University of Nebraska - Lincoln
DigitalCommons@University of Nebraska - Lincoln

Other Publications in Wildlife Management | Wildlife Damage Management, Internet Center for

1-1-1960

DISTRIBUTION AND UNDESIRABLE CHARACTERISTICS OF CERTAIN WILD BIRDS AND ANIMALS BARRED FROM IMPORTATION OR RESTRICTED IN IMPORTATION INTO THE STATE OF CALIFORNIA

Walter S. Ball
California Department of Agriculture

Follow this and additional works at: http://digitalcommons.unl.edu/icwdmother

Part of the Environmental Sciences Commons

Ball, Walter S., "DISTRIBUTION AND UNDESIRABLE CHARACTERISTICS OF CERTAIN WILD BIRDS AND ANIMALS BARRED FROM IMPORTATION OR RESTRICTED IN IMPORTATION INTO THE STATE OF CALIFORNIA" (1960). *Other Publications in Wildlife Management.* Paper 66.
http://digitalcommons.unl.edu/icwdmother/66

This Article is brought to you for free and open access by the Wildlife Damage Management, Internet Center for at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Other Publications in Wildlife Management by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

REPRINT FROM

THE BULLETIN

DEPARTMENT OF AGRICULTURE

STATE OF CALIFORNIA

VOL. XLIX | JULY-AUGUST-SEPTEMBER, 1960 | NUMBER 3

DISTRIBUTION AND UNDESIRABLE CHARACTERISTICS OF CERTAIN WILD BIRDS AND ANIMALS BARRED FROM IMPORTATION OR RESTRICTED IN IMPORTATION INTO THE STATE OF CALIFORNIA

FOREWORD

By WALTER S. BALL, *Chief, Bureau of Rodent and Weed Control and Seed Inspection California Department of Agriculture*

DISTRIBUTION AND UNDESIRABLE CHARACTERISTICS OF CERTAIN WILD BIRDS AND ANIMALS BARRED FROM IMPORTATION OR RESTRICTED IN IMPORTATION INTO THE STATE OF CALIFORNIA

FOREWORD

By WALTER S. BALL, *Chief, Bureau of Rodent and Weed Control and Seed Inspection California Department of Agriculture*

The legislative act governing the importation of wild birds and animals into the State of California is set forth in Division 3, Chapter 2, Articles 1, 2 and 3 of the Fish and Game Code. This law is specific in its treatment of all questionable species. The joint regulations of the Fish and Game Commission and the Department of Agriculture governing the importation of wild birds and animals, and conditions under which same may be kept in confinement are set forth in Part 3, Chapter 3, Section 671, Title 14 of the California Administrative Code.

All species and families listed in the regulations could adapt themselves to California's climate and geography causing enormous economic losses to agriculture and natural resources and in some instances could be detrimental to the health and welfare of the people. There are many other groups that are even more destructive but were deemed as not being fitted to adapt themselves to California's climate and geography.

Section 2122 of the Fish and Game Code requires the Department of Fish and Game to "furnish descriptions and other explanatory illustrative material concerning the wild animals which have been designated as undesirable and a menace to the native wildlife or to the agricultural interests of this State for the information and guidance of the enforcing officers." This information is set forth in a publication entitled "Laws and Regulations Governing the Importation of Wild Birds and Animals Into the State of California and Conditions Under Which Same May Be Kept in Confinement." It contains useful descriptions of the particular species that are covered by the act.

This information is intended to supplement the descriptions in the Department of Fish and Game publication by informing enforcement personnel of the reasons why the species listed in the act and regulations are either barred or restricted.

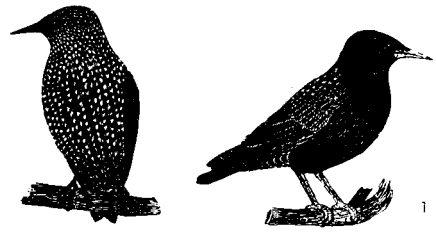
EXCLUDED SPECIES [1]

1. EUROPEAN STARLING *Sturnus vulgaris*

Geographical Distribution: Native to most northern parts of Europe and corresponding latitudes in the western two-thirds of Siberia. Their fall migration takes them into countries bordering the Mediterranean and as far east as India. Introduced and established in Australia, Tasmania, New Zealand and most of the United States and Canada. Found wintering in large numbers in California.

Food Habits and Undesirable Characteristics: The starling secures the principal portion of its food on the ground. It feeds mainly on insects and their larva but also eats grain seeds, eggs and certain fruits especially mulberries, cherries and occasionally ripe pears, apples, grapes, corn and garden truck.

The starling has certain tendencies for harm. These have been intensifid by the bird's flocking habits as well as by a general increase in abundance in recent years. The same factor has been important in making its roosting habits objectionable in residential and business sections of cities. The starling is aggressive against native hole nesting species and will dominate an area.



