	Long. 91° 56'	No. 12—Lat. 22° 45'	Long. 88° 56'
No. 5—Lat. 21° 22'	Long. 91° 05'	No. 13—Lat. 23° 19'	Long. 89° 14'
No. 6—Lat. 22° 09'	Long. 90° 48'	No. 14—Lat. 23° 51'	Long. 88° 38'
No. 7—Lat. 23° 12'	Long. 90° 50'	No. 15—Lat. 23° 08'	Long. 87° 16'
No. 8—Lat. 21° 43'	Long. 89° 55'		



THESE LINES RUN FROM PORT ARANSAS, FREEPORT, GALVESTON AND PORT ISABEL TO THE VARIOUS FISHING BANKS.

The direction to each shoal is accurately drawn and the distance in statute miles is approximately correct. The shoals or coral banks are numbered 1 to 21, indicating the Latitude and Longitude.

No. 1—Lat. 27° 40' Long. 96° 16'	No. 12—Lat. 28° 51' Long. 94° 32'
No. 2—Lat. 27° 33' Long. 96° 27'	No. 13—Lat. 27° 49' Long. 93° 40'
No. 3—Lat. 27° 25' Long. 96° 31'	No. 14—Lat. 27° 54' Long. 93° 36'
No. 4—Lat. 26° 03' Long. 96° 54'	No. 15—Lat. 27° 42' Long. 93° 20'
No. 5—Lat. 25° 47' Long. 96° 27'	No. 16—Lat. 27° 52' Long. 93° 27'
No. 6—Lat. 25° 46' Long. 96° 34'	No. 17—Lat. 27° 53' Long. 93° 19'
No. 7—Lat. 28° 50' Long. 95° 08'	No. 18—Lat. 27° 48' Long. 93° 04'
No. 8—Lat. 28° 10' Long. 94° 17.5'	No. 19—Lat. 27° 50' Long. 92° 54'
No. 9—Lat. 28° 22' Long. 94° 15'	No. 20—Lat. 27° 58' Long. 92° 36'
No. 10—Lat. 28° 20' Long. 94° 09'	No. 21—Lat. 27° 55' Long. 92° 23'
No. 11—Lat. 27° 54' Long. 93° 49'	



time until the surface water is reached. Islands are formed by storms which break off parts of the coral and sweep them into piles above the water surface.

"Above low tide the coral is dead. Beneath the 30 fathom line (180 feet) it is dead. But in between the skeletons there is a colony of millions and millions of delicate living creatures a 'submarine flower garden' of living, quivering, multiplying anemones, each with its circlet of subtle and sensitive tentacles."

This submarine life feeds on the animal and vegetable plankton in the water, and is in turn fed on by other animal organisms which constitute the food of red snappers and several other fishes, among them the groupers, the Jewfish and the warsaw. The warsaw is said to attain a weight of 600 pounds. Jewfish attain a length of six feet or more. The black groupers in Florida are called Jewfish but why any fish is called a Jewfish has not been explained.

To locate and bring in a load of these dwellers of the deep is a feat of no mean importance, especially for men not skilled in astronomical navigation. For the most part they set out from a point and by the aid of the compass, reach the various banks with remarkable accuracy. Where the good fishing places are is a secret the skipper will not divulge. The writer was informed in Galveston that the snapper dealers know only in a general way where a cargo is obtained. The skipper and his crew work on the shares and it is their business to make good but it is no secret that the Galveston boats visit and fish intensively the Campeche Banks. On the way out to Campeche other banks nearer to Galveston are also fished. The nearest one, shown on the chart as Number 12, is only thirty-three miles from Galveston and is no doubt fished by sportsmen as well as others. At any rate, to sum up the conclusion of the fishermen, in the salty language of the sea, "They fish the hell out of it."

A number of fishing banks have names. Near Port Aransas are three shoals not far apart. One of them is called "Old Hospital," because the snappers have cuts or bruises, presumably caused by bumping into the jagged edges of corals. A second shoal is called "New Hospital," for the same reason. The third one is not named but can be called the third bank. They are all forty to fifty miles from Port Aransas, a little south of east.

Near Padre Island is the "Steamer" or "Boiler," a small hump in fifty-four feet of water about seven miles from shore. It is sometimes called the nine fathom bank. Just off Port Isabel about fourteen miles is what is called the East Bank, and two others are located about forty-five miles southeast of Port Isabel. (For exact location see chart.)

On the Campeche Bank, shoals are variously named: English Bank, Pear Bank, New Bank, Granville Shoal, Alacran Reef, Snake Rock, and Iphigenia

★ Continued on page 21

Will Homo Sapiens Survive

WILL man maintain his dominance over the lower animal creation, is a question raised by Dr. Orlando Park of Northwestern University, in the October 19 issue of SCIENCE. The entire article is well worth reading but only a few excerpts are here given.

"Mankind is the dominant species of animal life in the modern world. In the course of a few thousand years—a fleeting moment from a geological point of view—he has beaten down all opposition and now occupies the position once held seriatim by fishes, dinosaurs and mammalian titanotheres of past epochs . . . What are we doing with our dominance? How long will this dominance last? Dinosaurs could not be expected to ask such questions, or find solutions for them. Man is accountable for his mistakes, and may not escape the consequences of cupidity by a plea of ignorance. Our plight is not so much a lack of ideas or imagination, as it is a consequence of hormones out of sociological control.

"Our brief past is crammed with a rhythmic succession of relative war and relative peace. What one civilization built was largely destroyed by the next. Whereas the dinosaurs competed against each other for such essentials as food, shelter and mate, man has amplified this basic competition and is showing real progress in the destruction of his own kind . . . On the day when the atomic bomb was discussed over the radio, the Rockefeller Foundation was appropriating money for the study of cancer. We increase the average span of life, ward off infection with sulfa derivatives and penicillin, and render living less arduous by all manner of labor-saving machines. In general, man is learning to kill or hurt more people in less time, and patch them up more efficiently than ever before . . . Suppose that we cannot stop killing one another in ever-increasing numbers? That the mental defectives continue to interbreed freely, that venereal diseases and other widespread ailments increase, that our will to destroy overpowers our will to heal—then the decline will be much more rapid than the decline of the dinosaurs, and another species or group of species will inherit the earth.

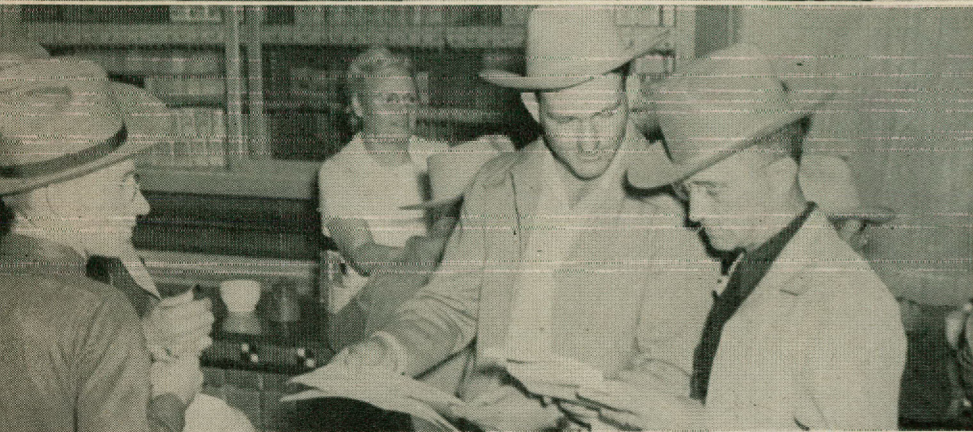
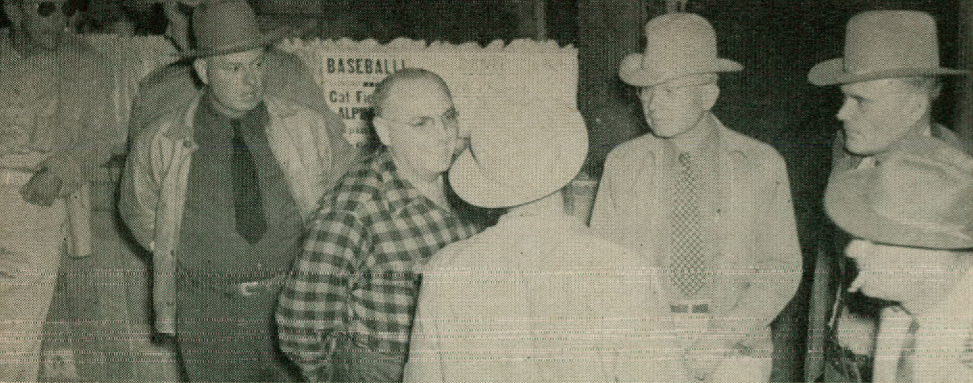
"If this human catastrophe should occur, the insects are available as the inheritors. (Reference is here made to "The Insect Menace," by L. O. Howard.) The political scientist and the sociologist have con-

cerned themselves almost entirely with the problem of internecine strife as between human groups, but the biologist is convinced that a greater danger is involved. All that we do toward our own destruction weakens our position in our struggle with insects. The insects may not assume dominance, even though the present climate prevail and the food supply is sufficient, but we can hardly kill all the insects before we have killed all the people, even though we use insecticides much more lethal than DDT. Furthermore we are not yet in a position to live without the insects and their allies.

"Granted that insects thrive on our increased agriculture, that in spite of the gain in insect control our losses continue to increase with advance of agriculture; granted that they act as hosts to many dangerous pathogens. We must not forget that insects are agents of pollination for many flowers, and hence are responsible for many fruits and vegetables; that, still more basic, insects and their allies play a vital role in the formation of soil. Hence we must live with insects in general, while attempting to control or eradicate those dangerous to our food economy and public health. This may not be done with mass flights of aeroplanes spouting insecticides, unless we wish to kill all the insects and take the consequences.

"Instead, this problem of insect control becomes an increasingly important phase of biology, of economic entomology utilizing powerful insecticides applied specifically. This implies a more enlightened insecticide-chemistry and an exact knowledge of the species ecology of many insects. It is a realm of exact research rather than of shotgun methods.

"So insects in general must live while we kill people, and when, or if, enough people are killed, a point will be reached where insect control weakens, and we are no longer strongest. It should be about here that man begins to fall as a world power, to enter the dusk of biological extinction, from which no previous species has been known to make a complete recovery. The act of species suicide, of course, will have been committed long ago and may pass more or less unnoticed at the time. Even now it may have occurred, but I do not think so. From the point of view of an academic biologist, there is still time to preserve the species, but not very much time is available for ensuring its dominance in the long future."—SCIENCE, October 19, 1945.



ANTELOPE HUNT

TEXAS hunters bagged 316 antelope bucks during the second controlled antelope hunt in the trans-Pecos area in October. Permits were issued to 526 hunters.

