

Texas Game and Fish

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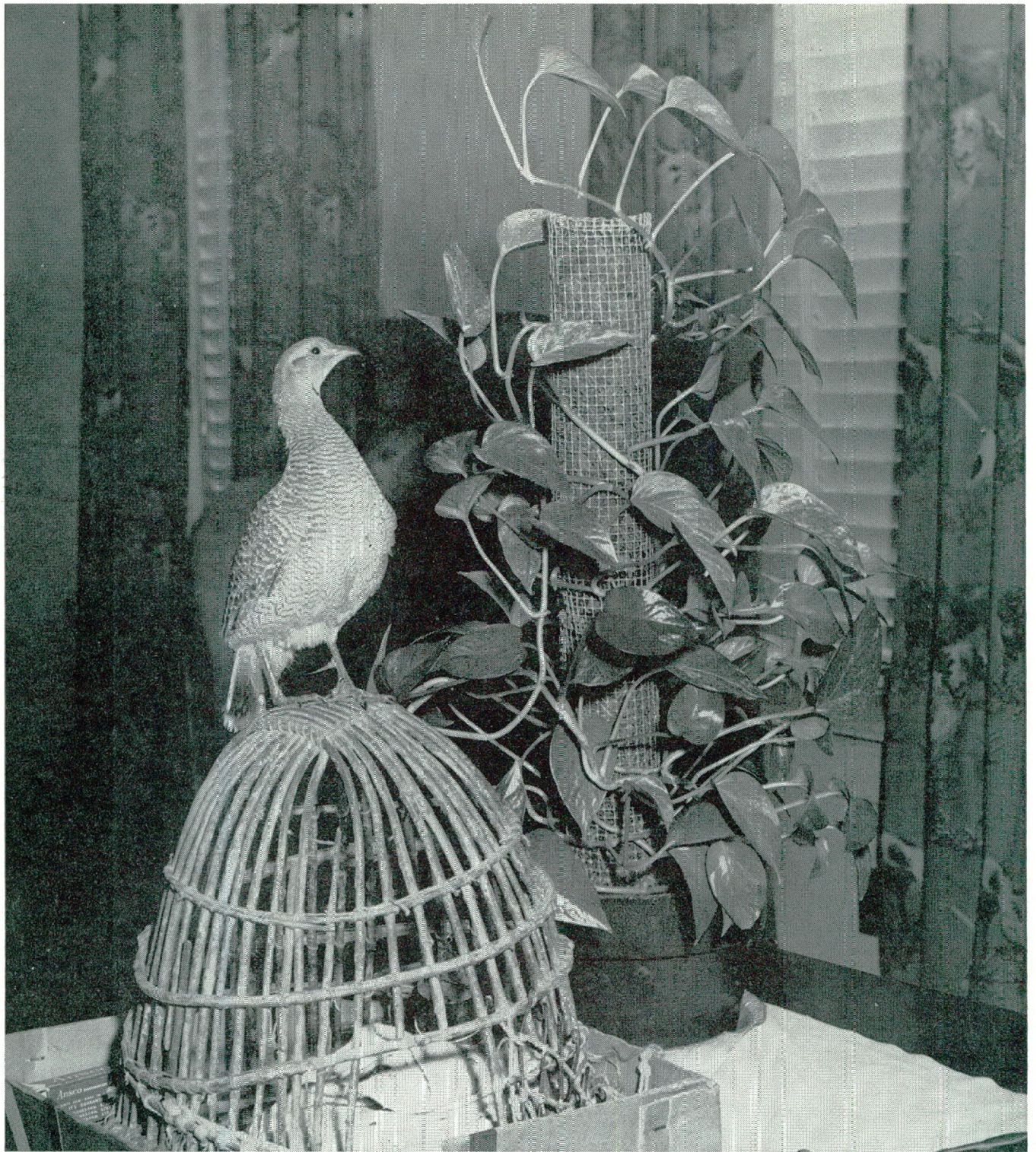
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Game Bird From Pakistan Pays Us A Visit

Titur (pronounced teeter), a gray francolin from Pakistan, has crowded a lot of living into his less than two years. Raised as a fighting cock by some Pakistanians, Titur went afoul of the law when he was used by a poacher as a "caller" to attract other birds. After being confiscated by a game warden, Titur was given to Dr. and Mrs. Gardiner Bump, who handle the importation of exotic wildlife to the United States. With them Titur has traveled, by car instead of on wing, more than 10,000 miles. (For story on the work

of Dr. and Mrs. Bump, see page 4.) With his new owners, Titur has turned his interest to posing for the cameras. Here, however, he eyes an ivy plant thoughtfully, and when his pose was finished, he stripped the plant of its tasty-looking leaves. Introduction of exotic birds is being seriously studied by biologists of the Texas Game and Fish Commission. Game birds being considered are the Spanish redlegs, the coturnix quail, the see-see partridges and gray francolins.

Texas Game and Fish

THE OFFICIAL MAGAZINE OF THE GAME AND FISH COMMISSION DEDICATED TO THE PROTECTION AND CONSERVATION OF OUR NATURAL RESOURCES; AND TO THE IMPROVEMENT OF HUNTING AND FISHING IN TEXAS.

December, 1957

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The Cover



With a dream in his eye on Christmas morn, and a warm bundle of frisky fur in his hand, the young hunter-to-be looks ahead to his day in the field. He and the German short-haired pointer have a lot to learn about hunting upland game birds and many happy days awaiting them. (Painting by Clay McGaughy.)

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. . . Unto the least of these.

'Twas the night before Christmas,
The hillsides were white,
Many creatures were moving
By sparkling starlight.

All the turkeys were roosting,
Secure in their boughs.
Nearby grazed man's creatures,
The sheep, goats, and cows.

The deer quietly browsed,
To the whippoorwill whistle,
They were brought to "alerte,"
By a stray cacomistle.

There was danger abroad,
And a mountain lion prowling,
Peter Cottontail shook,
To the lone coyote's howling.

When suddenly high
In the Heavens above,
Came a soft light so blinding
And the call of a dove.



Every creature looked upward
And strained eye and ear,
To see what was happening
And make sure to hear.

The young man-thing peered
From his crude cabin door,
Heard faintly sweet music
And listened for more.

Then the voice of the Master
Came out of the light
Saying, "Listen, my loved ones,
I greet you this night.

May there be peace among you
When dawn brings tomorrow.
Be ye gentle and kind,
And to nothing bring sorrow."

Then the sweet music faded,
And the light seemed to pale,
Creatures stirred on the hillsides,
In meadows and vale.

As they passed by each other
With dawn on its way.
They spoke in their language,
"Merry Christmas today."

—By T. D. C.



Into the New Year

Those of us who work for the Game and Fish Commission find that Christmas is a time for being grateful for the good things of the past year, and of renewed faith that the future promises even better things to come.

To the seasonal spirit of "good will toward men" we would like to add "toward men and wildlife," for this is the spirit or the theme which should guide us as we seek to improve and do a better job in the conservation of our natural resources.

It is particularly fitting to remember the good things that have been in the past year. The drought has been broken; the streams flow again and the ponds are full; our fields and woodlands are green with protective and food-bearing plants for our upland game. Additional revenue, made possible by an understanding Legislature has allowed us to increase our wildlife conservation efforts.

We are especially grateful that in spite of tense international problems, we have enjoyed another year of peace, which permits our sportsmen to hunt on native soil.

Those of you who find resolutions in order at the end of the year are welcome to use this bit of philosophy sent to me by a friend.

"Just for today I will be unafraid.

"Especially I will not be afraid to enjoy what is beautiful, and to believe that as I give to the world, so the world will give to me."

To Texans everywhere we would wish a happy holiday season and extend best wishes for the coming year.

HOWARD D. DODGEN
Executive Secretary
Game and Fish Commission



With a zest for strange countries and exotic wildlife,
this spirited couple takes well
to a life that is:

Rough and Fun foreign

By JANEY BELL

CAN YOU IMAGINE swapping a desk job for a life involving thousands of miles of travel over rocky, rough roads, hours of bargaining with foreign governments, and unfamiliar languages and customs in strange countries? In 1948, Dr. Gardiner Bump resigned his 20-year job as head of New York conservation and headed for Scandinavia to become biologist in charge of the importation of exotic game animals for the United States Wildlife Service. From Scandi-

navia, he worked in Turkey, Iraq, and Syria.

Mrs. Bump, meanwhile, was setting records raising ruffled grouse in New York. She completed her task with a peak of 3,000 birds, and joined her husband overseas in 1952.

During the past three years, Pakistan has been their base of operations. Pheasants and other game birds for Texas and other Southwest states were the goal; Spain, Iran, Afghanistan, India and Pakistan were



Dr. and Mrs. Gardiner Bump watch their gray francolin, Titur, pose atop his cage, made in his native country, Pakistan. Dr. Bump is in

charge of importing exotic wildlife from Europe and Asia to the United States for introduction in similar habitats.

Dr. Bump describes the exotic game birds which might adapt to Texas. Listening are, left to right, Howard D. Dodgen, Executive Secretary, Al Springs and William Jennings, Biologists.



the field.

Dr. Bump met recently with biologists from the Texas Game and Fish Commission to explain the types of exotics which might adapt well to Texas, based in part on studies of their present habitat in other countries. High hopes are held by Texas biologists for successful introduction of Spanish red-legged partridges, and promising strides have been made in that direction. (Release of see-see partridges, coturnix quail, and gray francolin partridges is also in the offing.)

In Spain, in spite of the handicap of having no interpreter (he was going to triple his price since "Americans have lots of money"), the harvest of the redlegs was launched. By bargaining Pakistan's chukars for the Spanish partridges, Dr. Bump was able to reduce the cost of the redlegs from \$20 to about \$5 each, plus shipping and quarantine costs.

First, before the trapping and shipping could be worked out, the birds were studied. Dr. Bump saw that the redlegs might be well suited to the Southwest—in Spain they are widely distributed over dry territory from sea level to 8,000 feet. They take shelter in small scattered patches of shrubs and oak near grain fields.

For food, redlegs prefer grain (mostly wheat or barley in Spain), weed seeds (including those of several grasses), green food (especially leaves of certain legumes), fruits, berries (including raspberries), and insects. The birds are often found miles from streams and waterholes since they don't need much water.

Flight of the redlegs is straight, strong and fast. During the bird hunts which Spanish landowners stage to maintain their social prestige, birds are driven over the fields and into the line of fire. Wary and sharp-eyed, the birds will veer sharply even in full flight to avoid an unconcealed hunter. They can cruise at a speed of about 47 miles an hour, as clocked by the Bumps in their car. When frightened, the birds burst forward with even more tremendous energy.

Hunters in Spain must be sharp-eyed and fast, too,

if they hope for a return invitation to the bird hunts, Dr. Bump said. It is not unusual for a noble to take a couple of servants with him to load his shotgun so he can fire one shot after another with only a second's pause in between. A game manager keeps tab of the kill during each hunt, and when the harvest limit is reached he orders the hunters to stop shooting. Up to 4,000 partridges a year may be shot from a hunting preserve containing as many acres.

Redlegs are resistant to many diseases and to predation and have a high reproductive capacity—12 to 15 eggs a clutch. They can stand hot, dry weather and temperatures down to zero degrees, but do not like two- and three-week snows.

(Three hundred redlegs have already been set out in the Panhandle of Texas, and more may be raised and released by the experimental quail farm at Tyler.)

When the birds had been studied sufficiently by Dr. and Mrs. Bump, trapping began. Horsehair snares were set in a long line of brush across an open wheat field, and "beaters" drove the birds toward the traps. These traps, commonly used in Spain, are safe, though strong, and only about one bird in 25 was injured. Birds that had been driven before usually remembered the ambush, however, and leaped the brush and took flight.

Two more hurdles faced the project—the "mañana" (tomorrow) attitude of the Spaniards, and the limberneck disease, Newcastle, which infected the birds. The first was jumped through sheer persistence; the second, by immunizing the birds with injections of killed Newcastle virus.

The American Embassy in Madrid furnished quarantine headquarters for the inoculated birds. It was outfitted with infra-red lights (to simulate sunlight and provide heat), two tons of clean river sand, perches, feed and water. The inoculations proved a success, and the birds were sent to the United States for a second quarantine before being distributed to the

• Continued on page 28



If you don't mind the cold, slush, and marsh grass, Texas is

Utopia for Goose Hunters



One of each, snow, blue, "speckle-belly" and Canada goose, make up the bag of H. A. Herndon, Houston, above. Right, biologists and wardens train high-powered binoculars on flights of birds and record numbers and species.

GEESSE ARE PLENTIFUL along the Texas coast this year, but the hunting is different. Old timers agree they've had to change many proven practices to fill their limits. On the other hand, many newcomers are getting their limits early in the hunting day, when they go to the right places.

First, more geese are being killed inland this year than ever before. Rice fields in the hinterlands have been flooded by the fall rains. As a result, the geese have found not only food, but water. They don't have to feed in the rice stubble and then fly back to the coast for water at night. They can spend the night where there is food.

Biologists and hunters, alike, have encountered this condition. Heaviest concentration of geese is found in the Lissie Prairie area, south of Eagle Lake. Hunting has been at its best in this area, except in some spots where the rain has made





bogs of the rice fields. Along the coastline, however, from Port Arthur to Port Isabel, hunters have found fair shooting, when the weather permitted.

Apparently there was a heavy waterfowl hatch inside the Arctic Circle. It has been estimated that nearly a million geese migrated to Texas for this winter. Persons watching the great flights and the gaggle concentration don't find much wrong with this picture.

Robert Singleton and W. M. Kiel, wildlife biologists, have flown the coast line in attempts to make an accurate estimate of the number of geese wintering here. After the close of the season December 31, they will make another survey to report on how many geese will fly back to the northern nesting grounds.

There is more to the survey work, however, than just making flights and estimating the goose population. They must make age ratio counts and family group counts.

In a preliminary count made in November in the Lissie Prairie area it developed that there was a ratio of approximately 1.1 young birds to each adult bird.

These counts are tedious and painstaking. A biologist who knows his geese on sight trains a pair of high-power binoculars on a flight of the birds. An assistant, or checker, accompanies him to keep the records. As the birds wing over in formation, the biologist calls to the checker whether they are adult or young birds—snows, blues, Canadas, or white-fronts.

Tabulating these counts it is possible for biologists to estimate the number of young that migrated to the Texas wintering ground.

Hunting during the first month of the season has been excellent in most places along the coast, according to early reports. However, shooting areas have been widely spread because of ample water and the changing habits of the geese.

In previous years most of the best duck and goose hunting was within a short distance of the Texas coast line. Many birds ranged inland where there were grain fields and resting spots, returning to the coast at night.

Through the years there has been excellent hunting

By L. A. WILKE
Photos by author



Sometimes it is rough going through knee-deep water in the marshes, as J. S. Seguria, Mansfield, La., will agree.

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That back pack will come in handy and you'll find

HOW MANY TIMES have you had the urge for a tall drink of something wet, while hunting in dry country or country where you couldn't trust the local water?

Have you ever missed a meal because you were just too far from camp and continued hunting for the rest of the afternoon to the tune of a growling empty belly? A couple of sandwiches would have been more than welcome, wouldn't they?

And, how about the time you were caught unprepared in that drenching rain. A raincoat would have been worth its weight in gold.

It may sound fantastic, but there is a dog-gone simple way to have any or all of these things when you want and need them. The idea is by no means original, and the slight amount of adjustment necessary will in no way detract from your fun. Why not use a knapsack or rucksack, as it is called by some.

The word knapsack comes from the Dutch words *knappen*—to eat, and *zak*, bag. In other words, a feed bag. The Germans gave the bag the name *rucksack*, which means back-pack. Both names are used by the English-speaking countries. As far as the history of the pack, it is believed to be associated with the military, who used it in keeping clothing and other necessities close at hand, in a relatively easily transported form.

Today, except in areas where military conflicts are still occurring, the pack is usually tied in with outdoor recreation. The pack is generally thought of as camper or hiker's gear, although in certain parts of the world, including the U.S.A., it is a part of every mountaineer or hunter's paraphernalia.

