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WILD BIRDS INTRODUCED OR TRANSPLANTED IN NORTH AMERICA

John C. Phillips
Bureau of Biological Survey

TECHNICAL BULLETIN No. 61 APRIL, 1928

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UNITED STATES DEPARTMENT OF AGRICULTURE, WASHINGTON, D. C.

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INTRODUCTION

The early history of the introduction of foreign birds into this country is mostly clothed in darkness. The records of many attempts, if such there were, have long since been buried in back numbers of local newspapers, and if any experiment was unsuccessful it was soon forgotten. Hence, one trying to get an accurate idea of what has happened soon realizes that he is following a hopeless quest. It is much the same with the transplanting of native birds, especially game birds, which have been carried about all over the country from west to east and from east to west without much regard to the failures of still earlier attempts. Consequently the comparatively recent files of sportsmen's periodicals and the memory of men still living must be depended upon for most of this history, and such sources are often inaccurate; even the correct name of the species may be in doubt. Search through local newspapers might add to the slender stock of knowledge, but the results would be wholly disproportionate to the labor involved. In spite of this, it is thought worth while to call attention to a great number of real biological experiments that have been going on, unrecorded and almost unkown to the ornithologist,

[1] This bulletin makes available the facts concerning successes and failures in attempts to introduce game and other wild birds into North America and to establish native species in areas outside their usual ranges, and will be of interest and of service to individuals and organizations contemplating future acclimatization attempts.

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who, busy as a rule with faunal geography, has taken little interest in this phase of the science. If this bulletin merely attracts attention to a somewhat neglected field, it will have served a useful purpose.

EXOTIC SPECIES ESTABLISHED THROUGH ACCIDENT

Since 1900 the task of inspecting and recording the importation of birds and mammals coming into United States ports has been performed by the Bureau of Biological Survey of the Department of Agriculture, so that an accurate inventory of all wild species reaching our shores in recent years is available. But, as a rule, it is not known what becomes of them after they have reached the hands of the dealers who hold the licenses for their importation. The extent of the business is shown by the fact that on the average about 1,000 live birds each day reach the United States. Most of these, of course, are cage birds or birds for zoological gardens, but it would be instructive to know how many from this great feathered army escape each year or are purposely given their freedom. This traffic does not concern us directly, but obviously it contains the elements for many "hit-or-miss" acclimatization trials.

A word more about this cage-bird traffic will give an idea of its extent and possibilities. The bulk consists of canaries from various parts of Europe, followed by the Australian shell parrakeets, which have been brought over in enormous numbers, up to 13,000 in one year. The largest single shipment was 6,000 in 1921, all of which died within six months, although this is usually a hardy bird. About 175 species of parrots have been brought to this country alive, and there are 91 species living in the New York Zoological Park to-day. Other groups of birds that bulk large are various bright-colored African finches (Ploceidae), several species of nuns (Munia) from the Indo-China regions, and the common Java sparrow, or paddy bird. Certain species, such as this last and the chaffinch of Europe, are brought in with the understanding that they are not to be turned loose. It is probable that more than 700 different species of exotic birds are actually alive in zoological gardens and private collections of the United States.

UNSUCCESSFUL ACCLIMATIZATION ATTEMPTS

It would be more interesting than instructive, perhaps, to attempt to account for failures in planting game and song birds. Wherever an expensive enterprise fails, sportsmen's journals are found surging with ready-made explanations that have not the slightest scientific foundation. Indeed, the factors at work in deciding the balance against a certain species are usually so subtle that ordinary methods of observation are wholly inadequate to detect them, so that the technical ornithologist is left as much at sea as the average sportsman.

In some cases, it is true, the reasons for failures are obvious. Ring-necked pheasants do not prosper in subarctic forests nor in southern latitudes, and bobwhites are definitely limited by altitude and latitude. But who can say why the European partridge eventually fails in the best grain-growing sections of the East, while it prospers with almost no effort in any elevated farming section of the far Northwest?

TYPES OF RESPONSE TO NEW ENVIRONMENT

A closer study of foreign or introduced birds in their new environment would be a valuable contribution to theoretical ornithology, but little has been done along this line. One can not help being impressed, however, with several rather distinct types of response that it might be well to mention.

In the first category of these responses there are the familiar cases where individual birds set free simply vanish and are never heard from again. In this group the transported individuals make no effort to breed, but sometimes they localize for two or three months. This kind of behavior is seen in pinnated grouse and California quail brought into the Eastern States, as well as with capercailzie, black game, and many European song birds. It is rather surprising that often no individuals turn up either at near-by or distant places, even after a large plant of apparently healthy individuals.

This kind of response no doubt merges gradually into a seeming approach to success when the new arrivals, especially if put down late in winter or early in spring, make a pretense at nesting or actually do nest the first season. Such cases are common among Hungarian partridges planted in the Atlantic Coast States, where one fairly successful breeding season may be followed by a gradual disappearance with no further attempt at breeding. These failures can not be explained by lack of food, severity of winters, or wrong methods of planting, for the birds may continue for some years in apparently excellent health without the proper sexual stimulus to keep up the stock. The writer has carefully observed this sort of thing with European partridges in Massachusetts and Connecticut.

If it is again assumed that there is no hard and fast line between this group and the one to follow, a third category can be described, which is characterized by a long period of rather local success, during which the new species nests and rears its young year after year but does not gain more than a local foothold, so that after a term of years, perhaps 20 or more, it gradually, or sometimes suddenly, after a severe season, disappears. The European skylark and the European goldfinch in the Eastern States might be cited as examples of this kind of temporary adaptation. It nearly approaches final success but fails when the initial stimulation of a new environment finally dies out in the stock. The words "initial stimulation" are used for want of a better term to describe what is taken to be a real condition in certain cases. But the actual physiological conditions that may be involved are, of course, wholly obscure.

A fourth definite type of behavior, as the result of which the response to the new environment is little short of marvelous, is to be found in cases where two or three pairs increase to several hundred individuals in a couple of nesting seasons, and there is an immediate impulse to gain territory. This was plainly seen among the English pheasants in Massachusetts in the middle nineties, and the same thing has been repeatedly reported with the European partridge in the Northwest. In such cases the stock seems to be at first far more prolific than it was in its original habitat; the number of eggs, and especially the size of the broods, is increased and there seems to be a period of immunity from natural enemies. These conditions never hold indefinitely, for there is a gradual

balance of nature built up against the aggressive newcomers, either a barrier of disease, an increase of enemies, a gradually loss of vitality in the stock, or the development of some other subtle factors of control. There are cases in which the introduced species completely disappears after passing through a period when it is classed as a pest. This happened with the California quail and the pheasant in New Zealand. Already the operation of nature's own control is seen among ring-necked pheasants where they have had 30 or more years in their new territories, as in the Northeastern States and in Oregon.

Only nonmigratory birds have thus far been considered; other problems than those already mentioned arise in the introduction of foreign migrants. Not many experiments have been carried out with this class of birds, but the outstanding one has to do with Egyptian quail. This little bird was imported and set free by the thousands in the Eastern States between 1870 and 1880. There is no doubt that some of them reared broods the first season, but after their departure south there is no indication of any of them having returned to their breeding places. This result suggests several possibilities, but as yet no satisfactory explanation.

The writer does not believe that all foreign migrants will necessarily behave in this manner, for he was particularly impressed with the departure and return to his own farm of a hand-raised European green-winged teal for two seasons in succession. Nevertheless, the home station is not always a strong enough influence to bring all such birds back to their birthplace, for it has often been noticed that mallard ducks reared in Northeastern States migrate south, and if they escape the shotgun they go north or northwest up the Mississippi Valley, following thousands of others of their own kind, instead of returning the way they came.

NEED FOR RECORDING RESULTS

With these various types of response to new conditions in mind, it may sometime be possible to explain what actually happens when a new species fails to adapt itself or makes only a temporary success.

If one could look back through some of the account books of the early Virginia colonists, it is likely that he might find mention of imported pheasants or European partridges, for the planters of the early seventeenth century were keen sportsmen and, of course, familiar with English game birds. It is known positively from George Washington's journal that Lafayette in 1786 sent pheasants of several species as well as French partridges to Mount Vernon, although it is not known whether any attempt was made to propagate them. In New Jersey there were early introductions (1790) of game birds on the estate of Richard Bache, a son-in-law of Benjamin Franklin, near what is now Beverly. There is no evidence of any spread from these early trials.

Periods of activity in acclimatization began late in the sixties, and from that time forward something is known about what was attempted. There were, for instance, 15 or 20 years during which efforts were made to introduce European song birds, largely through the enthusiasm of German-American bird fanciers and various cage-bird clubs. Then came a time when the Eastern States, their home stock already

much depleted, turned to the West for new game birds and to the Middle Atlantic States for bobwhites. Indeed, it is believed that this last-mentioned activity had been going on in a quiet way by private effort for a long time, doubtless considerably before the Civil War, but the birds were planted secretly, with the hope of evading the ever-present market gunner.

Except for the craze over the little migratory Egyptian quail late in the seventies, not much attention was paid to foreign game birds until after the successful introduction of pheasants in Oregon in 1881. After this became known in the East the country went wild over pheasants, variously called Mongolian, Chinese ring-necked, and English, without much regard to the actual stock. The nineties saw this species more or less established in many parts of the Northeastern States. The so-called Hungarian partridge (Perdix) came next and that chapter is not yet concluded. Although great shipments were made just before the World War they have not been repeated.

In this bulletin, which is little more than an attempt to gather some of the scattered information that exists in out-of-the-way places, the writer has tried to call attention to all species that have been brought to this country with the object of adding to our list of birds, besides our American game birds, particularly the bobwhite and the California quail, which have been carried to every corner of the land, often into territory hopelessly unsuited to them. The failures, where they are known, have been considered as well worth recording, in the hope that a knowledge of them will lead to more rational selection of experimental material in the future.

The real importance should be emphasized of properly recording all these bird introductions. In the past there has been more often than not an absolute neglect to record such facts in available places, even when the States themselves have handled the birds. The result is that probably 90 per cent of these biological experiments are lost to science as well as to the literature of sport. It is suggested that in future State conservation commissioners keep careful records of all introductions within their territories even of the many small efforts by individuals or sportsmen's clubs.

POLICIES REGARDING INTRODUCTIONS AND TRANSPLANTINGS

There are at least two schools of thought on the subject of introducing and transplanting birds, and these are widely at variance. One of these, the conservative, represented by such eminent naturalists as Joseph Grinnell of California and many others, believes in preserving at all costs the present or rather the original status of native birds and harmless mammals, and points out the great dangers incurred in the importation of new species in other parts of the world, and especially the danger of spreading new diseases. The other school would bring in anything from a button quail to an ostrich without any regard to the general suitability of the species. Most sportsmen and naturalists do not agree fully with either of these views, although the writer sympathizes strongly with the first. It is, of course, known that it is impossible to maintain our bird fauna at anything like its original balance, whether new varieties are introduced or not, because of man's operations over the face of nature.

As to the undue increase of ubiquitous birds like the European starling and the English sparrow, it is believed that there are areas where these should be guarded against, but experience has already demonstrated that there are very few species that can or will gain a foothold in this country. In other words, there are few ecological niches into which a strange species can successfully fit itself. Dangers connected with introductions of exotic birds are discussed in the Yearbook of the Department of Agriculture for 1898,[2] and the necessity for taking prompt measures to prevent species of doubtful value from gaining a foothold in this country is stressed. Both the English sparrow and the European starling were brought here before legal restrictions were placed on the indiscriminate importation of exotic species into the United States. The section of the Lacey Act of 1900 (sections 241–244, Criminal Code, 1909) regulating the importation of foreign species provides as follows:

SEC. 241. The importation into the United States, or any Territory or District thereof, of the mongoose, the so-called "flying foxes," or fruit bat, the English sparrow, the starling, and such other birds and animals as the Secretary of Agriculture may from time to time declare to be injurious to the interests of agriculture or horticulture, is hereby prohibited; and all such birds and animals shall, upon arrival at any port of the United States, be destroyed or returned at the expense of the owner. No person shall import into the United States or into any Territory or District thereof any foreign wild animal or bird, except under special permit from the Secretary of Agriculture: *Provided*, That nothing in this section shall restrict the importation of natural-history specimens for museums or scientific collections, or of certain cage birds, such as domesticated canaries, parrots, or such other birds as the Secretary of Agriculture may designate. The Secretary of the Treasury is hereby authorized to make regulations for carrying into effect the provisions of this section. (35 Stat. 1137.)

As to the fear that an introduced game bird will ever become a pest in this country, such a possibility can not be conceived, with an army of several million shooters turned loose against it and protection, of course, entirely removed.

If sportsmen can procure a new bird without endangering the native species unduly, there is no reason why they should not have it. But they must realize that it will take many years to evaluate properly the ultimate worth of any introduced species in a given locality.

There is a great deal of discussion among sportsmen as to the best methods of planting birds and the numbers that ought to be used. The more one learns of this whole subject the plainer it becomes that definite rules for establishing a new bird or extending the range of a native one can not be laid down. There are plenty of instances of phenomenal spread from a plant of only a few pairs, and there have been most surprising failures with such birds as the European starling, subsequent trials in the establishing of which were crowned with overwhelming success. As a general rule, it is wise to place the birds in their new quarters early in spring and in considerable concentration over the most favorable bit of country that can be found. The practice in many States of sending a few pairs of birds to each county, never enough in one place to furnish a conclusive experiment, is certainly wholly wrong and dictated largely by political motives that may appear necessary at the moment.

[2] PALMER, T. S. THE DANGER OF INTRODUCING NOXIOUS ANIMALS AND BIRDS. U. S. Dept. Agr. Yearbook 1898; 87-110, illus., 1899.

With this preliminary sketch of the subject a more or less orderly examination of what has been done may be undertaken. It should be understood in the beginning, however, that in many cases the information available is sketchy and that in others a great mass of highly instructive data has had to be condensed into the compass of a few paragraphs.

Thanks are due to a great many ornithologists, game commissioners, and sportsmen who have been good enough to respond to a host of inquiring letters sent out in the summer and fall of 1925. The author is particularly indebted to members of the Bureau of Biological Survey for valuable help. The correspondence and files of the survey contain an enormous quantity of material bearing on this subject which would be impossible to find anywhere else. The scientific names employed in this bulletin of foreign and native species of birds are those now known to be in use.

TINAMOUS (Tinamus robustus and Rhynchotus rufescens)

Fifteen tinamous of the species *Tinamus robustus* were brought from Guatemala in 1923 by Howard E. Coffin, in cooperation with the Bureau of Biological Survey, and were placed on Sapelo Island on the coast of Georgia. Unfortunately their wings had been cut, so that they had to be kept under fence. There was only one left alive in January, 1926.

The species *Rhynchotus rufescens* from Argentina has been brought in alive in small numbers since 1924. Between 1904 and 1912, 20 were landed, and small numbers have continued to come in since that time. It is possible that some have been set free in the Southern States.

References.—U. S. Dept. Agr., Bur. Biol. Survey, importation records; Jones, A. W., Sapelo Island, Ga., letter, 1926.

DUCKS, GEESE, AND SWANS (Anatidae)

Waterfowl have been kept for ornament in many parks and by private individuals for a great many years, but there has been no really serious attempt to add any new species to the American avifauna. There have been many escapes from these collections, of course, and often these escaped birds have been shot and reported as wanderers from other continents or from Central America. This happens with many of the ducks and geese, as the Egyptian goose, ruddy shelldrake, Baikal teal, pink-footed and barnacle geese, and several species of tree ducks.[3] Indeed, it is often quite difficult to determine whether a specimen so taken is an escape or an actual straggler. Many waterfowl arrive from foreign countries with only the flight feathers cut, so that after the first molt they are perfectly able to escape, unless the new growing wing is attended to at the proper time.

MALLARD (Anas platyrhyncha)

Mallards of wild and semiwild stocks have been bred and turned out by some States (Massachusetts and Minnesota) and by many individuals and clubs (particularly on Long Island, N. Y.), but have

[3] GRINNELL, G. B. BRAZILIAN TREE-DUCK (DENDROCYGNA VIDUATA) IN NEW JERSEY, Auk 30: 110, 1913.

probably played no part in restocking. In the Northeastern States those that are agile and wild enough to survive the chances of an open shooting season migrate south but do not return the following spring. Instead, they seek their natural breeding quarters in central Canada by way of the Mississippi Valley. Mallards were bred and released in some numbers on Pierre Lorillard's estates at Jobstown, N. J., in 1884 and 1885. Harrison F. Lewis reports that there has been a recent attempt to stock Anticosti Island, Quebec, with them.

FORMOSAN, OR BAIKAL TEAL (Nettion formosum)

One attractive species, which was brought over from China in large numbers a few years ago, is the beautiful little Baikal, or Formosan, teal. They first reached this country in numbers in 1909 and for two or three years before the World War arrived in large shipments. So many came over, in fact, that dealers could scarcely sell them at $5 or $6 a pair. This would be an interesting species to try out on a large scale.

References.—Personal experience; U. S. Dept. Agr., Bur. Biol. Survey, Ann. Rpts., various years.

EUROPEAN TEAL (Nettion crecca)

The European teal has been commonly imported, often from hand-reared stock, and doubtless has sometimes made its escape. This happened once, at least, at Wenham, Mass., on the writer's farm.

References.—Phillips, J. C., Auk 28: 366, 1911; 29: 535, 1912.

WOOD DUCK, OR CAROLINA DUCK (Aix sponsa)

The native wood duck has always been a great favorite and has been reared artificially in a small way ever since Audubon's time. Some were turned out by Mr. Lorillard in New Jersey n 1884–85. For several years the writer released each fall a few wood ducks at Wenham, Mass., and some of these got as far as Georgia, as shown by the return of their bands.

EGYPTIAN GOOSE (Alopochen aegyptiacus aegyptiacus)

The Egyptian goose has been kept commonly and is an easy species to rear; it frequently escapes and is sometimes shot. Many have been imported since 1904, and Wallace Evans has reared many at St. Charles, Ill

References.—Bul. Nuttall Ornithol. Club 2: 52, 1877; Auk 17: 64, 1900; 18: 312, 1901.

CANADA GOOSE (Branta canadensis) AND OTHER GEESE

Tame Canada geese have been kept for decoys and for ornament with increasing frequency in late years all over the United States, and some of the young birds escape from time to time; almost none of these, of course, are recognized as of domestic origin when they are shot. Canada geese are established locally in one or two places in England (Norfolk).

The following geese are brought over rather commonly: European bean, Indian bar-headed, barnacle, and black brant. It is doubtful whether any, except possibly the bean goose, has been bred here.

MUTE SWAN (Euolor olor)

The mute swan has long been kept on park waters, and in some places, as on the lower Hudson River and on Long Island (Southampton), N. Y., it has been able to maintain itself in a semiwild state, but it does not appear to increase greatly in numbers. Two hundred and sixteen were imported in the spring of 1910, and 328 in the spring of 1912, and, as an ornamental bird, it is still being brought over in large numbers.

RAILS AND GALLINULES

EUROPEAN CORN CRAKE, OR LAND RAIL (Crex crex)

Some of these little rails apparently were set free by the Cincinnati Acclimatization Society between 1872 and 1874, but how many seems not to be known. There are a number of records of the corn crake taken in this country, 14 up to the year 1914 and others since. It has occurred once in Bermuda, once in Maryland, three times in New Jersey, five times in New York, and once each in Rhode Island, Maine, Nova Scotia, and Newfoundland. These were probably genuine stragglers from the Old World.

References.—Forest and Stream 2: 264, 1874; Cooke, W. W., U. S. Dept. Agr. Bul. 128: 36–37, 1914.

GALLINULE (Porphyrio edwardsi)

An example of this gallinule collected in California was probably merely an escape, as the species is occasionally brought into the United States by San Francisco bird dealers. The bird was collected either by A. Van Rossem or Lawrence Huey and sent to Berkeley, Calif., for identification, according to information received from the Museum of Vertebrate Zoology at Berkeley.

GALLINACEOUS BIRDS

CURASSOWS (Crax globicera)

Through the cooperation of Howard E. Coffin, the Bureau of Biological Survey brought nine curassows from Mexico in 1923 and put them on Sapelo Island, Ga. At first they did fairly well, but there were only two of them left in January, 1926. Alfred W. Jones, who looks after Sapelo plantation, says that they seemed able to withstand a rather cold winter.

References.—U. S. Dept. Agr., Bur. Biol. Survey, records.

MEXICAN CHACHALACA (Ortalis vetula)

Chachalacas were at one time introduced into California, according to H. C. Bryant, but no details concerning the experiment are available, except that it failed. In 1923, Howard E. Coffin, cooperating with the Bureau of Biological Survey, obtained 42 chachalacas from Tamaulipas, Mexico, and had them placed on Sapelo Island, Ga. Some of these birds nested in the spring of 1924, and from all reports made a good start. A letter from Alfred W. Jones of Sapelo plantation (January, 1926) stated that they had increased considerably

and seemed well able to take care of themselves and to escape predatory animals. They had scattered all over Sapelo Island and also the neighboring Blackbeard Island.