The first two day hunt was held in Brewster and Jeff Davis counties. Conditions were favorable and 115 antelope bucks were killed by the 125 hunters assigned to ranches in those two counties.

The second two day hunt in Presidio and Jeff Davis counties was rained out. The season was extended for a day and 138 antelope bucks were killed by 184 hunters.

Hunters assigned to ranches in Culberson and Hudspeth counties for the third two day hunt ran into inclement weather but 63 antelope bucks fell before the guns of 111 hunters.

Last year, 402 hunters were issued permits to hunt antelope bucks but only 328 hunters checked in at the ranches. They killed 316 bucks.

A BULL SESSION always precedes an antelope hunt. In the upper photo a group of hunters are discussing their rifles and the proper method of bringing down an antelope. In the next photo a representative of the Kokernot ranch is checking the hunters assigned to that ranch. The next photo shows the hunters again being checked by a game warden as they report on the ranch for the hunt. Hunters then receive their instructions from the foreman of the Kokernot ranch and in the bottom photo two hunters are checking their gear and waiting for a cup of coffee being brewed by a game warden. In the bottom right photo a hunter is drawing a fine bead on a buck.



AT THE CRACK OF DAWN hunters began to scan the countryside and horizon for antelope. On this particular day the visibility was not very good and some hunters spent almost the entire day locating a herd of antelope. After the herd was sighted the hunters drove to within shooting range and the hunt was on.



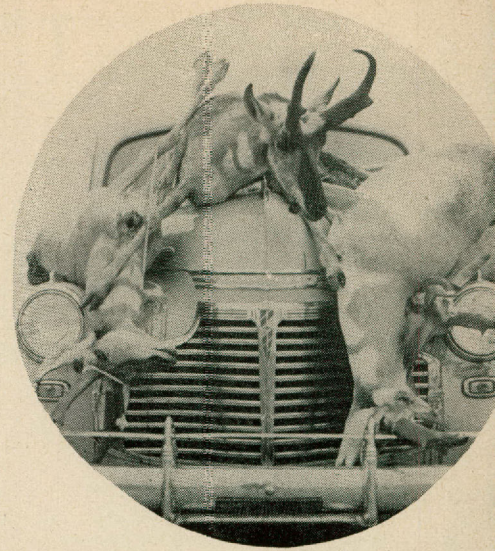
Left: This hunter believes in a steady rest for his shooting iron.

Right: Antelope clocked at 45 miles per hour.





THREE FINE BUCKS being taken to the weighing station and cold storage plant.



FORMER GOVERNOR DAN MOODY and former Speaker of the House **Emmett Morse** have their antelope hunting permits checked by a game warden. Both got their buck on the opening day.

A WORD OF

Advice

Some folks are laboring under the mistaken impression that knocking over an antelope is like going into the bottom pasture and taking a pot shot at a browsing milk cow. They think that all you have to do is to get a rifle, any kind, put a cartridge in the chamber, point it at Mr. Antelope, pull the trigger, and Mr. Antelope will fall down deader than a mackerel in one of Joel Hedgpeth's formaldehyde jars in the Rockport marine laboratory.

I don't know how that impression got around. But I do know that killing an antelope is no easy job, not even for some hunters who can take a Sunday off, go on his favorite lease and pick a dozing tick off a deer's ear at 100 paces. I know because I have seen hunters who thought they were crack shots score clean misses on antelope standing still and with eyes that fairly beamed a "come up and see me sometime."

Why did they score clean misses? Well, some just couldn't judge distance in the antelope country. Some didn't know much about their rifles except that the salesman told them that it would go off with an important bang when it was loaded and the trigger pulled. Some didn't know just how fast an antelope can go from one spot to another when he really wants to. And some apparently thought the antelope would get into the spirit of the gala occasion and fall down whenever the echo of a shot went booming over the prairie.

Every hunter should know his rifle, his game and the country he is going to



PROUD HUNTERS stand by as bucks are weighed at the cold storage plant. The average weight of the bucks killed was 70 pounds.



ANTELOPE LINE THE WALLS of this Marfa cold storage plant. After being weighed the bucks are tagged for identification purposes and placed in the storage vault to await the hunter's shipping instructions.

hunt in before he sallies forth to laden the table with the delicacies that can be found only in the field and forest. By knowing his rifle I mean that every hunter should know what it will do

caliber in this class. The rifle should have a good scope with cross hair or floating lee dot reticule to get the best results.

Properly equipped, and with the skill that comes only from constant association with your weapon in the field, every hunter should return next year from the antelope hunt with the trophy he wants.

And remember this. Everyone can't go antelope hunting every year. There

are only a certain number of bucks marked for the kill, and that number usually is far below the number of folks who want to pit their skill against the antelope. So if you are one of the fortunate few whose name is drawn for the hunt, then you should take full advantage of the opportunity and **GET YOUR ANTELOPE** because it may be years before you will have another opportunity.—C. E. WHITTON, State Game Warden, Laredo, Texas.



A HUNTER bringing in his trophy.

under all circumstances and conditions. He should be able to place a bullet somewhere in the vicinity of a bullseye at 50 yards and at 400 yards. He should know some of the characteristics and traits of the quarry he is going after. And he should have some knowledge of atmospheric conditions in the country in which he is going to hunt.

Personally, I believe that anyone going on an antelope hunt should have a rifle that shoots very flat, such as the 250, 3000-257-30-06 or any other

THESE TWO BUCKS were bagged almost before the sun had cleared the rim of the range.



The PRONGHORN

By MICHAEL THROCKMORTON

OF ALL the wild creatures that comprise our Texas game, none stands out more prominently than the pronghorn antelope. Scientists refer to it as *Antilocapra americana*, which literally means American antelope-goat—a classic misnomer because the pronghorn is not a true antelope, nor a goat. The animal possesses characters so extraordinarily unique that, for fifty years after they were announced, they were discredited as being at variance with the then well-established zoological laws.

Some of these characteristics were not supposed to exist. Today it is understood that from a taxonomic standpoint *Antilocapra* fits well only one classification—its own. The horns are all wrong; it has no secondary hoofs, or dewclaws; the female has four active mammae, like the deer, but unlike the deer, there is a gall bladder. The pronghorn is the only living species of a family restricted to western North America.

Take the matter of horns. They are a marvel of efficiency when it comes to probing for sensitive points in an adversary's neck—or in defense. Those horns were a headache for the scientists, too. Although most hollow horns are persistent on the heads of their wearers year after year, those of the pronghorn are shed annually. And they are composed of agglutinated hair, not the material in the "true horns" of cows, sheep, goats, and Old World antelope. They resemble in some respects the material in a rhinoceros' horn. They are unlike the bony, deciduous antlers of the deer. Scientists discovered all this and published it, but after the reports came out they were somewhat embarrassed to have an old plainsman point out that all the pronghorn really shed was the shell over a persistent bony core, an outgrowth continuous with the bone of the orbital arch and, as far as shape is concerned, no mean horn in its own right. We know now that the old horns of the pronghorn are pushed off this core by a new horn developing underneath it. An interesting thing about the new horns is that during their early stages of growth they are covered for most of their length with soft skin on which appears a substantial pelage of long white, greyish and black hair. As the horn grows the skin thickens and hardens,

the hair is incorporated in the horn material, not absorbed or shed. The first new fully developed horns are seen late in January. Most of them are nearly mature in February, but some are not fully developed until mid-summer.

Many a hunter, in handling his trophy a bit too possessively (if the season is late), has had the horn come off in his hands. The horns are usually shed in November and December, after the rutting season. Both sexes develop horns, those of the bucks being longer and heavier. Time of shedding varies some-



THE PRONGHORN is graceful in flight.

what with latitude, and the age and condition of the animal; some individuals with a late start carry their horns well into the new year. Record horns have attained a length of over 20 inches, a girth of 7-10 inches, and a spread, in at least one instance, of 19½ inches, although spread varies considerably. One record head of over 17 inches had a spread of less than 7 inches. The prong develops on the front of the horn about half way up; the horn tips turn inward and slightly backward. Freak horns have been taken that hung down across the face of the animal, and there are at least two records of antelope carrying two pairs of horns, neither

pair in these cases being well developed.

The literature contains no scientific records on the pronghorn prior to Lewis and Clark's famed trek from St. Louis to the Pacific Ocean in 1803-06. In fact, early records of any kind are hard to find. Coronado, perhaps the first white man to look upon pronghorns when he visited the interior of North America in 1535, left these meager records in his notes concerning animals associating with buffalo on the plains (obviously this specie):

"Mountain goats of great speed . . ." and "The deer are pied with white." Elsewhere he speaks of "the great abundance of wild goats, the color of bay horses," and again, "stags patched with white." Considering that there were perhaps sixty million pronghorns running around on our western plains at that time, it is surprising that he did not have more to say about them, and other game. Presumably, the pronghorn, like much of our game, was so commonplace during those strenuous pioneer days as to merit little consideration in the literature—nor anywhere else, except as it could provide meat.

Lovers of the outdoors are unlikely to forget that first glimpse of a pronghorn in full flight. All of its gaits are distinctive: the stiff, disgusted strut, when disturbed but not unduly alarmed; the ground-covering trot when the observer has come too close; the all-out breakneck speed when frightened or pressed. In running, a buck seems to "pull in his chin," with the horns thrust forward aggressively against the breeze, and the line of his facial aspect almost vertical to the ground as he drives ahead in robust, positive fashion. There is none of that up-and-down bounce so characteristic of the mule deer. The pronghorn's course is essentially in one plane, parallel with the ground and forward, the forelegs coming up like those of a horse, the white rump patch bobbing a little faster as he "pours it on" in a fresh burst of speed. Born to the plains, pronghorns negotiate brush by going through or around it, instead of over it. A three foot fence will turn them unless they can slide through or under it. In flight, a band of them usually strings out in follow-the-leader style, holding it until

★ Continued on page 23

TEXAS GAME AND FISH

Carp Finding Way into Cans

FOR the first time fresh water carp, the nuisance fish of lakes and rivers, is going to market in cans.

The initial 200,000 pounds of what formerly was a liability in thousands of Minnesota's fresh water lakes went to the Army. But civilians may be eating some of this first successfully canned fresh water fish before Spring.

Packed in cottonseed oil as it is for the Quartermaster Corps, the carp is described as tasting not unlike chicken or tuna fish. A tomato sauce pack gives it a distinctive beef flavor, and a mustard-pack carp savors of sardines. It is expected to bid for favor in the civilian market in competition with tuna and salmon. The civilian price will be comparable to tuna or less.

Canning the carp is a four hour process. First the fish are scaled, cleaned and the bones removed. Then they are put in brine for one hour. Following a 45-minute pressure cooking, the carp go to a flaking table where most of the remaining bones are removed. Small bones still left are softened so that they are edible.