"Well," someone says, "a pack is too cumbersome to bother with."

Hold on there, brother! Qualify yourself. Any item you wear or carry can, for that matter, be cumbersome. But, if the item fits you comfortably, without limiting your actions, and in addition to that, does a worthwhile job, you should not

consider it cumbersome. The right type pack is no more cumbersome than hunting boots that fit.

"Yeah, but there's too darned much weight to one of those things."

Wrong again! The pack itself only weighs a couple of pounds. What you decide to lug in the pack determines the actual weight. A 20-pound pack on the first day of deer season can be carried from dawn to dusk, in hilly country, without any appreciable strain. The things you need and carry in a pack won't tire you as much as lugging a rifle or scatter gun in your hands.

Decide what type pack you will need. Will you carry just a lunch, can of fruit juice and a plastic rain coat, or will you be hunting in country where you think you might need a sweater, binoculars, camera, dry socks or what-have-you? If you are in the first class, a simple canvas bag, with comfortably wide shoulder straps, will fill your needs. Prices on this type run from a couple of dollars up.

If you are one of the boys who want everything from skinning tools to frying-pan, the more expensive A-frame type, which has a rigid triangular brace to which the shoulder straps are fixed, is recommended. A padded bar across the bottom of the pack, fits against the carrier's back holding it away from him and allowing air to circulate freely. The comfort of this type is worth a few more dollars if you are going to carry a large amount of weight.

Side pockets are fine for a small camera, extra film, or a general purpose rope; while a back pocket on the outside makes a convenient extra shelf space. Inside, carry a square of clean cloth (on deer hunts), as well as lunch, the inevitable raincoat, first-aid kit, and a few small cans of fruit juice.

In cold weather, carry gloves, space matches, an extra sweater and a couple of candle stubs for starting a fire. Try to anticipate your needs and fill them. You'll enjoy the outdoors more.—Reprint from the *Utah Fish and Game Magazine*.

You CAN Take It With You

By JOHN S. FLANNERY

Illustrated by John Case



Yuletide and Feathered Folklore

When Jesus was born in a stable on the first Christmas day, legend says a stork which was among the animals there received an eternal blessing. In present-day Palestine farmers say the stork brings the springtime. They call the bird *Abu Saad*, "the father of goodness," because it eats locusts and other insects which would destroy grain crops.

Christmas legends the world over reflect the love and importance people attach to birds. Every country seems to have its favorites.

When the Holy Family was fleeing from King Herod's soldiers who sought to kill the Christ Child, a Spanish legend says the lark, quail and dove went with them, singing sweetly to cheer the travelers on their tiresome trip. As the soldiers neared the family, the dove and quail feared for their own lives and remained behind, hiding in dense branches.

Only the lark defied the cruel men. Drawing the soldiers on with her song, she flew high in the opposite direction to that taken by the Holy Family.

Since that time, the quail has flown low, and never soars in tree tops as many other birds. The sound of the dove is soft and mournful. But the lark flies high and joyfully toward the rising sun, singing the sweetest song of all.

The cardinal and redwing blackbird are re-

puted to have worn drab feathers before the birth of Jesus. That night they were decked in bright colors to attract the Holy Babe.

Although many modern Irish deplore it, one of their war legends started the old-time tradition of hunting and killing a wren on Christmas morning. With a branch of holly and bright ribbons attached, the wren's body was carried from house to house by "Wren-boys" who sang songs and expected to receive a dole from each household.

This tradition stemmed from the time of the Danish-Irish War. The Danes were resting after a long march, the story goes, and the Irish were creeping up on them. Suddenly a wren, seeing a few crumbs which the Danish drummer had dropped on the drumhead, swooped down and started pecking at the crumbs. The noise awakened the boy, who in turn aroused the camp. The Irish, driven off and defeated, blamed their defeat entirely on the little wren and vowed they would kill them all.

On the other hand, one old belief says the wren and the English robin are sacred birds. Ancient stories contend that both of these lovable birds were present at the manger when Christ was born.

The pretty goldfinch, because of a historical artistic association with the Christ Child, has long

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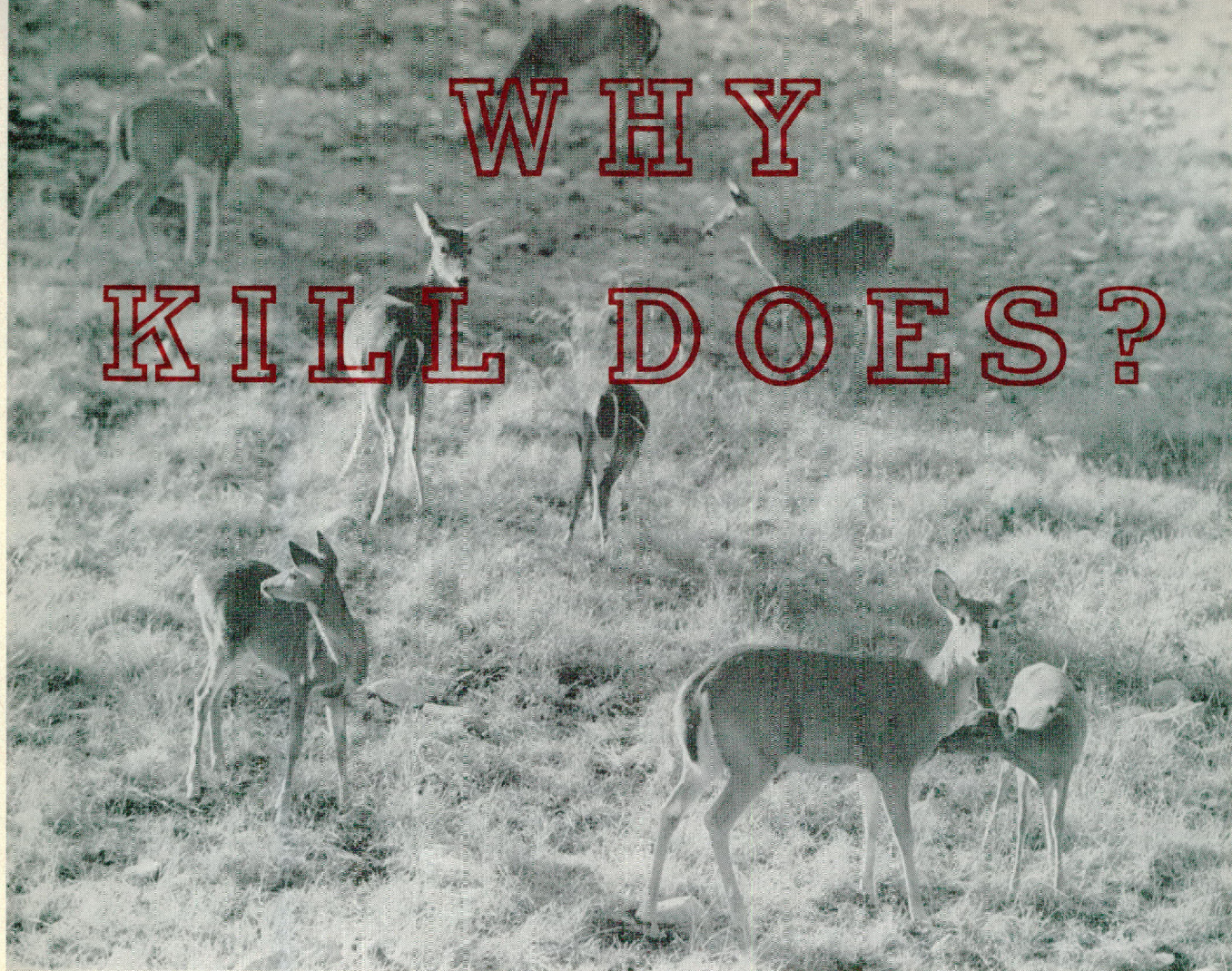
Adapted from "Birds Have Big Role in Christmas Legends"

By JEWEL CASEY

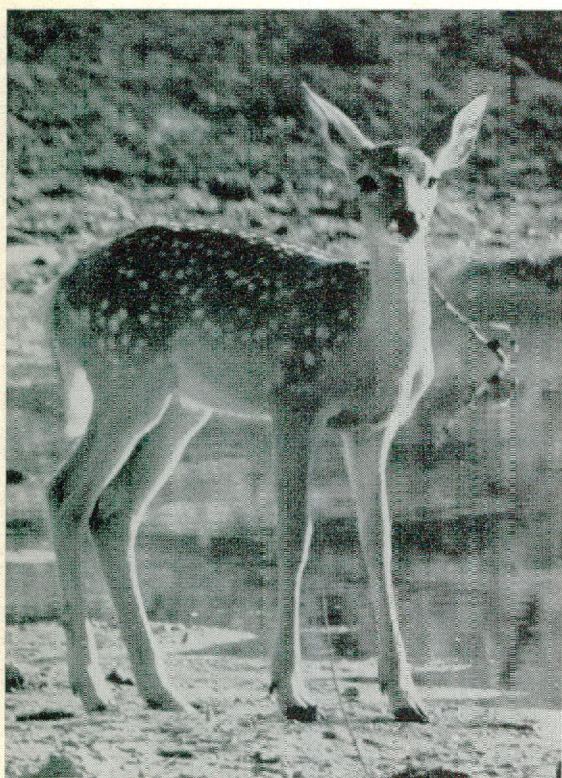
In *Southwestern Crop and Stock*

Illustrated by Anne Marie Pulich

WHY KILL DOES?



By THERON CARROLL



Will this whitetail fawn have a chance to grow into a healthy trophy buck? Or will he, like the little fellow shown above, die from disease or starvation—the results of an overcrowded range.

What is a deer?

What is a deer?

To a scientist a deer is a member of the:

Kingdom	Animalia
Phylum	Chordata
Sub-phylum	Vertebrata
Class	Mammalia
Order	Artiodactyla
Family	Cervidae
Genus	Odocoileus
Species	virginianus (and related forms) White-tailed Deer hemionus (and related forms) Mule Deer

To the farmer or rancher a deer is a "star" boarder that may eat his crops, his grass, his shrubs, or his wife's roses. Though he may often be a pest, most farmers and ranchers like to have them on their land.

To the sportsman a deer is a cunning four-legged "bundle of nerves" that represents a trophy to be collected; a tasty bit of venison; a reason for getting out of doors; and, always a challenge.

To the youngster, the artist, the student, and the nature lover a deer is a thrill, a thing of beauty and grace, an interesting member of the plant-animal community, and a living symbol of our wildlife heritage.

Who Owns the Deer?

"All wild animals, wild birds, and wild fowl within the borders of this State are hereby declared to be the property of the people of this State (Art. 871a, P.C. 1925)."

Although the wild animals belong to "the people of this State" the landowner has the right to grant or refuse permission to the hunter to enter upon his private property.

Wild game becomes private property only when taken according to law.

Where Are Deer Found in Texas?

From the Trans-Pecos to the Piney Woods; from the Panhandle

What do deer need?

Who owns the deer?

to the Rio Grande Valley, wherever there is suitable range and protection, you will find deer in Texas. The Hill Country holds the greatest concentration of whitetails at the present time.

Mule deer, characteristically animals of the uplands, live west of the Pecos, with a few isolated herds being found in the Panhandle.

What Do Deer Need?

The basic needs of deer are food, shelter (cover), and protection (from illegal hunting, predators, each other). A given area of land will provide for a given number of animal units. Cattle, being primarily grazers, offer less food competition to deer than do browsers like goats.

Included in the diet of Hill Country deer are found the following items in season: mesquite beans and leaves, live oak acorns and browse, wild persimmons, shin oak, and various grasses.

Do Deer Have What They Need In The Hill Country?

The answer to this question depends upon the particular area where the deer are found and the land-use pattern of the landowner. In some sections of the Hill Country, those areas heavily stocked with sheep and goats and other areas overstocked with deer, the deer do not have much food.

Critical periods—hard winters and droughty summers—have resulted in tremendous die-offs and waste. Some of the larger ranches have lost deer at the rate of one deer to 10 acres due to starvation and malnutrition. Since the does outnumber the bucks, naturally there is a higher mortality among does and, since fawns must compete with adults for food, there is also a high fawn mortality. At times, 40-75 per cent of the total deer population have died in parts of Mason, Gillespie, Real, and Kerr Counties.

For the Hill Country, as a whole, there is not enough available food to maintain the tremendous deer

What is carrying capacity?

Do other states kill does?

What is a limiting factor?

How can we produce more huntable bucks?

What are the plans for the future?

populations the year round. The individuals which survive are weakened and undernourished. Through the years this has been reflected in smaller deer. Six- and eight-point Hill Country bucks field dressed at 60 pounds have been common the past few years.

Genetically speaking, these white-tailed deer are the same as those found in the South Texas brushlands, home of the big "brush" bucks; North East Texas where 150-pounders are numerous; and in the Panhandle where a 203-pounder (field dressed) was taken in 1955. The main factors involved are food, numbers, and time.

Young deer herds on new range produce large, vigorous individuals. Old deer herds out of balance in sex ratio (brought about by harvesting bucks only for a long period of time) and out of balance with their food supply (brought about by competition, changes in land use patterns and insufficient harvest) produce an inferior strain of huntable stock.

For most of the Hill Country and

for most of the other deer range in Texas, the deer have reached the carrying capacity of the range.

What is Carrying Capacity?

Every established farmer and rancher uses his knowledge of carrying capacity every day—though he may not be familiar with the term as such. He knows that a certain pasture will support five cows; or 25 sheep; or 25 goats. Some years more, some years less, but on the average five cows or 25 of the smaller animals. So the carrying capacity of that pasture, in terms of the animals using it, is the average number it will support.

In the Hill Country the cow is used as a basis for an animal unit. Five sheep or goats or six deer are considered the equivalent of one adult cow, or one animal unit. If all cattle, sheep, and goats were removed from the pasture under discussion, that pasture would then support 30 deer and that would be its carrying capacity in terms of deer.

What happens when the herd is

increased during fawning season? Good management calls for the removal of a number of adult deer equivalent to the number of fawns which survived—this would keep the herd at carrying capacity.

Actually, the herd would be kept in much better physical condition if it were reduced to 20 or 15 animals. This would mean more food available and it would also insure against permanent damage to the range. The range must produce the food, and if the range is damaged through overgrazing or misuse for a period of years, the carrying capacity will eventually be lowered as food will be the limiting factor.

What is a Limiting Factor

Within any animal population nature tends to produce more than will survive, be it deer, mice, or sparrows. There are natural forces within the animals' environment which are continuously at work reducing the numbers.

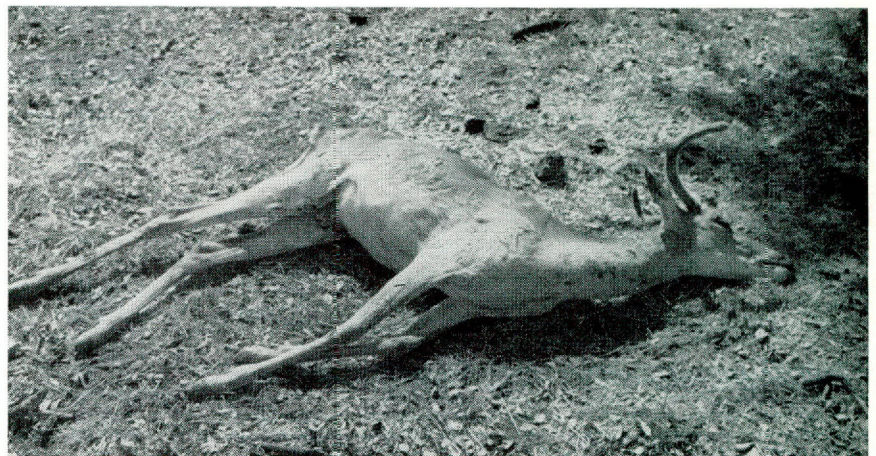
Aside from the natural mortality of old age, things like diseases, screw worms, accidents, lack of food and cover, lack of essential salts and minerals, and predators all take their toll. Game species are also confronted with hunting pressure.