(1) European Starling

2. CRESTED STARLING *Aethiopsar cristatellus*

Geographical Distribution: Native to Central and Southern China. Introduced and established in British Columbia.

Food Habits and Undesirable Characteristics: Eats worms, slugs, insects and small fruits. Does damage to young leaves of vegetables. This species of starling does a great deal of damage to agriculture in its native habitat. The birds are pugnacious and drive out native species of birds. They disfigure buildings and parks by their roosting habits.

3. COMMON MYNAH *Acridotheres tristis*

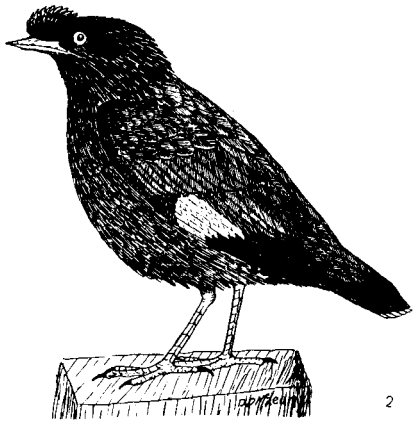
Geographical Distribution: Indigenous to India and Indo-China. Introduced into many parts of the Pacific, notably the Hawaiian Islands and South Africa.

---

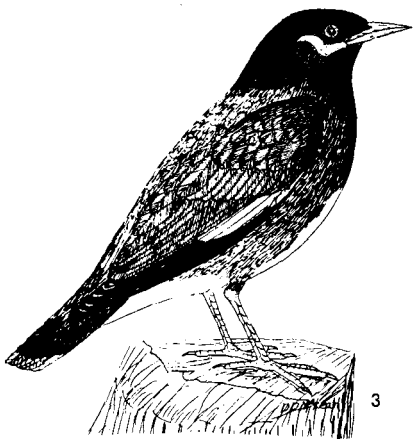
[1] See Section 671, Title 14, California Administrative Code or Bureau of Plant Quarantine Memorandum No. 8, Part IV, Appendix Plant Quarantine Manual for excluded and restricted species.

Food Habits and Undesirable Characteristics: The common mynah was introduced into areas to control various insect pests. It destroys a certain amount of fruit and has been blamed for spreading the seeds of lantana in the Hawaiian Islands. In New Caledonia it has been reported to feed much on the ground, particularly near cattle.

It is a noisy and aggressive bird, and where it takes up quarters in villages and towns, it becomes practically a domestic bird. The common mynah is also responsible for disfiguring buildings and parks.



2



3

(2) Crested Starling (3) Common Mynah

4. BAYA WEAVER *Ploceus baya*

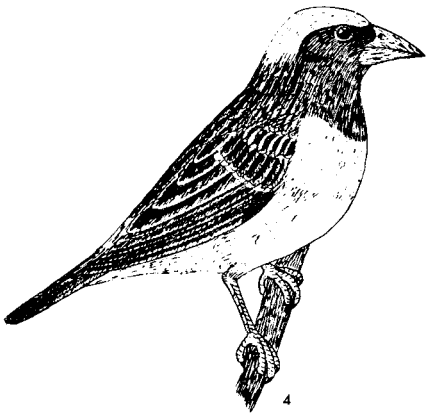
Geographical Distribution: A very common bird throughout Ceylon, India, Indo-China, Malaya. Ranges southeast to Java and Sumatra.

Food Habits and Undesirable Characteristics: Members of the weaverbird family are seed eating birds and feed voraciously on rice and other grains. Because of their gregarious nature, they are numerous in cultivated country around fields, in reed and grass areas. The English or House Sparrow belongs to this group.

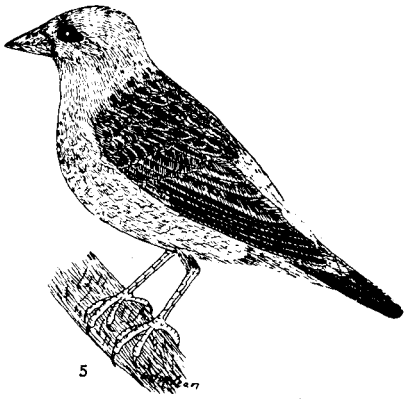
5. MADAGASCAR WEAVER *Foudia madagascariensis*

Geographical Distribution: The Madagascar weaver inhabits Madagascar and many of the islands of the Seychelles Archipelago and has been introduced on the isle of St. Helena.

Food Habits and Undesirable Characteristics: It has fairly recently established itself on St. Helena and multiplied to such an extent that it has become a nuisance to the farmers. In Madagascar the birds do not frequent the forests, but are otherwise distributed over the island and as soon as the breeding season is finished, they assemble in large flocks to feed in the rice fields.