From the flaking table, one of the two manual operations, the carp is canned and given a final 95-minute steriliza-

Mouldy Corn Kills Wood Ducks

Wood ducks in considerable numbers were made sick, and many of them died, after breathing clouds of spores given off by a mass of moldy corn on which they were feeding, in a flooded area near Havana, Ill., it is reported in the *Journal of Wildlife Management*. Dissection of several of the dead birds showed their lungs and other organs in the upper parts of their bodies to be overgrown with a growth of white mold, which was identified as *Aspergillus fumigatus*—a botanical second cousin of the mold from which penicillin is extracted. Eating the moldy corn seems not to have caused the ducks any direct injury. It seems more probable that the microscopic propagating bodies, or spores, stirred into the air as the ducks were trampling in the spoiled grain, were breathed into their lungs and germinated there, producing effects like those of pneumonia. A search of the records for similar cases disclosed a number of isolated instances, in which gulls, owls and other bird species besides ducks were the victims. A disease called brooder pneumonia, said to be well known to brooders of chickens, ducks and ostriches, is blamed on the same kind of mold. Investigators of the present outbreak were Frank C. Bellrose, Jr., and Harold C. Hanson, of the Illinois Natural History Survey, and Dr. P. D. Beamer, of the University of Illinois. *SCIENCE NEWS*, Oct. 12, 1945.

Rare Birds of the Rio Grande

THE AWKWARD ANI is known to the Mexicans as the Black Parrot.



THIS COLORFUL BIRD of the Rio Grande is helpless in high winds.

THE GROOVED-BILL ANI

By CHAS. G. JONES

THE grooved-bill Ani, known to the Mexican people as the Black Parrot, possibly is the most distinctive bird found in the lower tip of Texas.

The Ani is appropriately named. Its thick bill bears a strong resemblance to the bill of the parrot. Its coal black color has a steel blue reflection. Nine inches of its overall length of about 14 inches is tail.

The Ani's wings are not very strong and the bird is awkward in flight. In high winds it is practically helpless. And even in favorable weather the Ani gets nowhere fast, a rapid beating of the wings resulting in a slow forward motion.

Originally an inhabitant of Yucatan, and in later years discovered in western Mexico, the Ani finally was added to the fauna of the United States by George S. Bennet, then stationed at Fort Brown, who shot an adult male bird on May 19, 1878, at Lomita ranch on the Rio Grande about six miles above the present town of Hidalgo.

tion cooking. The fish is packed in 14-ounce cans.

Two by-products of the canning process, fish meal and fish oil, already are being extracted. The vitamin A content of the meal is said to be 18 times that of the California pilchard and is used as a feed balancer. About 10 gallons of oil are derived per ton of fish.

Perhaps a carp cannery will solve one of the problems in keeping fishing good in the lakes and streams of Texas.

Some ornithologists believe that in the West Indies the Ani builds a bulky community nest in which several females lay eggs. As many as 20 eggs have been found in a single nest. Another theory is that the Ani feeds on ticks found on domestic stock. However, I do not think its very large and thick bill would justify such a contention.

It has never been my good fortune to find a community nest in the dense ebony thickets of Hidalgo and Cameron counties where I often find these birds. All the pairs that I have seen have nests built separately, usually in thickets of ebony. A fringe of thorny twigs rims the nest. An average of four bluish tinged eggs complete the setting. The young hatch in May. There is no beauty to the Ani. On the contrary it is such a freaky bird that it is attractive. The natives of Yucatan and Central America call it the Black Witch. But to the people of the Valley it is just another distinctive specie found only in the reaches of the Rio Grande.

The Minnesota Department of Conservation seines more than one million pounds of carp annually from the lakes and rivers of that state. And thousands of pounds of carp are seined from the lakes and rivers of Texas each year.

Rated as a lake pest, but not a scavenger, the carp imperils other fish by its eating habits. It devours the lake vegetation which supplies fish with oxygen.



CUT a gambrel stick of green wood, sharpened at both ends and long enough to spread the deer's hind legs as far as they can be stretched. Insert pointed ends of gambrel above the points of the hocks by cutting the skin on inside of legs. Suspend deer from a stout limb. Make initial cut through skin from vent to throat down center line of belly.

CHOP through pelvic bones with axe or machete. Then cut through abdominal wall with sharp knife, using one hand to hold intestines out of the way.

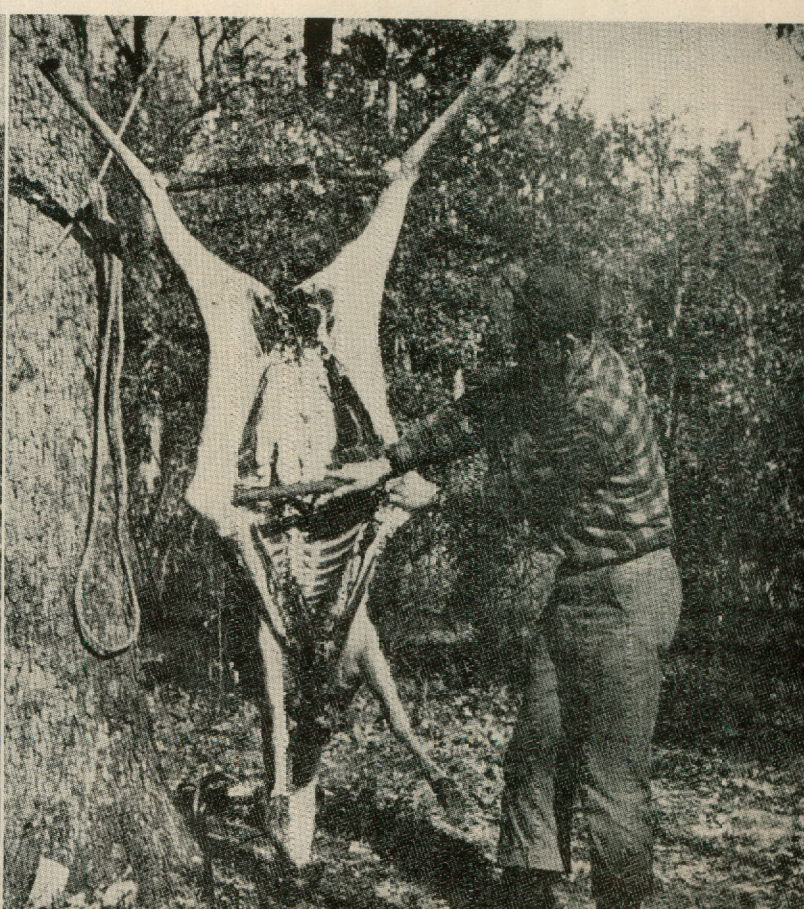


Dressing **YOUR DEER**

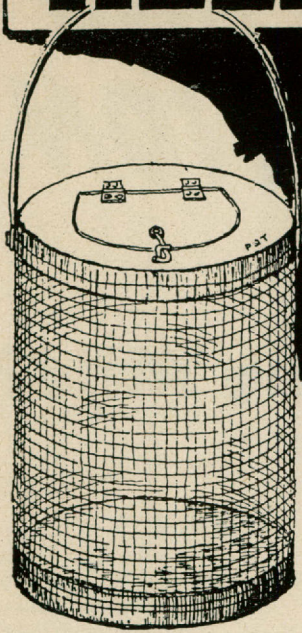
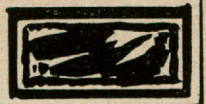
CUT around vent and loosen attachment of intestine. Then chop through sternum or breast bone to throat and roll out intestines, paunch and lungs. Lay heart and liver aside in clean place.

Photographs by
CHARLES W. SCHWARTZ
Missouri Conservationist

CUT stick and prop open body cavity to speed cooling. If the carcass is going to hang in camp more than one day, it should be spread open at night for cooling and in daytime kept in shade and covered with fly-proof cloth.



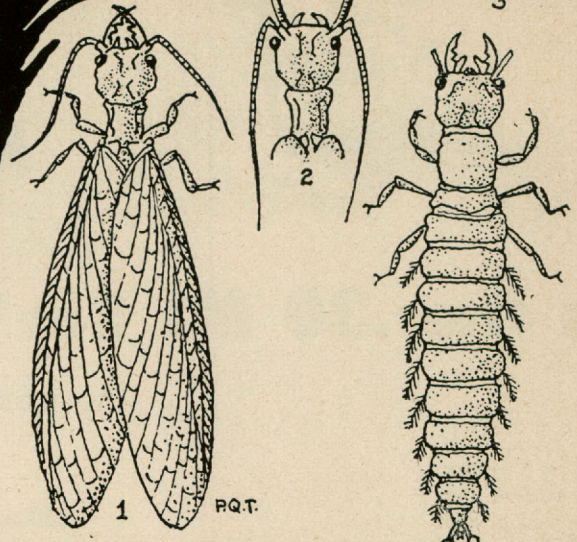
HELLGRAMMITES



A "Hellgrammite Container"

A Sure-fire and Little-known Natural Bait

By Paul Q. Tulenko,



The Hellgrammite. 1. Adult female. 2. Head of adult male. 3. The larva which lives in streams. All drawings are reproduced here natural size.

THE hellgrammite is thought by many fishermen to be unexcelled as bait for almost any kind of game and food fish.

The adult hellgrammite, also known as the Dodson fly or Crawler, is a large, graceful winged creature about 2½ to 3 inches long which is commonly seen on May or June nights around electric lights in rural communities near fast-flowing streams. In the short period of its life, the adult Dodson Fly lays long, one-half inch wide, chalk-white clusters of eggs on leaves, weeds, pilings or bridge abutments overhanging the streams. When hatched, the larvae immediately drop into the water where they seek the safety of the gravelly and rocky riffles in fast flowing stretches. Here they crawl a little way under the rocks to make the home where they will live for approximately the next three years. It is during this larval stage that the hellgrammite is of most interest to fishermen.

Taken out of its shelter under the rocks, the larva is truly a horrible appearing creature that looks like a monstrous cross between a scorpion and a centipede. When full grown it is between two and three inches long, dirty dark brown in color, and its segmented body is somewhat flattened. At the front end is a set of small pincers, which are the same size in the male as in the female at this stage. Three legs extend on either side of the forepart of the body; and from the last legs along the sides of the latter two-thirds of the body to the end of the tapered tail, numerous plume-like appendages used in breathing give the appearance of many additional legs. Even the rear end of this creature is equipped with a small pinching apparatus.

In spite of its fearful appearance, the hellgrammite larva is not nearly as

vicious as it looks and may be handled with reasonable impunity. Although it will stick to the fingers and pinch slightly, the nip is comparatively light when compared to the powerful pinch of a crawdad. The hellgrammite is definitely not poisonous.

With practice, the bait hunter can quickly develop an art for handling the creature. The best method for the timid and squeamish, as well as for the experienced, is to grasp the insect from the back and just below the head. In this grip the weapons of defense cannot be brought into play.

Hellgrammite larvae are found in almost any stream where the water flows swiftly over rock or gravel riffles. Because of its secretive habits, though,

few people ever see it and this is one reason why not many fishermen use it for bait. However, the fisherman who tries it under proper conditions, will never regret his experience.