References.—U. S. Dept. Agr., Bur. Biol. Survey, importation records, 1923–24; Jones, A. W., Sapelo Island, Ga., letter, 1926.

WILD TURKEY (Meleagris gallopavo)

Very few notes are available on the various attempts at introducing the wild turkey into sections where it has been extirpated. Late in the seventies wild turkeys received some attention from J. D. Caton, who bred many on his place at Ottawa, Ill., and shipped them to various points. They were turned out at Blooming Grove Park, Pa., in 1879, but shortly after vanished. The great success that has attended the efforts of the Pennsylvania game commissioners with wild turkeys is well known, although it is said that were the turkeys not looked after on sanctuaries through the winter season it is doubtful whether they could maintain themselves in a wild state. A certain amount of feeding is necessary, because the food that they obtained formerly from the older forests is to be had now only in small quantities. About 1,771 birds, either partly or wholly wild, were released in Pennsylvania between 1915 and 1925.

When the Cleveland Cliffs Mining Co. carried out its large-scale experiment with foreign birds at Grand Island in Lake Superior, it tried a few wild turkeys, but, so far as the writer knows, without favorable result.

Wild turkeys have been bred by several of the State game commissions and by private individuals in Maryland and Virginia (H. P. Bridges and the late R. W. Blanton, particularly), but it is doubtful whether much success will attend these efforts unless the birds are placed on areas where they can be well protected and looked after for many years. Wisconsin and Minnesota are interested in stocking their forests with this bird, and about 150 have recently been liberated in the latter State.

In Arizona and New Mexico wild turkeys have disappeared from some of the mountain ranges, and attempts have been made by sportsmen's associations to restore them to their former haunts. An association at Parker, Ariz., is said to have stocked one of the near-by mountain ranges, and the birds are reported to be doing fairly well. Aldo Leopold states that this was originally not a turkey country. In southern Arizona turkeys were reintroduced in the Santa Catalina Mountains but apparently did not persist.

About 1,240 Mexican turkeys were set free in California between 1888 and 1918. Some of these were transferred from western Mexico (Sonora and Sinaloa) to the Yosemite and Sequoia National Parks from 1905 to 1913, but apparently disappeared in a few days. T. S. Palmer, who saw some of these birds, states that some were of mongrel blood. It appears also that California has failed to get any results from large introductions in a number of counties, and it is said that the conditions there were not suitable to the stock used (Mexican). Those put out on Santa Cruz Island and in the San Bernardino Mountains (the same stock as that taken to the Yosemite) failed to maintain themselves. Oregon is now taking an interest in turkeys,

and the State game commission planted 116 in Curry, Jackson, Jefferson, and Polk Counties in 1926. It is still too early to tell whether permanent results have been obtained. There have been unsuccessful attempts on a small scale to introduce turkeys into the State of Washington.

A factor of great importance that apparently has not been fully recognized is the selection of suitable stock for various parts of the country. Pure wild turkeys without any admixture of foreign blood are getting scarce all over the United States and now persist only in remote sections far from habitations.

References.—GENERAL: Amer. Nat. 11: 321, 1877; Amer. Game Protect. Assoc. Bul. 7: 13, July, 1918 (breeding). Forest and Stream 9: 207, 1877; 10: 255, 1878. ARIZONA and NEW MEXICO: Leopold, A., Madison, Wis., letter, 1925. CALIFORNIA: Forest and Stream 20: 228, 1883; Game Comn., Ann. Rpts., 1905–1913; Grinnell, J., Bryant, H. C., and Storer T. I., The Game Birds of California, p. 36, 1918; Ferguson, A. D , Foreign Game Birds Introduced into California; T. S. Palmer, information. MARYLAND: Nat. Assoc. Audubon Soc. Bul. 2: 53, 1915. MICHIGAN: Brotherton, R. A., Cleveland Cliffs Iron Co., Negaunee, letter, 1925. MINNESOTA: Game and Fish Comn., Off. Bul. 152, Mar., 1924; Roberts, T. S., Zool. Mus., Minneapolis, letter, 1925. OREGON: Portland Oregonian, Mar. 14, 1926. PENNSYLVANIA: Game Comnrs., letter, 1925. TEXAS: Game, Fish, and Oyster Comn., letter 1925. WASHINGTON: Taylor, W. P., Murrelet 4: 10, Sept., 1923.

OCELLATED TURKEY (Agriocharis ocellata)

Only one attempt to acclimatize ocellated turkeys has come to the knowledge of the writer. Very few indeed of these magnificent birds have ever been brought into the United States, and these were apparently for exhibition purposes only. Five were obtained in Guatemala in the fall of 1923 for Howard E. Coffin, destined for Sapelo Island, Ga. Unfortunately, however, all died within two weeks after their arrival, evidently because of some rather bad weather conditions. Further efforts to obtain another lot have failed.

References.—U. S. Dept. Agr., Bur. Biol. Survey, importation records; Jones, A. W., Sapelo Island, Ga., letter, 1926.

GUINEA FOWL (Numida meleagris [=N. galeata])

Guinea fowls have, of course, been domesticated all over the United States, especially in the southern part, and have thus had plenty of opportunity to escape and establish themselves in a feral state. Nevertheless, they have shown absolutely no indication of reverting to the wild, which seems rather surprising in view of the fact that they have done so in some of the islands of the West Indies. They were certainly introduced long ago into most of these islands and are now found in a wild state in Jamaica, Cuba, Porto Rico, Dominican Republic, and a few of the Lesser Antilles. Where that obstreperous animal, the mongoose, is present, it preys extensively on guinea fowl and keeps their numbers much in check. On Barbuda, in the Lesser Antilles, which was made into a sort of game preserve more than 200 years ago, the birds still flourish.

There was at least one attempt in the United States to make the guinea fowl a game bird. The trial was made with 40 or 50 of them on Jekyl Island, Ga., about 1890, but apparently without permanent results. Nash Buckingham writes of a temporary success in California some 25 years ago.

References.—GEORGIA: Forest and Stream 54: 209, 1900. BARBUDA: Osprey 4. 21, 1899. CUBA: Forest and Stream 54: 149, 1900. DOMINICAN REPUBLIC: Forest and Stream 20: 68, 1883.

ROCK PTARMIGAN (Lagopus rupestris)

Apparently no one has paid much attention to the introduction of ptarmigan. It has been suggested, and rightly so, that these birds ought to be planted on some of the higher mountains where they do not occur naturally. In 1903, and again in 1904 and 1905, attempts were made in California to obtain some for Mount Shasta, and $10 a pair was offered for stock from Alaska. Nothing ever came of this offer, however, and it is yet to be learned whether the species is adapted for life on the high sierras of California.

The white-tailed ptarmigan (*Lagopus leucurus*), which occurs naturally on some mountains both in the Rockies and the Cascades, might offer better possibilities for introduction than the rock ptarmigan (*L. rupestris*).

WILLOW PTARMIGAN, OR WILLOW GROUSE (Lagopus lagopus)

Among the few attempts to introduce the willow ptarmigan (dal rypa of the Norwegians) into the United States was one made on Grand Island in Lake Superior in 1905 and 1906, when 35 birds were brought over from Norway and set free on the island. R. A. Brotherton, of the Cleveland Cliffs Iron Co., states that nothing more was heard of these willow grouse.

Some come in from Copenhagen nearly every year, and some from Norway, but too few to have formed the basis of any real experiment. Some may have been put out in Vermont in a small way. There is a note in Field and Stream (1: 26, 1896) that R. E. Cobb, of St. Paul, Minn., received ptarmigan of some species from Norway.

References.—Brotherton, R. A., Cleveland Cliffs Iron Co., Negaunee, Mich., letter, 1925; U. S. Dept. Agr., Bur. Biol. Survey, importation records.

BLACK GROUSE, OR BLACK GAME (Lyrurus tetrix)

Much attention has been paid to the black grouse, but it is doubtful whether these birds were set down in the proper environment, for there has been no indication of any success with them. They have too often been placed in dense coniferous forests or in subarctic wastes, such as Newfoundland, where they lacked the birch and poplar that they probably need.

As long ago as the fall of 1886 black grouse were tried out in Newfoundland on a large scale through the efforts of Robert Langrishe-Mare. The birds came from Scotland in two shipments—40 at a time. In 1906 or 1907, 50 more were turned loose at Whitbourne, Newfoundland. For some time after this first attempt there were repeated tales of their presence, to say nothing of a bird shot at Bay St. George, which was said to be a hybrid between the black game and the native willow ptarmigan.

Large shipments of black grouse from Scandinavia in 1904 and 1905 were placed 58, at one time, on Grand Island in Lake Superior by the Cleveland Cliffs Iron Co.

In 1906, 46 black game came to Vancouver, British Columbia, from Copenhagen and were set free at Duncan on Vancouver Island,

on Saturna Island, and also on the mainland near Vancouver. The loss among these birds in transit was small, and they were said to have been turned out in good condition. A. Bryan Williams, then game warden of British Columbia, writes, however, that the birds were in poor condition. Another attempt to introduce these birds was a small one made at New Sweden, Me., by W. W. Thomas in 1895, and another in Algonquin Park, Ontario, Canada, by the authorities of Ontario, about 1903.

E. Hubert Litchfield, of New York, writes that his father introduced a few on his estate near Big Tupper Lake, in the Adirondacks, in about 1900. About a dozen were ordered from Germany, but only half of them arrived in condition to turn loose. A few of them, with capercailzie, introduced at the same time, were occasionally seen for about one year and then vanished. Some also went to W. Seward Webb's place in the Adirondacks and perhaps to his Shelburne Farms in western Vermont.

CAPERCAILZIE (Tetrao urogallus)

What more natural desire among sportsmen than an attempt to introduce to the somber northern forests the capercailzie, a magnificent European game bird second only to the turkey in size and sporting attributes. Were it not for the great expense involved in procuring and shipping these large birds, many more trials would have been made. All the various attempts in widely different regions of the United States and Canada have failed to give evidence that the species has any power of adaptation to new conditions.

As long ago as 1869, Captain Hardy in his book, Forest Life in Acadie, suggested their introduction into the eastern provinces. In 1890, W. W. Thomas, United States minister to Sweden, made exhaustive reports on the capercailzie of Scandinavia and stirred up some interest in the subject. The first pair, so far as known to the writer, arrived at Westerly, R. I., in 1893 for D. F. Stillman. Through Mr. Thomas's efforts, four were liberated at New Sweden in northern Maine in 1895. In 1904, 143 capercailzie and black game were put out on Grand Island, Mich., by the Cleveland Cliffs Iron Co., and 58 more followed in 1905. It was rumored that four broods of chicks were identified by the gamekeeper, but all individuals disappeared within a year or two.

Previous to this, in 1903, 65 (or 52?) capercailzie, together with some black game, were imported from Denmark or Sweden and placed in Algonquin Park, Ontario, by the provincial authorities, and some of these birds wandered a long distance, so T. S. Palmer states. There were rumors, probably erroneous, of young broods and of some being seen after five years.

In 1906 the total number of capercailzie and black game imported into this country increased to 235, and most of these went to private preserves in the Adirondacks. A few were placed in Litchfield Park near Big Tupper Lake, but probably not more than a dozen, according to E. Hubert Litchfield. Eighty-five capercailzie, besides some black game, went to William Rockefeller in the Adirondacks at this time, and W. Seward Webb received many for his Adirondack preserve. J. A. Wheeler, game commissioner of Illinois, got four capercailzie and six black game, and Cecil French kept a pair of each in his aviaries.

In the fall of 1907, 23 capercailzie, as well as 20 black game, were shipped from Copenhagen to Newfoundland, via New York, and subsequently transferred to the peninsula of Avalon without loss. The experiment was initiated through the efforts of Sir Robert Bond, and the arrangements were made by John G. Millais, who mentions the plan in his book on Newfoundland (1907). A recent letter from Newfoundland procured through Robert Bartlett tells a little about the fate of these birds. They were released in October midway between Whitbourne and Colinet on the east end of the island. Food was supplied and the birds remained in the neighborhood for several weeks. Some boys disposed of at least two, and the rest soon vanished and were never seen again.

Twenty-two capercailzie, besides 35 black game, were sent to British Columbia in 1906, and some were put out on the north arm of Burrard Inlet, 14 miles from Vancouver. The total cost of this shipment was recorded as $1,695. (T. S. Palmer 1905–6.) It is reported that the birds arrived in poor condition, and that after they were turned out they were caught in a deluge of rain, which they could hardly have been expected to survive. It was a mistake, also, to divide them up into small lots.

This giant grouse became extinct in Scotland between 1745 and 1760, but was reintroduced in 1837–38 by the Marquis of Bredalbane. A good account of this successful reestablishment is preserved in Harvie-Brown's little book, The Capercailzie in Scotland, 1879. Many of the citations that follow refer also to the black grouse.

References.—GENERAL: Osprey 5: 144, 1901. MAINE: Shooting and Fishing 16: 8, 1894; Forest and Stream 56: 259, 294, 1896; 47: 147, 1896; Thomas, W. W., Solhem, Karlshaum, Sweden, letter, 1925. MICHIGAN: Mershon, W. B., Saginaw, letter, 1925; Brotherton, R. A., Negaunee, letter, 1925. NEW YORK: Litchfield, E. H., N. Y. City, letter, 1925. RHODE ISLAND: Forest and Stream 40: 401, 1893. VERMONT: Osprey 4: 30, 1899; U. S. Dept. Agr., Bur. Biol. Survey, importation records.

BRITISH COLUMBIA: Forest and Stream 67: 775, 1906; Palmer, T. S., U. S. Dept. Agr. Yearbook 1906: 539, 1907; Munro, J. A., Okanagan Landing, letter, 1925; Williams, A. B., Vancouver, letter, 1925. NEWFOUNDLAND: Forest and Stream 31: 455, 1888; 69: 692, 1907; Millais, J. G., Newfoundland and Its Untrodden Ways, p. 264, 1907; Game Comn., letter, 1925; Bond, R., to F. W. Angel, St. Johns, letter, Mar., 1926. ONTARIO: Field and Stream 6: 107, 1901; Forest and Stream 70: 251, 1908; Palmer, T. S., U. S. Dept. Agr. Yearbook 1905: 616, 1906; Game Breeder 5: 102, 1914.

RUFFED GROUSE (Bonasa umbellus)

No doubt there have been many small attempts by private individuals to establish the ruffed grouse in parts of this country where it never existed, or where it has become extirpated. Nevertheless, very little about it is to be found in sporting literature. Outram Bangs tells of a small shipment of northern New Hampshire birds received by him at Wareham, Mass., late in the eighties. These were the tame and foolish birds of the north (possibly sick), and eventually all vanished.

As long ago as 1884–85 some ruffed grouse are said to have been turned out on Pierre Lorillard's game preserve at Jobstown, N. J. A shipment of 56 from Canada was recorded in the Bureau of Biological Survey records in 1907, and in 1900 William Barnhard, a deputy game warden of Wisconsin, attempted to plant these birds on Washington Island, Wis., at the entrance of Green Bay. This is

a large island of 1,500 acres, which was supposed never to have had any grouse upon it. A few years later they were reported at various places. During the past few years quite a few grouse have been shipped to various States from Alberta, but as they are expensive it is doubtful whether they will ever be brought here in numbers sufficient to count. In 1923 a shipment from Alberta was placed on an island in Puget Sound, Wash., where, after two years, the birds were said to be doing well. A few were brought into Maryland in 1924–25, so the game commissioner states, but there is no further history of them. Pennsylvania also imported a few from Leduc, Alberta, in 1924, but the result is not yet certain.

Larger experiments were made in Connecticut with Alberta stock in 1923-24 by Theodore Sturgis, of Fairfield, and C. M. Taintor. Thirty were purchased in the former year for $20 a pair, but of these only eight lived to be liberated. In 1924, 126 were ordered from the same source, of which 115 lived to be liberated. These western ruffed grouse were said to act like the foolish, uneducated birds of the northern woods, and probably did not do well. A. A. Allen, of Cornell University, however, who has also received birds from the same source, states that he found that when they acted peculiarly tame they were nearly always sick and that they died within a short time. One should therefore always be suspicious of birds that appear unusually docile and contented.

Another small introduction reported by L. B. Potter, of Eastend, Saskatchewan, was a recent one from the Qu'Appelle Valley, northeast of Regina, to the Cypress Hills, which is a large section of brush country where ruffed grouse apparently never existed. Only a few were liberated; the success of the experiment has not been learned.

References.—GENERAL: Oldys, H., Game Protection in 1907, U. S. Dept. Agr. Yearbook 1907: 594, 1908. CONNECTICUT: Taintor, C. M., N. Y., letter, 1925; Lapsley, A. B., Pomfret, letter, 1925. MARYLAND: Game Comn., letter, 1925. MASSACHUSETTS; Bangs, O., Cambridge. NEW JERSEY: Forest and Stream 25: 103, 1885. OREGON: Kinney, J. W., Seattle, Wash., letter, 1925. PENNSYLVANIA: Game Commrs., letter, 1925. WISCONSIN: Palmer, T. S., Auk 30: 582, 1913; U. S. Dept. Agr., Bur. Biol. Survey, importation records. SASKATCHEWAN: Potter, L. B., Eastend, letter, 1925; Bendick, D. H., Leduc, Alberta. ENGLAND: Chicago Field 8: 314, 1877.

PINNATED GROUSE, OR PRAIRIE CHICKEN (Tympanuchus americanus)

The disappearance of the eastern pinnated grouse, or heath hen, from nearly the whole of its range in the East, and the gradual reduction of the range of the true pinnated grouse in the Middle West, led to many attempts to domesticate it, or at least to breed it in captivity. This was being tried even in Audubon's time, and there are records of a few birds artificially bred in New York in 1845. The pages of sportsmen's journals 50 years ago are full of later attempts along this line, but all ended in complete failure. The writer kept these birds some years ago but succeeded in raising only one to maturity, so susceptible is this species in captivity to intestinal diseases at early ages.

As these birds were easily trapped and were extremely plentiful, it is no wonder that they were looked upon as an easy source of supply for the depleted coverts of the Eastern States. Some were brought into New Jersey as long ago as 1852. Nearly all the Eastern States received considerable numbers between 1869 and 1893; at

least the writer has found accounts of these introductions into Maine, Vermont, New York (Long Island), Massachusetts, New Jersey, Pennsylvania, and Maryland. In fact there was a craze over the birds during this time, and some of the shipments were large, for at least a thousand came into Massachusetts, besides some sharp-tailed grouse, and the low price, $7 to $8 a pair, was an added attraction. For a few years after these introductions there were tales of enormous successes, and at Berlin, Worcester County, Md., where two pairs were liberated about 1869, they were said to have increased in five years to at least 2,000 birds! Laws were passed in New York, New Jersey, and other States protecting them. Nevertheless, all these attempts in the East resulted in absolute failure, and it is doubtful whether any of these western visitors even made an attempt to breed. They usually vanished quickly, as did other western birds, such as California and Gambel quail. Most of these importations of prairie chickens were made between 1880 and 1890, although some were put out on Naushon Island in Massachusetts by J. Malcolm Forbes long after that.

Pinnated grouse became familiar to English sportsmen a long time ago, and in 1874 large shipments of live birds were made to England, where they were turned out on game preserves. Some were kept with the hope that they could be reared under artificial conditions. Many eggs also were sent over, but no success was ever reported. As evidence of the extent of this trade, one large dealer, Reiche, sent to Jamrach, of England, some 2,000 birds in one year and an equal number to other parts of Europe, where they were sold surprisingly cheap. Even after that 200 or 300 were exported each year for zoological gardens and private collections abroad. There was also much interest in the exportation of eggs. Richard Valentine, of Janesville, Wis., secretary of the Wisconsin State Poultry Association, sent over a few clutches of eggs in 1874–75. Some of these eggs were received by the head gamekeeper of the Prince of Wales, and Jackson Gillbanks, of Carlisle, England, appears to have been much interested. Almost nothing resulted from these eggs, and the project was soon abandoned with a record of "only one raised from three which were hatched." Some were taken to Germany as long ago as 1861. They were taken to New Zealand in 1879, 1880, and 1881, but never established themselves in that favored country.

Prairie chickens never ranged west of eastern Colorado under natural conditions, but on the Pacific coast efforts were made to introduce them into California (about 1860), and more recently in Washington. Indeed, these birds got as far as the Hawaiian Islands, where 12 were received and turned out by A. S. Wilcox at Honolulu in 1895. They did not prosper there.

The species is said to have been introduced about Saginaw, Mich., with some success. At least the species has increased in that region in recent years, as it has also in Illinois and other States where it was nearly extirpated at one time.