4



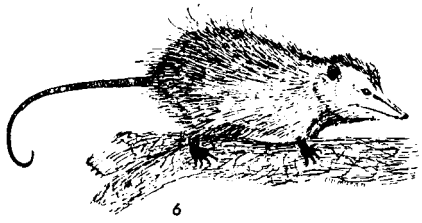
5

(4) Baya Weaver (5) Madagascar Weaver

6. OPOSSUMS *(All species) Of the Family Didelphidae*

Geographical Distribution: Ranges from southern Canada throughout the eastern United States and extends well into South America. *Didelphis marsupialis virginiana,* the opossum from the eastern United States, is established in California throughout most of the counties west of the Sierra Nevada and the southeastern desert area south to Mexico. Many other members of this family are found south of the United States and throughout most of South America.

Food Habits and Undesirable Characteristics: The opossum is nearly omnivorous; its diet includes eggs, chickens, young birds, young rabbits, mice, rats, all sorts of small game, many kinds of insects, crustaceans, mollusks, frogs, salamanders, mushrooms, muskmelons, vegetables and fruit of many kinds; bacon, carrion and whatever else is conveniently at hand.

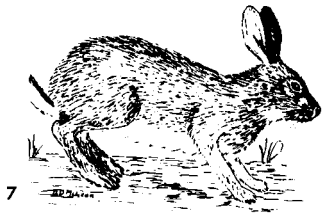


(6) Opossum

7. EUROPEAN RABBIT *Lepus cuniculus*

Geographical Distribution: Native of western half of Mediterranean Basin only and still abounds in Spain, Sardinia, southern Italy, Sicily, Greece, Tunis and Algeria and many of the islands adjoining these countries. It has spread northward across Europe and northeastward to Russia. The introduction of this rabbit into Australia and New Zealand has created one of the most serious pests the farmer has to contend against. It has been introduced into Pennsylvania and the San Juan Islands off the coast of the State of Washington.

Food Habits and Undesirable Characteristics: The European rabbit eats everything in sight. It causes severe damage to grazing lands, field crops, truck crops and orchard trees. England considers the European rabbit second only to the common rat as its most serious animal problem. It burrows holes two to eight feet deep; has been known to undermine buildings.

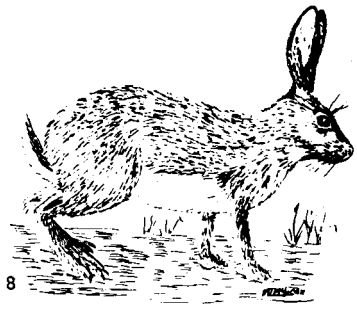


(7) European Rabbit

8. EUROPEAN HARE *Lepus europaeus*

Geographical Distribution: Native to temperate Europe and Asia. Found in the United States in the area bordering the Great Lakes extending eastward to the Atlantic Coast. Not known to occur in California.

Food Habits and Undesirable Characteristics: This species is injurious to crops, grassland and orchards. It is particularly destructive to grape vines in its eating upon new shoots. This hare takes readily to water and is a good swimmer. An extremely swift runner was checked at 45 miles per hour top speed.



(8) European Hare

9. BANK VOLE *Clethrionomys glareolus*

Geographical Distribution: Native to England and most of northern Europe and Asia.

Food Habits and Undesirable Characteristics: Food of the bank vole consists mainly of vegetation and has been known to be destructive to crops. It is usually found in the lowlands or valleys where it burrows into canals, ditch banks, levees and causes damage in that respect.

(9) Bank Vole

10. COMMON FIELD VOLE *Microtus hirtus*

Geographical Distribution: Found in England and Wales, the Isle of Wight and Anglesey and the lowlands of Scotland.

Food Habits and Undesirable Characteristics: The field vole's food consists of vegetation and it is recorded as being destructive to field crops.

(10) Common Field Vole

HIGHLAND FIELD VOLE *Microtus agrestris*

Geographical Distribution: Found in northern and central Europe including the British Isles.

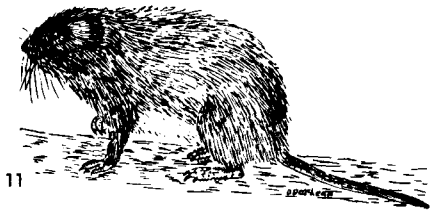
A closely related species *Microtus pennsylvanicus* has the largest geographic range in North America of any of the species of the subgenus *Microtus*. Some 24 various subspecies of the *M. pennsylvanicus* extend over most of the northern states and along the eastern coast, but none are found in Oregon, California or Nevada.

Food Habits and Undesirable Characteristics: *Microtus agrestris* thrives in grassland areas as well as in wooded areas. In Great Britain it is one of the chief agents of tree damage in the young forests. In the forest the vole is not contented with grass and other vegetation but nibbles off bark or rings young trees. They also attack roots and branches of seedling trees. Destruction in field crops also occurs where at times voles become extremely numerous. Plague has been known to occur in *M. agrestris* in Germany.