In capturing hellgrammites I have found a two-man team equipped with a six-foot minnow seine to be an effective combination. Three persons are much better and less tiring, since two can hold the seine, and the third man disturbs the rocks about four feet upstream from the seine by turning them over and stirring the gravel and debris around. The hellgrammites are thus dislodged from their hiding places, roll up in balls and are swept by the current into the net. Pick 'em out often or they'll crawl out.

Hellgrammites are extremely hardy and may be carried and kept for a long time. I have developed a special container for this purpose which consists simply of a fine mesh (¼-inch or less) hardware cloth cylinder with a wood bottom and top. This container has a hinged lid on the top and is made to fit inside a standard minnow bucket. The hellgrammites are placed in the wire container with only a little water (sufficient to cover the bottom of the inner container one or two inches) in the bucket. When taken to the stream the inner container should be put in the water of the stream as with a minnow-bucket. If the insects are stored between fishing expeditions, the inner container should be placed in a large tub with two inches of water and should be kept in a cool dark place. The water must be changed every other day. Under such conditions, the larvae remain quite healthy and active and frequently spend as much time crawling on the wire as they do underneath the

Deer Hunters MUST WEAR RED

Careful deer hunters have long made it a practice to wear red to avoid the possibility of accidental shooting in the woods, but now the Wisconsin Conservation Commission announces a special law enacted by that State's legislature which makes the wearing of red clothing mandatory. The law provides:

"In the areas in which there is a season for the hunting of deer, no person shall hunt during such season unless at least 50 per cent of his jacket, excluding the sleeves, shall be red, or covered with a handkerchief or cloth of red color. Any person violating this subsection shall upon conviction be punished by a fine of \$10."



ARMS AND AMMUNITION

Is the .30 M1 Carbine a Hunting Rifle?

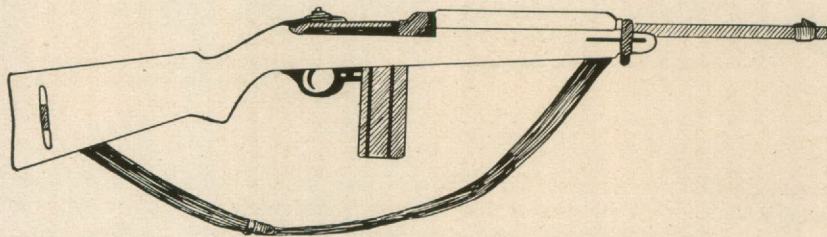
By ADAM WILSON III

MOST every outdoor magazine you pick up today has something to say about the little .30 SR*-M1 as a hunting rifle. This one is not going to be an exception this month.

For a while the wind blew in favor of the five pound-plus job as a deer slayer, and a sure-death on larger game animals—to say nothing of some folks wanting it for their 200-yard varmint rifle. But now I believe the trigger-squeezers are about to realize just what this little pea-size smoke-hole was created for—namely: an auxiliary war weapon, a replacement for the .45 automatic pistol, or just a plain man-killer. It has proven its capability in all three of these categories.

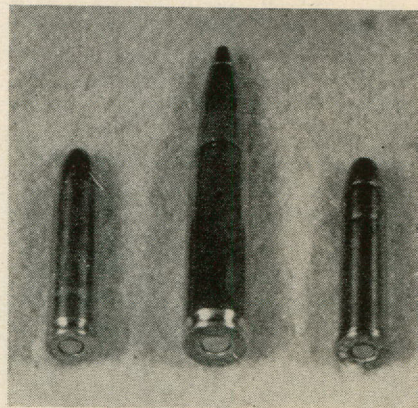
My experiences with the weapon have been very enjoyable. The first time I fired it, my first thought was: "Gosh, I'd sure like to have one of these to play around with after the war"—just like everybody else who had handled it. It's so light, and easy to point, yet, delivers the goods with seemingly little effort. At 175 yards I had no trouble in holding (off-hand) into an area that would have drawn plenty of dark red blood from a Texas white-tail. Of course the comparatively slow 110-grain metal cased bullet would not inflict permanent damage unless it found one of the vital spots in a deer's body. I know of several bucks that have fallen before this light-weight war-champion, and in most instances a number of shots were necessary to keep them down for good. However, I have seen rifles of the Model 1903 class firing the regular .30 M1 cartridge do not a bit better on 110-pound deer.

One December morning I saw an army captain ventilate a 10-point buck from stem to stern with 172 gr. 2700



The 5 lb. 12 oz. U. S. .30 SR M1. It has an overall length of 35½ inches. The 18-inch barrel with four grooves gives the bullet a right-hand twist at the rate of one turn in 20 inches. Two-inch groups at 100 yards have been reported with individual Carbinas. Accurate range is 300 yards. Maximum range is given at 2000 yards. Magazine capacity: 15 rounds.

f.p.s. government stuff. Sometimes the deer would flinch as the bullets slipped through his body, but he never slackened his pace. After the Captain exhausted his ammunition supply, I waded out of the smoking hulls and attempted to get within range to finish the job with



From left to right, we have the .30 M1 Carbine cartridge compared with a .300 Savage—a good deer load, and a .32-20 Win. H.V.—the Carbine's nearest kin. The Army's little number with its 110-grain bullet has a muzzle velocity of 2000 feet per second. Muzzle energy is 900 foot pounds. The .300's 180 gr. bullet leaves the muzzle 2380 f. p. s. and develops a muzzle energy of 2265 foot pounds. The .32-20's High-Velocity 80 gr. bullet has a m. v. of 2050, and m. e. 745 ft. lbs.—Photo by Roger Adkins.

with a .38 caliber six-shooter. Being unable to do so, we had to wait for the old boy to die. The lack of killing power shown in these cases can not be wholly blamed on the performance of either of the rifles. These incidents prove, for one thing, that metal-cased bullets will not give good re-

sults on game—excepting turkeys—even when fired from a powerful arm of the .30-06 class. Since the M.C. slugs have no mushrooming qualities, there is no knock-down power delivered into the animals. That type of bullet just "needles" through and plows up the ground on the other side. After all, that is what their designers intended for them to do—to penetrate deeply, and wound many.

Even if the .30 Carbine cartridge was loaded with a soft nose, or hollow-point bullet, it would have little advantage over the .32-20 high-velocity; and I have never considered that number an adequate deer load for the average hunter.

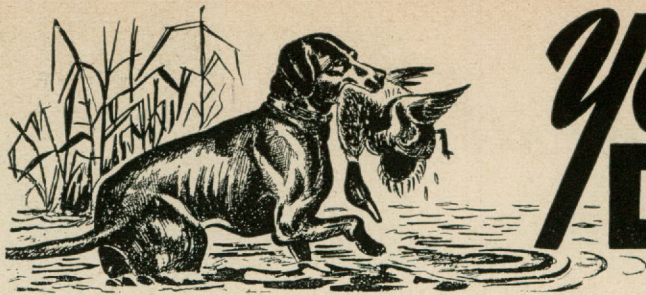
I have a neighbor who has been using a .32-20 Winchester rifle ever since I can remember, and he rarely fires a third shot to get his limit of two bucks each fall. With his stalking and shooting ability he could probably use the .30 SR-M1 to some advantage over his present rifle. But, for the hunter who "ups" and whams away at the whole deer, the Carbine should remain out of his reach. This neighbor would not think of drawing a bead on any part of a game animal, or bird, except the head, neck, along the back-bone, or in desperate cases, in the heart area. Of course he passes up the long shots, but he has a six-weeks period to stock his meathouse, so why

★ Continued on page 25

* Short Rifle.

By R. D. Turk, D. V. M.

PROBABLY there is no animal that is to be more pitied than a dog suffering from the condition called mange. There are three main types of mange in dogs and each type is caused by a small mite. Sarcoptic or scabies, Demodectic or red mange, and Otodectic or ear-mange are the usual forms. All three are relatively common and cause a great deal of irritation and suffering. If demodectic (red) mange and sarcoptic mange are allowed to go untreated the dog will eventually die. Microscopic examinations of material from typically affected lesions usually will reveal the characteristic mange mite but an accurate diagnosis may sometimes be made by an experienced veterinarian from the symptoms alone. Many times other skin diseases such as eczemas of various types, ringworm or other fungus infec-



Your DOG

MANGE OF DOGS

tions and skin irritation may be mistaken for mange. A microscopic examination should always be made in doubtful, or non typical cases.

Sarcoptic mange or scabies is caused by a tiny, oval, shortlegged mite. This mite is similar in appearance and closely related to the mite that causes scabies, or itch, in people. This form of mange

is transmissible to human beings and care should be taken when handling such animals to avoid possible infection. Children should never be allowed to handle dogs, or other animals, afflicted with mange.

When the mites gain access to the skin of a dog, the females burrow into the skin forming small tunnels or galleries. The eggs, usually 15 to 20 in number are laid in this tunnel. After all the eggs are laid the female dies in the burrow in the skin. The eggs hatch in about 3 to 6 days into larvae which resembles the adults but have only 6 pair of legs. They increase in size, molt or shed their skin twice and become adults usually from ten to sixteen days after hatching from the eggs. The immature mites and the adult males do not burrow but live under crusts and scabs on the surface. Infection can result only from the passage of male and female mites or of an impregnated female, from an infected to a healthy individual. This usually takes place by direct contact but may occur from contaminated kennels or bedding since the mite has been shown capable of living off the host for several days.

Sarcoptic mange affects dogs of all ages and breeds. It usually appears first on the head but may be any place on the body. Many times it is first noted under the front legs, or abdomen or inner surface of the thighs. If not treated the entire body is soon involved.

As the female burrows into the skin serum exudes, dries and forms a scab. Itching is severe, the animal scratches itself and as a result of the scratching and the irritation caused by the mites, the skin becomes thickened and scabby. Sores may develop and the hair become matted and fall out. The animal has a peculiar mousy odor and grows progressively worse, eventually dying if the condition is not checked.

Demodectic or red mange is the most common mange of dogs and it is also the most difficult to cure. The mite causing this condition is a small worm-like animal with 8 short stubby legs. This mange may occur in dogs of all ages but it is most prevalent in young dogs of the short-haired breeds. The first indication is loss of hair from a small, slightly reddened area. The spots usually occur around the eyes, or elbows but may occur any place on the

Thanks, Mr. Fields . . .

Houston, Texas
October 19, 1945

Editor Houston Post
Houston, Texas

Dear Sir:

In your editorial of October 19, 1945, wherein you discuss the pollution of Brays Bayou, and I will agree with 99% of your argument, you take a swing at the State Game, Fish and Oyster Commission by making a statement that sounds as though the Commission would bitterly oppose chlorination of the stream because it would kill the fish. I refuse to believe the members of the Commission would oppose anything that happened to that stream if it would prevent children from having polio.