Aldo Leopold, a prominent wildlife authority, diagrams the forces which tend to limit the population increase. (See illustration on opposite page.)

In the diagram, line B (partly solid and partly dotted) represents the unimpeded increase or the potential population starting with 10 sexually mature whitetails (three bucks and seven does) on good range.



Starving deer are not an uncommon sight in areas where there is an excessive deer population.



The buck, right, is lost to a hunter's gun through lack of foresight of a landowner in keeping his deer population within the carrying capacity of his land. Lack of sufficient food has left the deer susceptible to disease and starvation.

The numbered lines represent the forces or limiting factors at work on the population which tend to bring it to the carrying capacity line A. Dotted line *a* shows the seasonal gains and losses (the result of fawn production and mortality).

Either of the forces at work may interact with the other forces, for example: lack of food and cover make the animals susceptible to predation, diseases and parasites. Lack of essential salts and minerals may make them susceptible to diseases and parasites which in turn may weaken them and make them easy prey.

The removal of hunting pressure where it has been excessive, may result in a temporary build-up of the animal population. The removal of food and cover, however, leaves the animals in a weakened, unprotected condition—easy prey for accidents, predation, diseases, hunters' guns, and with a low reproductive capacity.

If sufficient food and cover are available the healthy, well-fed animals are less prone to accidents; better able to resist diseases and parasites; able to escape predators; and better targets for the sportsmen. Consequently, most game managers are concerned with managing the range so that there will be ample food and cover, and controlling the herd population (by scientific cropping) so that its density will be just below the carrying capacity of the range.

In areas where the range has been



Some old timers complain that the deer aren't as big as they used to be—the racks not as large. But on areas where proper deer management is practiced, fine bucks are a common sight.

greatly damaged through the influences of over-grazing, drought, or other factors, an immediate reduction in herd numbers will hasten the recovery of the range so that the carrying capacity may more rapidly be brought to a higher level. Once the food and cover are restored and scientific cropping is applied, the game manager can then direct his efforts to removing or decreasing the forces of predation, lack of essential minerals and salts, and thereby raise the level of the carrying capacity and help establish a stable population.

What is a Stable Population of Deer?

In one way or another, a deer herd *will be balanced* with its food supply. Deaths must balance births in a stable population. If a range is improved, the deer herd may be stabilized at a higher density; but, since more deer are born, more must die to keep the herd at the limit imposed by the food supply.

The rate at which deaths are replaced by births is known as the annual turnover. On the better ranges with the higher deer populations, the annual turnover may be 40 per cent or greater. This means that the average life span of the individual deer will be shorter.

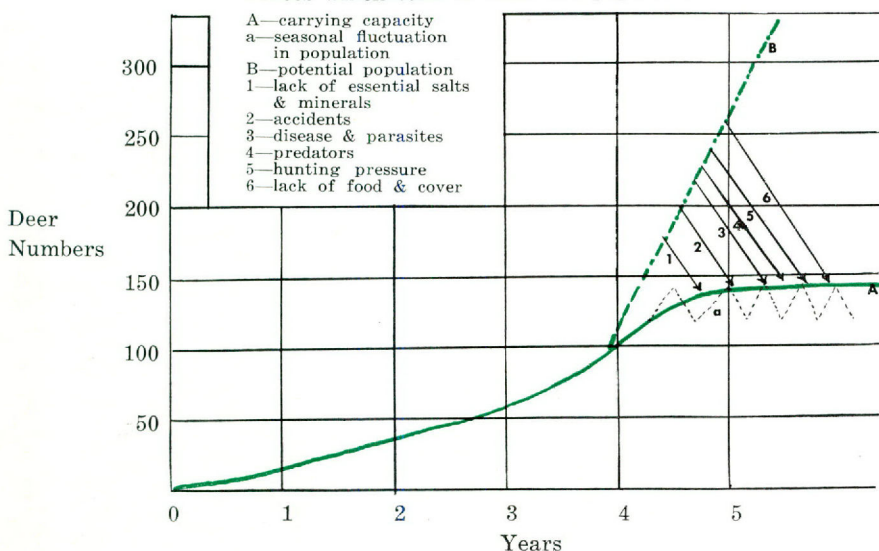
Can We Stabilize Our Deer Herds by Hunting Bucks Only?

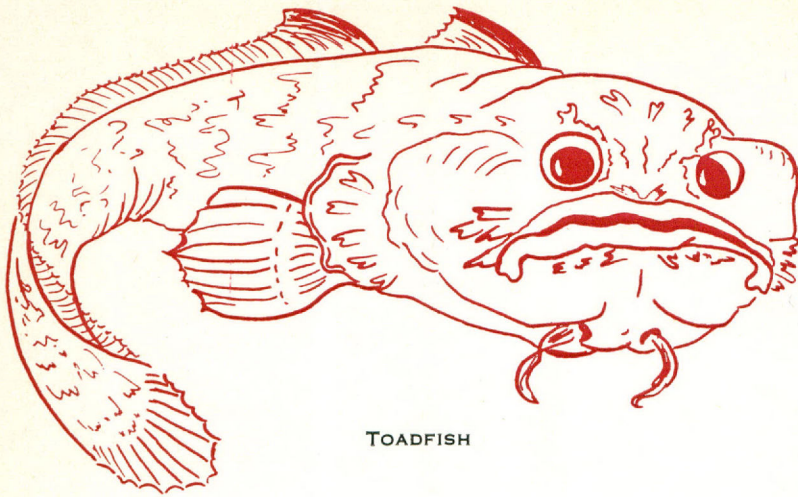
In the article "Too Many Deer," published in *Virginia Wildlife*, May, 1956, Dr. Starker A. Leopold declares that the buck hunting tradition practically limits the maximum hunters' kill of any herd to about four to nine per cent of the population.

Suppose, for example, that there was a herd of 10,000 whitetails on a range that produced a 40 per cent annual turnover. If buck hunters took their nine per cent, only 900

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Forces which tend to limit the population increase.





TOADFISH

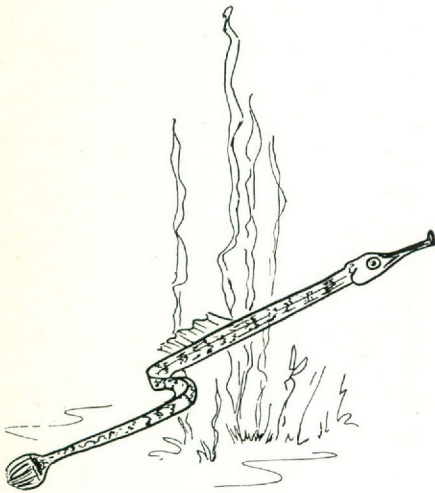
By SANDRA POUNDS

Illustrated by author

DID you ever pick up a submerged tin can and find a grotesque face peering out at you? If so, chances are you met the toadfish. This creature, often called a dogfish, is as ugly as its name implies, with a mottled skin and thick-lipped mouth which turns down at the corners in a repulsive manner.

Texas Tropicals

FEW TEXANS realize that a marine world of infinite interest lies in the grassy marshes, around piers, on oyster reefs, and in holes in the mud near the shore. Very little attention is paid to the unobtrusive tropical fishes of our Texas coast, which are just as much a part of Texas as the rattlesnake and the jackrabbit.



PIPEFISH

Many of the Texas tropicals can be kept in home aquariums. The pipefish, for example, are fairly easy to keep, as are the gobies and toadfish. The toadfish and puffers are hardy fish and can live for some time out of water. Some of these small fish can be converted from salt

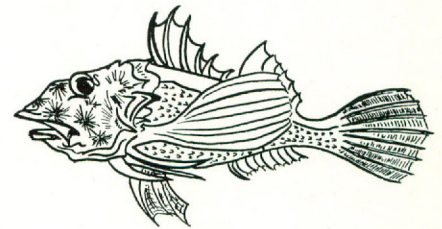
water to fresh water and kept in home aquariums by gradually reducing the salinity of the water. Interesting facts and habits of Texas fishes can be derived by a casually interested person through observation of the animals in a home aquarium.

The slender pipefishes can be found in grassy flats and salt water inconspicuously attached by the tail to a blade of grass. Similar in appearance to its cousin the sea horse, the pipefish is long and slender and covered with rings of bony plates rather than scales. Like the sea horse, the male pipefish carries the young fry from the day the eggs are deposited in his brood pouch until about 10 days afterwards, when the young fish, tiny as a hair, emerge and swim away.

The pipefish is long and slender, reaching an average length of six to eight inches. Its movement is slow, and it relies on concealment in the grass rather than swift swimming to elude its enemies and catch its prey.

In contrast to the graceful pipefishes, the sturdy gobies are quick and elusive, as they turn and twist—swimming forward, darting backward with a jerky motion, and then suddenly dashing down a hole at a hint of danger. Gobies are often dark colored, mottled with browns,

yellows, and pinks. Their heads are large, compared to the rest of their body. On the underside, just below the gills, are two fused pelvic fins which form a suction cup. With this unique apparatus, the goby can fasten itself on any solid object.



SEA ROBIN

Needle fish, or billfish, are long and narrow, somewhat similar to the pipefish, but here the resemblance ends. Needlefish have long jaws with rather prominent teeth, which are used to seize and hold its prey. These fish live near the surface, are sleek in form and color, with bluish-green above and silver on the sides and undersides. Adult needlefish may reach a length of four feet.

Puffers, or blowfish, are often seen on the coast. This curious creature fills itself with air or water when frightened or alarmed until it is almost round, except for its stubby tail. Sometimes they can be observed floating belly-upward on the surface of the water where they will remain until they feel the danger is

• Continued on page 30



Dr. Robert Ladd of Chicago, right, displays his rare catch, boated near Port Aransas and now positively identified as a spearfish. Joe Kennon, left, was boatman.

A Stranger Takes the Bait

By ROY SWANN
Corpus Christi Caller-Times

Photo by Roy Swann

HALF sailfish, half white marlin . . . with the sporty fighting stamina of neither of his elusive cousins. Such is the spearfish, a strange member of the billfish family that has eluded fishermen and fisheries experts for centuries.

"Almost unidentifiable . . . nothing is known of its habits . . . very rare everywhere." These are some excerpts from three leading fishing authorities.

All, possibly, can be rewritten now. Dr. Robert Ladd of Chicago recently brought to gaff a 6-foot-6-inch spearfish, definitely identified by Dr. Victor Springer, research associate with the University of Texas Institute of Marine Science.

It is believed to be the only spearfish ever taken on hook and line.

Dr. Ladd made his amazing catch while fishing off Port Aransas last August 6 with boatman Joe Kennon of Island Charter Service. They were trolling mullet for bait and "were just out looking around for kingfish, sailfish, ling—just anything," Dr. Ladd said.

The mullet bait was being "flat lined," meaning no outrigger was in use and Dr. Ladd had full control of his line all the time.

Dr. Ladd and the fishing guide both missed the initial strike. First they knew, they heard the fish hit the water after taking the hook and breaking water.

Then the fish twisted their lines together. Both boatman and fisherman, thinking they had "just another small sailfish," took their time getting them untangled.

"It didn't put up any fight at all," Dr. Ladd explained, "later we thought sure it was just a small sailfish. I just played around with it while we got the

lines untangled. When we got him near the boat he was such a deep blue, or purple, that I just held him around the boat for about 10 minutes while we took color movies."

Even after the fish was aboard the boat, fisherman and guide failed to notice anything unusual about the fish. Dr. Ladd said they started to release the fish, but then he decided to take it in and possibly have it made into a mount.

They put the fish in the small cabin and continued fishing. It wasn't until someone back at the docks noticed the fish was not a sailfish that they noted the oddity of their conquest.

Its body was long and pencil-shaped; not high and narrow like the sailfish. It was "an iridescent blue or purple on top and silver underneath." It had a short bill, much shorter than most marlin and nearly all sailfish, and the bottom of its mouth protruded almost two-thirds the length of the bill.

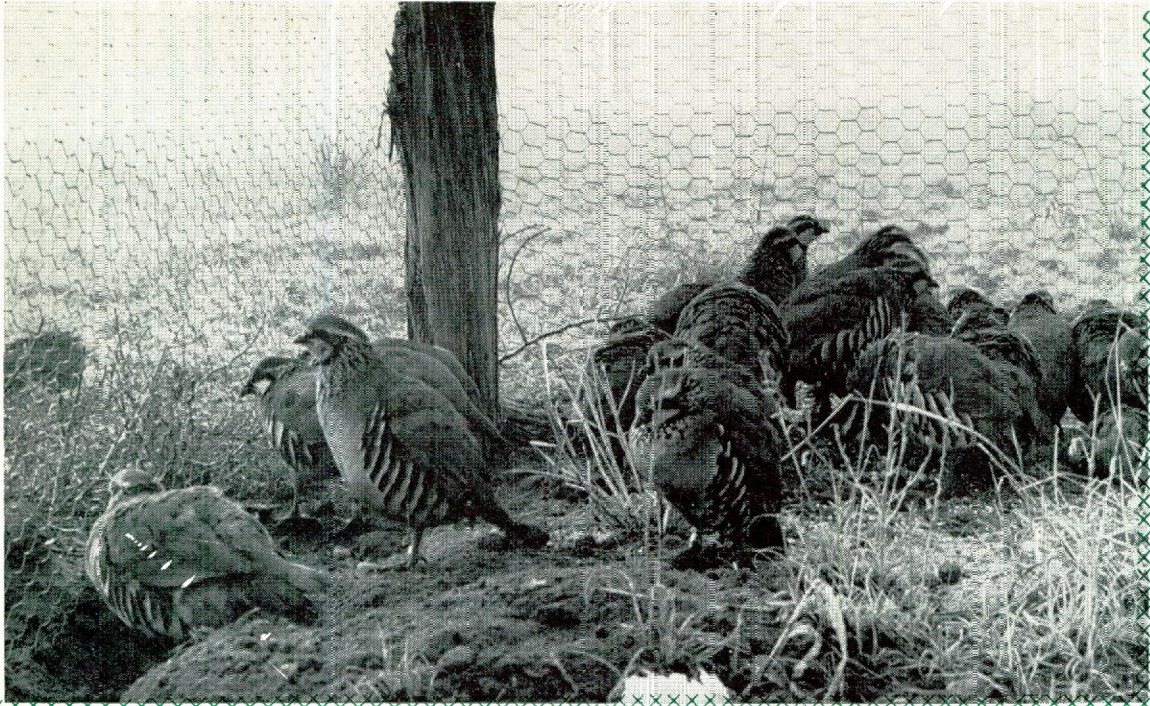
It weighed 33 pounds and measured 6 feet, 6 inches.

The fish, with a dorsal fin more resembling a marlin's than the tell-tale sailfin of a sailfish, was identified as a white marlin by many veteran fishing guides along the dock and easily could have been ignored except that taxidermist Ancel Brundrett immediately pointed out some slight differences. He first guessed its identity and hauled it for safe-keeping to the Port Aransas ice house.

The Institute of Marine Science and the Rockport Marine Laboratory then were alerted.

Dr. Springer and Game and Fish Commission biologists first said its identification was "almost definite,"

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RELEASE OF THE REDLEGS

NOT MANY GAME BIRDS make their homes in the arid and barren Panhandle of Texas, where temperatures dip and soar with equal zest. Bobwhite and scaled quail and Rio Grande turkey are sparsely distributed, and if other Texas game birds liked the area they would probably already live there. Sound hopeless for the Panhandle sportsman? On the contrary, the Pan-

handle has set the perfect stage for an ambitious, far-reaching experiment—one of bringing excellent game birds from a similar habitat half-way around the world and introducing them to Texas.

Texas Game and Fish Commission biologists joined forces in 1955 with the U. S. Fish and Wildlife Institute in a study to bring the Spanish red-legged partridge into the area. Later introductions in Texas were to include see-see partridges, gray francolin partridges, and coturnix quail.

The redlegs project, led by A. S. Jackson assisted by Richard De Arment, opened in 1955. On February 3, the first shipment, 76 partridges, arrived from New York at Love Field, Dallas, where qualified personnel transferred the crates to a light pickup truck. The next stop was the release site—Miles Wells Ranch southwest of Childress in Cottle County.