11. WATER RAT *Arvicola amphibius*

Geographical Distribution: Found in Europe, including England but not Ireland, and in most of Asia north of the Himalayas. Found in Siberia but not known in China.

Food Habits and Undesirable Characteristics: It feeds almost exclusively on vegetable matter such as duckweed, aquatic roots or water lilies. On occasion, however, it will eat small fish, mussels and fresh water crustaceans. Water rats are at home in the water and usually make an extensive burrow system in banks. They may undermine canal embankments, levees and dams when excavating runways.



(11) Water Rat

12. LONG TAILED FIELD MOUSE *Apodemus sylvaticus*

Geographical Distribution: Found throughout Europe and Asia.

Undesirable Characteristics: This mouse is extremely adaptable and wide ranging from the low flatlands well up into the higher mountains. It is destructive to a wide variety of domestic crops, as well as stored grains, fruits and root crops.

(12) Long-tailed Field Mouse

MICE AND RATS (All Species) of the Family *Muridae*

Geographical Distribution: Members of the family Muridae are distributed in most every part of the world inhabited by man.

In North America we have at least three subspecies of the black rat which have been introduced: *Rattus rattus rattus, Rattus rattus alexandrinus,* and *Rattus rattus frugivorus.* Only one subspecies of the Norway rat occurs in North America and it is *Rattus norvegicus norvegicus.* Subspecies of the genus *Mus* that have been introduced into this country are *Mus musculus brevirostris* and *Mus musculus domesticus.* The other subspecies are not known to occur in North America.

Food Habits and Undesirable Characteristics: As a group the murids will eat most any kind of food. On the farms and ranches they destroy and pollute vast amounts of stored food stuffs. They injure growing crops. They kill poultry and livestock, and they ruin property in numerous other ways. In warehouses their damage can be overwhelming. In homes they destroy stored foods and furniture. They may weaken construction by their borings. They are four-legged firebugs, and they pollute water supplies and spread more diseases than any other animals.

Books have been written on this family and its undesirable characteristics. About the only good thing that can be said of the group is that albinistic strains of *R. norvegicus* and *M. musculus* have value as experimental animals.

13. HAMSTERS AND OLD WORLD FIELD MICE (All Species) of the Family *Cricetidae*

Geographical Distribution: Native to Europe and Asia.

Food Habits and Undesirable Characteristics: Hamsters and Old World field mice are a destructive group of rodents. This includes a vast assemblage of rodents differing widely in habits, habitats and structure. All species are or could be a menace to agriculture, in that they eat bark, grains, fruits and roots. They burrow extensively causing water loss and erosion. Golden hamsters *Mesocricetus auratus* now being raised commercially in the State and kept as pets by many people would be a source of trouble if they ever became established in the wild.

(13) Hamsters

ALL SPECIES OF THE FAMILY *SCIURIDAE*

This family includes a large group of animals, among which are chipmunks, flying squirrels, ground squirrels, tree squirrels, prairie dogs, woodchucks and other destructive species.

Eastern fox squirrels and eastern gray squirrels have already become established in parts of California causing damage to the nut crops. In the San Fernando Valley of Southern California the fox squirrel causes considerable damage to communication lines by eating off the insulation.

Such animals as the prairie dog, Franklin ground squirrel, 13-striped spermophile and the Columbian ground squirrel are all species of our own continent which are not known to exist in California. There are a host of other species scattered throughout the world which are also foreign to California.

CHIPMUNKS (All Species) Of the Genera *Eutamias* and *Tamias*

Geographical Distribution: The eastern chipmunk *Tamias* is spread over the greater part of eastern Canada and the eastern United States except Florida. It is found west of the Great Plains but here the range stops abruptly.

The western chipmunk *Eutamias* occupies all of North America west of the plains regions. Its range extends from the Yukon south into Mexico and overlaps the range of the eastern chipmunk in Ontario and Wisconsin. The Asiatic chipmunk *Eutamias sibericus* inhabits Siberia.

Food Habits and Undesirable Characteristics: The foods sought by the chipmunk are seeds, grains, nuts, berries, birds, fruit of many varieties, some insects and animal food, such as bird eggs. Chipmunks have a public health significance in that they are known to carry rodent-borne diseases which are transmittable to humans.

POCKET GOPHERS (All Species) Of the Family *Geomyidae*

Geographical Distribution: The members of this family are widely distributed in north and central America. There are over 560 species and subspecies found in this area. There are four species in California. The Botta pocket gopher contains many subspecies or geographic races in the State.

Food Habits and Undesirable Characteristics: The pocket gopher digs its way through the soil in search of food which usually consists of roots, bulbs, tubers and even green stalks of such plants as alfalfa, clover and wild oats. It digs and eats along the roots of a plant until only the stem is left. Gopher mounds cause loss by preventing close cutting of hay crops. The burrows cause erosion to steep slopes and may cause costly breaks in reservoir dams and canals. The gopher causes considerable damage to underground telephone cables and plastic pipe.