The extension of range of this bird following the plow would be a most interesting study. Whether the bird actually extended its range or whether it simply increased in numbers, on account of a more abundant food supply, is not quite clear. At any rate, it

increased greatly in abundance over western and northern Kansas and eastern Colorado after agriculture was introduced.

References.—GENERAL: Introd. Eastern States, Amer. Rec. Sci. and Ind., 391–392, 1874–75; Breeding and confinement, Forest and Stream 2: 324, 1874; 7: 406, 1877; Chicago Field 6: 385, 1877; Audubon, J. J., Ornithological Biography, v. 2, p. 495, 1835. CALIFORNIA: Forest and Stream 10: 296, 1878. COLORADO: Cooke, W. W., Colo. Agr. Expt. Sta., Bul. 44, 1898; Bergtold, W. H., Denver, letter, 1925; Figgins, J. D., Denver, letter, 1925. KANSAS: Forest and Stream 4: 282, 1875: Doze, J. B., Pratt, letter, 1925; Game Comr., letter, 1925. MAINE: Forest and Stream 31: 453, 1888. MARYLAND: Forest and Stream 2: 8, 149, 1874; 3: 297, 1874; Md. Acad. Sci. Trans. 1885. MASSACHUSETTS: Forest and Stream 16: 83, 1881; 35: 105, 1890; 36: 188, 1891; 54: 421, 1900; Amer. Ornithol. 1: 201, 1901. MICHIGAN: Mershon, W. B., Saginaw, letter, 1925; Game Comr., letter, 1925. NEW JERSEY: [Porter's] Spirit of the Times 22: 126, 1852; Forest and Stream 2: 131, 1874; Cent. Assoc. Protect. Game, N. J. Laws (Private), Chap. 211, Sess. 1874; Laws Protecting, Chap. 524, 1874; Chap. 85, 1886; Field 3; 307, 1875; Rod and Gun 8: 103, 1876; Forest and Stream 25: 103, 1885. NEW YORK: Transfers perhaps made by N. Y. Assoc. Protect. Game, 1844; [Porter's] Spirit of the Times 15: 327, 1845; Laws 1862, Chap. 474, Sect. 20; and 1867; Forest and Stream 2: 75, 89, 1874. OREGON; Gill, J., Portland, letter, 1925. PENNSYLVANIA: Fide Palmer, T. S. VIRGINIA: Forest and Stream, 24: 204, 248, 1885. WASHINGTON: Evans, W., St. Charles, Ill., letter, 1925.

HAWAIIAN ISLANDS: Forest and Stream 44: 228, 1895. NEW ZEALAND: Forest and Stream 12: 110, 1879; Thomson, G. M., The Naturalisation of Animals and Plants in New Zealand, p. 127, 1922. ENGLAND: Forest and Stream 2: 8, 26, 152, 217, 233, 312, 408, 1874; 4: 314, 1875; 20: 345, 1883. GERMANY: Prairie Farmer 23: 56, 1861.

SHARP-TAILED GROUSE (Pedioecetes phasianellus)

The history of the attempt to introduce the sharp-tailed grouse into the Eastern States is much the same as that of the prairie chicken, although not nearly so many were tried out. There is not the slightest evidence that any of these birds settled down or made any attempt to breed. Nevertheless, in spite of all expensive failures in the past, some of these birds are still being tried out in the Eastern States. A few from Alberta were turned out in Connecticut in 1924 along with Canadian ruffed grouse and were said to have hung around until March, when they vanished completely.

Late in the eighties and early in the nineties at least 146 sharp-tailed grouse (and probably many more) were turned out in Massachusetts coverts, together with pinnated grouse, Gamble and mountain quail, and other birds. A few were planted in northern Vermont, near St. Johnsbury, early in the nineties.

In 1904, 72 sharp-tailed grouse were put out on Grand Island, Mich., Lake Superior, but were never heard of again. The Maryland game commission states that a few of these birds were distributed in the season of 1924–25. A few (22) were introduced into New Zealand from Utah in 1876 by the Auckland Society, but there is no further record concerning them.

References.—CONNECTICUT: Sturgess, T., Fairfield, letter, 1925. MARYLAND: Game Comr., letter, 1925. MASSACHUSETTS: Forest and Stream 38: 517, 1892; 39: 70, 294, 1892; Howe, R. H., and Allen, G. M., Birds of Massachusetts, p. 135, 1901; information from O. Bangs; Mass. Fish and Game Protect. Assoc. Records. MICHIGAN: Brotherton, R. A., Cleveland Cliffs Iron Co., Negaunee, letter, 1925. VERMONT: Forest and Stream 43: 295, 1894.

NEW ZEALAND: THOMSON, G. M., The Naturalisation of Animals and Plants in New Zealand, 1922.

SAGE GROUSE (Centrocercus urophasianus)

It is not certain that the sage grouse has ever been tried out beyond its natural range. No doubt it is in real danger of becoming extinct and it is certainly decreasing fast in Wyoming, Oregon, and Washington and in many places where automobile roads are penetrating the deserts, in spite of close seasons and increased protection in most States. It has recently been proposed to liberate some of these birds in western Montana, where they do not exist, to see if they will prosper there, but so far as known (1926) this has not been done.

References.—MONTANA: Game Comr., letter, 1925. OREGON: Gill, J., Portland, letter, 1925. WASHINGTON: Game Comr., letter, 1925. WYOMING: Game Comr., letter, 1925.

HAZEL GROUSE (Tetrastes bonasia)

This little grouse, not far removed systematically from native ruffed grouse, has, so far as known, only once been imported from Europe for stocking purposes. Two introductions were made by the Cleveland Cliffs Iron Co., on Grand Island, Lake Superior; 12 came over in 1905 and 19 in 1906, but practically nothing was heard of them after they were released. According to a report only two of the 1905 shipment remained alive in March, 1906.

References.—Cleveland Cliffs Iron Co., Negaunee, Mich., letter, 1925; U. S. Dept. Agr., Bur. Biol. Survey, importation records.

SCALED QUAIL, BLUE QUAIL, OR COTTON TOP (Callipepla squamata)

So much confusion exists as to the part that man has played in extending the range of the scaled quail that one is often left in doubt as to whether an extension of range has been a natural or an artificial one. This happens because the exact ranges of this and others of the western game birds before man began changing the face of the country are uncertain. Moreover, the common names of all our southwestern quails were applied so loosely by early writers that doubt is often left as to the species meant, to say nothing of the race or subspecies. For instance, this particular bird is sometimes called "California quail" in eastern Colorado. One record in the Pacific Sportsman for 1906 stated that a dozen "scaled partridges" were received by Game Warden Rief in the State of Washington from Massachusetts.

Originally the bird may have been indigenous over a small corner of southeastern Colorado but certainly not north of that. Authorities differ as to whether it occurred in Colorado before the white man arrived on the scene. It seems certain that it came into Kansas, after the country was settled, from New Mexico and possibly southeastern Colorado, and now occupies the arid parts of the State and is still extending its range both north and east. This migration into Kansas may have been, and probably was, assisted by man.

In Colorado the bird has now invaded a large section of the eastern and southern part of the State. Introduction around Denver by W. C. Bradbury about 30 years ago failed, and more recent attempts met with the same result. The bird was also put out at Colorado Springs, and it is now common all along the Arkansas River as far west as Pueblo. Recent writers say that it is still increasing in eastern and southern Colorado.

The scaled quail is said to have been introduced into the vicinity of Canyon City by Dall DeWeese. It has even been reported high up in the mountains of El Paso County. It seems doubtful whether artificial introductions have had much, if any, effect on the present range of this bird in Colorado.

A number of years ago E. A. McIlhenny wrote that he brought scaled quail from Arizona into southern Louisiana on two different occasions. In both instances the birds were reported to have done well at first but vanished the second or third year. Hearing of successful introduction into Florida, the writer corresponded with J. M. Morrison, of the Charles Deering properties at Buena Vista, Fla., who stated that the birds were introduced by Mr. Deering a number of years ago, that they at first bred freely but soon began to stray off, and that, so far as he knows, none have been seen for the past two or three years. They were also tried out on one of the large estates on the Georgia-Florida line near Thomasville, Ga., according to H. L. Stoddard, but nothing came of this attempt.

There is a note in Field and Stream for November, 1900, to the effect that certain sportsmen, among them A. K. Fisher, Charles Hallock, and others, were planning to introduce the "Blue quail of the Rio Grande" among the Appalachian Mountains in North Carolina, but this was never tried out. Between 1914 and 1919, 600 or 700 of these birds were planted along the wet coastal regions of Washington and in the south-central part of that State—a region, of course, hopelessly unsuited to them. They did not thrive there.

References.—COLORADO: Condor 8: 19, 1906; Auk 26: 86, 1909; Condor 12: 30, 1910; Aiken, C. E. H., and Warren, E. R. The Birds of El Paso County, Colo., 492, 1914; Bradbury, W. C., Denver, letter, 1925; Figgins, J. D., Denver, letter, 1925; Game Comn., letter, 1925. FLORIDA: Morrison, J. N., of Charles Deering properties, Buena Vista, letter, 1925; McIlhenny, E. A., Avery Island, La., letter, 1925. KANSAS: Doze, J. B., Pratt, letter, 1925; Game Comn., letter, 1926. NORTH CAROLINA: Field and Stream 5: 622, 1900. WASHINGTON: Pacific Sportsman 3: 29, 1906; Calif. Fish and Game 11: 99, 1925; Records of Game Comn.

CALIFORNIA QUAIL (*Lophortyx californicus*)

The common California quail, in its two races, has always been a great favorite in new acclimatization projects. The two races of the bird have never been distinguished in transplanting experiments and, besides this, the valley and the mountain quails *Oreortyx pictus pictus* and *O. p. palmeri* have been confused in sporting literature. To this must be added the common confusion between the California and the Gambel quail; all this has resulted in a situation difficult to untangle. The Gambel and the scaled quail have also been confused and possibly the Mearns quail may have still further complicated the picture. There are available so many records of transfers of this group of birds from one part of the United States to another that they can only be summarized here.

FOREIGN EXPERIMENTS

The California valley quail was successfully introduced into New Zealand many years ago, 1867–1870, and at first bid fair to be a regular pest. It was taken to Chile in 1870 and has done well there. From the original nucleus it has been reintroduced at other points, such as the valley of Nilahue, in the Province of Curico, in 1914, and

according to R. Barros is now increasing and extending its range. The birds are said to be common in the markets of Valparaiso, both dead and alive, and are already important as game. They were also taken to the Juan Fernandez Islands (Masatierra and Masafuera) by a Captain Wakelborn in 1912 or 1913, and a few years later were mentioned as doing splendidly.

The Government of Natal, South Africa, was considering experiments with California quail in 1906, but information is lacking as to the outcome.

In France the birds were experimented with as long ago as 1852, and there are many later references to other trials to be found in the literature of the period (e. g., Bul. Soc. Natl. Acclim. France). Near Conflans sur Aines they seem to have been temporarily successful.

AMERICAN EXPERIMENTS

There were early attempts with California quail in Massachusetts in 1890 and probably before that time, but all ended in failure. The writer received a few at Wenham about 18 years ago, which were turned out along with western bobwhites, but were never heard from again. About four dozen birds, consisting of both mountain and valley quail, according to a note in the American Sportsman, were put out on Gardiners Island, N. Y., in the spring of 1874.

There certainly were trials with California quail in Maryland by General Cadwallader before the Civil War and also later than this, but in spite of premature accounts of glowing successes nothing at all came from these efforts. The same applies also to Delaware. As long ago as 1852, 30 quail were brought from California and put out by William Niall, of Islip, Long Island, near his home, and 200 were set out on Gardiners Island in 1892, according to information obtained from Leon Gardiner.

In Illinois a planting of California quail was made near Macon in 1896 by W. O. Blaisdell, who procured four dozen from the Sacramento Valley, Calif. They were said to have done well the first season and to have hatched out large broods, but all vanished in October. Complete failure after an initial success with breeding for one season is a common experience with many different sorts of introduced birds. Early attempts in Missouri (1879) were negative, although the birds bred the first season. There is a note in the Chicago Field for 1877 relating the experiment with several dozen of these birds by James Gordon, of Pontotoc, Miss., who apparently had some success in breeding them on his estate.

The many efforts to extend the range of these game birds in the Western States are complicated by the fact that their original distribution is not fully known.

Early in the seventies William Dorman is said to have introduced several dozen near Virginia City, Nev., and they have greatly prospered there. There have also been introductions into the Carson City and Reno regions of Nevada, the present status of which is not known to the writer; and there must be California quail established in parts of Idaho, for an open season was declared in Lemhi and Twin Falls Counties in 1925. They were found rather common in the Quinn River Valley, Nev., and in the region about McDermitt, Nev., in 1915, by E. A. Preble. Preble was informed by a man familiar with conditions in that region that when he first came to Paradise Valley,

Nev., in 1895, these birds were abundant, having been brought there some years before by William Stocks from some place in California. It was stated also that about 1902 a number of the Paradise Valley quail were taken to Lovelock, Nev., to replace stock planted there that had become depleted.

There is no doubt whatever that these birds have been aided by transplantation in their spread through Oregon, especially in the Willamette Valley. After they had gotten a good hold in this favored spot they were trapped and carried to many other parts of the State. In 1914 about 1,200 were trapped in Jackson and Josephine Counties and liberated in 16 other counties. The few specimens seen of these introduced Oregon birds appear to belong to the form *Lophortyx californicus vallicola*, or true valley quail.

Reference should be made to rumors of early introductions around Salt Lake City (Ogden, 1870, or before) and to other additions to the stock in 1900, which according to Utah officials have done well. There are two Utah specimens of *L. c. vallicola* in the Bureau of Biological Survey collection, one from Utah County, October, 1914, and another from Midvale, 1911. Alexander Wetmore found them common along the edge of the foothills over most of the region west and north of Great Salt Lake in 1914 and 1915. They appear to be permanently established in Utah.

The California quail has been repeatedly introduced into the State of Washington, probably both races of it, and it is now resident in small numbers west of the Cascades and north to Orcas Island and Snohomish County, and also along the east base of the Cascade Mountains to Yakima County, and east along the southern border of the State to Asotin County. Many of these birds may be mixtures of the two forms of California quail or the two forms of the mountain quail (*Oreortyx pictus pictus* and *O. p. palmeri*). A few have even been reported northeast of the Lyre River on the Olympic Peninsula. They are now common on the islands in Puget Sound, especially the low-lying ones in the vicinity of Bellingham Bay. It is possible, as some ornithologists think, that they are indigenous in southwestern Washington. As long ago as 1857 Charles H. Mason and Hugh A. Goldsborough imported two lots from San Francisco and liberated them near Olympia. Between 1914 and 1918, 468 were liberated by the game commissioners of Garfield, Walla Walla, and Yakima Counties.

On the south end of Vancouver Island, British Columbia, they were put out perhaps even as long ago as 1886, and are said to have done well. They have held on well about Victoria and on the Saanich Peninsula. They were planted more than 20 years ago on Denman Island, where they have maintained themselves well. The climate on Denman Island is milder than elsewhere, and flocks of 100 are commonly seen. In the vicinity of Union Bay on Vancouver Island they have little more than held their own and are not increasing. An introduction at Comox on the east coast 20 years ago apparently failed, though a recent planting prospered tremendously. The real checks upon them are the occasional severe winters with deep snow.

About 10 or 15 years ago, A. Bryan Williams, then provincial game warden, distributed many of these quail in various parts of the Province. All failed with the exception of those in the warm Okanagan Valley, where they may yet be found. Allan Brooks states that they have done well there and from a small start at Summer-

land (about 1910) have increased wonderfully and now extend north as far as the south end of Woods Lake. The original stock (*L. c. californicus*) from Vancouver Island was brought in by George N. Gartrell. An open season was declared about 1921, at which time good shooting was available around the south end of Okanagan Lake. Specimens of these introduced birds collected by Allan Brooks are in the Museum of Vertebrate Zoology in California. In spite of the dryness of this region, there is so far no approach to the subspecies *L. c. vallicola*, as these birds are particularly large and dark colored, an interesting point for the systematist.

California quail have gotten a slight hold as far up the Fraser Valley as Chilliwack, but at no place on the coast mainland are they now so numerous as in the southern Okanagan region.

California quail were introduced into the Hawaiian Islands many years ago, but were formerly more abundant than they have been in late years. They are well established, however, on Hawaii, Maui, and Molokai. Perhaps the mongoose has kept them in check.

In California a distinct race of these quails (*L. c. catalinensis*) exists on Santa Catalina Island, and the rumors of an early introduction there are probably incorrect; but California quail were successfully planted on San Clemente Island prior to 1875 and have thrived ever since.

References.—GENERAL: Rod and Gun 9: 401, 1877; U. S. Dept. Agr., Bur. Biol. Survey Catal.; U. S. Dept. Agr., Bur. Biol. Survey Rpt. 1912; Skottsberg, C. J. F., The Natural History of Juan Fernandez and Easter Island, v. 3, 1920, Upsala, Sweden. CALIFORNIA: San Clemente Island, Calif. Fish and Game Comn. Rpt. 1914 (Breeding and Confinement); Dixon, J., Berkeley, letter, 1925. COLORADO: Forest and Stream 1: 147, 1873; Condor 10: 160, 1908 (probably refers to *gambeli*); 15: 158, 1913; Sclater, W. L., A History of the Birds of Colorado, p. 143, 1912; Bergtold, W. H., Denver, letter, 1925; Mitchell, W. I., Paonia, letter, 1925 (probably refers to *gambeli*); Game Comn., letter, 1925 (probably refers to *gambeli*). CONNECTICUT: Amer. Sportsman 3: 389, 1874. ILLINOIS: Forest and Stream 35: 149, 1890; 46: 294, 1896. MARYLAND: Forest and Stream 2: 8, 1874; 7: 180, 1876. MASSACHUSETTS: Forest and Stream 35: 187, 1890; 73: 215, 1909. MISSISSIPPI: Chicago Field 7: 168, 381, 1877. MISSOURI: Chicago Field 12: 58, 1879; Bul. Nuttall Ornithol. Club 7: 115, 1882. NEW YORK: Forest and Stream 18: 104, 1882; Gardiner, L., East Hampton, L. I., letter, 1926. NEVADA: Amer. Field 106: 648, 1926. OREGON: Oreg. Sportsman 3: 69, 1915; Auk 41: 555, 1924; Finley, W. L., Jennings Lodge, letter, 1925; Specimens U. S. Dept. Agr., Bur. Biol. Survey collection. UTAH: Wetmore, A., manuscript notes; Game Comn., letter, 1925; Specimens U. S. Dept. Agr., Bur. Biol. Survey collection. WASHINGTON: Auk 23: 142, 262, 1906; 25: 432, 1908; 33: 363, 1916; Murrelet 4(3): 3, 1923; Game Comr. Rathbun, letter, 1925; Cook, F. W., Seattle, letter, 1925; Calif. Fish and Game Comn. Rpt. 11: 100, 1925; Specimens in U. S. Dept. Agr., Bur. Biol. Survey collection. HAWAIIAN ISLANDS: Auk 18: 386, 1901; Fish and Game Comn. Hawaii, letter, 1926.

BRITISH COLUMBIA: Forest and Stream 56: 268, 1901; Munro, J. A., Okanagan Landing, letter, 1925; Laing, H. M., Comox, letter, 1925; Williams, A. B., Vancouver, letter, 1925; Brooks, A., Nanaimo, letter, 1926.

NEW ZEALAND: Forest and Stream 17: 24, 1881; Thomson, G. M., The Naturalisation of Animals and Plants in New Zealand, p. 124, 1922. EUROPE: Böhm, R., Deut. Acclim. (Organ Deut. Ver. Vogelzucht und Acclim.) 5: 17, 1879; Bul. Soc. Natl. Acclim. France 1: 402, 1864; 2 (series 2): 637, 1865; 6 (series 2): 509, 1869. SOUTH AMERICA: Chile. Barros, R., Rev. Chilena Hist. Nat. 23: 15–16, 1919. AFRICA: Natal. Forest and Stream 66: 455, 1906.

GAMBEL, DESERT, OR ARIZONA QUAIL (Lophortyx gambelii)

The Gambel quail is an attractive little game bird and has been a great favorite in all sorts of mad adventures in transplanting, princi-

pally, perhaps, because it is easily trapped. Early attempts were made in Massachusetts (1890, 1891, 1893), when at least 320 were brought in. Most of these apparently were placed on Marthas Vineyard Island and a few at least lived for a couple of years. At any rate, they are said to have survived one winter and to have bred. Others of this species, or California quail, were set free at Winchendon, Mass., and in Berkshire and Bristol Counties (1893). There were small attempts in Pennsylvania by the commissioners in 1919–20, when 180 were turned loose. A few seem to have been turned out in Kentucky near Bardstown, where one was shot in July, 1921.