Compiled from biologists' reports
by A. S. JACKSON and RICHARD DE ARMENT

By JANEY BELL



A. S. Jackson, project leader, bands a Spanish red-legged partridge as Jack Parsons, biologist, watches.

Biologists watch closely as an exotic Spanish game bird works out its destiny in the Texas Panhandle

Here, the project staff examined the birds—none of them had ever seen a Spanish red-legged partridge. The redlegs were then banded and transferred to holding pens which had been prepared in advance. One of the staff biologists set up housekeeping in a small trailer house near the holding pens so he could care for and observe the reactions of the partridges to confinement and release.

While being transferred from the crates to the holding pens and while being banded, the partridges seemed docile and gentle, probably because of hunger and the unaccustomed noise and movement. Individual birds which were placed on the ground walked away from the hand which released them, or stood quietly for a moment before moving off to join their companions at the opposite end of the pen.

They began immediately to eat the proffered rye grain and milo maize, both of which were available in the release area. (They preferred balboa rye two to one over the maize.) Green blades of growing rye, wheat and annual brome grasses were eaten so greedily that the biologists added leafy alfalfa hay in semi-green condition to the redlegs' diet. A shrubby growth of joint fir, common in Lower Plains, was browsed heavily in one pen.

The evening of the first day, the redlegs got their first chance to prove how hardy they were. A chill rain began falling soon after night-fall, the temperature approached freezing, and the biologists started to worry. The birds, scorning cover, huddled in the open, very wet and bedraggled.

The next morning, the birds were

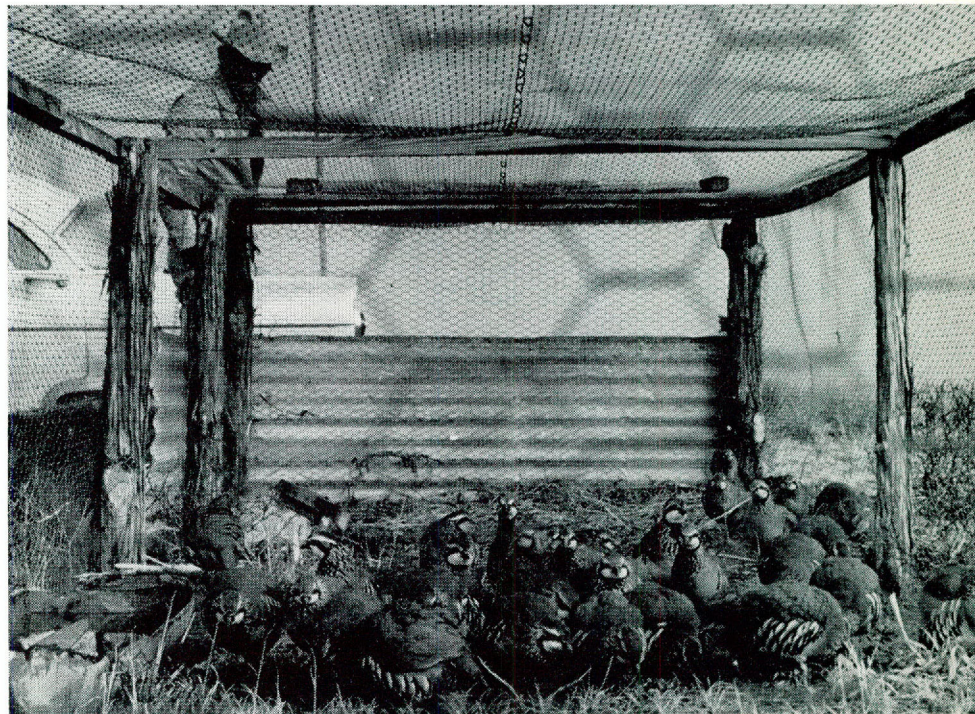
The first day they were penned, the redlegs acted still and tame. Then they became wild and alert again. Checks were made at night to avoid panicking the birds.

in good shape—dry, very alert and finally acting like the wild birds they were. They panicked when their observers came close, and they flew frantically against the sheet iron shelters and the chicken wire. During the middle of the day and at night, the redlegs clustered at ends of pens to use low shrubs for cover. Observed long distance by binoculars or telescope, the birds showed constant activity—most of it a back and forth walking of the fence, seemingly in search of a way to escape.

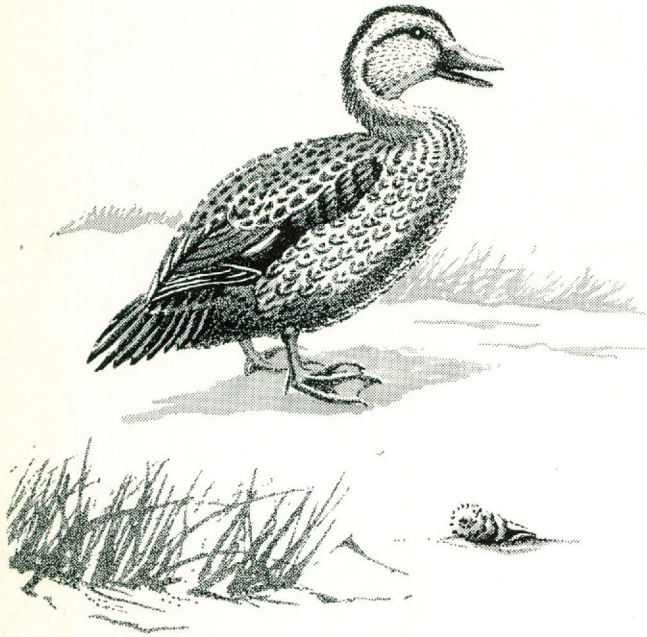
Even in captivity the Spanish redlegs fed and watered regularly. From sunrise to about 9 a.m. the birds fed, and again each day beginning about 4 p.m. The feeding varied a little with weather conditions. A decided preference for green feed and a zest for dusting, both striking characteristics of the birds, were noticed from afar. When they drank water they bathed, splashed, and submerged in between sips.

Checks of the food and water supply were changed from daytime to dark hours when the biologists discovered the birds remained calm if approached by

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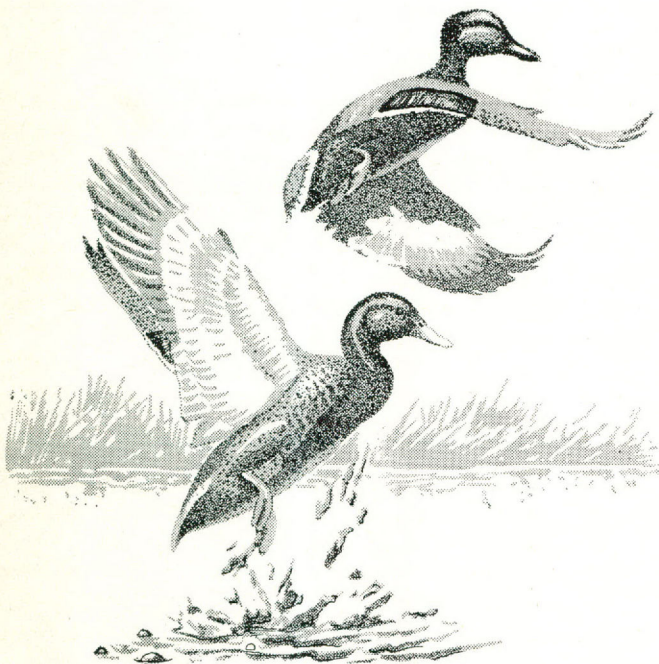
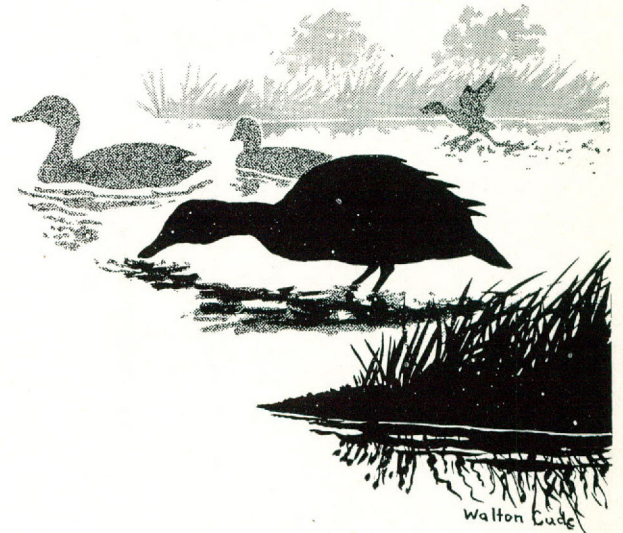


Mottled Duck



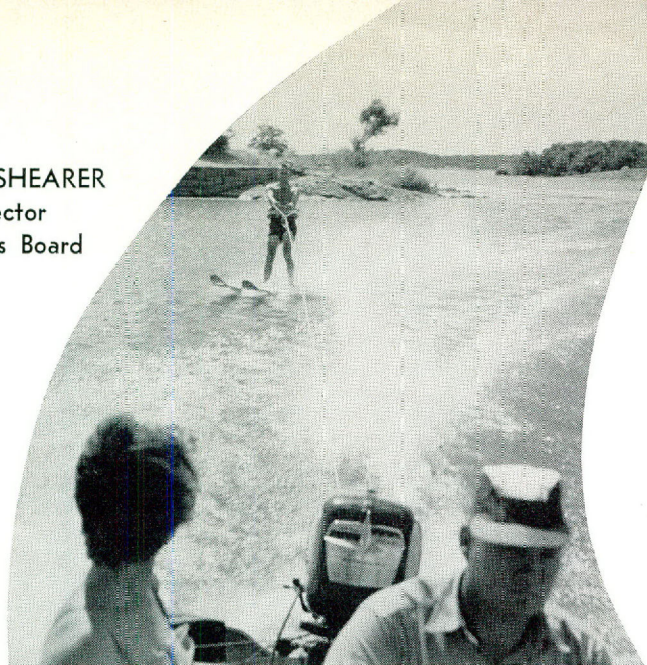
The mottled duck is sometimes referred to as Texas' native duck, as it does not migrate. Its travels are generally limited to an area of only a few miles radius of the nesting grounds. In size and general appearance it resembles a mallard hen. A darker overall color and typical purplish mallard speculum, bordered front and behind with black and usually bordered on the trailing edge with white distinguish it.

Mottled ducks occur along the entire coastal area of Texas, with heaviest concentrations in upper coastal regions. Food includes some plant foods such as seeds, tubers, and underwater vegetation, as well as snails and mollusks, crayfish, and fish.



Like other ducks such as mallards, pintails, and gadwalls, mottled ducks are "dabblers" ducks, seldom diving far below the water's surface in search of food. Also, the mottled duck jumps directly into the air when alarmed, rather than running along the surface of the water before taking flight.

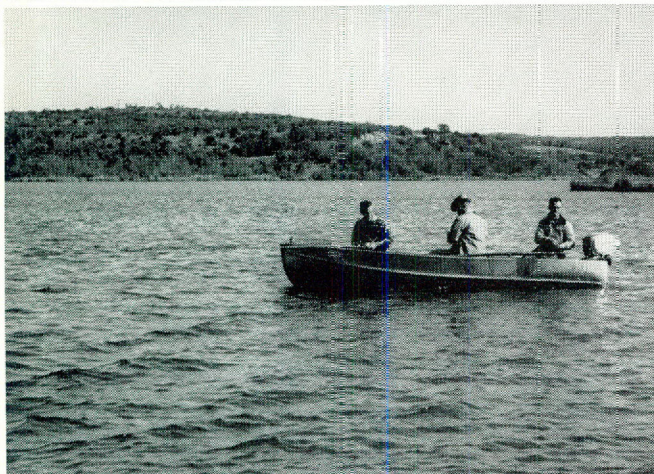
By GORDON K. SHEARER
Research Director
Texas State Parks Board



a Thought Ahead... for Others

There's no denying water-skiing is great sport . . .

*but when boat and skier come too close
to shore it spells **DANGER!***



When fish are lost because boats come too close too fast, who can blame fishermen for being angry? On the other hand, trotline floats in the middle of a lake can prove fatal to water skier or fast boat enthusiast.

The English have a word for it—AMENITY. It means pleasantness and smoothness in social intercourse. Taken into the Texas outdoors, it would mean having fun without fouling up someone else's pleasure. And it might mean the solution to the frequent conflict of activities by Texans who use our public lakes and rivers for recreation.

A park with no lake or stream is only half a park—from the standpoint of both recreation and finances. But how can everyone enjoy themselves when in one public park there may be devotees of fishing, sailing, swimming, rowing, water-skiing, speed boating, and skin diving? Except for some strictly historic or scenic areas, water sports are encouraged in practically all of the state's 56 parks.

The fisherman will volubly cuss the speed boat operator who swishes by, stirs up the water, and disturbs the fishing. Bathers knocked over by the boat's wash wave will add an equally bitter condemnation.

In turn, the speedboat operator and the water skier complain if they are entangled by a long trotline. The boat operator's argument for his rights would include the considerable investment in his boat and launching equipment which he may have trailed a long distance to the lake or stream. He feels that he is entitled to get his money's worth. He likes to move fast and make those graceful turns, even if they do take him close to fishermen and swimmers. He may point out that his recreation is not for himself alone but for his whole family or the group of friends with him as well.

Regulations to harmonize the various activities have been considered, but no set of rules fair to everyone has been discovered in half a century of state park operation. Hunting is prohibited in the public parks, but this limitation was prompted by the safety of

• Continued on page 26

armored ancients

Near Caddo Lake, Texas scenery takes on a primitive look—tall cypress trees, shrouds of Spanish moss, the water dark but clear. While I push a water-soaked pirogue across the calm waters in search of bass and pickerel, I can hardly suppress the mental picture of huge prehistoric monsters wallowing in and gorging themselves on the lush aquatic vegetation visible beneath the surface.

To complete the picture dug from ancient times, Texas' most primitive and terrifying-looking native appears—the alligator. As I watch, turtles, fish, waterfowl, and both large and small mammals scatter, a testimony that the alligator completely rules his domain.

If you have been lucky enough to observe old 'gator in his natural habitat, you probably have wondered

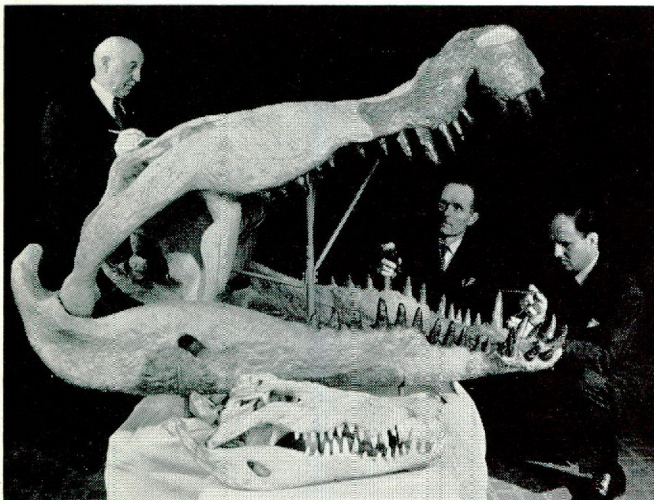
just how long these armored reptiles have bellowed and hissed their defiance while thrashing Texas waters. In fact, they were striking fear into the hearts of prey long before the grunts of our own ancestors blessed the land.

During the Triassic Age, more than 170 million years ago, a river ran through Crosby County between Crosbyton and Spur. Nearby lived a crocodile-like Texan, *Desmotosuchus*—an impressive name for such a bizarre creature. This river, perhaps during a rise, washed Mr. Desmato into a deep hole in its bed and covered him with silt and vegetation. Eventually, the river dried and was covered with many protective layers of rock and shale. The layers through the eons were cut away by water and wind erosion—a threat of destruction to the buried bones beneath them.