The people and members of the Legislature always seem to hold the Game, Fish, and Oyster Commission in the light of ridicule. Eternally there is fun made of attaching any importance to hunting and fishing. Whenever any attempt is made to pass some sort of law to protect the game and fish, there are countless people who speak of it as something non-essential, yet those same people are the ones who break more game laws and like to do more hunting and fishing than anyone.

Now this outburst sums up to this: The hunter, the fisherman, and the naturalist, have been screaming to high heaven for the last fifty years, trying to create some sort of interest in the Legislature and general mass of people to do something sensible about stream pollution in the United States, and all they ever received was a horselaugh. The sportsmen's magazines, as far back as you can go, have preached and begged and even brought civil actions in the courts to try to end stream pollution. Practically every attempt has met with failure. The State of Pennsylvania is the only shining example to which the nation can point with pride.

As to Texas, some of our streams are nothing but open sewers. It would be unsafe for a cow to wade in Brays or Buffalo Bayou, wearing hip boots, even if she did not drink a drop of water. Can you, or anyone else, tell why in the name of common sense any government will allow every Tom, Dick and Harry to pour any kind of poison, slop, sewage and oil into our streams and not even attempt to fight it, and put an end to it? Why any municipality or private corporation should be allowed to completely ruin a stream, lake, or bay with their slush, is beyond reason.

The streams of this country can produce literally millions of pounds of food every year if given a half way decent chance. There can be dozens of recreation centers upon the banks of these streams and lakes which will create a living for a lot of people. But no, we prefer to allow the spirit of the dollar prevent us from having something good and have in its place something horrible.

Can the editors of our daily papers jump onto any big corporation and give them a lashing for pouring their abomination and poison into our streams? No, they cannot. If they do, they will cease to advertise in your papers and you will have a financial loss. This is called "Freedom of the Press."

The Game and Fish Commissions of our various States are the children of the sportsmen who demanded a State body with authority to act because the sportsmen alone could do nothing about such things. Now these gentlemen have been trying to do something for years about a disgraceful situation. The remainder of the people are finally beginning to find out about it; so for heaven sakes, give credit where it is due and tie in hand to hand with the Commission and make anti-pollution Statewide instead of just Citywide.

The Isaac Walton League is now conducting a nationwide campaign on this very subject.

Yours very truly,
Hardy R. Fields

★ Continued on page 25

A FIGHT

for Survival

By BURCH CARSON, JR.

HOW many bighorn sheep are left in Texas? Not many, I can assure you.

During the last three months I made a complete survey through all the former bighorn sheep range of western Texas, which includes the Beach, Baylor and Sierra Diablo mountain ranges.

The last accurate survey on the Texas bighorns was made from April, 1940, to July, 1941, at which time the bighorns ranged the Beach and Diablo mountain ranges in about equal numbers, while a few were observed at times in the Baylor mountains. After this fifteen months survey, I estimated the bighorns at about 75 head. Now, after this three months survey, I have found that they inhabit only the northern two-thirds of the Diablo mountains. From all evidences the Baylor mountains have been completely abandoned, while only a few have been seen on their former Beach mountain range.

In the past four years the bighorns have decreased in numbers approximately one-half, which is a bad sign when it is realized that the mule deer on the same range have increased something like twice the 1941 number. When we know the deer have increased while the bighorns decreased, this is proof that disease, not forage, has caused this decrease among the big horns. It has been found that a number of domestic sheep have managed to get out of supposedly sheep-proof pastures during the past four years and have ranged all over the bighorn range, especially along the rimrocks, in search of water, have become weakened and died among the bighorns; and any disease they might have had could easily have been contracted by the bighorns. This information all adds up to one conclusion, and this is that to save the bighorns from extermination from diseases contracted from domestic sheep, they will have to be fenced inside a bighorn-proof fence and kept away from contact with all domestic sheep. A start has now been made along this line, as four sections of forfeited state lands have recently been transferred to the Game, Fish and Oyster Commission for use as a bighorn refuge.

The most accurate check that has been made on the bighorns was an eight-day pack trip, made after it was realized that the bighorns all ranged in the central and northern parts of the Diablo mountains. This trip was made with as much speed as possible, so as not to count any bighorns twice, and still to cover all the main rimrock country and not miss any.

DOGS ARE CONSERVATIONISTS

ASK any man who own a good hunting dog if he does not consider his dog a real conservationist and almost unanimously the answer will be—Yes!! It is the opinion of many conservation-minded sportsmen that hunting without a dog should be illegal. This, of course, is probably stretching the point too far, nevertheless each succeeding year does see more and more hunting dogs in the field and marsh, hence it is apparent the value of a dog is becoming generally appreciated.

The real sportsman will seldom shoot at anything he cannot retrieve; however, even he at times overestimates his ability and either make a kill or wounds a bird he cannot find. Unfortunately, in contrast, there are too many hunters who shoot when there is no chance to do more than cripple a bird. In either case, however, the good hunting dog immediately becomes a conservationist.

From personal experience there have been innumerable times when, without a dog, game killed or crippled would have been located. Many times we have met hunters, still in search of game, who have bemoaned their hard luck stating "they had knocked down several but could not find them."

Time after time we have gone into marsh and field and without ever firing a shot had our dog bring in wounded birds that had been left to suffer and dead ones that were left to rot. Unquestionably the hunters responsible for these unfortunate incidents made all possible human effort to find their game, but man cannot always go where a dog can travel nor is he endowed with the marvelous sense

of smell which nature has supplied the hunting dog.

Certainly there can be no real pleasure in knowing that man, beast or bird is left to suffer. Hunting, as practiced today, is recreation for man. Not only does it test his skill as a marksman but it brings him into the great outdoors close to nature which the Great Creator has so bounteously

supplied for us who can and will take advantage of it. Surely the hunter wants to preserve for himself and the generations to come this privilege which only the free can today enjoy. To abuse it is criminal.

We know it is impossible for every hunter to own or keep a dog, but there are many who could if

they would but make the effort. The companionship of a dog in the field is worth the price alone even if not a single bird is flushed or retrieved. From the purely selfish standpoint the hunter with a dog finds more game—from the humane standpoint and conservation of game, suffering and waste is practically eliminated.

The man with a dog derives much more pleasure from his hunt than the man without. It is not difficult to train a dog with any natural hunting ability. Naturally, it takes time to make a dog a perfect performer but this is not absolutely necessary to make the dog a good one for average hunting purposes.

If you hunt and can possibly own and keep a hunting dog do so by all means. The satisfaction obtained will more than repay you for the effort. If you cannot own or keep a hunting dog, hunt with someone who does.—Point and Fetch.



TOMORROW'S HUNTER

Austin's Village Missy, 3 months, 7 days old. Owned by Vernon Skaggs, of Austin.

The first day no bighorns were sighted in South Victoria Canyon, and camp was made on the top of the north rimrock of this canyon. The second day the west rim and the deepest part of Victoria Canyon was scouted and thoroughly looked over with binoculars without sighting any bighorns or fresh sign. The third day a young lone ram was seen on top of the north rimrock, and

a band of six bighorns was sighted two hours later below the rimrock. They consisted of a medium-sized ram, an old ewe, two mature ewes, one with a young lamb, and a large last year's lamb, but its sex could not be determined at such long range. No bighorns were sighted or fresh sign seen the next day on the ride to Marble Canyon, where a dry camp was made.

The next day a round trip was made down into Marble Canyon after water, from a hidden spring, and although all of this section was carefully covered many times with binoculars, all that was sighted was deer and a black, stray billy goat. Four fresh bighorn beds were found late in the evening. The next day a long ride was made, scouting all the eastern rimrocks of Apache Canyon. The west rim could be viewed very well, but no bighorns were sighted on it. On a last look around with the binoculars, two bighorn were picked up by accident, moving around far off, out on a peninsula of the East Apache rim. Their sex could hardly be determined at such great distance, so half an hour's ride cut the distance in half, and a medium-sized ram and a young ewe could easily be made out. They now became more nervous, as they had seen me all the time, and so topped over the ridge and were seen no more.

Next morning the return journey was started, back to the base camp. No bighorns were sighted that day. At the McAdoo Ranch, that night, Mr. McAdoo said he had found lots of sign, and later the beds of a band of eight bighorns, near his ranch house on top of the big west rims of Victoria Canyon. He was out hunting five of his domestic sheep that day, which had crawled out of his sheep pasture, when he found the bighorn sign. The sign was only about two or three days old, showing they had been there since I had scouted this rim six days before. Although all the surrounding rimrocks were scouted out that day, no more sign of the bighorns was found. They are the gypsies of the rimrocks, here today, gone tomorrow, and so are very hard to find and keep track of.

On the eight-day packhorse trip bighorns were sighted three different times, making nine bighorns seen in all. The four fresh beds found at Marble Canyon, and the eight almost fresh beds at Victoria Canyon, makes a total of 21 bighorns we know for sure are alive. I estimate the bighorns at 35 at present, although I feel sure I missed a few in such a big, rough country, but on the other hand, very few old beds were found at key points where they love to loaf around. I have known and observed the Texas bighorns and their range for more than twenty years, and so am certain there are very few bighorns left now. If they are to be put on the increase, instead of vanishing soon from their last stronghold of great cactus-studded rimrocks of the Diablo Mountains, quick action will have to be taken to secure the necessary lands, and fence them, to form a preserve for them in Victoria Canyon, where they can be kept away from the diseases of domestic sheep.

On September 17th three bighorns were seen on top of a rimrock near Bass Canyon, in the Carrizo Mountains, between the Southern Pacific and Texas and Pacific Railroad tracks by Scott Keeling and Mr. McKenzie, on Mr. Mc-

Kenzie's ranch. One was a ram and the other two were ewes, as best the rarchmen could tell. A ram has been seen in these mountains several times during the past few months, but this was the first time any other bighorns were seen with him. These three bighorns are evidently strays from the home range of the Texas bighorns located about thirty miles to the north, in the Diablo Mountains.

Back in 1938 there was a band of bighorns numbering about fifteen in these mountains, but when domestic sheep were stocked on part of the range, all of them disappeared within a year, leaving only two rams, which started ranging with the domestic sheep. Finally one of the rams was found dead, evidently from some disease, and soon the other ram disappeared also. Since the early part of 1940, no bighorns have been seen in Carrizo Mountains until just lately.

Coral Banks

★ Continued from page 9

Rock. This last name has a mythological flavor that aroused my curiosity. Iphigenia, the mythical daughter of Agamemnon, was the priestess of Diana on the Island of Tauris in the Mediterranean Sea. I have been unable to learn why this rock should bear the name Iphigenia. There is nothing in the Greek myths or in Goethe's poetical masterpiece, "Iphigenia in Tauris," that would explain the association of her name with a rock in the Gulf of Mexico.