The Oklahoma commissioners experimented with Gambel quail a few years ago, but with negative results. In Arizona and New Mexico, well outside the regular range of the species, they have been used wholesale to stock the northern parts of these two States. After one successful breeding season the birds usually completely disappeared. There seem to be, however, a few exceptions to this general rule, and successes have been reported in the following localities: Colfax County, Little Colorado River, Snowflake, Vernon, and Holbrook, Ariz., and Gallup and the San Juan Valley, N. Mex. J. D. Figgins has reported still other introductions at Huntington and at Cortez, N. Mex.

The most remarkable results have been claimed for certain sections of western Colorado, where these birds were introduced as long ago as 1899. The quail of western Colorado have usually figured in the literature as California partridges (*Lophortyx californicus vallicola*), but as a matter of fact there are no birds of that species anywhere in the State. The original lot of Gambel quail were liberated at Montrose (not at Grand Junction), and nearly 1,000 birds are said to have been brought from California in 1885 or 1889. They now occupy all the drainage area of the Uncompahgre and Gunnison Rivers and the lower valley of the Grand River in the midwestern part of the State. Nevertheless, it still remains an open question whether the Gambel quail that exist in this region are really the descendants of this transplant or existed a long time previous to the advent of man. They have been described as a subspecies, *L. gambeli sanus*. In this race the males are slightly darker and richer in coloring on the head, back, and sides, while the females show the characteristic differences even better than the males. It seems extremely doubtful whether birds introduced from California could have been modified by their new environment in so short a time as 30 or 40 years, so that the question as to the exact origin of *L. g. sanus* still remains an open one.

All attempts to introduce Gambel quail into eastern Colorado have met with failure.

In northern California apparently there have been many attempts at introduction that have all ended in complete failure. There was one shipment of 700 in 1912 placed in Los Angeles, Orange, Ventura, and San Benito Counties. Joseph Dixon writes that there was one successful introduction on San Clemente Island by the late Salvadore Ramirez. They seem now to be completely acclimatized there.

These quail were also tried out on a fairly large scale in the State of Washington by the Chelan County Game Commission. For a year or two at least, there were good reports from this region, but the birds have long since disappeared.

References.—ARIZONA and NEW MEXICO: Auk 31: 62–69, 1914; Leopold, A., Manuscript. CALIFORNIA: San Clemente Island. Auk 25: 458, 1908; Grin-

nell, J., Bryant, H. C., and Storer, T. I., The Game Birds of California, p. 39, 1918; Dixon, J., Berkeley, letter, 1925. COLORADO: Auk 31: 62–69, 1914; Figgins, J. D., Denver, letter, 1925; McCrimmon, A. K., Montrose, letter, 1925; Rockwell, R. B., Denver, letter, 1925. KENTUCKY: Auk 42: 404, 1925. OHIO: Forest and Stream 23: 463, 1885. OKLAHOMA: Game Comn. letter, 1925. PENNSYLVANIA: Game Comn., letter, 1925.

ELEGANT QUAIL (Lophortyx douglasi [=elegans] bensoni

About four dozen of these little quail were brought from Sonora, Mexico, in 1904 by H. T. Payne and planted in central California by the game commissioners of that State. Various individuals also received some, but all soon disappeared.

Reference.—Grinnell, J., Bryant. H. C., and Storer, T. I., The Game Birds of California, p. 39, 1918; Payne, H. T., letter, to T. S. Palmer, May 27, 1904.

MOUNTAIN, OR PLUMED, QUAIL (Oreortyx pictus pictus and O. p. palmeri)[4]

The mountain quail, like the California quail, has been carried about indiscriminately outside its natural range and has, no doubt, often been confused with the other California quails. In attempting to trace the origin of the stock used, one is faced with disappointment from the first, for he is never informed as to which race or subspecies has been the subject of any particular planting.

There was a period in the seventies or eighties when the mountain quail was thought to be especially adapted to those parts of the Eastern and Northeastern States that have hard winters. At that time they were boldly recommended for stocking simply because they were expected to be able to survive low temperatures. The curious argument was advanced with this and many other species that just because they were able to survive severe temperatures in confinement they should be able to accommodate themselves successfully to an entirely new environment. The fallacy of such reasoning is evident to anyone who has successfully kept many warm-weather species under outdoor conditions as far north as Massachusetts.

It is scarcely necessary to record here that all these early attempts, most of them on a rather small scale, were failures. Trials were also made by Alabama and Nebraska and possibly North Carolina.

The mountain quail does not seem to be holding its own as a game bird in Oregon, where, of course, it is native in parts of higher regions in the western part of the State. Probably this species was indigenous to southwestern Washington, although in 1848 Peale, who had been on the United States exploring expedition, said that the Columbia River appeared to be its northern limit. With other California quails it has been repeatedly introduced into the State of Washington, where it is now common, especially in the western humid belt, besides several of the eastern counties. The present stocks in Washington are probably mixtures of the two races, as the origin of the first shipments is now entirely forgotten. There were many early introductions, at least one in 1860 from the Willamette Valley to Fort Vancouver. The bird was certainly put out around Seattle in the seventies, particularly on Whidbey Island. Birds from San Juan Island (introduced) are typical *O. p. palmeri.*

[4] The coast or so-called typical race of this species, formerly called *Oreortyx pictus pictus*, is now *O. p. palmeri;* and the plumed quail before known as *O. p. plumifera* becomes *O. p. pictus.*

The species has been taken to several places in western Idaho—Nampa, Silver City, Shoshone, etc.—where it seems to be holding out, judging from recent notes by Bureau of Biological Survey field workers. Notes of recent attempted introductions into southeastern and western Montana are available. Official reports of the former lot are encouraging, but the quail introduced into the vicinity of Missoula are said to have completely vanished. These last trials were carried out about 1920, according to T. N. Marlowe.

It is quite remarkable that introductions made on Vancouver Island, British Columbia, many years ago (the exact date seems to be unknown, but see Sclater, P.L., Proc. Zool. Soc. London, 1859: 236) have been moderately successful, though the birds have never increased to any great extent. They have been shot legally for a number of years, according to A. Bryan Williams. They seem to thrive best along the ridges of low mountains that run from Victoria north to the Cowichan Valley at Duncan but hardly reach Nanaimo. Apparently it is not realized that any exist on the mainland of British Columbia, but Allan Brooks reports some on Sumas Mountain in the Fraser Valley. The writer has seen no specimen from Vancouver Island.

An attempt was made to add these attractive birds to the fauna of New Zealand between 1877 and 1882, but nothing came of it. (Thomson, G. M., The Naturalisation of Animals and Plants in New Zealand, 1922.)

References.—EASTERN STATES: Forest and Stream 9: 413, 1877. ALABAMA: Forest and Stream 16: 84, 1881; 24: 126, 1885. MONTANA: Marlowe, T. N., Missoula, letter, 1925. NEBRASKA: Forest and Stream 23: 63, 1884. NORTH CAROLINA: Field and Stream 5: 622, 1900. OREGON: Peale, T. R., *In* United States Exploring Expedition, v. 8, p. 287, 1848; Oologist 12: 48, 1895; Oreg. Sports Man 3: 57, 1915; Records U. S. Dept. Agr., Bur. Biol. Survey. WASHINGTON: Cooper, J. G., and Suckley, G., *In* Reports of [Pacific R. R.] Explorations and Surveys, v. 12, pt. 2, no. 3, p. 225, 1860; Auk 25: 432, 1908; Murrelet 4(3): 3, 1923; Calif. Fish and Game 11: 99, 1925; records and specimens in U. S. Dept. Agr., Bur. Biol. Survey Collection.

BRITISH COLUMBIA: Field and Stream 4: 45–49, 1898; Williams, A. B., Vancouver, letters, 1925 and 1926; Cooke, F. W., Seattle, Wash., letter, 1925.

MEARNS QUAIL, OR MASSENA PARTRIDGE (Cyrtonyx montezumae mearnsi)

Aldo Leopold reports that the present stock of Mearns quail at Pinetop, east-central Arizona, is said to have been introduced, but he doubts this, as the species occurs naturally west of that point.

BOBWHITE (Colinus virginianus)

The bobwhite has always been such a general favorite throughout the United States that it is small wonder that it has received more attention by far than any other game bird. The cheerful call of the male was one of the strongest reasons for the early attempts of western pioneers to habituate the birds around their new homes, so that there were early trials at introduction in the far West almost as soon as the plow began to change the country. Long before this, however, eastern sportsmen were beginning to depend on birds trapped in the East Central States to supply their depleted coverts.

The story of the commercial trapping of bobwhites is a most picturesque one, interwoven as it is with the constant search for virgin fields and an ever-ready attitude to evade the law restricting shooting. It is the story of a period during which sportsmen at last waked

up and asserted their right to protect their local birds. It spelled the last chapter in the market hunting of upland game. It is associated, too, with the struggles of the Federal Government to enforce the Lacey Act, which regulates interstate traffic in game.

The shipments from Mexico of the Texas bobwhite (*C. v. texanus*) began in 1910 and with one or two slight interruptions have continued ever since. These shipments were first examined by the Bureau of Animal Industry in 1912 in cooperation with the Bureau of Biological Survey, and an attempt was then made to check the serious outbreaks of disease (*Collibacillosis tetraonidarum*), which caused the loss of thousands of birds. Another disease, bird pox (*Epithelioma contagiosum*), was identified at this time. Most of this trouble could have been avoided if the birds had been shipped in properly constructed crates. In 1916 standard crates were prescribed by regulation, and after this the joint regulations made by the Treasury Department and the Department of Agriculture came into operation.

During the early years, when Mexican quail were first available, they could be bought at extraordinarily low prices, around $4 to $6 a dozen. An old note has been found to the effect that in 1880 the so-called Mexican quail received at Galveston, Tex., could be bought for $1.50 a dozen and that 10,000 were received there that year. From 1910 to 1925 more than 233,000 Mexican bobwhites are recorded by the Bureau of Biological Survey as having entered the United States, and the price has steadily risen to from $24 to $36 a dozen.

Eastern States

There is no doubt that Massachusetts sportsmen were getting a few birds from the South Atlantic States, probably as far away as Georgia, for 15 or 20 years before the Civil War. In most cases, at least, these introductions were kept secret in the vain hope that the new arrivals would escape the gun of the ever-present market hunter. Not until after the Civil War, however, were these shipments of southern birds made on a scale large enough to affect the character of the hardy stock of New England bobwhites.

Up to the middle nineties E. B. Woodward, a commission merchant of New York, was handling many bobwhites from the Ohio Valley and the Middle West. About 1890 to 1895 Charles Payne, of Wichita, Kans., began to ship, mostly to the east and northeast, large quantities of birds from Kansas and the Indian Territory. After a time, however, he ran amuck of the laws protecting game on Indian lands and had to desist. Later he tried to obtain birds from Texas, where he operated for a time under a so-called "scientific permit," until even that method was ruled out by the combined action of thoroughly aroused Texas sportsmen. There was a final period of shipping from the Southern States, particularly Alabama, early in 1907, but this was practically the end of the traffic as far as it applied to stock from within the United States. There have been a few Kansas birds available by mutual arrangement between State commissions since that time, but very few of these birds could be purchased by the average sportsman. The writer obtained some as late as 1910 or 1912 from Horne's Zoological Arena in Kansas.

It would be quite impossible to list the individual shipments of quail into the Northeastern States; they went even to Nova Scotia

and to Ontario as far back as 1877. The New England States, even in the center of Vermont (Green Mountain section), have received birds from so many different sources and for so long a time that the indigenous stock is probably now entirely extinct. After the severe winter of 1904–5, which decimated bobwhites all over the Northern States from Massachusetts to Ohio and even to Michigan (Detroit region), there was a tremendous effort made at restocking. This period probably marks the end of the big northern birds that were able to withstand climatic conditions well up into southern New Hampshire, southern Vermont, southwestern Maine, and southern Ontario. Investigations by the Bureau of Biological Survey and by others have shown that Mexican birds in Pennsylvania mate with, and undoubtedly will eventually change materially the character of, the native stock.

The writer has seen a large series of present-day Pennsylvania and Georgia specimens that show various gradations from eastern-looking to the pure *texanus* type. There is little doubt that the native northern stock will be swamped out. Indeed, the present range of bobwhite in New England is far more restricted than its range 25 to 50 years ago, and the present stock seems unable to take up the territory of the colder interior, where the bird lived successfully at one time. This withdrawal from the colder sections to the warmer coastal belt is probably not all due to a dilution of the indigenous stock, but goes hand in hand with the great decline in agriculture and a nearly complete failure of winter food supply. The stock in southern Minnesota and Wisconsin is said to be in better condition and not to be receding southward.

Mexican and southern stocks seem to be satisfactory in Southern States, as well as in Pennsylvania, Maryland, and New Jersey, but probably are of no avail north of this. Pennsylvania was one of the largest importers, with something over 47,000 between 1916 and 1925. A new use for these southern birds is for field trial purposes, and in Alabama many have been imported for that reason alone. Kentucky has taken many thousands—about 13,000 in 1922 and 1923—and even Texas and Oklahoma have imported on a large scale, not always with favorable results.

Western States

WASHINGTON

There were early introductions on an island near Walla Walla (1865?), and since then many sporadic attempts that have met with occasional success. In some of the river bottoms in Washington the birds have done well. Apparently they are now fairly common in the region of Seattle and Tacoma and on the islands of Puget Sound. A number of birds were brought from Kansas in 1904 to 1907 to various parts of the coast section. Game Warden Rief, of King County, seems to have been active in this work. Snohomish, Pierce, and Benton Counties and other districts imported many about 20 years ago. The original introduction on Whidbey Island was probably made by J. B. Montgomery in 1871 and is said to have consisted of two dozen birds. There seem to be a few along the Walla Walla River (Auk 35: 14, 1918), in the Yakima Valley, and on the islands

of Whatcom County. There is a note in the Chicago Field for January 19, 1878, that Fred A. Clark, of Puyallup Valley, secured and liberated 18 bobwhites from Whidbey Island. It is even recorded that he obtained, soon after this, two birds supposed to be crosses between California quail and bobwhites.

On the whole the introductions into Washington have, in a great many cases, been followed by moderate success, especially east of the Cascades, where the birds are fairly abundant in the river bottoms and apparently are holding their own. There are specimens of these introduced birds from Kiona, Benton County (south-central part of State), from Goldendale, Klickitat County (south), Grande Ronde River, Asotin County (southeast), Osoyoos Lake, Okanogan County (north central), and Sylvan Lake and Odessa, Lincoln County (east central). All of these as well as one or two from Oregon appear to be typical eastern birds (even northeastern) in type.

OREGON

Oregon started stocking in the Willamette Valley at least 35 years ago, from which region the birds were distributed to various other places, including several islands in Puget Sound. Nevertheless, it does not appear that the species is now particularly abundant or widespread. It also spread into Oregon across Snake River from Boise, Idaho. Probably it will never become a valuable game bird there.

IDAHO

In the neighborhood of Boise, a few pairs were turned out in 1875 by some business men of that city who obtained stock from the East. But as early as 1871 to 1873 there was a close season on bobwhite in Idaho, indicating a still earlier introduction. In the fall of 1878 Major Bendire found the birds abundant between that point and Snake River—all along the Boise River—while in 1882 they had spread to the west side of Snake River fully 50 miles away. T. E. Wilcox, a surgeon of the United States Army, who first noticed them there, said he never saw coveys so large. More recently some have been brought into Idaho from Washington, but no success has been reported. Some have been noted at Lapwai and at Rathdrum in the northern part of the State.

CALIFORNIA

Attempts to introduce bobwhites into California began at least as early as 1872 with stock from several different States, but always with failure in the end. The first attempt that has come to attention was made by Doctor Newell near Cloverdale, Sonoma County, in the fall of 1872 with "Several dozens of the best eastern variety."

ARIZONA AND NEW MEXICO

In Arizona and New Mexico many sporadic attempts are said to have resulted, in all cases, in complete disappointment. On one or two agricultural ranches a few coveys have persisted for some time, but they are not really permanently established.

UTAH

In Utah bobwhites do not seem to have prospered, although they were repeatedly introduced. J. A. Allen noted in 1872 that they were recently introduced into the Great Salt Lake Valley and that in 1892 they were common in various parts of Utah. They seem to have done well at first, but none have been seen for about 20 years.

WESTERN KANSAS AND COLORADO

In trying to estimate how much the introductions of bobwhites into western Kansas and Colorado have had to do with their spread westward, one meets some difficulties. It seems to be rather commonly supposed that there were no birds west of central Kansas before agriculture began. There is no doubt that they increased rapidly in numbers all over western Kansas, as well as eastern and southeastern Colorado, as soon as farming operations commenced. At the same time it is known that introductions began in eastern Colorado as long ago as 1870 and probably had some influence in extending the range, particularly in the upper part of the Arkansas Valley. The species is now plentiful along the Arkansas River west at least to Pueblo, but does not thrive around Denver, where it has been repeatedly introduced, as likewise farther north around Estes Park and Fort Collins.

In Kansas the most interesting feature in the history of the bobwhite is the rapid increase in numbers after the eighties west of the one hundredth meridian. This wonderful increase went hand in hand with the increase in pinnated grouse. It seems more plausible, however, to suppose that a few birds did really exist in suitable spots all over western Kansas, enough to make a rapid response as soon as food became plentiful. It must be remembered that for many years after the advent of man small game was scarcely shot at all, which gave the game birds unusual opportunity to spread.

It is probable that a few bobwhites did exist in preagricultural times far west of central Kansas. J. W. Abert spent a summer at Bents Fort on the Arkansas and says that the species occurred there in 1845. On the same expedition Abert recorded the bird from extreme western Texas on the Canadian River just east of the one hundred and third meridian. These birds, of course, must have been native to the region.

Game Commissioner R. G. Parvin states that the first bobwhites were brought into Colorado by Luke Cahill, a pioneer of Bent County, about 1870, and also by Judge Moore, who had a ranch near Las Animas. Each of these men imported eight dozen birds and liberated them on Judge Moore's ranch. In more recent years the State has made various attempts to reintroduce them.

F. C. Lincoln states that in all probability bobwhites always occurred in northeastern Colorado along the South Platte and Republican Rivers. They extended their range naturally up the Arkansas River from the east and, on account of importation, down that river from the west, the imported birds and the indigenous birds meeting perhaps in the vicinity of Lamar. The type locality of *C. v. taylori* is on the Republican River at Laird, inside the Colorado line, but this supposed race is probably not sufficiently well marked for subspecific rank. J. D. Figgins thinks that the race *taylori* has extended

its range southward, while the Texas bobwhite has worked into Colorado from the south. Thus the bobwhite of the eastern part of the State is now supposed to intergrade with the *texanus* type farther south, but like the species everywhere else it shows a great deal of variation. It will take many specimens to work out the exact classification of this Colorado stock.

Bobwhites are said to have been introduced into Mesa County, Colo., near Grand Junction, about 1891, and occurred there in small numbers in 1908, while they were unsuccessfully tried out in Montrose County in 1895.

MONTANA

The State of Montana reports moderate success with bobwhites in the sheltered valleys west of the main divide, but never east of there. The birds are increasing a little around Kalispell and Flathead Lake, where they were set out about 1901 with stock from Wichita, Kans. They were introduced locally in the Deer Lodge Valley but are said not to be common there; the same is true of several localities in Fergus County. So far as one can see there is little prospect that the species will ever be numerous enough in the State to warrant an open season.

WYOMING

Introductions into Wyoming have been attended with small success, although a few birds are found along the Platte River Valley near the Nebraska line, having apparently worked up that river into the State since 1890. They are reported as far up as the mouth of Horseshoe Creek and to Uva on the Laramie River.

SOUTH DAKOTA

South Dakota has also attempted to import bobwhites but apparently without success. They do occur naturally along the southern border of the State and in the southeast corner.

OKLAHOMA

Oklahoma is importing many Mexican birds. Some of the States importing the greatest numbers of Mexican quail furnished most of the stock for other regions 20 years ago. In Oklahoma 1,000 quail were introduced in 1925–26 at a point from which some of the largest shipments were formerly made.

MINNESOTA

There is record of an attempted introduction at Fort Snelling, Minn., near St. Paul, about 1840. This attempt, made by Franklin E. Steele, an enterprising sutler at the fort, ended, of course, in failure. There were other introductions into the southern part of the State with stock from Alabama in 1906.

CANADA

Even Canada has shared in the fever to extend the range of bobwhites, and the birds have been carried to Ontario, to Vancouver Island (1901), the interior of British Columbia (1903), and even to

Winnipeg, Manitoba, without, of course, any prospect of success. They did obtain a fair hold in the Okanagan Valley, but gradually became fewer and fewer and are now probably extinct there. They behaved in about the same way on the coast of British Columbia.