Often when weather elements expose the remains of ancient animals, the bones are worn away, too, before they are seen by appreciative eyes. Luckily, Mr. Desmato did not meet this fate.

A few years ago, Professor E. C. Case, paleontologist, excavated Desmato from the surrounding stone. *Desmotosuchus* was about the size of our present-day 'gator. He carried armor only top side, leaving his limbs and belly vulnerable to attack. Although he was free from human hunters after his hide, he had contemporaries that had no qualms against Desmato steaks for breakfast. His environment and habits were probably like ol' East Texas 'gator, and he was surrounded by now extinct tropical plants that would throw the local garden club into hysteria.

About one billion years after Desmato passed on, a sea of Cretaceous Age receded, exposing its sandy bottom in the form of sandstone. A blue boulder from this ancient shoreline remained in a small creek bed

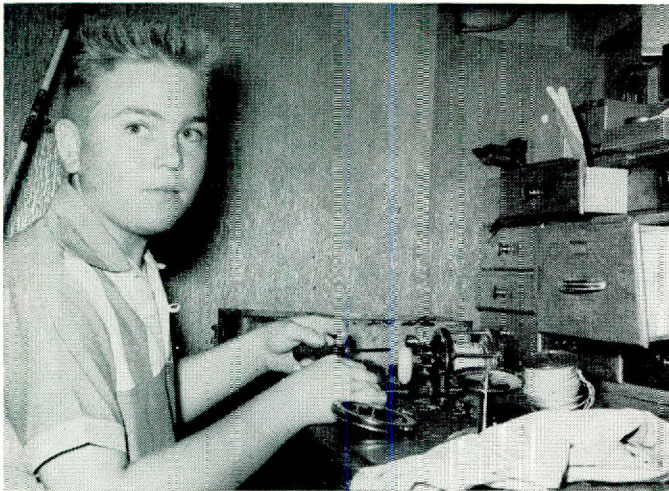


Courtesy of American Museum of Natural History

Phobosuchus, huge crocodile fossil, is studied by archeologists and compared with the more recent skull in foreground.

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YOUNG CRAFTSMAN ADDS TO FISHING PARTY FUN



L. A. Wilke

By
L. A. WILKE

John Nelson, Jr., of Freeport takes his job of cleaning rods and reels for Party Boats, Inc., seriously, even during school days.

John Nelson Jr. of Freeport has a reel job. It also might be termed a real job. Each fishing day, and there are plenty of them at Freeport, he checks more than 50 huge Senator 4/0 reels. The reels are a part of the equipment of Party Boats, Incorporated, used in offshore fishing.

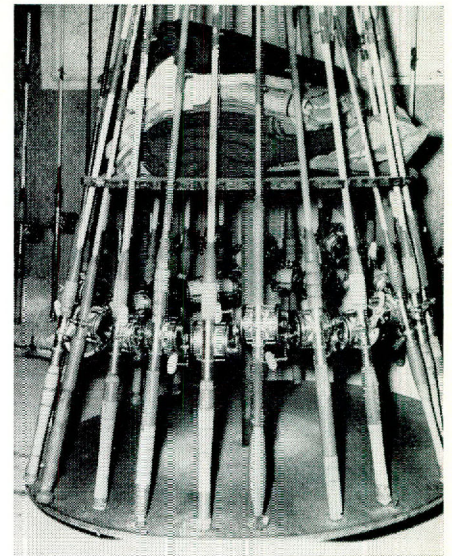
John is the official repair man for Party Boats. Rods and reels used on these boats must be in perfect working condition. When the boats return to the docks after a heavy day of snapper fishing, the tackle equipment is taken directly to John's work table.

He takes the reels apart, checks them for worn parts, oils them and

gets them in proper working order. Rods also are checked by the young craftsman. If there are any smashed guides or damaged wrapping, he repairs them, too.

John rewinds the reels when the line shows the least sign of wear. The spools are filled with enough Ashaway 130-pound test line to reach the snapper beds some 30 or 40 fathoms down (about 180-240 feet), and still have plenty of line to let 'em run awhile.

"This is one of the most important jobs we have," said Raymond Muchowich, operator of the fleet. "When a fisherman goes out with this heavy equipment he wants something that will work. He might



L. A. Wilke

Tip top shape is a must for the heavy equipment used on deep sea fishing parties. Lines can reach 30 or 40 fathoms down.

come up with a snapper, barracuda, shark, ling or some other tackle-buster."

John, the son of Mr. and Mrs. John Nelson of Freeport, entered Brazosport Senior High as a 10th grader in September. He is an ardent fisherman and hunter, but he hasn't made definite plans for his future. Meantime, he is building up a nice educational fund with the money he makes checking fishing reels.

The young craftsman is mighty serious about his work. "I sure don't want any fisherman to lose one because I failed to have the rod or reel in the best condition," he said.

Although John is growing up in the atmosphere of the rugged outdoors, he still has the appearance of a businessman. He is neat and conscientious-looking, and he keeps his work bench well organized and orderly. He knows where everything is, with all spare parts in easy reach. His spare parts are purchased by the hundreds, and he has enough to make many new reels if necessary. Of course, the added interest to his work, one any boy would love, are the countless fishermen's stories he hears of the "big ones that got away."

New Laboratory for Biologists Underway Near Galveston Bay

A site for another laboratory and workshop for the Game and Fish Commission has been acquired on the Texas coast, says W. J. Cutbirth, Assistant Secretary. The site was purchased near Seabrook, where Clear Creek enters Galveston Bay.

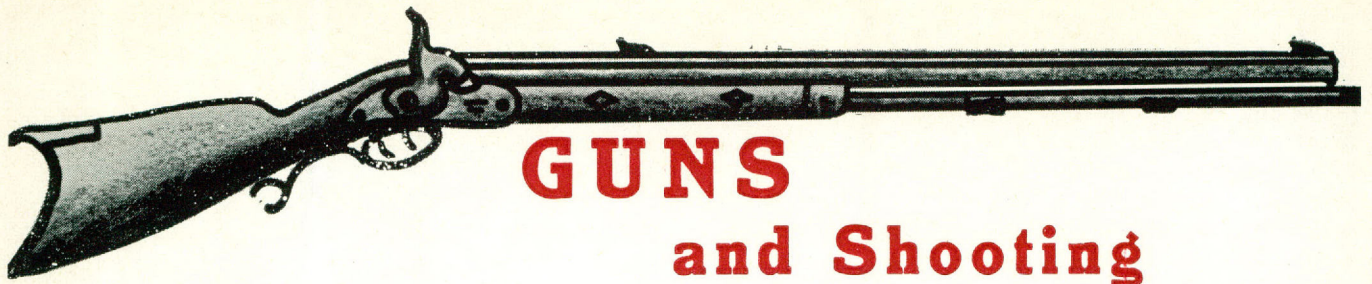
It is 100 feet wide and 240 feet deep, giving 100-foot water front, where docking facilities for the department's work boats will be provided. There is a frame building on the property, formerly a seafood eating place, which has sufficient area for suitable conversion to lab-

oratory facilities for the department.

The new plant will be under the direction of Howard Lee, Director of the Game and Fish Marine Laboratory at Rockport. In charge of the local operation will be Robert P. Hofstetter.

By having laboratory equipment available it will be possible for technicians to make local determinations both in chemistry and biology on studies of oyster beds, shell dredging, and pollution.

General information and licenses also will be available at the new headquarters.



GUNS and Shooting

By JOHN A. MASTERS

This Month: Sako .243 Winchester Rifle

Probably everything that can be manufactured has been produced by mass production method in this country. While the advantages of lower cost and greater production are many, the finished product inevitably reflects the haste with which it was put together. Guns have not escaped mass production methods. While I do not suggest that mass produced guns are not completely

I do not know how Sako guns, made in Finland, are produced. I do know that they exhibit many of the fine custom gun niceties dear to the lovers of firearms. The latest addition to the line certainly carries on the tradition.

My sample came by air mail from Jack Stith of Stith Mounts in San Antonio. As you can readily see from the accompanying illustration,

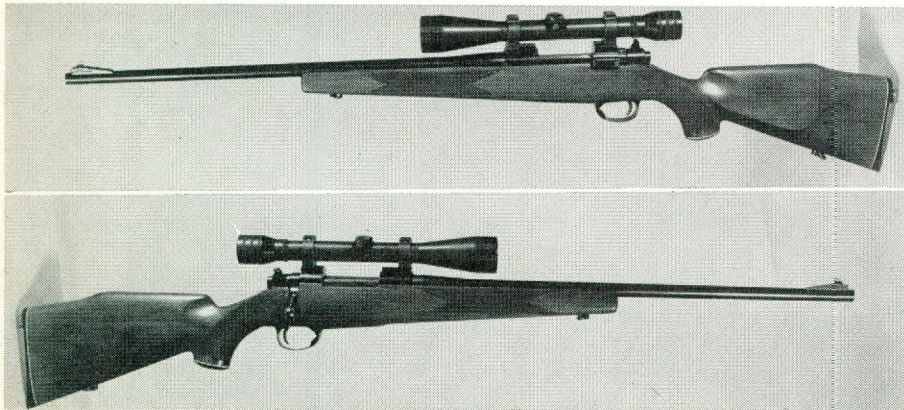
case. It has a conventional staggered column magazine, with a hinged floor plate that releases with a button inside the trigger guard. The trigger is fully adjustable, and can be set to any desired pull. There is no creep or backlash.

The stock is beautifully shaped, and just the right amount of good hand checkering is employed to accentuate its tasteful lines. My sample, complete with a Stith Dovetail mount and Kollmorgen 6X glass, went just over 7½ pounds, which is just about as light as a rifle for this case should be.

The arrival of the rifle set off a search for .243 cases, since I wanted to try some handloads. Finding none, I proceeded to form some from .308 Winchester brass. Suspecting the necks would be thick, I loaded a few test rounds. My suspicions were confirmed. Even with loads way below maximum, I got elevated pressures. Thus, a note of caution. IF YOU FORM YOUR .243 BRASS FROM .308 BRASS, BE SURE TO INSIDE-NECK REAM THE CASES. Otherwise, dangerous pressures can result from ordinarily safe loads.

Compelled to resort to factory ammunition, I nevertheless saw enough to convince me that the little gun is strictly high-class merchandise. I did not determine the rifling twist, nor did Jack supply that data, but I found that the 100-grain Spitzer bullet worked best. Shooting from a bench rest, I got five-shot groups that averaged just under an inch, with one going near 7/16 of an inch, at one hundred yards.

With the 80-grain factory load, the groups opened up to a 1½-inch average. Possibly part of this was due to the 10-15-mile-per-hour cross wind. I suspect, however, that the twist is responsible.



Two views of the Sako .243 with mounted scope.

trustworthy and dependable, any gun "nut" knows they lack some of the essential finer qualities exhibited by guns made by competent custom makers.

the rifle, based on the Sako short action, looks much like the time-proven Sako in .222 Remington. The action is longer, and has been beefed up to handle the bigger .243

Shootin' Shorts

Knocked my antelope over this year with one of Hornaday's 139-grain 7MM bullets from my 7 X 57 Mauser. Here is an old cartridge that refused to die, which isn't surprising when you consider that it is adequate for all but the biggest North American game. I'm going to play with the case at some lengths in the near future, and will report on my findings.

Had a nice visit recently with R. B. Sisk of Iowa Park, the re-

nowned .22 bullet maker. He certainly had any bullet design one could desire in stock, and is a confirmed .22 shooter. More about his bullets after I finish some experimenting.

The Thalsen shotshell reloader is functional and capable of producing good results, albeit a bit slow. If you have the time, it's hard to see how you can get into the shotshell reloading business any cheaper.

The receiver is grooved for mounting a scope in the same manner as the smaller .222 Sako rifle. The Stith one-piece bridge mount for the .222 is too short for the .243 Sako, but Jack is remedying that situation.

The fore-end shape of the stock is practically ideal, judged by my standards. The underside is flat, and the sides slope inward toward the barrel, giving a firm grip that is comfortably hand-filling.

The safety is a clever little camming arrangement that I found quite positive. George Fairchild, Stith sales manager, had warned me in advance that it might be troublesome, but I found that the trouble lay in the trigger mechanism.

I took the gun from the stock, adjusted the trigger mechanism carefully, and from then on, had no difficulty with the safety. I understand, however, that it will be changed or modified on production models.

Since only 300 of these guns will

be imported this year, with 120 of them going to Stith, it may be hard to find one. But I can assure you it will be worth waiting for. This looks like the ideal gun for a Texas shooter to own, since it will be a superb varmint rifle and is adequate for Texas deer and antelope.

I am looking forward to working up some handloads for mine when Sully, the proprietor of the local sporting goods store, gets one in stock. I have already placed my order, partly because I want to shoot the gun myself, and partly because I want it for my boy when he gets a little older. Right now, he's shooting a chopped-off version of the .222 Sako until he gets a bit of growth on him, so he should graduate to the bigger rifle and feel at home.

Price is \$149.95, which sounds high until you see the gun. Those Old World craftsmen still glove-fit metal to wood, and the polish and blue job on the Sako .243 is as good as you will find.

Estimated deer numbers determine doe harvests.

Why Kill Does _____ • Continued from page 13

deer would be harvested. Yet, to meet the limits imposed by the food supply, 4,000 deer must die. Is it wise management to harvest 900 and waste 3,100 each year? Wise management calls for a removal of at least 40 per cent of the herd each year.

Actually, in some sections of the Hill Country, it might be wise to reduce the herds by 50 per cent or more to allow the range to recover from its over-populated condition. However, the annual turnover is subject to variation due to such things as weather, land use and live-stock competition. Any reduction (cropping) of the herd numbers must be aimed primarily at bringing the herd in balance with its food supply.

How is a Deer Inventory Taken?

Deer inventories may be taken in several ways:

There is a plan of actually counting the number of animals in the herd. This may be done through drive counts and aerial counts, to mention two, and its success will depend on the terrain, the size of the

area, the experience of the counters, and other factors.

Then there is a system of estimating the deer population. This may involve track counts, grazing pressure indications, or a ratio count based on using a known number of steers, goats, or sheep in a pasture as a base figure.

Perhaps a combination of the above methods might be desirable. In the Hill Country, the walking cruise method of sampling is used at present. Census lines, two miles in length, are blazed in the different vegetative types found in the deer range. Along these lines the census taker establishes, before the actual deer counting, the number of acres on which deer would be visible.

By counting the number of deer seen along the various census lines; applying the deer per acre ratio obtained for each vegetative type to all the deer range of that type; and adding the totals, the population for the entire range may be estimated. The walking cruise method of censusing is subject to limited error, of course, but this error is

• Continued on next page



It Happened This Way . . .

Here's a switch . . .

In arresting two men who had 62 bass in possession, all of them from $\frac{3}{4}$ pound to $1\frac{1}{2}$ pounds, except one, which weighed $5\frac{1}{4}$ pounds, there was an unusual occurrence.

I took these men to the Justice of the Peace, where they paid their fine. Brought them back to the lake, and as all of the fish were still alive, I suggested that they put back all illegal fish and keep their limit, if they cared to.

They did. They kept the small ones and threw the others back including the one large fish. Thought this was rather unusual. There was no suggestion on my part that made them do this . . . it was entirely their own idea. They thought the large fish would make good brood fish.

* * *

The other day I came across a lad of 13 using cane poles fishing in the creek. One line was baited with minnows, one with worms, and one with liver. His equipment consisted of bait cans, and three quart fruit jars filled with wood alcohol.

Being curious, I guess, I asked him the reason for the variety of equipment. The answer was simple . . . he was trying to catch three different kinds of fish and was going to preserve his specimens in the alcohol. I admired his interest in wildlife, but then I asked him the purpose of it all.

He looked at me wisely and grinned. "Why, Warden," he said, "haven't you heard? A boy's best friend is his *mummy*."

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Doe harvests are carefully controlled.

Why Kill Does _____ • **Continued from page 23**

taken into consideration when the Game Commission biologists make their harvesting recommendations.

How Can We Have Fewer Does and Produce More Hunttable Bucks?