MOLES—EUROPEAN MOLE *Talpa Europaea*

Geographical Distribution: Europe from Great Britain and Channel Islands eastward, and from the Mediterranean coast to Scotland and central Sweden.

Food Habits and Undesirable Characteristics: These animals cause considerable destruction and annoyance, not that they eat vegetables, but they chew through roots of plants and raise small seedlings and plants out of the ground and ruin lawns in their wandering search for worms and other subterranean animal food. The resultant loss of water in their burrows is considerable which in turn may cause extreme soil erosion.

BATS (All Species) Of the Family *Desmodontidae*

Geographical Distribution: South America, Mexico and extreme southern Arizona, possibly Texas and New Mexico.

Food Habits and Undesirable Characteristics: Bats of this family are vampire bats and are highly specialized in their feeding, and so far as is known, eat nothing but fresh blood. The bat's sharp, sickle-shaped anterior teeth shave down, incise or scoop out a basin in the skin so adroitly that a sleeping victim is seldom disturbed. The oozing or flowing blood is eaten and the wound may bleed for several hours. The bat sometimes consumes prodigious quantities of blood at a meal at which time its body becomes almost globose, and the bat is barely capable of flight. In some tropical areas depredations by vampires on domestic animals make stock raising uneconomical. Vampire bats have been known to transmit rabies to other mammals by biting them.

FLYING FOX OR FRUIT BATS (All Species) Of the Family *Pteropodidae*

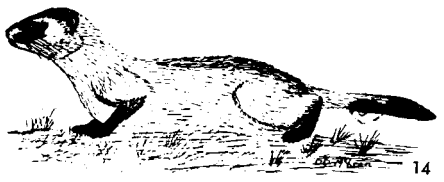
Geographical Distribution: Java, Northeast Australia, Madagascar and neighboring islands through the Seychelles to India, Ceylon, Burma, the Malay Archipelago, southern Japan, New Guinea and most of Polynesia. Also found in India.

Food Habits and Undesirable Characteristics: Fruit bats are extremely destructive to ripe fruit of every description.

14. FERRET *Mustela furio*

Geographical Distribution: *Mustela furio* is the domesticated ferret. Ferreting has been a popular sport in Europe, Asia and Africa for centuries. Ferrets have been brought into the United States, but none are known to exist in California.

Food Habits and Undesirable Characteristics: Their food consists of birds, rats, rabbits and reptiles. Because they possess long, slender bodies and a keen desire to kill, ferrets are used to drive rabbits and rats out of their holes so they can be shot or killed by dogs. Ferreting was practiced in Asia as early as the first century before Christ.

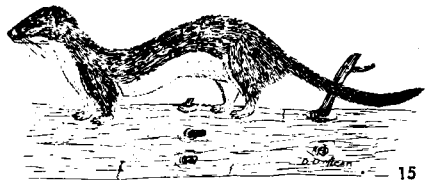


(14) Ferret

15. WEASEL *Mustela nivalis*

Geographical Distribution: Native to all continents save Australia. Not known to occur in California. (Several species of the long-tailed weasel *Mustela frenata* occur in California, except in the southeast desert region.)

Food Habits and Undesirable Characteristics: This weasel feeds primarily on mice and climbs low shrubbery to stalk birds. It has larders in crevices and holes in trees where it stores food. Weasels often travel and hunt in packs of up to eight individuals. However, it is generally one family that is involved. The weasel is known to be destructive to poultry. It bites through the skull, back of the neck or under the wing of poultry and may eat only the back of the head and neck. It sometimes kills many birds in one night and places them neatly in a pile.



(15) Weasel

STOAT *Mustela erminea*

Geographical Distribution: Northern hemisphere, south in the Old World to northern Africa, and in the New World to the Andes. In North America their range extends from the Arctic to northern Connecticut and the Great Lakes in the eastern states and slightly farther south in the Rocky Mountains and west. Some 20 subspecies occur in North America, many of which are found in the United States. Two subspecies are known to occur in Northern California, *Mustela erminea streatori* and *Mustela erminea gulosa.*

Food Habits and Undesirable Characteristics: The stoat prefers small rodents to birds or insect food. It is a powerful animal for its size and hunts over a considerable territory. In summer, at least, the food of the animal is made up of almost entirely small rodents or rabbits. Since this animal is a carnivore it may be responsible for raiding domestic chicken coops and reducing the population of both game and nongame birds.

16. MONGOOSE *Herpestes mungo*

Geographical Distribution: Native to India but have been introduced into Haiti, Cuba, Puerto Rico and other islands of the Caribbean Sea. They were also introduced into the Hawaiian Islands. Great precautions are being taken to prevent the introduction of mongooses into the United States. Many other species of *Herpestes* live in Asia and Africa. One is known to inhabit Spain.