In approaching the Mexican coast, patrol boats are on guard to see that the rule governing the territorial waters of Mexico is not violated. How much Mexico claims could not be learned, but Texas claims jurisdiction for three leagues or approximately nine miles into the Gulf. Just prior to the tropical storm of August 26 and 27, the dates it hung above Port Aransas, with destructive fury, a Texas schooner was fishing for snapper off the Mexican coast from Tampico. Two men lost their lives, but the schooner made it through. The vessel had a radio but received no storm warnings in advance. One complaint was that the Mexican broadcasting stations drowned out any advisories that might have been sent.

Handling a schooner in a storm is an art known best by the skippers who have fought their way through storms, and a history of such exploits would be thrilling enough. In his "Toilers of the Sea" Hugo gives a classical description of one of those storms, a few lines of which are quoted.

"The grand descent of winds of the world takes place at the equinoxes . . . Suddenly the hurricane comes down, like a wild beast, to drink of the ocean; a monstrous draft! The sea rises to the invisible mouth; a mound of water is formed; the swell increases . . . a mountain of foam ascending, a mountain of vapor descending—terrible coition of the cloud and the wave . . .

There are the gusts, the squalls, the storm, the gale, the tempest, the whirlwind, the waterspout. . . . The winds rush, fly, swoop down, dwindle away, commence again; hover above, whistle, roar and smile; they are frenzied, wanton, unbridled, or sinking at ease upon the raging waves. Their howlings have a harmony of their own. They make all the heavens sonorous. They blow in the cloud as in a trumpet; they sing through the infinite space with the mingled tones of clarions, horns, bugles, and trumpets. Such was the music of ancient Pan." And such were the dangers met by the Toilers of the Sea.

A playground? No, indeed! When storms come, the Texas Gulf is anything but a playground.

Hellgrammites

★ Continued from page 17

water. I have not tried to see how long they can endure such conditions, but I have kept them for six weeks, at the end of which time they appeared to be just as hardy and wiggly as the day I captured them.

The hellgrammite should never be used as bait in still water unless the water is so clear that every action of the bait and fish can be seen. The best place is below riffles at the head of eddies, and also in deep chutes. These are the places where fish are accustomed to find this type of food and the force of the running water prevents the larva from holding to the bottom of the stream where he immediately would attempt to dig in.

In fastening the hellgrammite to the hook two methods are effective: one is to hook it near the end of the tail, and the other is to pass the hook down under the stiff collar which appears just back of the head. The hook should be fastened to 6 to 8 feet of six to eight-pound level leader or a medium-weight tapered leader. Where the current is excessively swift, a split shot of suitable size may be necessary to carry the bait down so that it will be near the bottom. This weight may be placed 14 to 16 inches from the hook.—*Missouri Conservationist*.

Public Hunting Ground

The first step toward acquisition of several million acres of forested lands for a public hunting ground in deep East Texas has been taken by the Game Department.

A lease has been obtained on 20,000 acres of land near Deweyville, Newton County, for an experiment in controlled restocking.

Deer and turkey would be hunted on a special permit basis after suitable restocking in strict accordance with the game population in the controlled area, similar to the plan now in effect for hunting antelope in the Trans-Pecos. Squirrel hunting would not be subject to this special control.



BOOKS



War Casualties Among Birds

Many species of Pacific island birds may become extinct because of military occupation, according to Dr. Harvey I. Fisher, ornithologist of the University of Hawaii, and Paul H. Baldwin, U. S. National Park Service, who recently completed a survey of birds on Midway Island. Two species of birds formerly plentiful on Midway already most likely have become extinct, Dr. Fisher and Mr. Baldwin state. The Laysan rail and the Laysan finch, both of which were plentiful on Midway in 1941, have probably been wiped out. The only other known habitat of these species is Laysan Island in the Midway group, from which both are believed to have disappeared some years ago.

Other birds, though perhaps not so rare, have also suffered. The "gooney bird," or Laysan albatross, has been reduced to less than half its estimated 1941 population. Whereas there were half a million Bonin Island petrel in 1941, the present population is estimated at 25,000. Only three noddy terns were found on Midway, where 2,000 were believed to exist before the war. The importation by military shipping rats which kill off birds; use of large areas for buildings, lawns and walks, eliminating vegetation and cover; and unavoidable slaughter of birds by planes landing and taking off are some of the reasons why military occupation of an island is devastating to bird populations. In addition, birds are unavoidably trapped in barbed wire, old gun emplacements and fox holes. Bird eggs are also collected for eating.

—*Science News*, Oct. 19, 1945.

Flying Foxes

★ *Continued from page 5*

Flying fox are considered a delicacy by both the natives and the white population of the various Pacific Islands. I have tried them on several occasions and consider them mighty good myself. The flesh of the flying fox is somewhat similar to that of a squirrel or dove. Bats can either be stewed, roasted or sauted in wine.

After reading this you may still not think that flying fox hunting is as sporting as hunting some of the species of game you are more familiar with, nevertheless, it has furnished some of us stationed out here in the Pacific with many an enjoyable hour afield, as well as several tasty feeds.

* * *

The vicious little animal called the fisher is mis-named for he dislikes water almost as much as a cat does.

* * *

Birds were used to carry messages as long ago as 218 B.C.

MY DOG LEMON, by Ray P. Holland. 86 pp., illustrated with original line drawings by Wesley Dennis. Published by A. S. Barnes and Company, 67 West 44th St., New York 18, N. Y. Price \$1.75.

In this delightful story Ray Holland demonstrates his knowledge of dogs and handlers and justifies his reputation as an outstanding teller of tales.

Lemon looked like a great dog and when Doc Tarrant succeeded in buying him from that wily trainer, Jeff Minter, for less money than he was prepared to spend, he was elated. But while Lemon proved satisfactory in every other respect, Doc was chagrined to learn that the dog's scenting ability was almost nil.

How Lemon won a local field trial under his former owner's handling despite this handicap, how his sense of smell was unexpectedly restored, how the pointer went on to win the coveted National Field Trials at Grand Junction, and how the shrewd medico finally used Jeff's ambition to have the latter's dog Bob win the National the following year as a means of adding new talent to Doc's own kennels, make a story as full of chuckles as it is of the atmosphere of the game fields.

If you love hunting dogs, hunting and/or field trials—if you can get a kick out of the "hoss-trading" tactics of a couple of modern David Harums who dicker over canines instead of equines—you'll get a real kick out of "My Dog Lemon."

HOW TO DRESS, SHIP AND COOK WILD GAME—48 pages and numerous illustrations. Published by Remington Arms Company, Inc., Bridgeport, Conn. Price 10 cents.

This is a booklet which every hunter should have in his library. It is written by some of America's most experienced sportsmen. It contains full instructions on how to take care of game birds and animals from the time they fall in the field until they reach the hunter's table. There are recipes galore, too. Pheasants, or 'possums, duck, deer or Molly Cottontail . . . or any other species of game . . . should be cooked in just a certain way. That "certain way" is often a question of heated argument among sportsmen but Remington's booklet offers enough recipes on the cooking of any species of North American game to satisfy the tastes of all. There are many "short cuts" to proper preparing, shipping and cooking game. Here are a few samples: 1. For transporting game 25 pounds of

dry ice will keep 75 pounds of well-packed game frozen for five days or longer under normal conditions. 2. Plucking of ducks can be made much easier if the ducks are first dipped in a mixture of hot water and melted paraffin. 3. Because orange sauces greatly enhance the flavor of wild game, it is a good idea to use orange juice instead of water during the cooking. There are many others, all contributing to the purpose of the booklet—elimination of game waste and a more complete enjoyment of it. Copies may be obtained by sending 10 cents to Remington Arms Company, Inc., Dept. CB, Bridgeport 2, Conn.

BASS FISHING—By Jim Gasque. 204 + xiv pages. Contains three color plates and 40 full-page photographic illustrations. Published by Alfred A. Knopf, 501 Madison Avenue, New York 22, N. Y. Price \$4.00.

This remarkably complete book, based on thirty years of bass angling by the author, covers both lake and stream fishing. It deals with both the largemouth and smallmouth black bass, the type of water in which they are found, and lures and technique employed in their capture with the fly rod, on which he relies almost exclusively.

Jim Gasque is a native North Carolinian, and the scenes of most of his interesting stories and anecdotes are laid in that state. But the bass waters described in the text and illustrated in the photographs have their counterparts in many other sections of the country, and the effectiveness of lures and methods advocated are not impaired by the crossing of geographic boundaries.

The photographs, taken expressly for use in this book, picture the identical waters described in the text. They show many types of bass waters, and illustrate most effectively points where bass lie, methods of casting and similar information which may be presented in pictorial form. The color plates consist of a typical bass-fishing scene, illustrative of the large and smallmouth basses and a full page of assorted lures.

Gasque is an angler first, last and always. He knows his subject and, what is more, he knows his fellow anglers. Not only are his words of advice of practical value to skilled angler and beginner alike, but his counsel is presented skillfully and interestingly in pleasing narrative form that makes its assimilation a delight, rather than a chore, to any true Waltonian.

The Pronghorn

★ Continued from page 14

they drop out of sight behind a distant rise.

Occasionally a band surprised along an isolated road will run parallel with your car or saddle horse, attempting at length to cross in front of you. As you increase your speed, the pronghorns do, to, as if suspecting your purpose of preventing their crossing. If you are on a horse, the band will cross, of course, but if you are in a car, you are in for some fun. At anywhere between 20 and 30 m.p.h. the leaders may close in and make a dash for the other side of the road. If the old car has plenty of "soup" on the pickup, you may be able to pull up and cut them off. You are now running at 35 to 40 miles an hour, and the animals have veered away and are running abreast of you. Not wishing to discourage them, you ease back to 30, to 25, and here they come again, turning on the reserve speed like water from a faucet! Top speed of the pronghorn, as clocked by innumerable speedometers over the country, ranges from about 30 miles per hour on up. One reliable stockman in Oregon related to the writer a case of a young, healthy buck racing his truck for a mile and a half one evening. According to his story, a top speed of 45 miles was sufficient to keep the animal on his own side of the road, the buck approaching but never equalling that speed, and he finally gave up and raced off into the sage. Top speed is variable with the individual, it must be assumed, with the terrain and with the condition of the animal, but 40 miles per hour is high, if acceptable. At any rate the pronghorn is easily our fleetest game animal. There are recorded instances where greyhounds have run them down, but many more instances where they failed.

The Indians used to capitalize on the pronghorn's inability, or disinclination, to jump over things by building a brush corral with wings converging upon it and then on horseback driving the bands into the enclosure. Bonneville records that in this type of hunting a three-foot fence was high enough to hold the animals. There are recorded instances, however, where pronghorns have gone over the top of such obstructions. In certain fenced areas in pronghorn country these creatures will wear a beaten path to a point where they pass back and forth under the wires, and they will pass readily, and at speed, between wires 12 to 14 inches apart.