Within each new fawn crop the ratio of male to female will, through the years, balance out one to one. Within a newly established herd, on good range, it would be normal for each breeding doe to produce twin fawns, sometimes triplets. For the purpose of demonstration, suppose there were 100 young breeding bucks and 100 young breeding does stocked on 5,500 acres of good virgin deer range which had a carrying capacity of 1,100 deer. After the first breeding season the herd would be doubled. If 50 of the older bucks were removed by hunting and the yearling does average one fawn each, the herd would number 650 animals after the second breeding season. Under the expected sex ratio the herd would then be composed of 300 bucks and 350 does.

If 75, or one-half of the legal bucks were harvested and the older breeding does had twins and yearling does had single births, at the end of the third breeding season the herd would be composed of 1,125 deer, 500 bucks, and 625 does. The carrying capacity has been exceeded by 25 deer.

If one-half (113) of the legal bucks were removed, the end of the following breeding season would see a herd of 875 bucks and 1,112 does, if there were no die-off prior to the fawning season. Within this herd 975 would be fawns and 1,112 would be adults, but the population, to be stabilized, must be further reduced by 887 animals to bring it to the carrying capacity of the range (1,100 deer).

Since none of the original breeding stock may be considered overaged, the mortality must fall in the ranks of the young and would affect male and female fawns equally. Thus 444 buck fawns must die. This number would exceed by 206 the total number of bucks harvested legally the first three hunting seasons, and would exceed by 57 the total

number of legal bucks remaining in the herd, which would now be composed of 431 bucks and 669 does.

A harvest of one-half the legal bucks the following hunting season would leave the herd at an unbalanced 237 bucks and 669 does to enter the fifth breeding season. If, with the same original stocking of 100 young breeding bucks and 100 young breeding does, the mature animals had been exposed to equal hunting pressure, the following results could have been expected:

The herd would have been doubled the first breeding season. Fifty legal bucks and 50 mature does would have composed the first harvest; however, by the end of the third harvesting season a total of 425 deer would have been harvested compared to 238 under the buck-only hunting plan. The herd would be in perfect balance in regard to buck to doe ratio. It would be composed of 726 animals of which 425 would be mature breeders, and 301 would be young deer. Since the herd would now number but 66 per cent of the carrying capacity there would have been no wasteful die-off. If this harvesting plan were continued three more breeding seasons would be needed to bring the herd to within 29 deer of the carrying capacity and the three additional hunts carried out during that period would show a net harvest of 1,206 deer, half bucks and half does.

In the Hill Country the deer herds are composed of a top-heavy surplus of does. The heavy seasonal die-offs in addition to the annual harvests indicates that the carrying capacity of the range was reached some time ago. Since the range will feed only a limited number of deer, the only logical way to restore herd balance and produce more hunttable bucks is to reduce the number of does.

Do Other States Kill Does?

At least 32 states other than Texas now have hunter's choice or special antlerless deer seasons. Nine states hunt bucks only, and six states have no open season on deer.

It is interesting to note that in the state of Maine the deer kill in-

creased from 6,000 in 1919 to 41,730 in 1951—a 700 per cent increase. The hunter's choice system of harvest prevailed throughout this period.

In Maine, New Hampshire, and several of the western states buck laws were not considered necessary in their early management efforts. In many cases bag limits were reduced to one deer but the herds continued to increase in spite of the fact that does were harvested.

Massachusetts, since 1910, has had no buck law. They have had an annual increase of 40 per cent and an annual harvest of 25 per cent. Their hunters are harvesting vigorous, prime animals.

When Were Does First Legally Harvested in Texas?

The 53rd Legislature, in its passage of House Bill 267, in 1953, made it legally possible to harvest antlerless deer, by means of a special season, in Kerr, Mason, and Gillespie Counties. However, the Commissioners Court of Kerr County did not approve of the harvest regulations, so Kerr County did not participate.

In this special season (December 1 to December 15, 1953) 946 antlerless deer were killed in Mason and Gillespie Counties. There were 693 does, 139 doe fawns, and 114 buck fawns included in the harvest.

What are the Results of Doe Harvesting in Texas?

The practice of harvesting antlerless deer has been applied to certain limited areas only.

Since the first legalized doe hunts were held in the Hill Country, an examination of the deer harvest records for 1953-1955 reveals only 6,822 antlerless deer were harvested under the 15,759 permits issued to Hill Country landowners.

In recommending the number of antlerless deer to be harvested and in issuing the permits, Game and Fish Commission biologists were ultra-conservative in allowing for any error in estimating the population density of the deer herds in the Hill Country.

The antlerless deer harvest was only 43 per cent of that desired and

even if the harvest had been exactly the number recommended, it is doubtful that any definite conclusions could have been reached in the first three years.

In some areas where landowners have harvested their full quota of antlerless deer, die-offs on their ranches have been reduced or eliminated and their deer populations compare favorably with those of their neighbors.

Hill Country deer herds, as a whole, continue to have a preponderance of does. Deer range is being damaged and die-off due to malnutrition is still too common. The annual harvest still falls short of the annual turnover. Additional harvest data is now available from the Wildlife Restoration Division of the Game and Fish Commission.

What are the Plans for the Future?

A deer herd is a dynamic thing, affected by many factors. There can be no guarantee that the harvest of antlerless deer alone will solve all the deer problems in the Hill Country. One thing, however, is assured—the continued harvesting of bucks only, a plan which usually allows the kill of less than 10 per cent of the deer population, will offer nothing but complications and continued waste.

The wildlife biologist is a scientist, living in an age of science, yet a lack of confidence in his knowledge and the facts he has accumulated through years of research and study have led to limited progress in wildlife management.

We cannot look to folklore and fable to guide us in wildlife conservation. We must depend upon facts, and facts are worthless unless they can be applied through management.

The Game and Fish Commission will continue to strive, with the cooperation of landowners and sportsmen, for the increased application of scientific cropping methods in the harvest of our wildlife resources.

We must act now! The future of our wildlife is at stake! **

SEASON SUMMARY FISH — GAME — FURBEARERS

WARNING—The open seasons listed below are general state laws. Many counties, by action of the legislature, have special laws which differ from the general laws. A digest of Game and Fish Laws, which notes these exceptions, may be obtained from your local game warden, from your gun and tackle dealer, or by writing the Texas Game and Fish Commission, Austin.

Game Animals and Birds

White-winged Doves—Season closed.

Mourning Doves—North Zone—Season Closed. South Zone—Season closed.

Rails and Gallinules (except coots)—Season closed. Coots, see Ducks.

Woodcock—Dec. 8 to Jan. 16, both days inclusive. Shooting hours one-half hour before sunrise to sunset. Limit: 4 per day, 8 in possession.

Ducks and Coots—Nov. 1 to Jan. 14, both days inclusive. Shooting hours, one-half hour before sunrise to sunset. No open season on black-bellied tree duck. Daily bag limit on ducks: 5 in the aggregate of all kinds, including not more than 1 wood duck and not more than 1 hooded merganser. Possession limit: 10 in the aggregate, not to include more than 1 wood duck and not more than 1 hooded merganser. Bag limits on coots: 10 daily or in possession.

Geese—Nov. 1 to Dec. 30, both days inclusive. Shooting hours, one-half hour before sunrise to sunset. Daily bag limit on geese and brant: 6 birds. Such limit shall not contain more than 2 Canada geese or its subspecies or 1 white-fronted goose, or 1 of each. Possession limit: 1 day's kill.

Wilson Snipe or Jacksnipe—Dec. 16 to Jan. 14, both days inclusive. Shooting hours, one-half hour before sunrise to sunset. Daily bag and possession limit: 8 birds.

Chachalaca and Quail—General season open Dec. 1 to Jan. 16, both days inclusive. Limits: 5 chachalaca per day, 10 per week or in possession; 12 quail per day, 36 per week or in possession. Panhandle, quail season Dec. 1 to Jan. 16, both days inclusive; limit: 12 per day, or not more than 36 in any seven-day period; possession limit 36. West of Pecos, quail season Dec. 1 to Dec. 31, both days inclusive; limits: 12 per day, 24 in possession. Mearns quail and chachalaca season closed.

Deer, Javelina, Turkey, Bear—General open season Nov. 16 through Dec. 31. Bear season closed in Trans-Pecos Region. Limits per season: 1 bear, 2 buck deer with pronged horns, 2 javelina, 3 turkey gobblers. Panhandle season open on deer and turkey Nov. 16-25, both days inclusive; season closed all year on javelina. Panhandle limits: 1 buck deer with pronged antlers, 2 turkey gobblers, per season. West of Pecos, deer season Nov. 20-27, both days inclusive, antlerless mule deer (hunting by special permit only) Nov. 20-27, both days inclusive; javelina season Nov. 1 to Dec. 31, both days inclusive; turkey season closed. West of Pecos limits for season: 2 buck deer (1 mule and 1 whitetail or 2 whitetail). One antlerless mule or white-tailed deer may be taken. If an antlerless mule deer is taken, the bag shall be one antlerless mule deer and one whitetail buck; and if an antlerless white-tailed deer is taken, either a mule or whitetail buck may be taken, not to exceed 2 deer in the aggregate. Buck deer must have at least one pronged horn; 2 javelina may be taken. Note—javelina season open all year in 17 counties; no bag limit. See Game and Fish Law Digest.

Antelope—Season closed.

Game Fish

There are no closed seasons on game fish in Texas (except for special county laws).

Furbearers

See Game and Fish Law Digest.

Predators took their toll of the foreign birds.

Release of the Redlegs

flashlight. Still the wild birds continued daily to skin their heads against the pens, so the biologists decided to release them a little ahead of schedule to keep them from harming themselves.

On February 8, the doors of the pens were left open and all but nine redlegs were allowed to fly free. These nine, tentatively selected as males, were caught and temporarily crated so they could help keep the liberated birds within observation distance. They were held only until the second shipment of birds arrived March 10.

During the first release, the birds from a pen in the field fed out without alarm when the gates were left open. In sharp contrast, the birds from the brush pasture pen fled wildly, and all but five or six spread out of the vicinity.

The birds were introduced on a terrace between upland and bottom land, where a span of 10,000 acres had been acquired from landowners. If the released birds moved north they would find upland mesquite range, dissected by canyons and interspersed with farm cropland; northeast, rolling juniper-clad hills; and eastward, bottom farms. Southeast are farms and small

pastures; south and west, larger ranches.

Unfortunately, an unexpected migration of hawks through the area plundered the redlegs along with native birds. Within two weeks the first release birds were lost. The birds had spread over several neighboring farms; they were mapped in part by their distinctive tracks, droppings, and feathers (the last, a sign of predation).

The Spanish red-legged partridges in the second shipment, which arrived March 10 in Dallas, were from the start more docile. However, 16 were found dead in the crates, and one more died en route to the release site. Three other redlegs were in bad condition and wobbly on their feet, but these recovered. The

Divide the time or space?

A Thought Ahead . . . for Others

park users and park wildlife.

On large bodies of water, attempts have been made to separate the activities, and in small parks different times for each activity have been tried. These trials have definite drawbacks. Area separation is difficult because boats are too mobile for confinement; time separation, because it wrongs the patron who has come a long distance to the park only to find he cannot boat or fish or swim when he gets there.

Lake Corpus Christi State Park near Mathis is well adapted to area separation. The main body of the lake covers approximately 14,000 acres, including a lagoon, which forms the hub of the park facilities. An artificial barrier fences the swimming area in the lagoon from the

remaining 84 birds improved rapidly and within a week were sleek, glossy and alert.

The birds remained docile—whether from different geographic origins than the first shipment or from the effect of the seasons or better, more experienced handling the biologists did not know. Their release after 20 days confinement began gradually with two birds strolling out in the morning and 10 in the afternoon the first day. The release continued through April 1, and the birds made calm exits from the pens. They seemed at home from the start, and did not immediately scatter widely. For the next three weeks, pairs and small groups were apparently established.

Although this time there was no

• Continued on next page

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boats but not from the boat's wash.

Why don't boats stay out of the lagoon? If you have ever operated a boat and have seen a nice big lagoon opening up before you, the answer is apparent. You want to enter the lagoon. (The swimmers or fishermen probably do not enter your mind.) Sometimes the compelling reason for boating in the lagoon is wind and water conditions—if the waves are rough, you need a sheltered running.

Selecting different times for the water sports is almost impossible. The park managers just can't please everybody, and they probably would end by pleasing none.

The only answer to the problem then is AMENITY, and a thought ahead to avoid rudeness. Probably no other time needs the Golden Rule attitude more than when people are seeking relaxation. Most sportsmen want to be able to have fun without spoiling someone else's. It's the exceptions, the ones who forget AMENITY, who cause the trouble. **

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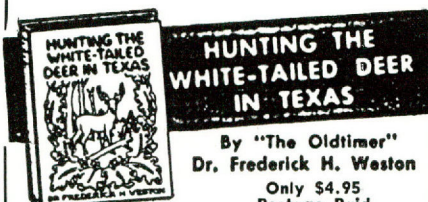
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Their speed of flight over wide areas has proved a problem.

Release of the Redlegs

• Continued from page 26

evident predation, the area was besieged by dust storms and high, hot gales, and much vegetation died. About a dozen birds were found and studied for information on feeding, watering, dusting, and courtship.

Through a 20-power rifle range scope and 7 x 35 binoculars, the liberated partridges were studied. Later, the biologists reconnoitered the surrounding ranges by car and on foot. One pair of partridges, they observed, stayed very close to each other while they got acquainted with their new country, and gave to each plant, insect and even the ground a minute inspection.

The redlegs relied more on flight and running than on cover for escape, although they occasionally stood behind cover to hide. Redlegs were introduced in an area overlapping almost 100 per cent with the scaled quail habitat. However, the birds did not compete for food since approximately 90 per cent of the redleg diet is vegetation, and the scaled quail eats mainly seeds. The redlegs stay close to winter grain fields, also, while the scaled quail cover the territory in "gypsy" fashion.

No antagonism was seen when the redlegs and scaled quail browsed

Utopia for Goose Hunters

• Continued from page 7

inland from the coast in the Anahuac area, around Katy, Lissie Prairie and south on many of the farms and ranches between Corpus Christi and the Rio Grande Valley. Good goose hunting also was available in the fields inland from Austwell and Aransas Pass, because of the proximity to the Wildlife Refuge at Austwell.

Since most of the hunting is being done in open fields this year, more and more hunters are resorting to the use of white cards, baby diapers and old newspapers for decoys. Some wear snow white coveralls, with a white towel over their heads. They toss white cards, approximately 11 x 14 inches in size, around, and the geese decoy in to the white objects.

Old-timers like Tom Waddell, who was a game warden for many years, and Arthur B. Hudgins, have

together. Bobwhite quail and Rio Grande turkey, the other major game birds which live in the area, do not compete at all with the redlegs.

At the end of the first part of the experiment, biologists suggested that when the drought broke, the redlegs be introduced in the north Panhandle. There they would have rolling wheat land and sagebrush pasture.

The low calls of the Spanish redlegs and their flight over wide areas are major problems of these birds in reproducing themselves in this unfamiliar territory.

That first year the redlegs did not increase at all, but the second year another shipment of birds arrived in Texas, and the project started looking up.

Sixty-four redlegs went to the former location, Miles Wells Ranch in Cottle County, and the remaining 56 were taken into the north Panhandle County of Lipscomb. New pens had walls 18 inches below ground level to dissuade predators. Later, 12 horned owls were also caught.

In Cottle County, after a conditioning period from February 16 to April 4, the redlegs were gradually

found they can put their hunters in the center of a rice field and be pretty sure they'll get their limit. No particular effort is made to hide the hunters.

The successful hunter is the one who can hold his fire until geese are in shooting range. Some hunters use mangum loads and try to reach out too far.

The legal daily kill is six geese. Many hunters will shoot a box of ammunition to get a limit. Others wait until they can see the goose's eyes, and then take their shots.