Foreign Attempts at Introduction

As early as 1831, and apparently even before that, bobwhites were tried out in England. They seem even to have become temporarily established in Norfolk about this time, and in the forties and fifties there are various notices concerning these, as well as California quail, in the natural-history journals of the time. About 1854 bobwhites and California quail were taken to France, where serious attempts were made to acclimatize them. Some measure of success with them was reported, both in captivity and in a state of freedom. In 1872 about 40 were tried out in Hanover, Germany, and in 1885 there were trials on a large scale in Norfolk, England. A couple of years later some apparently went to Sweden, and there was certainly a shipment of 5,000 sent over in 1901 destined for the estate of Count Lewenhaupt at Fosslorjo.

In Kashing, in eastern China, there was an attempt on quite a large scale with birds from Kansas, but most of them arrived in bad condition after their long journey, so that nothing ever came of it.

An attempt was made to introduce bobwhites into New Zealand in 1898 and 1899, but they seem never to have established themselves. (Thomson, G. M., The Naturalisation of Animals and Plants in New Zealand, 1922.)

West Indies

Bobwhites have been carried to Bermuda and to New Providence in the Bahama Islands.

Stock apparently from Florida and perhaps from Texas is said to have been set out around Havana and to have greatly affected the coloration of the original Cuban race in that region.

Virginia quail were taken to Jamaica at least 50 years before Philip Gosse's time, perhaps about 1800, and suffered greatly after the mongoose was introduced. Later they are said to have increased. The stock probably was derived from the East Central States, Virginia, or the Carolinas.

In Porto Rico quail seem to have been introduced by Ramon Soler at Vega Baja about 1860 (Gundlach, J., Journ. Ornithol. 26: 161, 1878), perhaps from Cuba, but they are now probably extinct.

The Cuban quail was introduced into the Dominican Republic about 1889–90 by a Mr. Bass and increased rapidly. Unfortunately the mongoose had also been brought in, imported from Jamaica, and may extirpate it.

Bobwhites of some sort were taken to Antigua about 1886–87 and also gained a foothold on St. Kitts.

The species was taken to Guadeloupe about 1886–87.

Bobwhites were taken to Barbados in 1886–87.

On St. Croix Island bobwhites were introduced by one of the governors more than 100 years ago (Ibis 1: 254, 1859), and after a period of abundance are now probably extinct.

SUMMARY

It is believed that those parts of the United States where the bobwhite will be able to exist in any considerable numbers can be clearly mapped. The importation of southern birds to northern regions—New England, Ohio, and Ontario—has probably greatly affected the climatic resistance of the stock, so that now it is difficult to keep the species going as far north as was possible 25 to 50 years ago. The decline in agriculture, especially grain farming, in Northeastern States has contributed without doubt to this unfortunate result. In Minnesota and Wisconsin the northern limit seems to be about as it was, but the species does not prosper on account of lack of cover coincident with modern "clean" farming.

In the West there are certain low, more or less well-watered regions in Washington, Oregon, and perhaps in northern California, as well as a few spots in Montana, Idaho, and Colorado, where the birds can exist in moderate numbers, but the wet coastal strip does not seem especially suitable for them. All the southwestern desert regions, central and southern California, and the high plateaus east of the main range of the Rocky Mountains are entirely unsuited to quail, as well as the whole of Canada, with the exception of a small strip along the north shore of Lake Erie and the Niagara Peninsula.

References.—GENERAL: Diseases: U. S. Dept. Agr., Bur. Biol. Survey Rpt. 1912; Forest and Stream 14: 132, 1880; Importation: U. S. Tariff Comn., statement, July 21, 1925; U. S. Dept. Agr., Bur. Biol. Survey, importation records. ALABAMA: Brannon, P. A., Montgomery, letter, 1925. ARIZONA and NEW MEXICO: Leopold, A., Madison, Wis., letter, 1925. CALIFORNIA: Ornithol. and Oölogist 4: 93, 1889; Forest and Stream 40: 491, 1893; Amer. Sportsman 2: 87, 1873; Condor 2: 131, 1900; 8: 19, 1906; Grinnell, J., Bryant, H. C., and Storer, T. I., The Game Birds of California, p. 37, 1918; Crossman, E. C., letter, 1925; Maillard, J., San Francisco, letter, 1925. COLORADO: Bendire, C. E., Life Histories of North American Birds, v. 1, 1892; Condor 10: 160, 1908; 11: 116, 1909; Auk 26: 410, 1909; 31: 314, 1914; 37: 64, 1920; Sclater, W. L., A History of the Birds of Colorado, p. 139, 1912; Aiken, C. E. H., and Warren, E. R., The Birds of El Paso County, Colorado, p. 491, 1914; Figgins, J. D., Denver, letter, 1925; Game Comn., letter, 1925; Bergtold, W. H., Denver, letter, 1925; McCrimmon, A. R., Montrose, letter, 1925; Lincoln, F. C., manuscript, 1925. CONNECTICUT: Forest and Stream 26: 469, 1886. DELAWARE: Game Comn., letter, 1925. IDAHO: Forest and Stream 17: 264, 1881; Amer. Field 31: 148, 1889; Bendire, C. E., Life Histories of North American Birds, v. 1, 1892; Condor 17: 123, 1915. KANSAS: Say, T., in Long, S. H., Account of an Expedition to the Rocky Mountains, v. 1, p. 97, 1823; Maximilian, A. P., Prinz zu Wied, Reise in das Innere Nord-America in den Jahren 1832 bis 1834, 1839–41; Parkman, F., The Oregon Trail, Chap. 2, 1872; Allen, J. A., Bul. Mus. Compar. Zool. 3: 113, 1872; Goss, N. S., History of the Birds of Kansas, p. 219, 1891; Holloway, S. R., Lawrence, letter to A. Wetmore; Wetmore, A., and Baker, A. B., of Washington, D. C., letter, 1925; Martin, H. T., Univ. Kans., Lawrence, letter, 1925. KENTUCKY: Game and Fish Comn., Bien. Rpt. 5–6: 13–28, 1920–23. MAINE: Forest and Stream 19: 127, 1882. MARYLAND: Game Comn., letter, 1925. MASSACHUSETTS: Forest and Stream 1: 404, 1873; 36: 188, 1891; many other references; Fish and Game Comn., Ann. Rpt. 1904: 129, 1904; Phillips, Auk 32: 204, 1915. MICHIGAN: Auk 22: 46, 1905; Osborne, C. S., Sault Ste. Marie, letter, 1925; U. S. Dept. Agr., Bur. Biol. Survey, map. MINNESOTA: Stephens, J. S., Personal Recollections of Minnesota and its Peoples, Chap. 10, Minneapolis, 1890; Shields' Mag. 2: 323, 1906. MONTANA: Condor 14: 24, 1912; Game Breeder 6: 48, 1914; Saunders, A. A., A Distributional List of the Birds of Montana, Pacific Coast Avifauna 14: 172, 1921; Marlowe, T. N., Missoula, letter, 1925; Smith, G. A., Mont. State Sportsmen's Assoc., Missoula, letter, 1925; Game Breeder 6: 48, 1914. NEW JERSEY: Forest and Stream 20: 11, 1883, 51: 488, 1898; Field and Stream 8: 1069, 1904; Palmer, T. S., Game Protection in 1905, U. S. Dept. Agr. Yearbook, 1905, 616, 1906; Tait, T., of the N. J. Fish and Game Conserv. League, Newark, letter, 1925. NEW MEXICO: Carrington, P. M., Fort

Stanton, letter, 1906; Leopold, A., letters, 1926. OHIO: Forest and Stream 8: 387, 1877; Chicago Field 9: 21, 1878. OKLAHOMA: Game Comn., letter, 1925. OREGON: Bendire, C. E., Life Histories of North American Birds, v. 1, 1892; Condor 13: 65, 1911; Oreg. Sportsman 2: 10, 1914; 3: 25, 1915; Gill, J., Portland, letter, 1925; Finley, W. L., Jennings Lodge, letter, 1925. PENNSYLVANIA: Forest and Stream 6: 74, 1876; Wetmore, A., Spec. Rpt. to Game Comn., 1922; Game Comn., Figures of Introduction, 1925; Rothrock, B. P., Penn. State Mus., Harrisburg, letter, 1925. SOUTH DAKOTA: Auk 25: 464, 1908; 26: 147, 1909; Condor 13: 104, 1911; U. S. Dept. Agr., Bur. Biol. Survey, map, distribution records. TEXAS: Phillips, J. L., Lufkin, letter, 1925; Game, Fish, and Oyster Comn., letter, 1925; Oberholser, H. C., Manuscript on Lieut. J. W. Abert Expedition. UTAH: Allen, J. A., Amer. Nat. 6: 394, 1872; Forest and Stream 17: 264, 1881; 41: 49, 1893; Game Comn., letter, 1925; Madsen, D. H., Salt Lake City, letter, 1926. VERMONT: Forest and Stream 51: 106, 1898; Auk 25: 59, 1908; Bettridge, W. E., letter, 1925. WASHINGTON: Field 4: 329, 1876; Forest and Stream 5: 390, 1876; Chicago Field 8: 371, 1878; Auk 19: 133, 1902; 23: 142, 1906; 25; 432, 1908; 35: 43, 1918; Pacific Sportsman 1: 109, 110, 468, 1904; 2: 456, 1905; 3: 29, 166, 237, 391, 1906; 4: 32, 129, 1907; Field and Stream 9: 377, 1905; Shields' Mag. 5: 191, 1907: 4: 259, 1907; Condor 8: 26, 1906; 16: 253, 1914; 23: 90, 1921; State Game Warden, Ann. Rpts., 1916, 1918, 1919; Calif. Fish and Game 11: 98, 1925; U. S. Dept. Agr., Bur. Biol. Survey, catalogue, specimens, and maps; Game Comn., letter, 1925. WYOMING: Saunders, A. A., letter, 1925; Game Comn., letter, 1925.

BRITISH COLUMBIA: Forest and Stream 56: 268, 1901; Williams, A. B., Vancouver, letter, 1925; Cook, F. W., Seattle, Wash., letter, 1925; Munro, J. A., Okanagan Landing, letter, 1925; Brooks, A., Nanaimo, letter, 1926. MANITOBA: Evans, J. H., Winnipeg, letter, 1925. ONTARIO: Chicago Field 7: 26, 1877; Auk 24: 71, 1907.

EUROPE: Forest and Stream 2: 8, 1874; Böhm, R., Deut. Acclim. (Organ Deut. Ver. Vogelzucht und acclim.) 5: 17, 1879; Bul. Soc. Natl. Acclim. France 8: 20, 1861. ENGLAND: Forest and Stream 25: 103, 1885; Mag. Nat. Hist. 4: 16, 1831; 6: 153, 1833; Ann. and Mag. Nat. Hist. 13: 405, 1844. SWEDEN: Forest and Stream 28: 81, 1887; Osprey 5: 144, 1901.

CHINA: Forest and Stream 37: 325, 1891.

NEW ZEALAND: Thomson, G. M., The Naturalisation of Animals and Plants in New Zealand, p. 127, 1922.

BERMUDA; Bangs, O., and Bradlee, T. S., Auk 28: 249–257, 1901. CUBA: Barbour, T., The Birds of Cuba, Mem. Nuttall Ornithol. Club, No. 6, 1923.

DOMINICAN REPUBLIC: Field Columb. Mus. Pub. 10, Ornithol. Ser., v. 1, no. 1, 1896.

JAMAICA: Journ. Inst. Jamaica 2: 289–290, 1893; Gosse, P. H., and Hill, R., A Naturalist's Sojourn in Jamaica, p. 433, 1851; Bangs, O., and Kennark, F. H., List of Birds of Jamaica, Kingston, 1920.

PORTO RICO: Gundlach, J., Journ. Ornithol. 26: 161, 1878; Bowdish, B. S., Birds of Porto Rico, Auk 19: 360, 1902.

RED-LEGGED PARTRIDGE (Alectoris rufa)

To Lafayette belongs the honor of sending to America the first specimen of a "French partridge," which was received by George Washington at Mount Vernon in November, 1786.

W. O. Blaisdell imported a few pairs into Illinois in 1896, but most of these died. He raised some young from the only pair that he had left and turned them out near Macomb, where they wintered well but vanished in the spring. One was shot about 8 miles from Macomb. Between 1901 and 1911 only 54 of these birds were imported into the United States, according to the records of the Bureau of Biological Survey, so that it is doubtful whether there was any serious attempt to establish them.

Partridges of this group have a bad reputation among sportsmen, for they are much inclined to run before the dog, and no doubt this is one reason why so little attention has been paid to their importation.

References.—Washington, G., Journals, v. 3, p. 136, 141, Nov., 1786; Forest and Stream 5: 404, 1876; 44: 462, 1895; 46: 393, 1896; Oldys, H., and Walter, G., February 18, 1909, correspondence in files of U. S. Dept. Agr., Bur. Biol. Survey; U. S. Dept. Agr., Bur. Biol. Survey, records.

INDIAN CHUKAR PARTRIDGE (Alectoris graeca chukar)

In some old correspondence of Henry Oldys with Gustav Walter, of New York, mention is made of some trials with chukars in both Massachusetts and Nova Scotia. This partridge apparently has seldom been turned out in this country.

COMMON FRANCOLIN, OR BLACK PARTRIDGE (Francolinus francolinus)

W. O. Blaisdell, of Illinois, imported nine black partridges in 1891, but only three arrived alive and these eventually died. This is a species rarely mentioned in the lists of imported birds. Three others came over in 1911 and three in 1912.

References.—Forest and Stream 37: 123, 1891; 42: 5, 1894.

EUROPEAN, OR HUNGARIAN, PARTRIDGE (Perdix perdix)

The astonishing success that has followed the introduction of the Hungarian partridge into western Canada and several of the Rocky Mountain States is now common knowledge among sportsmen. The uniformly disastrous results following introductions in the Eastern States, however, are not so fully appreciated as they should be, and there are still those who insist on further trials. It is thought that the time is now approaching when the regions where this species is likely to prosper can be outlined roughly.

The earliest attempt at introduction, which so far as known was made by Richard Bache, son-in-law of Benjamin Franklin, who stocked his plantation on the Delaware River near what is now the town of Beverly, N. J., with Hungarian partridges, dates back to the latter part of the eighteenth century. There were subsequent attempts in Virginia and New Jersey, most important of which was Pierre Lorillard's effort in 1879 at Jobstown, N. J.

Later attempts commenced in a small way in 1899, but the real fever of importation along the Atlantic coast began about 1905 and has lasted up to the present, although the period 1907 to 1914 saw the height of the industry. There was one early attempt on the south shore of Cape Cod, Mass., by Charles B. Cory early in the eighties. The writer put out two lots about 1909 at Wenham, Mass., and these birds lived in the neighborhood for a couple of years but never multiplied. At High Point, N. C., on George Gould's shooting preserves Hungarian partridges were planted in 1904 and did moderately well for a time, with cowpeas planted for them.

In Eastern States importations of these hardy little birds have been put down all the way from Portland, Me., and northern New York to South Carolina, Georgia, Florida, and Mississippi. In Connecticut, Pennsylvania, and New Jersey the work was done on a large scale and, at first, with encouraging results. In a few places the birds undoubtedly bred the first season, and in other places as in the Connecticut Valley, they persisted for 8 or 10 years in considerable numbers; eventually they vanished, however, between 1915 and 1920. It is said that a few still persist in Lehigh County, Pa., and there is

a small area in northeastern New York near the Ontario line where the birds seem to be holding their own.

The State of Connecticut set out more than 1,400 birds between 1908 and 1913, and during 1908 and 1909 nearly 40,000 birds reached this country. Previous to 1908 less than 8,000 had arrived.

In the Central States, Iowa, Nebraska, Indiana, Arkansas, Kansas, Missouri, Wisconsin, Minnesota, Michigan, and Illinois (?), all attempts have ended in failure except in extreme northwestern Kansas, in Wisconsin, and in parts of Iowa (Osceola and Lyon Counties). In the southeasten part of Wisconsin the birds have taken hold well, thanks to heavy plantings by Gustave Pabst in Waukesha County, and a short open season was provided in 1926. They have also appeared recently in southwestern Minnesota.

It seems that the Hungarian partridge should prosper in grain-producing sections west of Lake Michigan and north of the fortieth parallel on the higher plateaus. To give an idea of the large numbers of birds bought by some of the States in this section, there may be mentioned the sum of $62,208 expended thus by the Indiana game commissioner from 1899 to 1912 for this purpose. Illinois released during the same period 6,000 pairs of the birds.

The results in the far Western States and in western and central Canada may be briefly summarized. The most remarkable success followed immediately upon the first introductions into Alberta, near Calgary, in 1908–9. On April 20, November 16, and December 10, 1908, Calgary sportsmen liberated about 70 pairs over a small area mostly south and west of Calgary. More came on April 20, 21, and 22, 1909, and in all some 207 pairs seem to have formed the basis for this wonderful result. The first birds were placed some 15 miles south of Calgary, and after the first large plantings, 40 pairs in one place and 30 not far away (High River and west of that place), the rest were planted mostly in lots of 10 pairs. This stock came from Hungary. Some time later the Northern Alberta Game and Fish Protection League liberated a fresh importation of 230 birds in Alberta near Edmonton, but the stock from Calgary had in the meantime spread north to that city.

The gain in territory from this nucleus has been little short of marvelous. The birds have now spread at least 60 miles northwest of Edmonton (Pembina River) and breed there. There has been an open season on them in Alberta for years, and they are now by far the commonest of imported game birds in western Canada.

The spread from this initial plant has carried the Hungarian partridge into Saskatchewan and all over its western part as far north as township 60 and south to the international boundary. All this happened within only five years from the time the bird was first recorded in the Province. The first birds were seen at Eastend, Saskatchewan, in May, 1924, according to L. B. Potter. F. Bradshaw, of the game department of Saskatchewan, writes that he has reports of partridges from 80 different localities. The easterly point of their range seems (1926) to be Halbrite, southeast of the city of Weyburn. One specimen was taken recently within the city limits of Regina; a few flocks also have been observed south of Moose Jaw.

Manitoba has only recently taken an interest in the Hungarian partridge. Forty pairs of imported birds were received from a New York firm and released in 1924. Forty-five pairs came from Alberta

and were turned loose in January, 1925. The commissioners reported that these birds were doing well.

The birds were introduced in 1904 in the southwestern portion of British Columbia along the lower Fraser Valley and also on Vancouver Island. They are said to be plentiful on Lulu Island, and the range is extending into the interior of the Province, according to F. W. Cook, of Seattle. Hungarian partridges also came into British Columbia from Washington "on their own feet" in 1915, and are rapidly traveling up the valleys of Okanagan and Arrow Lakes, where they do far better than in the wet coast regions.

The species is increasing rapidly in many parts of Montana since its introduction into the State in 1923. In Sheridan County there are recent flourishing colonies, while in Idaho the birds have spread eastward from Washington across the northern part of the State, and besides this have been introduced into the southern parts.

Hungarian partridges were introduced into Washington in 1906, when about 250 pairs were released in Spokane County. These have done well, and there have been open seasons in several counties for some years (first in 1915). In eastern Washington the birds have multiplied to such an extent that in some districts they have been reported as being almost a pest. From 1913 to 1915 not less than 4,700 individuals were purchased and liberated. The bird does not do so well west of the Cascade Mountains but is found at moderate altitudes all over the State. As a sporting bird it is fast replacing the native species of grouse, for it is capable of withstanding intensive hunting.

Oregon received partridges first in 1900; these were liberated in the Willamette Valley. Some were released in Marion County east of Salem, and have held their own, although they have not increased remarkably. Early in 1913, 218 were liberated on different game refuges in Oregon, and in 1914, 1,522 were set free in 23 counties.

Encouraging reports of recent introductions come from many parts of the West, particularly from Colorado, South Dakota, Nevada, Montana, and Sheridan County, Wyo., and there is no doubt that the birds will do well in many sections of the States west of the Great Lakes.

Efforts to introduce the Hungarian partridge into California began in a small way as long ago as 1877. A shipment of 2,000 arrived in 1908 and was distributed over a wide range in five or six counties. The bird has not, however, done well in California, in spite of several large introductions.