In size the pronghorn is smaller than the average white-tailed deer, with a more compact body and shorter legs, and the head and neck are proportionately heavier and the muzzle fuller. The face is rather concave, marked in the males with blackish brown. This dark color is most noticeable in older individuals. A distinctive sex mark is a dark line starting below the ear and extending downward for several inches

along the line of the lower jaw in males of any age. The entire underparts are white, and the same color extends upwards high enough on the sides to be readily distinguishable at a distance. There are white patches about the base of the ears and on the cheeks. The upper parts are a fawn bay color which carries down onto the legs and forward onto the neck, except for a white crescent and shield on the front of the neck. The short mane is reddish tawny and the very short tail is white. There is a record from Wyoming of melanism in a buck, the entire head and shoulders of which were jet black, although the rest of the body was normally colored.

The most distinctive mark of all is the white rump area. The hairs here are longer than elsewhere on the back and the animal has the power to erect these when excited or alarmed, producing a startling white rosette that can be seen long distances. When "flashed", they seem to serve as a communication signal between individuals or bands. Certain musk glands on the body are believed to serve a similar function, and also to discourage the attacks of insects.

The rut begins in late September and is first manifest in the bucks which begin to move restlessly and pick fights with one another. Pronghorns are said to be polygamous, but there is some question whether bucks try to assemble "harems", although their fighting frequently brings about this result. Some bucks seem content in the presence of one doe, in which case the two might be said to be mated. If a buck is not as heavy or is weaker than another, he is hustled out of the herd and forced to go his way alone. The period of rut is short and as a result the kid crop is pretty well "bunched," the majority being dropped about the middle of May. The gestation period is a little over eight months or slightly longer than with deer. Twins are the rule; three fawns are occasionally dropped. The does seek seclusion at this time and the kids are dropped a little distance from each other. Lying on the hot, dry ground with little or no cover, they are yet practically invisible. The mother will feed in the general vicinity, not approaching them for a period of several hours during which time the kids lie flat with neck outstretched along the ground, their ears low. When the mother arrives at nursing time, the kids rise while she squats to enable them to feed. While one is being fed the other makes no move until approached for his turn. The young are a neutral brown for the first few weeks with no semblance of the white rump patch that distinguishes them in June. If taken early, they make excellent pets and seem to enjoy the proximity of man, racing with the farm dogs or children and investigating thoroughly everything on the premises.

There is some evidence that the bucks prefer their own company or that of

other bucks during the summer, although frequently family associations are observed—bucks, does, and kids in peacable company. In November and December the banding together for mutual protection takes place. From then until the end of January—a period coinciding with the loss of horns—large herds numbering in the hundreds (formerly thousands) roam together on their relatively protected winter range. On the Plains of the Missouri pronghorns formerly followed definite routes south in the fall, crossing streams like the Missouri or North Platte rivers in such numbers that the Indians were able to make piles of their carcasses at the crossings. Throughout its range today the animal maintains some sort of migration between summer and winter ranges, although the herds are sadly reduced in size.

Pronghorns confine themselves to such grasses of the prairie that cure well on the stalk, certain weedy forbs, and leaves of desert shrubs. They are partial to alfalfa in sections where they can get it. Being dainty feeders, they take such small bites here and there as they move along that it is difficult to find the evidence where one has foraged. Where they are congregated near isolated ranches on their winter range or at other seasons when the range conditions become unfavorable, they have been known to cause some damage to range vegetation. At times they have been charged with competition detrimental to livestock interests. Such complaints are heard when the range becomes unusually dry and consequently overburdened. The population today is hardly great enough to warrant such accusations except in extreme cases. Certainly not in normal years.

Pronghorns, like our native bighorn sheep, are threatened in western Texas and elsewhere, by the invasion of their ranges by immigrants from the Old World—domestic sheep. Seemingly, there is undue competition between the two, with the pronghorns giving ground. Whatever the cause may be, we do know that in areas where both domestic sheep and pronghorns occur the latter are gradually "driven out" and the range is usurped by the sheep. Here we find a case of history repeating itself—white man from the Old World has almost crowded out the Indian; carp from the Old World are gradually replacing out native fish; the English sparrow has driven from our towns and cities many of our native birds; Johnson grass is taking over many of our fields, crowding out native vegetation.

In 1924 the number of pronghorns in the United States had dwindled to about 26,000 head, according to estimates by the U. S. Fish and Wildlife Service. Many conservationists felt this estimate was much too high, that 15,000 was a more accurate figure. The estimate for Texas at that time was 2407, distributed in 42 areas in 40 counties, as follows: 900 in the Panhandle and adja-

cent West Texas (17 areas), 700 in the Trans-Pecos (in 10 areas), 300 in southern part of State (4 areas, mostly in Jim Hogg and Zapata counties), and another 500 in 11 small West Texas areas. Due to an awakened public interest (there had been no legal hunting in any of these areas for 41 years prior to the hunts held in the fall of 1944) the pronghorn population rose in twelve years to an estimated 4700, or an increase of approximately 2300. In 1944 the population was approximately 9000.

In other sections of the West the comeback since 1924, when general closed seasons were clamped down everywhere, has been just as gratifying—in some instances even more so. In that area comprising southeastern Oregon, southwestern Idaho and adjacent northern Nevada, there must be close to 35,000 pronghorns today, nearly twice as many as there were in the continental United States that day two decades ago when the United States Fish and Wildlife Service and the various interested states realized something would have to be done about the pronghorn situation.

This fall, for the second consecutive year, sportsmen of Texas were privileged to enjoy another pronghorn hunt in the Trans-Pecos area. Approximately 450 animals were taken to reduce the herds to limits commensurate with the range they occupy. This is indeed gratifying because it signalizes the achievements of conservationists, sportsmen, and game managers in the restoration of a species that was well on the road toward extinction in Texas.

7 Tons of Rabbits

The New York State Conservation Department has announced that more than seven tons of rabbits have been taken from 10,000 acres of typical Orange County farmland during a four-year period. A total of 5753 rabbits were bagged during the four years. At an estimated weight of 2½ pounds each, the total weight came to more than 14,000 pounds, or nearly two tons per year.

Missouri Frogs Eat Heartily

Judging by reports from Missouri, bullfrogs in that state must consist of prodigious appetites mounted on big legs. M. K. Chapman, supervisor of conservation agents in west central Missouri, recently found a 16-inch water snake in the stomach of a frog taken by him and Agent Paul Ormer. Another frog opened by Chapman contained a full-grown mole. Bert Loony of Jackson also found a large water snake in a frog he killed, while a Phelps County farmer traced a heavy loss of ducklings to hungry frogs in his pond.

* * *

Rattlesnakes, contrary to belief, do not seek to avenge the death of a mate. They are attracted to the death scene by scent.

A VERSATILE BIOLOGIST

Equally at home with his green, shamrock-sprinkled Irish harp or in a laboratory, Joel W. Hedgpeth, marine biologist of the Game, Fish and Oyster Commission in Rockport, is classifying a collection of pycnogonida (sea spiders) for the Smithsonian Institute.

A native of Oakland, California, Hedgpeth entered the University of California at Berkeley, with the intention of becoming a professional writer, but became interested in science, and completed requirements for a major in zoology. After graduation in 1933, the harpist-biologist entered the graduate school, and began research in marine biology. Hedgpeth was then employed to do investigations and research on salmon in connection with the building of large dams in California. In 1939, he completed the requirements for a master's degree.

Specializing in the study of the sea spider, Hedgpeth has published eight papers on their taxonomy and distribution. These research papers have culminated in a large monograph, "The Pycnogonida of the Western North Atlantic and the Caribbean." His discussion of Pycnogonida will appear in the next

printing of the Encyclopaedia Britannica.

Prior to coming to Texas in February, Hedgpeth reviewed books on natural history, general science and marine biology for the San Francisco Chronicle.

As a hobby, Hedgpeth collects books on marine biology. The collection contains books written in German, French, Spanish and English. They range from Marsigli's "Physical History of the Ocean," published in 1725, to current volumes.

Hedgpeth acquired his Irish harp from the San Francisco Symphony. His music ranges from English ballads and American folk songs to operatic airs.

Hedgpeth's ready wit is characterized by his remark while squeezing lemon on a trout: "I feel like a cannibal every time I eat a fish."—Billye Jones in the Corpus Christi Caller.

\$50,000 for Re-stocking

Apportionment of \$45,430 by the federal government for wildlife restoration and development in Texas will mean that this state will have a total of approximately \$60,000 for that purpose this year. The federal funds and the matching state funds are spent principally for maintaining game refuges for experimental purposes and for restock depleted ranges.



Special Broiled Carp Fillets

- 2 pounds carp fillets
- ½ teaspoon salt
- ¼ teaspoon pepper
- 3 tablespoons mayonnaise

Lay fillets skin-side down in a shallow, greased broiled pan. Sprinkle fish with salt and pepper, and spread tops of fillets with mayonnaise. Place in a pre-heated broiler and broil two inches from the heat for 10 minutes.

Steamed Carp with Tomato Sauce

- 3 pounds carp, dressed for baking
- 2 teaspoons salt
- ¼ teaspoon pepper
- 1 cup water

Cut dressed fish into serving-sized portions, Season with salt and pepper, and place on a rack over water in a pan with a tight-fitting cover. Steam for 10 minutes. Serve hot with tomato sauce.

TOMATO SAUCE:

- 2 cups stewed tomatoes
- 1 small onion chopped fine
- 1 teaspoon salt
- ¼ teaspoon pepper
- 2 tablespoons melted butter or fortified margarine
- 2 tablespoons all-purpose flour

Simmer tomatoes, onion, salt and pepper together for 10 minutes. Gradually add the tomato mixture to the combined flour and melted butter. Cook until thick, stirring constantly.

Money Crop

Wild game is an important "money crop" in the hill country—not the selling of deer and turkey, but the organized leasing of land for hunting, encouraged and supervised by the Texas game commission.

The state particularly has encouraged the "day hunting" system, making it possible for greater numbers of persons to go big-game hunting without too great expense—bringing the game resources of the state closer to the people.

Hunting has been partially interrupted during the past four seasons, and probably will not swing back to full proportions this winter. Game conditions have improved, on the whole, and Texans who have been away in armed services will find improved hunting sport when they get back.

However this year so far looks unfavorable, as to the one-year supply of both turkey and deer. Though the state had a wet winter, extreme dry weather in the spring, and on up to the present has been doing much harm, ranchmen report, to the game crop. Many fawns have died, and the lack of water and adequate forage also has resulted in many of the does becoming so emaciated they too have died, the reports say. Very few young turkeys appear to be coming on this year.

But it is estimated even with this harm already done, game resources have increased, and the supply of principal game has spread considerably over the four-year period.—Wichita Falls Record-News.

.30 M1 Carbine

★ Continued from page 18

take chances. The hunter with only a day or two in which to get his game has to take a few chances at times; therefore, he should have a rifle with plenty of extra power—power enough to disable an animal even if it is shot through the middle.

The May issue (1945) of *Stars and Stripes* had this to say about a "peacetime" Carbine: "It will be illegal in most states, it won't be much use as a hunting weapon, but it will be handy as a 'camp gun' in the cookhouse, in the seat of the farmer's truck, or behind the door in the barn. A good .22 is more accurate, nearly as powerful and a hell of a lot cheaper to shoot. Forget about the Carbine, Soldier, it won't be worth the trouble."