Food Habits and Undesirable Characteristics: The mongoose will eat reptiles, birds, insects, rats and almost any other small animal, and sometimes fruit and vegetables. They are rated as excellent mousers and ratters, and for that reason they were introduced into new areas. Where introduced in the West Indies to reduce numbers of the introduced rats of the genus Rattus, the mongoose has exterminated many species of the native mammals. Now the rats persist along with the mongoose that has made a pest of itself. Hawaii has lost many of their native land birds due in part to the depredations of the mongoose, and they still have a rat problem.

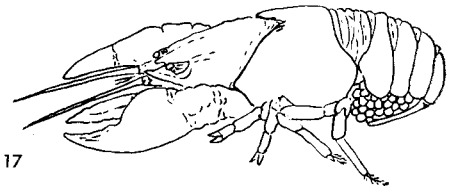
(16) Mongoose

17. CRAYFISH (Crawfish, Crawdads, Freshwater Shrimp, etc.)

Genera *Cambarus* and *Astacus*

Geographical Distribution: Native to Europe and North America. Other genera are found in various parts of the world. *Cambarus affinis* is common in the eastern states, *C. virilis* and others in the Mississippi Valley and *Astacus nigrescens* occurs from San Francisco northward on the Pacific Coast. *C. Clarkii* of the gulf states has become acclimatized in Southern California. The genus *Astacus* includes five species in western North America and 10 in Europe and western Asia; *Cambarus* comprises about 70 species in North America east of the Rocky Mountains and in Central America. The various species of *Cambarus* are segregated ecologically. Some examples being *C. affinis* in ponds, lakes and slow rivers; *C. acutus* in swifter streams; *C. virilis* in large rivers; *C. bartoni* in upland streams; *C. diogenes* in marshes and meadows where it digs burrows one to three feet deep down to water and topped by "chimneys" of mud; and *C. pellucidus* which is blind and lives in water in caves.

Food Habits and Undesirable Characteristics: Fresh water crayfishes of the genera *Cambarus* and *Astacus* burrow into banks and levees as well as destroy fish roe and eat small fish. The burrowing species subsist extensively on stems and roots of plants and other species use some such materials.

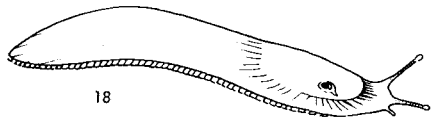


(17) Crayfish

18, 19. SLUGS AND SNAILS Class *Gastropoda*

Geographical Distribution: Numbering nearly 50,000 known species, snails and slugs compose the largest class (Gastropoda) of the *Phylum Mollusca* and are distributed throughout the world.

Food Habits and Undesirable Characteristics: Slugs and land snails of all species are destructive to plant life, both wild and domestic. Some species of the great land snails may eat as much as a pound of forage per night. Many snails are the necessary intermediate host for trematode flatworms.



(18) Slugs

(19) Land Snails

Restricted Species

21. YELLOW HAMMER *Emberiza citrinella*

Geographical Distribution: The home of this species is in central and northern Europe, including the British Isles and Scandanavia, extending eastward into Russia and in the winter southward to Turkey, Turkestan and Iran.

Food Habits and Undesirable Characteristics: In England its food is chiefly vegetable: corn, seeds of weeds, wild fruits, etc. It also feeds on insects and spiders. The Yellow Hammer is a prolific breeder and occasionally in late summer and fall gathers into very large flocks and invades grain lands causing considerable losses.

20. HOODED CROW *Corvus cornix*

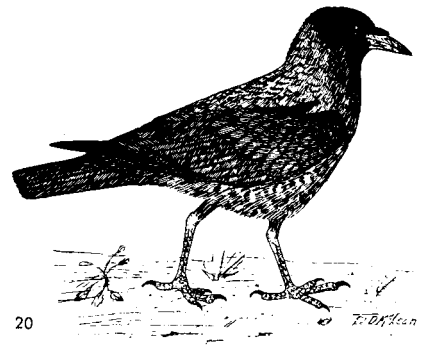
Geographical Distribution: British Isles and all of Europe east of longitude 10 degrees; Asia north of Turkestan; Asia Minor into Afghanistan, Palestine and Asia Minor.

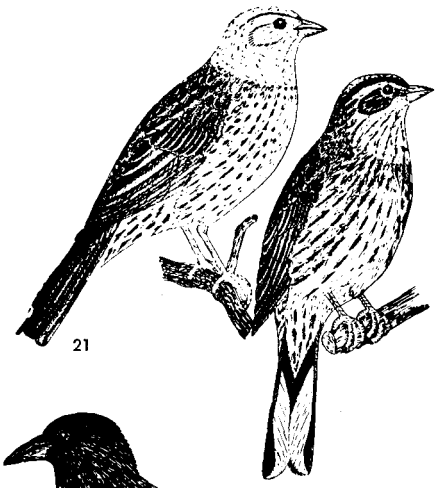
Food Habits and Undesirable Characteristics: In the British Isles its food consists of carrion of all kinds, wounded birds, small mammals, enormous quantities of eggs of many birds, also mollusca, insects (chiefly beetles), frogs, worms and grain. Along the coast the hooded crow feeds on dead fish and other carrion cast up by the tide.