References.—GENERAL: Rpt. destination of shipments, Wenz and Mackensen, to U. S. Dept. Agr., Bur. Biol. Survey, letters, 1906–1909; Palmer, T. S., Dept. Agr. Yearbook 1906: 538–539, 1907; Oldys, H., U. S. Dept. Agr. Yearbook 1907: 595–596, 1908; 1909: 249–258, 1910; Mackensen, W. J., Yardley Pa., letter, 1925; Hunting, J. C., Amer. Game Protect. Assoc. Bul. 15: 12, 1926. ARKANSAS: Game Comn., letters, 1925. CALIFORNIA: Chicago Field 8: 236, 1877; Grinnell, J., Bryant, H. C., and Storer, T. I., The Game Birds of California, p. 35, 1918; Grinnell, J., Science 61: 621, 1925. COLORADO: U. S. Dept. Agr., Bur. Biol. Survey, Rpt. 1924; Game Comn., letter, 1925; Rockwell, R. B., Denver, letter, 1925; Mitchell, W. I., Paonia, letter, 1925; McCrimmon, A. R., Montrose, letter, 1925. CONNECTICUT: Forest and Stream 71: 537, 1908; 74: 697, 1910; U. S. Dept. Agr., Bur. Biol. Survey, Rpt. 1924; Titcomb, J. W., State Bd. Fish and Game, Hartford, letter, 1925; Lapsley, A., Pomfret, letter, 1925; Scranton, G. H., New Haven, letter, 1925. DELAWARE: Game Comn., letter, 1925. IDAHO: Game Comn., letter, 1925. ILLINOIS: Forest and Stream 72: 218, 1909. INDIANA: Shields' Mag. 5: 190, 1907; Williamson, E. B., Bluffton, letter, 1925; Wolff,

L., Ind. Fish and Game League, Franklin, letter, 1925; Game Comn., letter, 1925. IOWA: Forest and Stream 74: 896, 1910; Gashorn, A., Winterset, letter, 1925; Keys, R., Iowa Conserv. Assoc., Mount Vernon, letter, 1925, Spiker, C. J., Ashton, letter, 1926. KANSAS: Amer. Game Protect. Assoc. Meeting, 1925, Paper by Game Comnr.; Game Comn., letter, 1925; other letters. MAINE: Forest and Stream 76: 165, 1911; Cordwell, S. E., Maine Sportmen's Fish and Game Assoc., Cumberland Mills, letter, 1925. MARYLAND: Game Comn., letter, 1925. MASSACHUSETTS: Forest and Stream 32: 41, 1889; experience of author. MICHIGAN: Forest and Stream 69: 815, 1907; v. 70–71, 1908; v. 72–73, 1909; Mershon, W. B., Saginaw, letter, 1925. MINNESOTA: Roberts, T. S., Minn. Univ., Zool. Dept., Minneapolis, letter, 1925; Game Comn., letter, 1925. MISSOURI: Willand, F. H., St. Louis, letter, 1925. MONTANA: Marlowe, T. N., Missoula, letter, 1925; Smith, G. A., Mont. State Sportsmen's Assoc., Missoula, letter, 1925; Price, I. H., Knowlton, letter, 1925. NEBRASKA: Nebr. Dept. Agr., letter, 1925. NEVADA: Game Comn., letter, 1925. NEW JERSEY: Forest and Stream 25: 103, 1885; 31: 453, 1888; Game Comn., letter, 1925; Tait, T., N. J. Fish and Game Conserv. League, Newark, letter, 1925. NEW YORK: Burnham, J. B., Amer. Game Protect. Assoc., letter, 1925. NORTH CAROLINA: Palmer, T. S., U. S. Dept. Agr. Yearbook 1905: 616, 1906. OREGON: Amer. Field 41: 320, 1904; Oreg. Sportsman 2 (1): 3, 1914; 2 (7): 3, 1914; 3 (1): 14, 1915; Gill, J., Portland, letter, 1925. PENNSYLVANIA: Kohler, E. P., Cambridge, Mass., letters, 1925; Game Comn., letter, 1925. SOUTH CAROLINA: Chamberlain, G. B., Charleston Museum letter, 1925. SOUTH DAKOTA: Saylor, H. L., Huron, letter, 1925; Barrette, C., Watertown, letter, 1925; Tiffany, W. J., Aberdeen, letter, 1925; Over, W. H., S. Dak. Univ., Vermilion, letter, 1925. VIRGINIA: Game Comn., letter, 1925. Wynkoop, D. W., Montague, Va., letter to Palmer, T. S., 1905. WASHINGTON: Pacific Sportsman 4: 315, 1907; Shields' Mag. 5: 191, 1907; Auk 35: 43, 1918; Murrelet 4: 18, 1923; 4: 7, 1923; Calif. Fish and Game 11: 100, 1925; Cook, F. W., Seattle, letter, 1925; Webster, E. B., Port Angeles, letter, 1925; Game Comn., letter, 1925; Rathbun, S. F., letter to W. L. McAtee, U. S. Dept. Agr., Bur. Biol. Survey; Amer. Field 105: 291, 1926. WEST VIRGINIA: Game Comn., letter, 1925. WISCONSIN: Pabst, G. Milwaukee, letter, 1925; Holmes, J. A., Appleton, letter, 1925. WYOMING: State Game and Fish Comn. Rpt. 12: 1923–24; Evans, C. A., Sheridan, letter, 1925; Game Comn., letter, 1925.

ALBERTA: Elliot, W. D., Rod and Gun Canada 26: 307, 1924: Rowan, W., Canad. Field Nat. 39: 114, 1925; Rowan, W., Edmonton, letters, 1925, with inclosures from F. J. Green, Calgary; Rooney, R. A., North. Alberta Game and Fish League, Edmonton, letter, 1925; Bendick, D. H., Leduc, letter, 1925; Henderson, A. D., Belvedere, letter, 1925. Amer. Field 72: 524, 1909. BRITISH COLUMBIA: Brooks, A., letter, 1925. MANITOBA: Game Comn., letter, 1925; Merkeley, H. J., Manitoba Dental Assoc., Winnipeg, letter, 1925. ONTARIO: Canad. Field Nat. 38: 188, 1924. SASKATCHEWAN: Bradshaw, F., Canad. Field Nat. 36: 91–92, 1922; Potter, L. B., Eastend, letter. 1925; Bradshaw, F., Regina, letter.

BAMBOO PARTRIDGE, OR DAH CHEE (Bambusicola)

Bamboo partridges have been introduced on a large scale in Stevens, Spokane, Yakima, and Garfield Counties, Wash. Some appear to have been raised on the State game farm near Tacoma. According to the Pacific Sportsman for May, 1906, Game Warden Rief reported the planting of some of these birds even before that date. The species seems to have first reached America in 1904 or 1905, brought over by A. W. Bush, recently returned from China. The first lot was presented to California, but they were not passed through the customhouse and were returned to Shanghai. According to the American Field and the records of the Bureau of Biological Survey, some 300 (many of them dead) came into Washington State in 1922, about 245 in 1923, about 79 in 1924, and 93 in 1925. There is no evidence that they have begun to increase in their new environment.

References.—Pacific Sportsman 2. 454, 1905; 3: 166, 1906; Amer. Field 97: 344, 1922; Calif. Fish and Game 11: 101, 1925; Webster, C. B., Port Angeles.

letter, 1925; U. S. Dept. Agr., Bur. Biol. Survey Rpts. 1924 and 1925; U. S. Dept. Agr. Bur. Biol. Survey, importation records.

PAINTED, OR BUTTON, QUAIL (Excalfactoria)

A few Australian button quail from Victoria have been turned out near Alvarado, Calif. The painted quail of the Philippines have also been brought to this country in considerable numbers; 155 came over in 1918, but the writer does not know what became of these birds.

References.—U. S. Dept. Agr., Bur. Biol. Survey Rpt. 1918: 16; U. S. Dept. Agr., Bur. Biol. Survey, importation records.

MIGRATORY, OR EGYPTIAN, QUAIL (Coturnix coturnix)

The great excitement among sportsmen over the historic European, or Egyptian, quail began about 50 years ago and is now almost entirely forgotten. These little game birds began to be imported into the Eastern States from Sicily and Messina, Italy, in 1875, and large numbers were introduced into Quebec, Ontario, Maine, New Hampshire, Vermont, Massachusetts, New York, New Jersey, Pennsylvania, Virginia, and Ohio. Horace P. Toby, of Boston, was one of the first enthusiasts, and a great deal of information on the subject may still be found in the files of Forest and Stream and other journals in the seventies and eighties. The history of the first cases is as follows: On March 27, 1875, W. Hapgood, of Boston, wrote to Domonic Fisher, at Messina, Italy: "How can we get European quail for introduction here?" Fisher replied: "Two cages containing 250 European quail shipped, addressed to John H. Whitcomb, Ayer Junction, Massachusetts." These were obtained through the good offices of Capt. P. M. Beal of the bark *Neptune.* Sixty-one died in passage and 189 were distributed in Massachusetts near Ayer. By a curious coincidence M. G. Evart's birds from a different locality arrived on the same vessel and were liberated near Rutland, Vt. The 200 in this first shipment to Vermont were set free June 8, 1877. These birds were actually found breeding near Rutland, Vt., on July 7, 1877. The total cost of this shipment was said to be 18 lira (about $3) a bird.

It will be sufficient merely to summarize the experiences of many observers with Egyptian quail and to remark that the experiments were carried out on a sufficiently large scale. It is noted that 5,100 arrived May 5, 1880, and were placed in 16 different localities. Most of these birds came in excellent condition. There are many reports of breeding during the first season and also of individual birds that stayed near their point of release until November or even December; but after migration there was never any return movement. One was taken as far south as Georgia and another in North Carolina. Some are said to have come aboard a ship in November, 1877, hundreds of miles southeast of Cape Hatteras, and the theory was prevalent at the time that most of the introduced birds migrated in a southeasterly direction and perished at sea.

Thus ended another chapter of discouragement for the sportsmen of the Atlantic Coast States, who about this period were making desperate efforts to increase their game supply. There seem to have been no shipments after 1881.

References.—GENERAL: Exodus 16: 13; Numbers 11: 31; Psalms 105: 40; Forest and Stream 2: 261, 1874; 3: 372, 1874; 8: 447, 1877; 9: 1, 10, 306, 345, 1877; 10: 54, 296, 1878; 11: 522, 1878; 12: 211, 350, 371, 390, 1879; 13: 585, 927, 1879; 14: 374, 1880; Chicago Field 11: 312, 408, 1879; 12: 282, 1879; 12: 331, 392, 1880. *See also* Amer. Field 1880–1882. CONNECTICUT: Forest and Stream 11: 2, 427, 1878; 12: 311, 331, 1879; 13: 573, 585, 927, 1879. DELAWARE: Forest and Stream 15: 50, 1880. GEORGIA: Forest and Stream 9: 397, 1877; 13: 991, 1880; 14: 12, 52, 1880. MARYLAND: Forest and Stream 9: 306, 1877; MAINE: Forest and Stream 13: 545, 1879; 14: 435, 474, 515, 1880; Amer. Field 17: 132, 1882; Auk 1: 186, 1884. MASSACHUSETTS: Forest and Stream 9: 12, 1877; 10: 407, 1878; 11: 2, 1878; 13: 927, 1879; 13: 927, 1032, 1880; 23: 385, 1884; 41: 49, 1893. NEW HAMPSHIRE: Forest and Stream 18: 104, 1882; Amer. Field 19: 231, 1883. NEW JERSEY: Song Bird Club, Portland, Oreg., records. NEW YORK: Forest and Stream 13: 927, 1880. OHIO: Chicago Field 8: 257, 1877. PENNSYLVANIA: Forest and Stream 9: 366, 1877; 11: 502, 1879; 14: 12, 72, 91, 112, 131, 1880. VERMONT: Forest and Stream 6: 115, 1876; 8: 341, 447, 1877; 9: 12, 345, 1877; 10: 387, 1878; 12: 126, 1879; 15: 30, 1880; Chicago Field 8: 235, 257, 1877. VIRGINIA: Forest and Stream 14: 72, 435, 1880. ONTARIO: Forest and Stream 14: 435, 1880. QUEBEC: Forest and Stream 15: 30, 1880; 16: 206, 1881.

MIGRATORY CHINESE QUAIL (Coturnix coturnix japonica)

The Chinese quail was imported more recently and tried out in the State of Washington in a small way previous to 1904. It appears in the game laws of that year as a protected bird. Frank Alling liberated 200 in the Sound country and on Fox Island. A few were set out in Madrona Park, Seattle, by Mrs. A. C. Arthur and Mrs. A. C. Fowler. There was renewed activity by the State game authorities in 1923, when some 500 individuals were brought over from northern China and liberated in Stevens, Spokane, Yakima, Garfield, and Clallam Counties. As was to be expected from earlier experiences with practically the same species in the East, the birds never took hold and soon disappeared.

Chinese quail brought into California alive for market purposes in 1900, and probably before that, were served in the high-class Chinese restaurants after the end of the open season on native quail. After the sale of quail was stopped by law, many of these Chinese birds were seized at the port and liberated, for according to the California law possession of all so-called "quail" was illegal. The last big shipment came in 1904, and in the four years ending with 1904 more than 19,000 are recorded as arriving. Since then the trade has been practically broken up and only a few scattering birds reach this country.

References.—CALIFORNIA: Grinnell, J., Bryant H. C., and Storer, T. I., The Game Birds of California, p. 38. 1918. WASHINGTON: Pacific Sportsman 1: 176, 1904; Field and Stream 9; 405, 1904; Murrelet 4 (3): 3, 1923; California Fish and Game 11: 100, 1925; Webster, C. B., Port Angeles, letter, 1925; U. S. Dept. Agr., Bur. Biol. Survey, importation records.

REEVES PHEASANT (Syrmaticus reevesii)

It is unfortunate that so little attention has been paid to the Reeves pheasant, a magnificent game bird that is rapidly disappearing from its native home in China. Indeed, even aviary stock is becoming more and more difficult to obtain, and the birds are evidently dying out through a long process of inbreeding and confinement. Reeves pheasant has always been rather expensive, and most of those that have reached America have come through Antwerp

from European aviaries. A few eggs also have been received. No doubt more of these pheasants have been released than there is any record of. The following figures give an idea of the numbers imported in recent years: 109 in 1907; 25 in 1908; and in 1909, the highest year, 288. Since the World War few have come to America.

The game commissioners of Yakima County, Wash., purchased and liberated 20 in 1914, and in 1915 the species was mentioned in the game laws of that State. Indeed, in that year, Deputy Game Warden R. B. Wales reported the species "successfully introduced" into the State, while in 1919 H. F. McIlhenny said that a few occurred in Yakima County. Nevertheless, there is no indication that they long survived in a wild condition anywhere in the State. They may have been tried out at Rutherford Stuyvesant's estates in New Jersey late in the eighties.

References.—Taylor, W. P., Murrelet 4 (3): 9, 1923; U. S. Dept. Agr., Bur Biol. Survey, importation records.

SILVER PHEASANT (Gennaeus nycthemerus)

The silver pheasant has always been kept in zoological gardens and parks all over the country, because it is one of the hardiest and most easily reared of the fancy pheasants, besides being relatively cheap. It was sent to Washington from China in 1883 by Judge Denny with other pheasants and was tried out in the State at that time in a small way. Records for the State of Washington indicate the importation of less than 100 birds.

J. A. Munro states that it has also been introduced into British Columbia but has never taken hold there. Some were placed on Goat Island in San Francisco Bay many years ago, but the island is entirely unsuited to pheasants of any sort.

There is no evidence yet that this bird can maintain itself in a wild state in this country.

References.—GENERAL: Shaw, W. T., The China or Denny Pheasant in Oregon, 1908. CALIFORNIA: Chicago Field 15: 253, 1881; Bryant, H. C., Berkeley, letter, 1925. WASHINGTON: U. S. Dept. Agr. Ann. Rpt. 1888: 484, 1889; Calif. Fish and Game 11: 103, 1925; Munro, J. A., Okanagan Landing, British Columbia, letter, 1925.

BLACK-BACKED KALEEGE PHEASANT (Gennaeus)

William J. Mackensen reports that five pairs of this pheasant were purchased from him by the game commission of Connecticut some years ago and turned loose somewhere in the State. Nothing more is known of them.

References.—Mackensen, W. J., Yardley, Pa., letter, Feb., 1926.

TRAGOPANS (Tragopan sp.)

Two females of some species of tragopan were reported to have been liberated on Protection Island, Wash., early in the eighties, together with some golden pheasants (Merriam, C. H., Rpt. Ornithol. and Mammal., 1888: 487, 1889, quoting Asher Tyler, of Forest Grove). The following species of tragopans have been imported merely for aviary purposes since 1900, and owing to their scarcity and value it is doubtful whether any have been given their freedom: Cabot, Temminck, and Satyra. Of the first two only some 100 birds, about equally divided, were imported between 1900 and 1910, and of the last species only 19 in the same period.

References.—OREGON: Forest and Stream 24: 163, 1885. WASHINGTON: Merriam, C. H., Rpt. Ornithol. and Mammal., 1888; 487, 1889; U. S. Dept. Agr., Bur. Biol. Survey, importation records.

GOLDEN PHEASANT (Chrysolophus pictus)

There is no doubt that since the golden pheasant has been kept and bred so commonly in aviaries all over the United States it must often have been turned out in a small way in the hope that it might survive. This has happened certainly in Massachusetts, but the birds always failed to maintain themselves.

Probably the first of these overgorgeous birds to reach this country was a pair sent over by Lafayette to George Washington, which arrived at Mount Vernon in November, 1786. The originals were mounted by Charles Wilson Peale and preserved in Peale's Museum in Boston (the basis for the Old Boston Museum) and later found their way to the Boston Society of Natural History. These same specimens are now preserved permanently in the Museum of Comparative Zoology in Cambridge. T. S. Palmer thinks that the species may have been kept in some of the old deer parks in Maryland late in the seventeenth century. There were other deer parks in Virginia along the James River at a later time, which these popular pheasants may have helped to decorate.

Golden pheasants have been liberated in California and in Washington with negative results. Since 1883 (perhaps even as long ago as 1857), there are records of about 100 that were given their freedom in the latter State. Some were placed on Protection Island near Port Townsend in Washington and some on Goat Island in San Francisco Bay. The former planting appears to have been made about 1885, with the birds imported by Judge Denny. Eleven males and fifteen females were received at that time, but there is no further history of them. The game commissioner of Illinois liberated some on Arsenal Isle, near Moline, some time previous to 1909, and they were reported in two Bird-Lore bird censuses (1909 and 1915), but the writer has not been able to learn their present status. Some time ago, Doctor Brown, a dentist of Nanaimo, British Columbia, turned out some near that place. A. Bryan Williams states that a few were seen afterwards and one or two shot, but they disappeared after a time. H. H. Bailey in his Birds of Virginia refers to a certain A. Croonenburg, of Lynn Haven, who is said to have liberated some near that place. The fact that 2,686 entered the United States in the decade 1900 to 1910 gives an idea of the great numbers that reached this country before the World War.

References.—CALIFORNIA: Chicago Field 15: 253, 1881; Bryant, H. C., Yosemite, letter, 1925. ILLINOIS: Bird-Lore 11: 32, 1909; 17: 43, 1915. VIRGINIA: Specimens originally from aviary of George Washington at Mount Vernon, in Mus. Compar. Zool. [Cambridge]; Washington, G., Journals, Nov., 1786. WASHINGTON: Forest and Stream 24: 163, 1885; U. S. Dept. Agr. Ann. Rpt. 1888: 485, 1889; Taylor, W. P., Murrelet 4 (3): 3, 1923.
BRITISH COLUMBIA: Williams, A. B., Vancouver, letter, 1926.

AMHERST PHEASANT (Chrysolophus amherstiae)

No records of any attempted plantings of the Amherst pheasant have been found, though a few birds doubtless have been liberated. This bird is so much more expensive and difficult to obtain than the golden pheasant that it would naturally be less sought after for this

purpose. Hybrids between this and the golden pheasant were, it is believed, set out by Alexander Forbes on Naushon Island, Mass., a few years ago. These were birds raised in the aviaries of the writer, who was told that they did not survive long. About 1,031 *C. amherstiae* reached the United States for aviaries in the years 1900 to 1910.

References.—U. S. Dept. Agr., Bur. Biol. Survey, importation records.

ENGLISH, RING-NECKED, CHINESE, OR "MONGOLIAN" PHEASANT (Phasianus torquatus and P. colchicus)

The story of the introduction of the common pheasant into this country would fill a fair-sized volume, and one can do little more than present the outstanding facts of its history. For present purposes the terms Mongolian, ring-necked, Chinese, and English may be regarded as synonymous, since all these names have been used in a loose and perfectly meaningless way in the literature of American sport.

Early introductions in Oregon were pure *P. torquatus* from China, and some of the early stock introduced into Massachusetts and probably other Eastern States, purchased from Vernier De Guise, of New Jersey, was very nearly pure, old, dark-necked English pheasants, or *P. colchicus*, as the writer remembers distinctly. The name "Mongolian" has been wrongly applied for the most part, as comparatively little of this blood has gone into the general mixture that has produced the somewhat inferior-looking stock seen. A rather large share of pure Mongolian stock became fused with the English ringnecks in British Columbia coming from Lord Ernest Hamilton in England. The result of this cross was at first stimulating, and splendid large birds resulted, but the effect was temporary only, and now few wild ones are shot that show any trace of Mongolian blood. Some pure *colchicus* blood went into the British Columbia birds also but was rapidly absorbed, as it seems to have been everywhere else.