Many more of this year's geese are banded than have been in the past. If you kill one of these banded birds, be sure to return the band to your nearest game warden or send it to the Game and Fish Commission, Austin. These bands will be a big help in deciding next year's bag limits. **

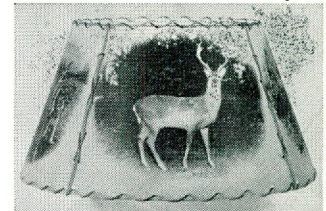
freed—seven at first then a few at a time until April 19. More information was found out about the sporting birds—the lotebush is preferred cover, and roosting sites are the base of small escarpments and rims of draws. The birds roost in a loose group, about one foot apart. The blame for no reproduction in the first year was placed on too much handling, moving, and medication because broods were seen soon after the second release of birds was met by the 1955 redleg survivors.

In Lipscomb County the birds had more open country than in Cottle County, and they seemed to do well. They were released an hour before dawn (as a spotlight showed them the open gate) into an area of large fields of winter wheat and grain sorghums, interspersed with grazing range, fenced-out weedy gulleys, and ungrazed field corners.

The birds immediately paired off after the final release, and the pairs concentrated in three areas with best nesting cover. The furthest known distance these new redlegs traveled was six miles from the release site. They returned to one flock after a short interval of pairing and nesting attempts, and the flock was still intact when the December census was taken. Thirty wild birds remained to greet the new arrivals this year, 1957, from Spain.

The Spanish red-legged partridge is making a good showing in its adopted country despite multiple problems. If it lives up to biologists' expectations, North Texas will some day have abundant game birds. **

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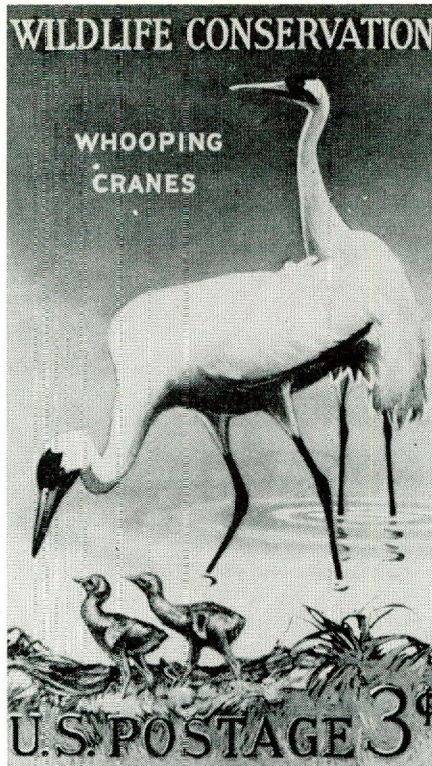
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The whooping crane, which winters on the Aransas Wildlife Refuge in Texas, has been commemorated with a three-cent stamp by the post office department. The stamp, fourth in a Wildlife Conservation series of the department, was released last month at Corpus Christi.

Each stamp is .84 inches wide and 1.44 inches long, arranged vertically. The first printing authorized 100 million stamps, which are issued in sheets of 50.

A female whooping crane pictured on the stamp bends attentively over her two downy young, with a male bird in the rear standing guard. The pair are predominately white against a dark blue background. The chicks and the ground beneath them are yellow, blending into green grass in the foreground. The scene shows the combination water and land areas sought out by this rare species for nesting and rearing their young.



The natives brought in eggs in their pockets.

Rough, Foreign, and Fun

Continued from page 5

states and released.

Traveling depends on the season with the Bumps. In their jeep station wagon, they sometimes cover 200 miles a day over rough, unfamiliar roads. On one trip from Karachi, Pakistan, to the Caspian area of Iran—a distance of some 3,000 miles—car casualties included 30 broken spring leaves, 29 flat tires, 26 breaks in the body which required welding, a cracked frame, broken motor supports and numerous minor repairs.

Armored trucks and soldiers pro-

vided by the Iranian or Pakistanian governments sometimes accompanied the Bumps through bandit-ridden countryside. In other places, the Bumps had to make friends with villagers, who are not averse to kidnapping strangers and holding them for ransom, before the bird project could get underway.

Dr. Bump asked the villagers to point out nests containing pheasant eggs so he could collect them. The people usually insisted, however, on bringing the eggs to him themselves, and this they did in their pockets or turbans. The eggs were in good condition, nevertheless, and began to hatch before Dr. Bump had completed his field work. An urgent telegram brought Mrs. Bump from Karachi to Resht to supervise the incubation until he could take over.

The two-day trip from Gorgon, where Dr. Bump was collecting eggs, to Resht, where Mrs. Bump could care for the birds, was made by 11 chicks and more than 200 eggs under brood hens. Cardboard cartons were filled knee deep in raw cotton to reduce jolting.

Mrs. Bump is uniquely fitted for

Young spearfish, too.

Stranger Takes the Bait

Continued from page 15

then after further examination and study Dr. Springer said its identity was confirmed.

A slight rise, or hump, on the back of the dorsal fin gives one distinct clue, Dr. Springer said. The dorsal fin on a white marlin, which the fish most closely resembles, tapers back more evenly.

The spearfish has been reported from the West Coast of Africa on most occasions, he said, but young and larvae specimens taken in the Gulf in summer months have been presumed that of the spearfish.

The fact this spearfish was found gives evidence that the larvae could have come from spearfish.

The U. S. Fish and Wildlife Service experiment boat *Oregon* reportedly captured a spearfish in the southwest Gulf during its cruises, and other occurrences have been listed in Florida, Northern France, Hawaiian Islands, Formosa and Japan. **

her job as bird breeder with her master's degree in home economics. Her training included, of course, baby-care courses and a beginning course in ornithology (study of birds) as well as the later practical experience in rearing three children of her own. ("After all," she said, "birds are just like babies.")

More than half the entire year is spent on the road in the Bumps' busy life. At night they stayed in hotels when traveling in Afghanistan and Iran. But in Pakistan and India, the British developed a series of "guesthouses" where the Bumps were provided with a private bath, and a mat of cool webbing on which they laid their own sleeping bags. They carried food and water with them, to avoid the dysentery common in the areas they traversed.

And the people? People everywhere are pretty much the same underneath their traditions, language and customs, the Bumps have decided.

Both Dr. and Mrs. Bump do not deny that the life they have chosen is a hard one, but there is always interest, always something new—and neither would suggest a "desk job" any time soon. **

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taken on special significance during the Christmas season. This bird was supposed to have sung for the Holy Babe, and, in about 500 paintings of the Madonna and Child painted during the Middle Ages and Renaissance, the goldfinch appears.

The rooster, which ordinarily crows in the early morning, is said to begin "crowing for Christmas" several weeks ahead to frighten evil spirits away. It reputedly crows with special vigor all night long on Christmas Eve.

The raven and the rook join the

rooster in another ancient fable, dating from the fourth century. At the exact moment of Christ's birth, the cock crowed, "Christus natus est." (Christ is born.) The raven croaked, "Quanda?" (When?) And the rook replied, "Hacnocte." (This night.)

The robin flew ahead of the fleeing Holy Family, a story relates, and dropped cherry seeds along the way. The seeds miraculously grew into trees and produced fruit for the weary travelers to eat as they hastened forward.

Armored Ancients

• **Continued from page 20**

on the Dallas-Tarrant County line, where I was bird hunting a few years ago. When I examined it closely, I found fragmentary remains of a crocodile which was much, if not exactly, like the man eaters that swim the rivers, bays, and marshes of India today. This type often swims far out to sea, but this one probably met his fate near shore. His remains were associated with leaf imprints of oak and elm type trees in the rock.

Another "biggest" for Texans is the largest crocodile known in the long history of the world. His remains were found in the Big Bend area a few years ago by an expedition, headed by Barnum Brown, from the American Museum of Natural History. After taking the entire rock "casket" back to New York and working on it for months, Roland Bird extracted the croc's skull to awe the museum visitors. Before finding the crocodile, the group had quarried some dinosaur bones in very cracked and broken condition. They wondered why until they found the giant croc, Phobosuchus.

Phobo was estimated to have been

45 feet long. Some of the larger teeth in his restored skull are five inches to six inches and two inches in diameter. Truly, Texas size.

The natural history of the Texas crocodile has not been completed. Many fossil records still are waiting to be found. Who knows, you might confront a fossil 'gator on your next deer hunt, as well as a live one on your next fishing trip. **

Bright Patch Perks Warden's Uniform

It won't be long until you can recognize a game warden as far as you can see him. Shoulder patches to be worn by the wardens are now being prepared, and will be ready for distribution before the first of the year, according to E. M. Sprott, Director of Law Enforcement.

The shoulder patches will be black on yellow, with the Game and Fish Commission insignia and the words "Game Warden." Shoulder patches also will be provided for both fish and wildlife biologists.

In another legend, a fierce snow storm and high wind raged one Christmas Eve in the Harz Mountains of Germany. Snow and sleet were so thick that many large trees split and crashed to the earth. The massive fir trees, strong enough to withstand the gale, heard during a brief lull the pitiful cry of the wind-buffed, almost-frozen golden canaries which had been roosting in the uprooted trees. When the firs called to the birds to come to their abundant branches for shelter, the canaries used the last of their strength to reach the protection of the firs. When at last the storm was over, the canaries declared: "We will make our homes with you, and we will forever sing our praises to you as the sacred home of birds all over the earth." Since then canaries the world over sing their sweetest on Christmas Eve in memory of that shelter long ago.

Long before the Christmas story, we find this line in the Bible: "Flying birds—let them praise the name of the Lord." (Psalms 148: 10—14) So has it ever been, as birds have honored their Creator with their heavenly songs and served mankind by consuming destructive insects and weed seeds. **

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Squirrel Sharpshooter Downs First Buck

Her first deer! Mrs. W. H. Gandy of Navasota has been looking forward to the 1957 deer season to try for her second.

The eight-point, 150-pound white-tail, proudly displayed by Mrs. Gandy, fell victim to two loads of buck-



shot December 17, 1956, on the Gandys' hunting club lease in Hardin County.

"I was in a tree-blind, hunting by myself," said Mrs. Gandy, "when I heard a commotion in the brush and two deer popped out right under the tree I was in. I waited until the buck walked out a few steps and then I shot him. He went down the first shot but he moved his head, so I shot him again."

She added, "Then I took a look at the second deer, which I supposed to be a doe, and saw that it was the 'twin' to the buck I had just shot. Before I could reload he ran off into the brush."

Although this was her first deer, Mrs. Gandy, who incidentally has a grandson in the University of Texas, is no novice at hunting. She and her husband, a retired Gulf States Utilities Company employee, have a well-earned reputation as one of the top husband-and-wife squirrel hunting teams in Southeast Texas.

Texas Tropicals

past. Then deflating quickly they return to the bottom of the bay.

A picturesque inhabitant of the bay is the sea robin. This unusual fish which lives on or near the bottom has a rough body covered with many small projections, primarily around the head. Sea robins are specially equipped for life on the floor of the sea with "legs," which actually are the first three rays of the pectoral fins, and which it uses to crawl around on the bottom.

The toadfish is a very hardy fish, and is easily kept in a home aquarium. It is said that if you wrap a

toadfish in a wet piece of canvas, leave him for some time, and then put him back in the water, the fish would revive with no apparent ill effects.

A certain member of the toadfish family—the midshipman—possesses the power of luminescence. When it is disturbed it will light up a series of spots or "lights" along its sides, from head to tail. These "lights" give the appearance of rows of glowing buttons and make a spectacular appearance in the dark.

A closer look at the various fishes of our coastal waters can be had at the Commission's Marine Laboratory at Rockport. The Laboratory, established in 1946, displays a number of aquariums in which various marine animals, such as sea horses, pipefish, puffers, and crabs are kept alive. Some of the larger specimens

T. B. Patients Need Hunters' Deer Hides

Thousands of tuberculosis patients are counting on the generosity of hunters, locker plants, truckers and other agencies to provide them with the processed deer hides which contain almost magic qualities for the convalescents.

Technicians explained to a new member of the hide collecting force, that the soft, pliable buckskin has an amazing therapeutic value.

Motor freight lines again will transport the hides when they are cleaned, tied and salted, with the attached address:

"Austin Taxidermist Studio, 2708 Fredericksburg Road, Austin."

Also, there should be the notation: "Charity, for TB Patients."

The Studio proprietor, L. M. Rathbone, for several years has handled the hides for shipment to the tannery.

Public donations, which are income tax free, help pay the cost of processing. Checks should be forwarded to "Bucks for Buckskin" Volunteer Council for State TB Hospitals, Box S, Capitol Station, Austin.—J.V.

are mounted on the wall of the lobby. Also on display are several shell collections from Texas and more than 20 foreign countries.

So, the next time you are on the Texas coast, investigate some of the holes between the rocks of the jetties where sea anemones may burst into bloom before your eyes. Look a little closer at the water grasses and see if the slender pipefish is catching his meal of tiny shrimp-like animals, and watch for the splashes of the baby needlefish as they "play" their jumping games over bits of sticks and straw. The balloon floating on the water may be, in reality, a puffer fish that has been frightened by a larger creature. So look a little closer—the sea holds a million wonders. **

Grizzly Bear—Black Bear
Moose—Caribou
Mountain Sheep

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Texas Bob-White Quail

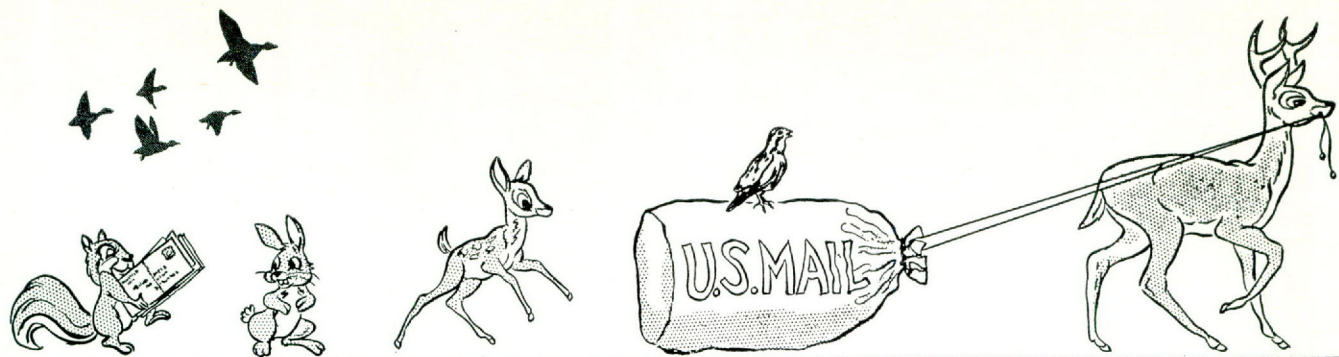
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DEER BUTCHERS CONDEMNED BY SPORTSMEN

Editor:

We have our October issue of TEXAS GAME AND FISH and find the horrible pictures of slaughtered deer on the inside cover. This is wholesale murder and a disgrace to the sportsmen of Texas. No jail sentence or fine is good enough for these thieves.

We, the undersigned, a few Victoria sportsmen, ask that you print the names and addresses of these outlaws in TEXAS GAME AND FISH. Remember, too, that we are just a few of the thousands who think the same but will not take the time and effort to let you know their minds.

Darrell May	Dick Mulligan
Elmer Bache	J. L. Albrecht
S. J. Connell	W. R. Muske
Leo Granberry	A. L. Williams
Glenn Carter	O. B. Siler
E. D. Martin	Mrs. O. B. Siler
Paul Tagliabue	R. R. Riggs
Vic Kociary	C. S. Bingham, Jr.
Seth L. Kennedy	C. F. Caldwell
Ben H. Molina	Joe F. Terry
Jack Wagstaff	B. E. Leisman
	George L. Ryan

(We are not permitted to publish the names of game law offenders in TEXAS GAME AND FISH.—Ed.)

Editor:

I was shocked upon opening your magazine this month and seeing the report of the atrocity committed by some kill-crazy hoodlum. I fear that a great deal more than six deer may have been lost to sportsmen here.

The anti-hunting group can take an atrocity such as occurred and use it to arouse a disinterested public to exert pressure on the legislature to pass more and more restrictive laws. Remember, well over half the people in this country never hunt and know or care little about what goes on. They could be led to believe that this sort of thing is common.