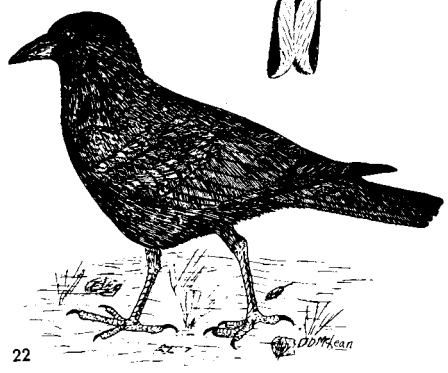
22. CARRION CROW *Corvus corone*

Geographical Distribution: Found in all of Europe including British Isles, east through Russia to central Siberia and Japan, south to Turkestan and Black Sea area.

Food Habits and Undesirable Characteristics: In England the food of the carrion crow has been reported as being varied, including carrion, small mammals (rabbits, mice, etc.), wounded and small birds, eggs of many birds, frogs, toads, mollusca, insects (especially beetles), worms, and grain. It is believed that the carrion crow is very destructive to all forms of bird life during the nesting season.





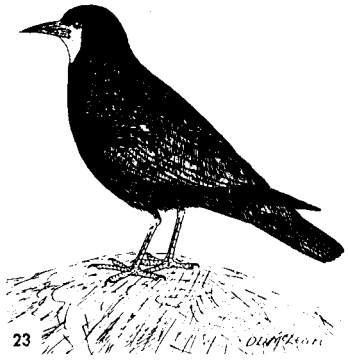


(20) Hooded Crow (21) Yellow Hammer
(22) Carrion Crow

23. ROOK *Corvus frugilegus*

Geographical Distribution: All of Europe north, in summer, to the Arctic Circle, south in winter to northeastern Africa, Asia Minor, eastward in summer to western Siberia and Turkestan; south in winter to Iran, Afghanistan, and northwestern India.

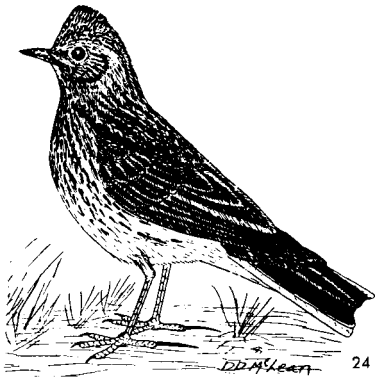
Food Habits and Undesirable Characteristics: It is estimated that in agricultural districts in England the food of the rook consists of about 70 percent vegetable matter. Corn seems to be its main vegetable food, but at times various fruits, acorns and walnuts are taken. They have been known to unearth and peck holes in potatoes and turnips. Earthworms, insects, millipedes are also regularly taken. When quarters are taken up along the coast of England they feed on crabs, shellfish and carrion of the tide mark. The rook often eats eggs of other birds, small birds, small animals and carrion. The proportion of animal matter is highest in the summer and lowest in the winter.



(23) Rook

24. SKYLARK *Alauda arvensis*

Geographical Distribution: All of Europe and Asia Introduced into New Zealand and Australia



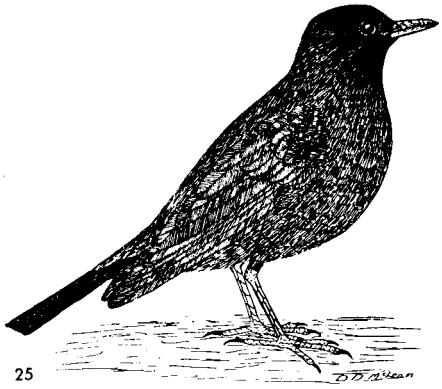
(24) Skylark

Food Habits and Undesirable Characteristics: In Britain their food consists mainly of seed; large quantities of seeds of various weeds are eaten, and damage is done to corn and leaves of root crops. Besides these, earthworms and insects, as well as millipedes, are eaten. It has been reported that the skylark eats seedling beans, lettuce, carrots, and many other garden and farm crops. Because they gather into large flocks the losses can be considerable.

25. EUROPEAN BLACKBIRD *Turdus merula*

Geographical Distribution: The European blackbird is found throughout Europe (south of the Arctic Circle) and North Africa.

Food Habits and Undesirable Characteristics: In England the food of the European blackbird consists of both vegetable and animal matter. They are very destructive to fruit, especially during a drought (apples, pears, strawberries, gooseberries, cherries, etc.). The birds also feed on many species of ornamentals (holly, cotoneaster, etc.) and the seed of many plants. In addition, they eat quantities of earthworms, insects, spiders, millipedes and small mollusca.