Prevalence of the worm *Heterakis gallinae* in wild pheasants in Massachusetts has been well shown by E. E. Tyzzer, of the department of comparative pathology in the Harvard Medical School. It seems likely enough that Heterakis, together with blackhead, was brought to this county with poultry, and the disastrous results to the turkey-rearing industry are known to all. The interesting point is that the pheasant may now easily infect territory at a distance from farmyards.

In New Jersey there were early introductions of English pheasants by Richard Bache, the son-in-law of Benjamin Franklin, about 1790 on the Delaware River near the present town of Beverly. In the beginning of the nineteenth century a second attempt was made on the Passaic River opposite Belleville by a "rich landowner of that time." Since then there have been other attempts in the East. One trial was made on the estate of William Upshire in Accomac County, Va., and other attempts were made on several estates along the James River. Pierre Lorillard imported many into northern New Jersey about 1880, and in 1887 the great Tranquillity game preserve of Rutherford Stuyvesant, at Allamuchy, N. J., was started. Early in the nineties pheasants were well established in that region. In Massachusetts trials are recorded at Great and Egg Islands on

the south shore of Cape Cod by C. B. Cory in the eighties, but nothing came of them.

In 1877 pheasants were put out in Central Park, New York, but probably without any effect on the surrounding country. In 1890–91 large pheasant shoots were held at Tuxedo Park, N. Y., but the craze over the bird did not begin in the East until about 1896. It is safe to say that at least 100,000 birds are shot each year in the State of New York. In Pennsylvania pheasants were first planted in a small way from 1892 to 1895 while between 1915 and 1925 about 49,000 birds were set free. Probably at least 50,000 are legally shot in that State each year in the short open season prevailing at present.

The stock from Massachusetts has spread northward into New Hampshire as far as Concord and also into southwestern Maine and southern Vermont and its spread has been aided by further introductions. There are pheasants around Tilton, Plymouth, Lebanon, and Hanover, N. H., and in the warmer parts of Vermont, especially along the borders of Lake Champlain.

The extraordinary vitality of the first birds set out by the writer at North Beverly, Mass., in 1897 and 1898 was a most interesting feature. The broods were at first large and the species did not appear to meet any natural checks to its spread for a number of years. This initial "vigor," however, seems to have been lost here as well as in other places where the pheasant has been planted for 25 or 30 years.

Farther south, in Maryland, Delaware, Virginia, West Virginia, North and South Carolina, Georgia, Tennessee, and Alabama, one finds different responses. In all these States there have been many attempts at introduction, but the stock does not hold out long if thrown upon its own resources. Virginia, especially, tried out pheasants on a large scale in 1906 and again in 1913, but there is little promise that the stock used can maintain itself anywhere in the South. It may be possible to find a race of pheasants that can adapt itself to conditions south of Baltimore, Md., and Washington, D. C., but so far there has been no serious attempt to do this.

On Jekyl Island, off the coast of Georgia, for instance, pheasants were tried out many years ago, even before 1888, but none now remain. The same is true of the region about Thomasville, Ga. They had a fair trial in Alabama about 15 years ago, and they have failed utterly in Texas.

Ohio, on the other hand, reports fair success, and the birds were firmly established there at least 20 years ago. One of the first State game farms in the United States was started at Celina, Ohio, in 1896.

In the Central States, Kansas, Nebraska, Indiana, Iowa, Missouri, and Kentucky, some successes are reported, and it is safe to say that the pheasant will become established all over the northern and central parts of the Mississippi Valley.

In the North-Central States, Minnesota, Michigan, Wisconsin, and Illinois, there has been fair success in the warmer regions, and the first open season was declared in Minnesota (Hennepin County) in 1924. In Wisconsin there are many about Chippewa Falls and Eau Claire, and in Michigan the birds are doing well in the central and southern portion of the Lower Peninsula. The season was first opened in Michigan in 1925.

In the Northwest the first great success came long before any real success in the East. O. N. Denny, then consul general at Shanghai, conceived the idea of bringing Chinese pheasants directly into Oregon. The first introduction, made in 1880, apparently was a failure. A shipment consisting of 70 birds reached Olympia safely, but owing to bad management the birds did not reach their destination in Portland alive. A second trial made a year later, however, was crowned with complete success, and about 100 pairs were safely placed in the Willamette Valley, where they soon increased in a truly remarkable manner. For a time they were known in these parts as the Chinese or Denny pheasant, and they have been abundant in Oregon ever since.

In the State of Washington English pheasants were first introduced about 1883 by the private effort of Judge Denny, and they were accorded a three months' open season in 1903 and 1907. They are said to have spread from British Columbia into Whatcom County in 1922, while in recent years the game farms have produced enormous numbers of the birds and their eggs. Warden J. Warren Kinney thinks that at least 100,000 were shot in the State in 1922.

In Colorado private efforts at stocking began in 1894, and the State followed suit with further work in 1901 The birds have now spread satisfactorily and have reached an altitude of 7,500 feet in the mountains west of Denver. They do not do so well on the western side of the Rocky Mountains.

Pheasants are reported as taking hold well in suitable regions in Idaho, Montana, and Wyoming. In South Dakota and Oklahoma they have spread tremendously, and in Utah they have been introduced widely since 1900. In the drier parts of the Southwest, Arizona and New Mexico, results have been indifferent.

Canada has been no less interested in pheasants in recent years than the United States, but naturally has little territory suited to the species. There have been sporadic attempts to introduce them into New Brunswick, Nova Scotia, and Prince Edward Island and probably parts of Quebec, but nothing has come of the efforts. In the relatively warm parts of southern Ontario they were established on the Niagara Peninsula many years ago.

In Manitoba there have been recent trials on a fairly large scale, but it is too early yet to tell what the result will be. On Vancouver Island pheasants were established in 1881 by importing birds direct from China, and when the season was first opened (previous to 1888) about 1,000 were shot there. Some pure Mongolian blood and also pure *colchicus* (dark-necked English) were introduced into British Columbia, as previously mentioned.

Pheasants have been imported into the United States both from China and England in large numbers. Palmer says that they had been placed in all the States except nine by 1907, and of these nine States five were in the South. It is quite safe to say that pheasants have long since been introduced into all parts of the United States, as well as all the southern Provinces of Canada. The traffic in common pheasants from England and Canada is now practically at an end because there is plenty of home-bred stock available. Many eggs also have been received from abroad, and there was one shipment of 5,500 to the State game farm in Illinois in June, 1906, the largest shipment of eggs ever landed in the United States.

The Hawaiian Islands are all well stocked with the common ringnecks, and in spite of the warm climate the birds seem to hold out in a remarkable way even with long open seasons.

References.—GENERAL: Oldys, H., Game Protection in 1907, U. S. Dept. Agr. Yearbook 1907: 596, 1908; U. S. Dept. Agr., Bur. Biol. Survey, importation records; Tyzzer, E. E., Harvard Med. School, manuscript; Hawaii. Fish and Game Comn., Territory of Hawaii, letter, 1926; Oldys, H., U. S. Dept. Agr. Farmers' Bul. 390, 1910; Quarles, E. A., American Pheasant Breeding and Shooting, p. 6, 1916. ALABAMA; Game Comn., letter 1925; Dean, R. H., Anniston, letter, 1925. ARIZONA and NEW MEXICO: Leopold, A., Madison, Wis., letter, 1925; Game Comn., letter, 1925. ARKANSAS: Game Comn., letter, 1925. CALIFORNIA: Chicago Field 8: 154, 203, 236, 1877; Condor 19: 187, 1917; Grinnell, J., Bryant, H. C., and Storer, T. I., The Game Birds of California, p. 30, 1918; Abbott, C. G., San Diego, letter, 1925; Palmer, T. S., personal information. COLORADO: Shields' Mag. 5: 191, 1907; Auk 31: 314, 1914; Bergtold, W. H., Denver, letter, 1925; Mitchell, W. I., Paonia, letter, 1925; Game Comn., letter, 1925. CONNECTICUT: Game Comn., letter, 1925. DELAWARE: Spruance, W. C., Wilmington letter, 1925; Game Comn., letter, 1925. GEORGIA: Forest and Stream 31: 453, 1888; James, N., Catonsville, Md., letter, 1925; Stoddard, H. L., Beachton, letter, 1925. IDAHO: Game Comn., letter, 1925; Amer. Field 63: 605, 1895. ILLINOIS: Forest and Stream 35: 312, 1890; 46: 275, 1896; Shields' Mag. 3: 181, 1906; Bird-Lore 11: 32, 1909. INDIANA: Williamson, E. B., Bluffton, letter, 1925. IOWA: Gashorn, A., Winterset, letter, 1925. KANSAS: Game Comn., letter, 1925. KENTUCKY: Auk 42: 418, 1925; Pindar, L. O., Versailles, letter, 1925. MAINE: Cordwell, S. E., Portland, letter, 1925; Game Comn., letter, 1925. MARYLAND: Game Comn., letter, 1925. MASSACHUSETTS: Forest and Stream 32: 41, 1889; 43: 177, 265, 1894; 49: 388, 510, 1897; Importation by J. C. Phillips into Essex County, Mass., 1907, 1908; personal experience of writer. MICHIGAN: Forest and Stream 44: 44, 462, 1895; 45: 8, 1895; Mershon, W. B., Saginaw, letter, 1925; Game Comn., letter, 1925. MINNESOTA: Field and Stream 1: 26, 1896; Fish and Game Dept. Bul., September, 1923; Game and Fish Comn., letter, 1925; Bond, H. L., Lakefield, letter, 1925. MISSOURI: Wieland, F. H., St. Louis, letter, 1925; McNiel, C. A., Sedalia, letter, 1925. MONTANA: Marlowe, T. N., Missoula, letter, 1925; Potter, L. B., Eastend, Saskatchewan, letter, 1925; Smith, G. A., State Sportsmen's Assoc., Missoula, letter, 1925. NEBRASKA: Bates, I. M., Redcloud, letter, 1925; Game Comn., letter, 1925. NEW HAMPSHIRE: Bartlett, M. L., Concord, letter, 1925; personal experience of writer. NEW JERSEY: Forest and Stream 19: 509, 1883; 25: 103, 1885; 37: 144, 307, 371, 1891; 51: 451, 473, 1898; Game Comn., letter, 1925; Tait, T., Fish and Game Conserv. League, Newark, letter, 1925. NEW YORK: Forest and Stream 9: 305, 1877; 37: 307, 1891; Game Comn., letter, 1925. NORTH CAROLINA: N. C. Dept. Agr., letter, 1925. OHIO: Forest and Stream 46: 154, 1896; Jones, L., The Birds of Ohio, p. 220, 1903; Game Comn., letter, 1925. OKLAHOMA: Nice, M. M., Norman, letter, 1925; Game Comn., letter, 1925. OREGON: Forest and Stream 17: 264, 1881; 24: 163, 1885; 33: 471, 1890; U. S. Dept. Agr. Rpt. 1888: 484, 1889; Mass. Fish and Game Comn. Rpt. 17, 1894; Fish and Game Protector Oreg. Rpt. 85, 1895–96; Field and Stream 2: 78, 1897; Taylor, W. P., Murrelet 4 (3), 8, 1923; Gill, J., Portland, letter, 1925. PENNSYLVANIA: Forest and Stream 45: 494, 1895; Game Comn., letter, 1925. SOUTH CARCLINA: Richardson, A. A., Columbia, letter, 1925. SOUTH DAKOTA: Barrette, C., Watertown, letter, 1925. TENNESSEE: Forest and Stream 53: 8, 1899; 59: 406, 1902; Game Comn., letter, 1925. TEXAS: Forest and Stream 49: 226, 1897; Phillips, J. L., Lufkin, letter, 1925; Game Comn., letter, 1925. UTAH: Game Comn., letter, 1925. VERMONT: Forest and Stream 44: 486, 1895; Bettridge, W. E., Arlington, letter; Webb, W. S., Shelburne, letter, 1925; Game Comn., letter, 1925; Willoughby Fish and Game Club, Orleans, letter, 1925. VIRGINIA: Washington, G., Journals v. 3, p. 136, 138, 141, Nov., 1786; Forest and Stream 25: 103, 1885; 51: 146, 1898; Bailey, H. H., Birds of Virginia, p. 87, 1913; Dodge, H. H., Mount Vernon, letter, 1925; Game Comn., letter, 1925. WASHINGTON: Pacific Sportsman 1: 48, 110, 1904; 3: 60, 1906; Shields' Mag. 5: 191, 1907; Auk 25: 432, 1908; Calif. Fish and Game 11: 101, 1925; Game Comn., letter, 1925. WEST VIRGINIA: Brooks, A. B., Game Farm, French Creek, letter, 1925; Kee, H., Marlirgton, letter, 1925; Game Comn., letter, 1925. WISCONSIN: Holmes, J. A., Appleton, letter, 1925. WYOMING: Evans, C. A., Sheridan, letter, 1925; Game Comn., letter, 1925; Fish and Game Comn., Bien. Rpts. 1919–1924.

ALBERTA: Bendick, D. H., Leduc, letter, 1925; Game Comn., letter, 1925. BRITISH COLUMBIA: Forest and Stream 31: 453, 1888; 35: 90, 1890. MANITOBA: Kelsey, H. J., Winnipeg, letter, 1925; Game Comn., letter, 1925. NEW BRUNSWICK: Smith, E. A., Shediac, letter, 1925. NOVA SCOTIA: Forest and Stream 41: 27, 1893; 42: 397, 1894; 46: 274, 1896; Allen, G. H., Nova Scotia Guides' Assoc., Yarmouth, letter, 1925. ONTARIO: Canad. Field Nat. 38, 1924; Harris, S., Game and Fish Protect. Assoc., Toronto, letter, 1925. PRINCE EDWARD ISLAND: Jenkins, J. D., Charlottetown, letter, 1925.

COPPER PHEASANT (Phasianus soemmerringii)

The copper pheasant was turned out in a small way on Protection Island in Puget Sound through the efforts of O. N. Denny about 1885. As nearly as can be ascertained only three pairs were imported at that time, and apparently nothing ever came of the venture. Copper pheasants were mentioned in the laws of Illinois for a number of years and must have been introduced there late in the seventies and eighties. They are now rarely imported. Only 50 are mentioned in the records of the Bureau of Biological Survey as having entered the United States between 1900 and 1910.

References.—Denny, O. N., early records; game laws, Illinois.

JAPANESE, OR GREEN, PHEASANT (Phasianus versicolor)

A few Japanese pheasants, 5 males and 17 females, came over with Judge Denny's third shipment of birds about 1885. Nothing was ever heard of them again. They were placed on Protection Island in Puget Sound, Wash. The Colorado State Sportsmen's Association seems to have received some about 1882, the survivors of a lot of 75 shipped to them. They were bred at this time in Colorado.

The Japanese pheasant has been set free in the Hawaiian Islands and at first prospered there. The birds must have died out or been replaced by the common ringneck, however, as only an occasional one is shot now. There are rumors of crosses between it and the common species. It is possible that the Japanese pheasant would do well in some of the Southern States.

Pheasant breeders have used these green pheasants, as well as pure Mongolians and pure Prince of Wales, to "invigorate" or otherwise modify the ordinary type of the ring-necked pheasant in the United States, but as a rule with only temporary results, the new blood being soon "swamped out."

A total of 299 green pheasants came over in the years 1900 to 1910.

References.—OREGON AND WASHINGTON: Forest and Stream 19: 467, 1883; Shaw, W. T., The China or Denny Pheasant in Oregon, 1908; Denny, O. N., records of third shipment of pheasants; U. S. Dept. Agr., Bur. Biol. Survey, importation records. HAWAIIAN ISLANDS: Kelly, H. L., Exec. Off. Fish and Game Comn., letters.

PRINCE OF WALES PHEASANT (Phasianus principalis)

This handsome pheasant was made known to science in recent times and first reached this country alive in 1906. The writer received some in 1909 and bred many at that time, turning loose also some hybrids reared in an experiment in genetics then being carried on. The species did not maintain itself in a pure state when in contact with a large stock of wild English ringnecks. Forty-six individuals were imported between 1900 and 1910.

MONGOLIAN PHEASANT (Phasianus mongolicus)

The Mongolian pheasant has come into the country in moderate numbers and has been used more or less to increase the size of the ordinary English ring-necked stock. It is useful for this purpose. Very likely it has also been planted in a pure state in preserves where particular attention has been paid to breeding a fine stock of birds. Crossbred birds up to 4 pounds in weight have been recorded.

SAND GROUSE (Syrrhaptes paradoxus)

This Asiatic species has been recently liberated in Spokane, Stevens, Yakima, and Garfield Counties, Wash. They were received from the State game farm, and the writer was told by C. B. Webster, of Port Angeles, that nothing has since been heard of them. In the spring of 1881 sand grouse, species doubtful, were liberated near Portland, Oreg., and nine farther west on the Clatsop Plains, but all promptly disappeared. These came over with Judge Denny's pheasants from Shanghai. Many have recently come into this country; about 200 were received from China in January, 1923.

References.—GENERAL: U. S. Dept. Agr., Bur. Biol. Survey Rpt. 1923. OREGON: Forest and Stream 16: 229, 1881; 37: 123, 1891. WASHINGTON: Taylor, W. P., Tucson, Ariz., letter, 1925; Webster, C. B., Port Angeles, letter 1925.

PIGEONS AND DOVES

BLEEDING HEART DOVE (Gallicolumba luzonica)

Some bleeding heart doves, together with a vaguely recorded assortment of other oriental birds, are said to have been set free on an island near Friday Harbor, in the State of Washington, by a retired lumberman named Thomas Moran.

Reference.—Game Breeder 25: 148, 1924.

CHINESE SPOTTED DOVE (Streptopelia chinensis)

This Chinese dove, which, of course, has been kept as a cage bird in the United States, is now found locally in a semiwild state in Los Angeles and Hollywood, Calif. The birds seem to have established themselves there in a small way as inhabitants of the city and are seen about Pershing Square, where they are fed. The first known of this colony was a dead bird identified in 1917, and the species seems to be still on the increase.

Long ago this dove gained a foothold in the Hawaiian Islands.

References.—Calif. Fish and Game Comn. Rpt. 1921; Bryant, H. C., Berkeley, letter, 1925; Wyman, L. E., Los Angeles Museum, letter, 1925.

AUSTRALIAN CRESTED DOVE (Ocyphaps lophotes)

This common cage bird appears to have escaped and established itself in a small way at Berkeley, Calif., in the trees and shrubbery near the Claremont Hotel at the edge of the town.

Reference.—Swarth, H. S., Berkeley, letter, 1925.

EUROPEAN WOOD PIGEON (Columba palumbus)

The writer never heard of any serious attempts to introduce the European wood pigeon into the United States. Between 1910 and

1913 some 30 individuals were released in Bronx Park, N. Y., but not a single one of them was seen afterwards.

Wallace Evans brought over many of these birds in 1906–7, but people did not take kindly to them, and he is said to have lost money on the venture. About 100 came into the United States between 1901 and 1913.

References.—Crandall, L. S., N. Y. Zool. Park, letter, 1925: Amer. Game Protect. Assoc Bul. 5: 1, 1916.

COMMON BLUE ROCK PIGEON (Columba livia)

It is thought that this bird should be listed as an introduced species, although as far as known it has never maintained itself except in the artificial surroundings of cities. At times these pigeons have become so abundant in cities that orders have been issued to stop feeding them or actually to destroy them. It is rather strange that they have never become established under natural conditions along the rocky parts of the coasts.

PARROTS (Aratinga holochlora and others)

It seems possible that the Mexican parrakeet (*A. holochlora*), individuals of which were at first supposed to be Carolina parrakeets, is established and breeding in eastern Florida near Palm Beach. A collector working for Thomas Barbour collected one from a flock of about "a dozen in number" in 1925.

It is not certain how this Mexican species came to Florida, but doubtless it had been planted by somebody or perhaps had escaped from aviaries near Miami. Rumors of the presence of parrakeets in this region have been circulated for several years, but until the above specimen was collected and later identified by Outram Bangs no ornithologist knew what the species might be. Doubts have recently been cast on the above record as being only a cage bird shot near West Palm Beach unaccompanied by others of its kind.

The Australian shell parrakeet (*Melopsittacus undulatus*), which is kept commonly as a cage bird all over the country, is occasionally seen living as an "escape," especially in California. It is barely possible that it may some day become established in the warmer parts of the State. The writer has been told that several macaws have lived for years in a nearly wild state around the aviaries in Golden Gate Park. The common rose-crested cockatoo and the sulphur-crested cockatoo are able to stand low temperatures outdoors

Reference.—Auk. 42: 132, 1925.

SONG BIRDS AND OTHER CAGE BIRDS

The history of the many attempts to add to our bird fauna the attractive and familiar song birds of Europe began about the middle of the last century. Thomas Woodcock, president of the Natural History Society of Brooklyn, is said to have brought over a number of birds in 1846, and in the following season goldfinches, linnets, bullfinches, and skylarks were seen at Greenwood and in the suburbs of Brooklyn, N. Y. Some of the larks survived for two winters. Other birds were brought over by the Brooklyn Institute between 1850 and 1853, among them the soon-to-be-notorious English sparrow.