I'll say this: If you plan to have a P. 51 as your "run-about" airplane, and a jeep for your pleasure car, then you must have a Carbine as your favorite hunting rifle. Yes, many of us could have a lot of fun with any one, or all, of these instruments of war, but with few exceptions none of them are really practical for the general public's use. Let's leave them in the Army—including the interesting little semi-automatic SR. It is a wonderful "soldier." I think it should remain "in uniform."

* * *

"How did you name the size of shot?"

This is one of the hundreds of questions asked of the Remington Arms Company, yearly. And here's the answer:

There is a simple way to tell the story. It involves one of the three Rs... 'rithmetic. The constant is 17! For instance, take a number 8 shot... subtract 8 from 17 and you get (in hundredths inch) .09. Here's the rest of it, in size (diameter still in hundredths inch). SEVENTEEN is the keynote!

	Size	Diameter
17	9	.08"
17	8	.09"
17	7½	.095"
17	7	.10"
17	6	.11"
17	5	.12"
17	4	.13"
17	3	.14"
17	2	.15"
17	1	.16"
	BB	.18"

Mange of Dogs

★ Continued from page 19

animal's body. The infected spots gradually increase in size, often the skin becomes infected with pus-forming bacteria and pustules or pimples are formed. There is usually very little itching, never the intense itching seen in sarcoptic mange. As more of the skin surface is affected the general health of the ani-

mal suffers. The dog becomes emaciated, weak and finally dies. Red mange runs a slow course sometimes extending over a period of two years or longer.

Ear mange or otodectic mange is caused by mites that live only in the ear proper. These mites do not burrow like the sarcoptic mite, which they resemble, but live in the ear-canal where they cause irritation by puncturing the delicate skin to feed. The ear canal becomes filled with mites, inflammatory products and wax and the dog will rub and scratch its ear, or hold its head to one side, or may even violently shake its head in an effort to allay the itching. The dog may show nervous disturbances, as a result of such infection.

Treatment

Treatment of mange, regardless of type should be under the supervision of a graduate veterinarian since it is essential that an accurate diagnosis be made and the proper treatment prescribed.

Ear mange is the easiest to treat since the mites do not burrow and are localized. The ear should be thoroughly cleaned, care being taken to prevent injuring the ear drum. After cleansing the ear may be treated with 1 per cent solution phenol in glycerin, 3 per cent phenol in olive oil, or 1 part tetrachlorethylene in 3 parts of castor oil. An ointment of 1 part of derris or cube powder and 9 parts mineral oil or olive oil is good. The derris or cube powder should have a rotenone content of 5 percent.

Sarcoptic and demodectic mange are difficult to treat under any circum-

stances. Whatever treatment is used, the dog should be clipped and bathed. All crusts and scabs should be softened and removed if possible with a moderately stiff brush. In most of the effective treatments for sarcoptic mange sulfur is an active ingredient. One pound of sulfur to 8 pounds of lard is a simple remedy that sometimes gives good results. Lime-sulfur dip as used for scabies in sheep is likewise an effective remedy. Derris root, 4 to 6 ounces, to 1 gallon of soapy water and applied as a wash has given good results. Usually three or more treatments are necessary at 4 to 6 day intervals.

Demodectic mange is the most difficult of all to treat. Many remedies have been advocated but few are of value. One per cent solution of rotenone in alcohol or oil is probably the most promising remedy available. Constant treatment for several weeks is usually necessary to effect a cure. The derris wash, as recommended for sarcoptic mange, applied every other day for several weeks has effected a cure in a number of instances but usually home treatment is not too satisfactory.

In connection with medicinal treatment for either sarcoptic or demodectic mange, supplementary measures such as freeing the animal of internal parasites and furnishing an adequate supply of nourishing food are of utmost importance. If the dog is of any value at all, the advice of a competent veterinarian should be obtained and the animal treated accordingly. If the dog is a stray or of little value it should be destroyed before other animals, or children, are exposed to the infection.

WONDERFUL DAY

By JUDD MORTIMER LEWIS

Though skies are gray and rain is falling, father doesn't mind;
He's down beside a reedy shore and sitting in a blind;
He dasn't smoke his pipe, because the smoke might scare a duck;
He mustn't move nor cough nor sneeze, for that will spoil his luck;
His eyes are on the misty sky, there's moisture on his nose,
The dampness which ducks seem to love is getting through his clothes,
He thinks if he sets still enough he's bound to get a chance,
The water in the hollow where he sits gets in his pants.

He finally gets out his call and hon-honks like a goose,
And someone in another blind across the marsh cracks loose
And spatters father with spent shot, but father smiles, for he
Considers that the shot was just a form of flattery;
But he puts up the goose-call and continues sitting still,
And water runs down his spine and father gets a chill,
But when the day is almost spent he has a change of luck—
There is a whirr of wings, a bang, and father gets a duck.

He gets home at 9 P.M. to where his loved ones are,
And all the way home that dead duck hung outside of the car,
And he is weary, lifts his feet as they were shod with lead,
And he don't wait to take a bath, just tumbels into bed;
And the next day he tells how he sat in the tall reed, and then,
For those who care to listen in, he shoots that duck again;
And, one can not help but wonder how a human gets that way,
He tells the world, and he believes, he had a splendid day.

FACTS YOU MAY NOT KNOW

Lions have been known to jump as far as 20 feet. They can also clear a barrier nine feet high.

☆

The Australian Bushmen have been known to throw a boomerang as far as 100 yards before it began its leftward curve. The boomerang sometimes rises as high as 100 feet and may circle five times before returning to the thrower.

☆

Garlic is a member of the lily family.

☆

Sharp-shinned hawks catch more sparrows than do sparrow hawks.

☆

There is no group of fishes officially bearing the name "sardine." The United States herring, the menhaden and the European pilchard are the small fishes which generally fill sardine cans.

☆

The Game Department is considering the feasibility of asking the next legislature to permit the killing of doe deer on over-stocked ranges and pastures.

☆

Because they have a highly developed sense of smell which enabled them to find their food when they need it, squirrels do not have to remember where their nuts are hidden.

☆

The fuzz from cattails, now used as a substitute for kapok in sound and heat insulation, has about 90% the warmth of the same amount of wool.

☆

The Gila monster is the only poisonous lizard in the United States.

☆

The muskrat is one of the few North American mammals which has been successfully introduced into Europe.

☆

Bears are supposed to be slow, lumbering creatures, but recently a bear, running ahead of an automobile, was clocked at the speed of 19 miles an hour until he could find a convenient place to crash into the cover.

☆

A muskrat (musquash) can travel as far as 50 yards under the water without coming up for air. His fur is nearly as fine and dense as that of a beaver. When treated and dyed it may be known as Hudson Seal, Wallaby, Velvet Coney, River Mink, Sealskin and a number of other trade names.

☆

The calf of the blue whale measures up to twenty-five feet in length and weighs about two tons at birth.

Six hundred million pounds of seafood are caught by New England fishermen in a normal year . . . 85% of this consisting of only ten species.

☆

Once in the air, the clumsy pelican "whose bill holds more than his belly can," is able to fly to a height beyond eyesight's reach.

☆

An Ohio hunter, who violated the migratory bird regulations by killing 28 ducks in one morning, recently paid a fine which amounted to \$17.80 per duck. Ducks fly high . . . but sometimes they are "high" in price.

☆

Tennessee is the country's leading state in the number of European wild boars, the herd now numbering approximately 500. New Hampshire has a herd of about 200.

☆

E. Remington and Sons, predecessors of the Remington Arms Company, Inc., were once builders of bridges, large and small. The New York Central bridge, spanning the Hudson at Albany, New York, was built by this firm, now the leading manufacturer of small arms and ammunition.

☆

Over a century ago there was a town in Herkimer County, New York, named *Remington*—after the small gun factory established there. Just one hundred years ago the name of that town was changed to *Ilion*, but it is still the site of the now internationally known sporting and military arms factory.

☆

The barn owl will eat its own weight in food in a single night. Its diet consists mainly of mice and rats around barns.

☆

In the Orient the chirping noise of the house cricket is highly appreciated and many households keep them in cages, the cages often elaborately wrought and decorated.

☆

The mourning dove ranges over every one of our 48 states. Any place the bird can drop a few sticks crosswise will do for a nesting spot. As the mourning dove's territory is so extensive and its diet consists largely of wild seeds, it is given credit for outstanding usefulness. It does no damage to growing things. In the fall when the corn is cut doves gather in large numbers in fields and work among the stubbles, picking up the loose grains of corn from the ground and not touching the corn in the shocks. All birds have peculiar traits. One of the mourning dove's is that its toes turn in as it walks.

Out of the number of ducks that are surface feeders the Black Duck is the most plentiful. Surface-feeding ducks obtain their food by dabbling in the water. Black ducks seem to like the company of the Mallards and because of this many persons confuse the two species. The Black Duck is very rugged and stays on the waters of his choice until the ice forces it to leave in the winter. During the summer it rides the water like a board, never diving. It eats a large variety of foods—seeds, berries and small invertebrates (creatures without backbones) such as leeches, worms, tadpoles and salamanders.

☆

What is commonly known as the "tail" of a peacock is not the tail at all. It is the "fan" which is formed of the tail coverts and is used for display purposes. The real tail supports the great fan when it is expanded.

State of Texas



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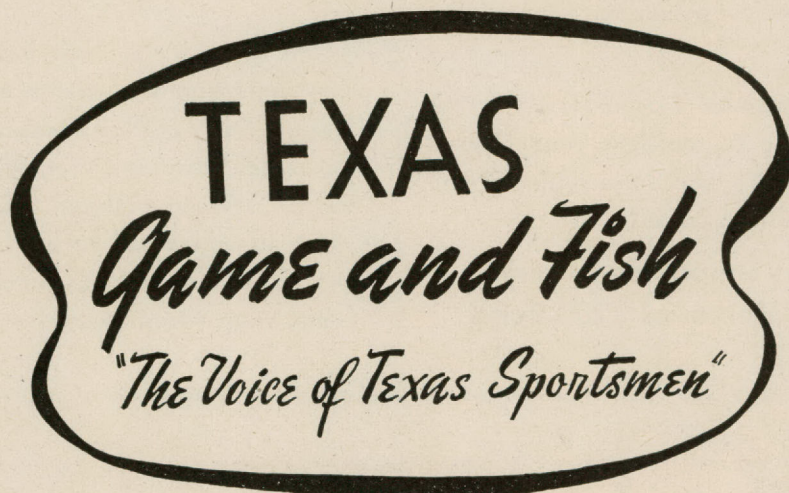
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Make December a plantwide TOP-THE-QUOTA drive! Now's the time to spotlight your Payroll Savings Plan—and "brief" your Bond-selling organization for fast, last minute action!

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