I know of several instances in which persons have been caught headlighting, and in every instance, they have gotten off with what I would call a moderate fine. It is time we sportsmen insisted on some laws that would

really deter such acts—something like a two-year prison sentence and lifetime suspension of hunting privileges. We must all join and support sportsmen's clubs and support the right kind of legislation, or we may someday find we no longer have the right to hunt at all.

R. A. DeFee, Jr.
Corpus Christi

(Although the Legislature establishes the laws, including the maximum and minimum penalties possible, the local courts set punishments for each case within those limits. The Game Commission can direct only the enforcement of the Game Laws as they stand. Readjustments would have to be local, therefore, as well as legislative.—Ed.)

Editor:

Why not make it possible to buy deer and raise them in captivity like cattle, with the necessary laws, of course. In the past, deer hunters bragged about how many points their deer had and how large was the one each killed. What will you have left for breeding stock? Large does and runt bucks.

Raising deer in captivity may stop some of the slaughter you have pictured in the October copy of the magazine. How about some letters and comments?

Phil Bonura
Dickenson

(The Texas Game and Fish Commission does permit landowners to stock their areas with deer, when food and habitat are satisfactory. Further information about this stocking program may be obtained from the Wildlife Restoration Division of this Department.

(The size of the rack of any buck deer is determined by the amount of essential foods available during the growing season. When an area is overstocked with deer and/or livestock, the resultant food shortage is evident in smaller, less healthy animals, and in the case of buck deer, smaller racks.—Ed.)

Editor:

I wish to sincerely commend you for showing up the unsportsman-like "rots" that cut the hams off those deer you had pictured on the inside front cover of the October magazine. I hope they got the limit for their crime.

R. L. Bradley, Sr.
Houston

* * *

Texas Panther?

Editor:

I heard reports recently that a wolf hunter, I. V. Toney of Dallas, ran across a black panther female and a half grown cub while hunting wolves in the southern part of Kaufman County, near the Sykes community. Toney's dogs treed the panther, and several hunters with him saw it by flashlights for several minutes. Since they did not have guns, they had to catch the dogs and leave it. This cat has been seen with the cub around McDougal Lake by a number of residents of Sykes community.

A coon hunter, Cleo Stephens, and his hunting partner, A. C. Brewer, have been trying to catch the big cat, but the coon dogs don't seem to want to track it. Stephens runs the General Store at Lively, about six miles southwest of Kemp.

I thought this might be of interest to the Game and Fish Department. A black panther in Texas is rather unusual.

J. A. Price
Irving

(Biologists of the Wildlife Restoration Division are of the opinion that no black panthers exist in Texas outside of a zoo. If one were seen in Kaufman County, it must have been an escapee from a zoo or circus. However, we have had no reports of such an incident.

(Large feral cats are often mistaken for bobcats and even lions. Usually these reports come to us from someone who has seen them at night. We have never been able to get any photographic proof or verification of the reported panthers.—Ed.)

Outdoor Books

TROUT FISHING AND TROUT FLIES by James Quick. 252 pages. Generously illustrated with black and white sketches, charts, and photographs and four color pages of self-tied flies. Includes reference index. Published 1957 by A. S. Barnes and Company, 232 Madison Ave., New York 16, N. Y. \$5.

Fisherman's "luck" does not always catch that trout. The know-how that goes into the art covers equipment, technique, and countless hours of practice and experiment. Jim Quick gains his authority on trout fishing by outstanding tournament casting as well as instructing.

Three distinct phases of fly fishing are explained: (1) dry or floating, fly, which simulates hatched duns, spinners egging, ants, grasshoppers and land flies among others, accidentally or purposely caught on the water's surface; (2) wet fly and streamer, which counterfeits nymphs and aquatic insects as well as small minnows; (3) the nymph and larvae fly, which imitates the true underwater stage of the aquatic fly before it emerges as a flying insect.

Detailed instructions on tools, material, and the way you combine them for flies is given, complete with illustrations. One chapter is transformed into a dictionary of fly patterns.

The qualifications you must have to

be a good fisherman are not overlooked—persistence, patience, optimism, insatiable curiosity, habit of observation, and willingness to experiment. If you have these and **TROUT FISHING AND TROUT FLIES**, you are on your way. The book is an invaluable reference for both novice and experienced casters.—J.B.

HOLD THAT TIGER! by Sam Dunton, staff photographer of the New York Zoological Society. 183 pages; photographs in black and white by the author accompanied by brief technical information on each one. Published 1957 by Greenberg Publishers, 201 East 57th Street, New York 22, New York. \$3.95.

Zoo animals combine the playfulness of domesticity with the restlessness of the wild with an air that charms zoo visitors. For the professional animal photographer they hold charm, too, but not without an underlying potential danger and viciousness. Even an animal born in captivity contains an inner ferocity never quite tamed, only checked.

HOLD THAT TIGER shows in both photos and words the animals' delightful antics at one minute, savage unpredictability the next. Tempered with interesting background about each ani-

mal and lightened by incidents in their behavior, the story of the animals in the New York Zoo makes engrossing reading.

Part pioneer and explorer, too, the author takes the reader to cave, lake and forest as he records on film living things for the zoological society.—J.B.

THE DOG WHO CAME TO DINNER by Waldo Zimmerman. 63 pages. Black and white drawings by Ernest H. Hart. Published 1957 by Herman & Stephens, Inc., 200 East 37th Street, New York 16, N. Y. \$1.95.

Frisky Rusty Guardsman, the dach-sund, roams into a home, then romps his way through 13 chapters with lovable abandon and heartwarming affection. He beguiles the reader, in the meantime, and completely captivates the author, his owner.

Fun and fancies of having and loving a dog are told with humor and devotion which every dog lover can fully understand and appreciate. And everyone who has at some time in his life been owned by a dog will remember with relish the antics and trials of his own canine. The addendum contains detailed, but witty, instructions on how to train a dog to say "no" to all food except that given him by his owner—to protect it from meeting Rusty's unhappy end, poisoning.

Written to be read with a chuckle, and perhaps a twinge of half-forgotten yearning, **THE DOG WHO CAME TO DINNER** assures delightful reading entertainment.—J.B.

THE STUDY OF PLANT COMMUNITIES by Henry J. Oosting. 440 pages, including reference list. Black and white illustrations. Second edition published 1956 by W. H. Freeman and Company, 660 Market Street, San Francisco 4, Calif. \$6.

Written for textbook use, **THE STUDY OF PLANT COMMUNITIES** introduces the college junior and senior to plant ecology. The book is amply illustrated with black and white photographs.

The author, Henry J. Oosting, is a professor of botany at Duke University, North Carolina. He covers not only the description of plant communities, but also the environmental factors which control them and their distribution.

The vegetation of North America furnishes the primary source of illustrative material. The author has stressed the dynamic, or changing, aspect of plant communities instead of using a static classification system. Community developments and inter-relationships between the various plant members of the community is also discussed. The book concludes by explaining proper use of the plant study in a chapter on "Applied Ecology."—J.B.

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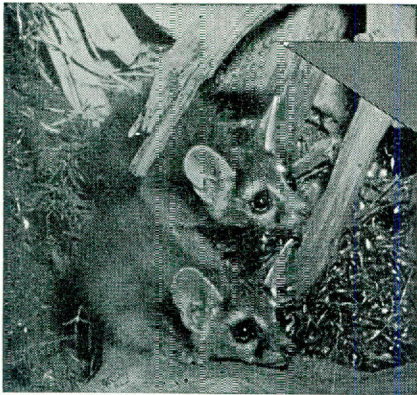
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Junior Sportsmen

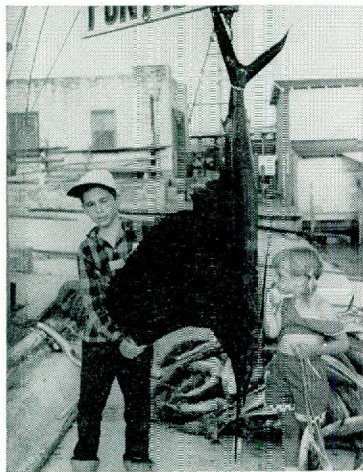
*Wildlife Looks To You
For Help*

LETTER OF THE MONTH

Editor:

My father has been getting Texas Game and Fish for a number of years. Upon reading the September issue, I discovered a picture of Billy Johnson and his sailfish, which was upside down. Was this an accident or was it done on purpose?

Carlton Steubing
Route 8
San Antonio



(All of the sailfish and marlin which are shown are hanging upside down. It is customary to hang "billfish" in this manner, since there is no way they can be hung by the mouth because of their long "bills." The tail offers a sort of handle around which a rope can be tied and by which the fish can be lifted easily.

(If you ever have any other questions, or if you have any experiences which you would like to tell us about, please feel free to write at any time. We are always glad to hear from our readers.)

To Junior Sportsmen Only:

This is your page! If you have a question about wildlife or a picture you are proud of, send it to us, and we may publish it. Other junior sportsmen want to know about it, too.

WHAT? WHERE? HOW?

Here's Your Question:

What do raccoons like best for a home? And, where are they found?

Kenneth Heard
Omaha, Texas

Raccoons prefer hollow trees to any other home. When they have no trees, they like to live in rocks, logs, or burrows in the ground. They often live near farms and towns because food is available there and their natural enemies have usually been driven out.

'Coons live in many types of places throughout the State. They are also found on most of the North American continent and in parts of Central America.

What kind of bird flies the furthest?

Larry Landay
Dallas

The Arctic tern is the champion "globe trotter" and long-distance flyer. It earned its name "Arctic" by its habit of nesting as far north as it can find a good place. Here it lives 10 weeks during the summer, then heads for its home south of the Antarctic Circle, at least 11,000 miles away. It may travel as many as 25,000 miles a year. At its homes near the North and South Poles, the Arctic tern enjoys eight months of constant daylight.

Where do most road runners live? Why is Florida good for birds?

Patricia Ann Jackson
Pecan Gap

The roadrunner is often thought of as a bird of the southwest, where it also goes by the names "Chaparral Cock" and "Paisano." However, roadrunners are also found as far east as east central Texas and in arid country as far north as Kansas. These birds belong to the cuckoo family. They eat many lizards, insects, and even snakes, which they seize with their strong bills.

Florida has a very mild climate, and many birds make their homes there, especially in winter when they migrate from colder northern regions. All states that have a mild climate and food for birds have large and varied bird populations. Such states include Texas, Louisiana, Alabama and Mississippi.

WILDLIFE QUIZ

Can you identify me?



Who Am I?

My skin is rough, but slick, and I have two ridges down my back. I must keep my back wet to live, so you can always find me near water. In Texas, I stay active all year 'round although my northern relatives hibernate all winter. When I am young I eat only plant life, but when I am older I eat moths, June bugs, beetles, and just about anything small enough to flip into my mouth with my tongue—even small fishes and snakes. My favorite time is summer nights, and I love rainy weather. I have large eyes, and my strong hind legs are longer than my head and body combined.

Answers:

Who am I? A leopard frog.
Can you identify me? Roadrunner.

RAINY DAY PROJECT

When the rain and cold keep you indoors this month, why don't you plan ahead for the fishing season and start raising earth worms? In three months, you can have bait-size worms.

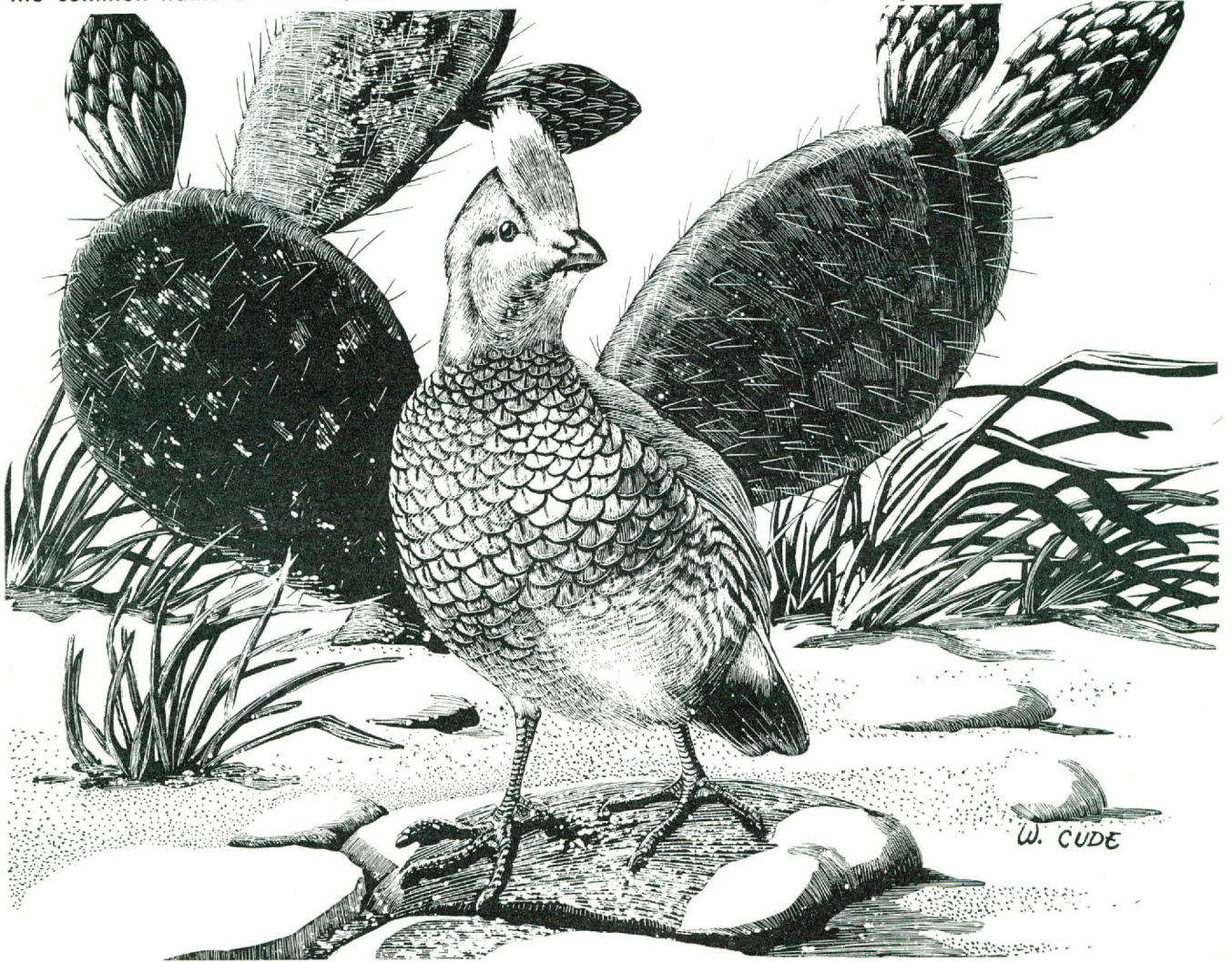
Find a small box or tub. Mix screened top soil, manure, and peat moss (or leaves or hay) into a fine loam. Place a burlap bag in the bottom of your box, and fill the box eight inches deep with the loam. Place the box in a cool place.

Put earthworms on top of the loam, and keep the soil moist. Every day spread a thin layer of chicken mash or ground garbage on the loam (thin, so it won't heat and kill the worms). If you need more information, send for the free circular, "How to Grow Earthworms for Fish Bait," Texas Game and Fish Commission, Austin, Texas.

SCALED QUAIL

Found in the arid western and southwestern areas of Texas, the scaled quail is one of Texas' most beautiful game birds. The glossy, scale-like feathers of the breast and top-knot of pure white distinguish it from any other quail. Because of the light gray-blue coloration on the back and neck, it has acquired the common name of Blue Quail.

Scaled quail are seldom hunted with dogs to any success as they are very fast afoot, and prefer to run when pursued, rather than fly. They require very little free water, obtaining moisture from succulent leaves and fruits like cactus. Their food includes seeds and fruits from the sparse grasses and more abundant catclaw, tassajillo, and cactus.



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