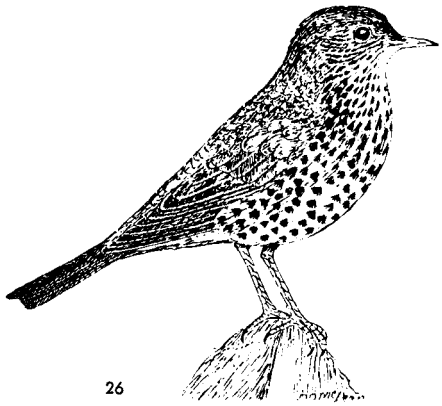


(25) European Blackbird

26. MISSEL THRUSH *Turdus viscivorus*

Geographical Distribution: Found in Europe, Asia and North Africa.

Food Habits and Undesirable Characteristics: In England, the food of the missel thrush consists largely of fruit and berries, but also includes mollusca, annelids, insects and spiders. They are known to kill young song-thrush and blackbirds. Besides fruit (cherries, apples, plums, black currants), many kinds of berries or seed (mistletoe, hawthorne, rose, holly, etc.) are eaten. The birds have been known to do such extensive damage as to make it necessary to cover cherry trees and berry vines with netting in order to get a satisfactory crop.



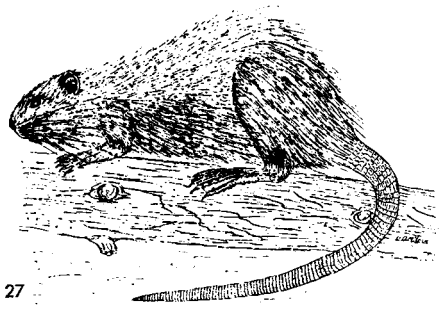
26

(26) Missel Thrush

27. NUTRIA *Myocaster coypus*

Geographical Distribution: Native to South America. Introduced into Europe and North America. The rearing of this fur-bearing animal is regulated by law in California. Some animals have been released or have escaped but are trapped or destroyed when found.

Food Habits and Undesirable Characteristics: The nutria is strictly herbivorous and feeds on a wide variety of succulent green plants, rushes, seeds and aquatic plant roots. It is not too particular in selecting a menu. Wherever rice, corn, sweet potatoes, and other agricultural crops are grown close to waterways, the nutria causes severe damage. They have also been known to eat the bark from around the base of trees resulting in the loss of the trees. They damage earthen dams, levees and canal banks by their burrowing habits. They are serious competitors with muskrats and frequently force them out of their marsh habitat. They destroy waterfowl habitat.



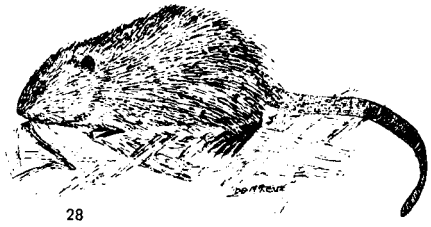
27

(27) Nutria or Coypu

28. MUSKRAT *Ondatra*

Geographical Distribution: *Ondatra zibethicus* is native to North America north of Mexico. Now established in many portions of California other than the original ranges. Only the one species is found in the United States, but there are some 15 subspecies, two of which are found native in California. One is found in the extreme southeastern part of the State. The other is found in that portion of California east of the Cascade-Sierra divide. The muskrat is now well established in many of the counties of the State. The muskrat has been introduced into Europe including the British Isles, and now inhabits much of the region.

Food Habits and Undesirable Characteristics: The muskrat is an aquatic, rat-like rodent. It feeds on tules, rushes, cattails, and other water growing plants. Also, it consumes various bulbs and grasses. They sometimes eat animal food, such as crayfish, mussels, tadpoles and snails, although these items seem to be rare in the muskrat's diet. The muskrats have caused considerable damage to levees and canal banks by their burrowing activities. Through their burrowing muskrats have become a real nuisance in our irrigation systems where they exist causing considerable economic loss.



28

(28) Muskrat

AGOUTI *Dasyprocta agouti*

Geographical Distribution: The agouti *Dasyprocta agouti* is native of tropical Americas and the West Indies from southern Mexico to Paraguay.

Food Habits and Undesirable Characteristics: The agouti feeds on leaves, roots and fallen fruit, does damage to sugar plantations. Lives in burrows or underground dens.

COATI MUNDI *Nasua narica*

Geographical Distribution: Two species of *Nasua* are found in North America, but only one, *N. narica*, is found in the United States in the States of Arizona, New Mexico and Texas. In California a coati mundi was reported caught in Marin County in the Nicasio area.

Food Habits and Undesirable Characteristics: The coati mundi feeds chiefly upon fruit and insects, but is omnivorous, taking also small mammals, birds, lizards, etc., and at times destroys poultry. Coati mundi frequently hunt in groups. They are adequate climbers and forage in the trees as well as on the ground.

o

printed in CALIFORNIA STATE PRINTING OFFICE

32149 12-60 1,500