The Cincinnati Acclimatization Society spent about $9,000 in experimental work between 1872 and 1874 and set free some 20 species and more than 3,000 individuals. At about the same time, April, 1870, song birds were set free in Lafayette Park, St. Louis, Mo. A society in Cambridge, Mass., liberated a great many goldfinches between 1872 and 1874 in Mount Auburn Cemetery, and some of these were reported at various places in New England for many years afterwards.

The American Acclimatization Society, under the leadership of Eugene Schieffelin and John Avery, liberated a number of birds in Central Park, N. Y., in 1877, as well as later. Joshua Jones and John Sutherland, of New York, were also working along the same lines.

Late in the eighties was established the Portland, Oreg., Song Bird Club, a society for the introduction of useful song birds founded by a German-American, C. F. Pfluger. This organization raised considerable money and imported many birds between 1888 and 1907. William L. Finley has kindly supplied the original records of this club, which give a clear idea of just what was attempted. The principal results are detailed under the species.

Apparently many trials with the smaller birds were made in California late in the eighties and nineties, but no accurate data are available. There was an experiment by the country club of San Francisco with five or six common European species in 1891, and Joseph Mailliard reports that there were other earlier attempts in Marin County. A shipment of 100 nightingales, supposed to be destined for a private estate in California, was reported at Liverpool, England, in 1887.

Henry Ford liberated 400 to 500 European birds on his estate at Dearborn, Mich., in April, 1913, but details concerning this shipment are not obtainable. Ten or a dozen species are said to have been represented. Another considerable effort has been made recently by Charles F. Dietrich, at Millbrook, N. Y.

It is not within the scope of this bulletin to discuss the economic status of the birds introduced or more than to mention the various escaped cage birds that have been shot or picked up dead from time to time. As a rule these have no significance. They comprise for the most part commonly imported Australian, African, and oriental species, such as nuns, weaver finches, Java sparrows, and so on, besides numerous parrots. The Brazilian red-headed cardinal might be mentioned as able to withstand a mild winter outdoors in Washington (in one or two cases up to the end of February) and the author has known of Japanese robins (Liothrix) living successfully in a free state during summer.

References—Correspondence between C. F. Pfluger of Portland, Oreg., and the Asst. Chief Div. Ornithol., Oct. and Nov., 1895 (in files of U. S. Dept. Agr., Bur. Biol. Survey); Nehrling, H., Ornithol. Monatsschr. Deut. Ver. Schutze Vogelwelt 25: 65, 1900.

EUROPEAN SKYLARK (Alauda arvensis)

The skylark is one of the more interesting species, as in several cases its introduction has nearly resulted in success. It has naturally long been one of the favorites on account of the many associations with the bird in the Old World, particularly in English song

and poetry. It was successfully introduced on the Hawaiian Islands by A. S. Cleghorn with stock brought from New Zealand.

One of the first releases that the writer has been able to trace in the United States was that of a number set free in 1853 from the John Gorgas shipment to Wilmington, Del. Apparently these birds were simply liberated from the ship. Some of this shipment are stated to have been let go at Washington, D. C. It was believed for a year or two that these larks had settled down satisfactorily, but there were no permanent results.

Near Cincinnati the first attempt was made by a Mr. Bateman in 1851; these birds all vanished. Another attempt seems to have been made there in the seventies, since F. W. Langdon in his list of birds in 1878 states that they had been found breeding in the outskirts of Cincinnati. These could not have lasted long, for nothing was known of them in 1882.

In 1871 or 1874 Henry Reiche set free some 50 pairs of skylarks at Brooklyn, N. Y., and they settled down near that place and at Newtown and Canarsie. A shipment of 200 was received by I. W. England at Ridgewood, N. J., in December, 1880. When they were finally turned out on May 1, 74 healthy birds remained. Some of these settled down near Brooklyn, and at Flatbush, Long Island, and existed there for about 20 years. They were supposed to be firmly established, and there are many notes in the pages of the Auk and in Forest and Stream showing that they were nesting and present in fair numbers late in the eighties and early in the nineties. A severe blizzard in February, 1888, was supposed to have decimated them. The last notice of their presence seems to have been in 1899, and they must have vanished soon after this.

The Portland, Oreg., Song Bird Club nearly succeeded in establishing the bird in the neighborhood of that city between 1889 and 1908. The species certainly bred in the neighborhoods of Portland, Salem, and Gresham, and existed for 20 or 25 years. About 50 pairs were turned out at that time (1889–1892), judging by the original records of the club examined. They were reported as numerous in the Umpqua Valley, Douglas County, Oreg., in 1896, and in Marion and Washington Counties. There were probably other importations about Portland.

Another region where the skylark has nearly proved a success is in the neighborhood of Victoria, British Columbia, where it was planted in April, 1913, apparently by the Natural History Society of Victoria, assisted by the provincial government. Some of these birds may yet exist, for W. H. A. Preece reports having heard one sing at Mount Tolmie, British Columbia, in January, 1925. Others have reported them recently about the city of Victoria.

About 200 skylarks were liberated in Santa Cruz County, Calif., in 1908, but no further reports of these are at hand. At least 75 pairs were planted on the ranch of George W. Cozzens near San Jose, Calif., by Game Warden Mackenzie about 1896. They were reported the following year as doing well, but all eventually vanished.

This species and the European goldfinch have demonstrated their ability to make a temporary success in the United States, and it is therefore likely that choice of a slightly more favorable locality might have brought really permanent results.

Palmer thinks that a great many more were turned out about New York than there is any record of, and that the Long Island colony

may have been reinforced from time to time. The birds reach the port of New York often in lots of over 100 (there was one shipment of 140 in November, 1908), and at least 5,000 to 7,000 of them arrived from 1900 to 1914. The importation of this species has not been encouraged by the Bureau of Biological Survey as a permanent acquisition on account of unfortunate experience with it in New Zealand and Australia.

References.—GENERAL: Palmer, T. S., U. S. Dept. Agr. Yearbook 1898: 106, 1899; Nehrling, H., Ornithol. Monatsschr. Deut. Ver. Schutze Vogelwelt 10: 18, 1885. CALIFORNIA: Mercury, San Jose, Feb. 25, 1897; U. S. Dept. Agr., Bur. Biol. Survey Rpt., 1908. DELAWARE: Gorgas, J., U. S. Commr. Patents Rpt., 1853 (Agr.): 70–71, 1854; Auk 25: 287, 1908. DISTRICT OF COLUMBIA: Palmer, T. S., U. S. Dept. Agr. Yearbook, 1899: 288, 1900. MICHIGAN: Evening Star, Washington, D. C., Apr. 16, 1913. NEW JERSEY: Amer. Nat. 17: 1191, 1883; Ornithol. and Oölogist 9: 24, 1884. NEW YORK: Forest and Stream 2: 406, 1874; 8: 129, 1877; 17: 44, 1881; Auk 5: 180, 1888; 12: 390, 1895; 16: 191, 1899; Bendire, C. E., Life Histories of North American Birds, v. 2, p. 327, 1895; N. Y. Times, June 4, 1905; Bowdish, B. S., Newark, N. J., letter, 1925. OHIO: Forest and Stream 2: 264, 1874; 52: 185, 1899; Jones, L., The Birds of Ohio, p. 223, 1903. OREGON: Portland Song Bird Club, manuscript; Finley, W. L., Portland, letter, 1925.

BRITISH COLUMBIA: Rochester (N. Y.) Post, Apr. 9, 1913; Young, C. J., Vancouver, letter, 1925; Munro, J. A., Okanagan Landing, letter, 1925; Laing, H. M., Comox, letter, 1925; Cook, F. B., Seattle, Wash., letter, 1925; Canad. Field Nat. 39: 175, 1925; Williams, A. B., Vancouver, letter, 1926.

WOOD LARK (Lullula arborea)

Ten pairs of wood larks were introduced near Portland, Oreg., in the spring of 1889, according to the records of the Portland Song Bird Club. In spite of glowing accounts of early success, they all ultimately vanished. They are only moderately common as cage birds and scarcely any have come in since the World War.

References.—Portland Song Bird Club, manuscript records.

ROBIN REDBREAST (Erithacus rubecula)

The robin redbreast of Europe, having always been a common cage bird, has been used for introduction experiments many times. It has certainly been released near Portland, Oreg., and at Cincinnati, Ohio; probably also in Central Park, New York City, and in California and near Detroit, Mich., and not many years ago (1913) it was tried out near Victoria, British Columbia, on rather a large scale. It seems to have made no progress whatever in any of these places. There are no records of its having made any attempt to breed or to localize.

References.—OHIO: Journ. Cincinnati Soc. Nat. Hist. 4: 342, 1881. OREGON: Portland Song Bird Club, manuscript records. BRITISH COLUMBIA: Rochester (N. Y.) Post, Apr. 9, 1913.

NIGHTINGALE (Luscinia megarhyncha)

It is not surprising that much attention has been paid to nightingales by overenthusiastic acclimatizationists. It is certain that these romantic songsters were liberated in considerable numbers during the Cincinnati, New York, California, and Portland, Oreg., experiments previously mentioned. It is doubtful, however, whether many arrived in really good health, as they are rather delicate cage birds. Out of

21 pairs sent to Portland, Oreg., in 1907 half died on the journey, and of the rest kept in an aviary in the winter, all perished before spring.

A shipment consisting of 100 individuals destined for California, seen at Liverpool, England, in 1887, was reported by Miss Anna Head. It was supposed that they were going to a private estate. Few have come over since the World War, but in the period 1901 to 1913 more than 1,000 arrived in this country.

References.—GENERAL: U. S. Dept. Agr., Bur. Biol. Survey, importation records. CALIFORNIA: Forest and Stream 37: 181, 1891; Condor 4: 94, 1902. OHIO: Forest and Stream 2: 264, 1874; Journ. Cincinnati Soc. Nat. Hist. 4: 342, 1881. OREGON: Forest and Stream 48: 403, 1897; Portland Song Bird Club, manuscript records.

EUROPEAN THRUSHES (Arcenthornis iliacus, A. viscivorus, and Turdus merula)

European thrushes have been turned out many times in this country—certainly in the Cincinnati experiment in 1881, at Portland, Oreg., late in the eighties, and near Detroit, Mich., in 1913.

The following entry is noted in the records of the Portland club: "Thirty-five pairs of song thrushes liberated in 1889 to 1892 (and increased)."

Fifteen "gray" song thrushes (*A. iliacus*) were liberated in May, 1893, in New York City. Twenty-five pairs of song thrushes were ordered by the Portland club on one occasion, and 35 pairs of black thrushes (*T. merula*) were liberated by this club in 1889 and 1892. The newspapers of the time were at first full of optimistic reports of the increase and spread of these European thrushes, and it was thought that they had also populated the State of Washington. Other thrushes, 12 pairs, were bought by this club in November, 1907. In spite of these trials and probably many more unrecorded ones, for two of these birds are common cage birds, no real progress has ever been reported.

One English blackbird was shot in New Jersey in May, 1880, and the writer of the note thinks that this may be the remnant of some that were turned out in Central Park, N. Y., long before that time.

Many song thrushes and black thrushes came over to the United States before the World War, but the missel thrush (*A. viscivorus*) was never a common cage bird of this country.

References.—CALIFORNIA: Forest and Stream 37: 181, 1891. MICHIGAN: Evening Star, Washington, D. C., April 16, 1913. NEW YORK: Forest and Stream 8: 262, 1877. OHIO: Forest and Stream 2: 264, 1874; 42: 268, 1894; Journ. Cincinnati Soc. Nat. Hist. 4: 342, 1881. OREGON: Portland Song Bird Club, manuscript records; Del. Valley Ornithol. Club, Proc. 3, Dec. 1, 1890.

MOCKING BIRD (Mimus polyglottos)

The famous American mocking bird was at one time a common cage bird, and there have no doubt been many attempts to introduce it on the north Pacific coast and in other parts of the country outside its normal range. There was one trial by the country club at San Francisco with birds ordered from Louisiana in 1891. Sixty-seven pairs of "mockers" were purchased by the Portland, Oreg., Club, and about 40 pairs were turned out in the spring of 1895, but there are no further records of their fate, except a statement from Mr. Pfluger to the Division of Ornithology and Mammalogy (Bureau of Biological Survey) that they did well the first season. Finley

wrote recently that he heard one or two (perhaps introduced) singing near Portland, Oreg., some 15 or 20 years ago.

EUROPEAN DIPPER (Cinclus cinclus)

Dippers, probably the common European species, are listed as having been set free during the Cincinnati experiments of 1872–73. None have come in during the past 20 years, according to records of the Bureau of Biological Survey.

References.—Forest and Stream 2 : 264, 1874 ; U. S. Dept. Agr., Bur. Biol. Survey, importation records.

EUROPEAN BLACKCAP WARBLER (Sylvia atricapilla)

The European blackcap warbler is such a general favorite as a cage bird that it has no doubt figured many times as the subject of small or accidental experiments in acclimatization. The writer has a note of some 20 pairs brought over by the Portland Song Bird Club in 1907 and others perhaps in 1900. They do not come over in large numbers, moderate shipments arriving from Bremen and Hamburg. The largest single lot came in September, 1902, and consisted of 84 birds.

References.—Portland Song Bird Club, manuscript records; U. S. Dept. Agr., Bur. Biol. Survey, importation records.

EUROPEAN BLUE TIT (Parus caeruleus)

Several correspondents state that this handsome little bird was tried out a few years ago near Vancouver, British Columbia, but it failed to make a place for itself. It was certainly planted near Victoria in 1913. Owing to restrictions on the importation of the great tit and confusion between the two, few have come over since 1900. Six are recorded for 1912.

References.—Rochester (N. Y.) Post, Apr. 9, 1913; Munro, J. A., Okanagan Landing, letter, 1925.

EUROPEAN GREAT TIT (Parus major)

The European great tit, the well-known Kohlmeise of the Germans, was introduced with other species at Cincinnati in 1872 to 1874, but failed to gain a foothold. It was highly recommended in 1897 and 1898 among the apple growers of Utah, Idaho, Oregon, and California as a possible enemy of the codling moth common to fruit trees. Nothing, however, came of this agitation. The Bureau of Biological Survey has discouraged attempts to introduce the bird on account of its injury to fruit in England and the possibility that it may have similar habits here.

References.—GENERAL: Portland Oregonian, Oct. 30, 1897; Statesman, Boise, Idaho, Nov. 30, 1897; Rural, Caldwell, Oreg., Jan., 1898; Fruit World, Los Angeles, Calif., Nov. 12, 1898; Palmer, T. S., U. S. Dept. Agr. Yearbook 1898: 104, 1899; Pacific Rural Press 51, Jan. 28, 1899; U. S. Dept. Agr., Bur. Biol. Survey, importation records. OHIO: Forest and Stream 2: 264, 1874. OREGON: Hood River Glacier, Oct. 22, 1897; Nov. 19, 1897.

JAPANESE TITMOUSE (Parus varius)

Alexander Wetmore states that the Japanese titmouse (*P. varius*) has been established on the island of Kaui in Hawaii. According

to a letter from W. Alanson Bryan, of Honolulu, to T. S. Palmer in February, 1907, it was imported in that year by R. M. Isenberg, a large plantation owner of that island. The shipment consisted of 20 birds.

EUROPEAN STARLING (Sturnus vulgaris)

Since many recent writers have recorded the unfortunate introduction and spread of the European starling, it is necessary here to say very little about it. The interesting point in regard to this aggressive species is that several early transplanting attempts ended in complete failure. This is all the more unaccountable when the subsequent history of the bird in our Eastern States is considered.

In the winter of 1872–73 starlings are supposed to have been turned out in Cincinnati; more followed in subsequent years, but nothing came of it. Kalmbach and Gabrielson in their bulletin on the economic status of the bird (1921) mention also an attempt at Quebec in 1875.

According to the records of the Portland Song Bird Club, 35 pairs were liberated near that city in 1889 and 1892, and, as nearly as can be judged, a small colony resulted from this planting, for there is a note in the records of the club to the effect that the birds "increased remarkably well" after that time. Nothing permanent, however, was accomplished, though a few were there about 1900.

In July, 1877, European starlings, "Japanese finches," and other birds were freed in Central Park, N. Y., but no more was heard of them except that one was killed on Blackwell Island, N. Y., in December, 1880. There are rumors of early introductions at Tuxedo Park, N. Y., mentioned by Forbush in his bulletin on the starling (1915).

According to a letter of Eugene Schieffelin, of New York, to Mr. Pfluger, of Portland, Oreg., in the records of the Portland Song Bird Club, 40 pairs of starlings were liberated in New York City in 1890 and 40 more pairs in 1891. This is a larger planting than has usually been mentioned. Several pairs bred in 1891 and by 1895 the bird was common in the vicinity of New York City and on Long Island, and from then on its spread is known to all interested in American bird life.

Robert O. Morris mentioned another planting of starlings at Springfield, Mass., in 1897, and Forbush one at Bay Ridge, N. Y., and others, but apparently none of these was the basis of a permanent colony. Another planting at Allegheny, Pa., in 1897 was recorded by Kalmbach and Gabrielson.

The subsequent spread of this bird has been well covered by Forbush (1915) and May Thacher Cooke (1925) and need not be treated here. The starling has now (1927) reached Kentucky (Lexington), Ohio, Illinois, Alabama, Florida (Leon County), Michigan, Wisconsin, Kansas, Texas, Louisiana, and several stations in Ontario, Quebec, and Nova Scotia.

Starlings that roost in thick evergreens in fall and winter may be destroyed in enormous numbers by going into their roosts after sundown and shooting at random, but this method is much too expensive and too noisy to be used generally as a control measure. In the winter of 1924–25 an instance of great and sudden mortality was observed in apparently healthy birds in a roost on the property of

the writer at Wenham. At least 300 to 500 birds perished at about the same time without any obvious cause. Various trials in the laboratory failed to reveal any evidence of poison or disease, but a few intestinal parasites were present.

References.—GENERAL: Forbush, E. H., Mass. Bd. Agr. Circ. 45, 1915; Kalmbach, E. R., and Gabrielson, I. N., U. S. Dept. Agr. Bul. 868, 1921; Cooke, M. T., U. S. Dept. Agr. Circ. 336, 1925. ALABAMA: Robinson, J. M., Auburn, letter, 1925. KENTUCKY: Ky. Warbler 1: no. 3, 1925; Worthington, W. A., Anneville, Jackson County, letter, 1925. MASSACHUSETTS: Morris, R. O., The Birds of Springfield and Vicinity, p. 43, 1901. MICHIGAN: Mershon, W. B., Saginaw, letter, 1925. NEW YORK: Forest and Stream 8: 307, 1877; 9: 305, 470, 1878; 10: 379, 1878; 16: 43, 1881: 44: 285, 1895; 46: 413, 1896; Schieffelin, E., N. Y. to C. F. Pfluger, Portland, Oreg., letter. OREGON AND WEST VIRGINIA: Gordon, R. B., Huntington, W. Va., letter, 1925. OREGON: Portland Song Bird Club, manuscript record.

ONTARIO: Canad. Field Nat. 38: 58, 1924; Auk 42: 446, 1925; Watson, C. J., London, letter.

CRESTED MYNAH, OR CHINESE STARLING (Aethiopsar cristatellus)

The undesirable Chinese starling is now thoroughly established in British Columbia, with the city of Vancouver as its main stronghold. It is common in the outskirts of the town and breeds abundantly even in the down-town districts. In the summer it spreads out into rural districts and feeds, like the English sparrow, on grain in horse droppings.

Little appears to be known as to how the bird arrived in Vancouver; the introduction dates from about 1894 and may or may not have been accidental. R. A. Cummins notes in the Canadian Field Naturalist, 1925, that about the time of the founding of this colony large numbers of these birds were being imported into European countries and sold under the trade name of "hill mynahs," bringing about 12 shillings each at Liverpool. It is supposed that birds escaped from some ship touching at this port or that some irate skipper had tired of his noisy passengers and put them ashore at the first port of call.

These starlings are pugnacious and are said to drive away native species, attacking robins and other birds. They have begun to destroy a good deal of fruit, especially cherries, blackberries, and apples. Although their spread since 1897 has not been rapid, they are advancing steadily toward the Washington line at the rate of a mile or two a year and will undoubtedly invade that State in a short time. Correspondents state that if the species continues to increase at its present rate it will soon be by far the commonest land bird along the west coast. There are already many thousands, and not only does it occupy the sort of breeding places in cities that the English sparrow favors, but it takes kindly to any sort of cavity in old fir and hemlock trees outside cities, wherever dead trees are left standing. The advance so far is certainly to the south. The birds seem to suffer from cold weather and will probably be confined to the immediate coast. A few are coming into New York at the present time, but it is not a favorite cage bird. Single birds were observed at Portland, Oreg., February 5 and 6, 1922.

References.—Young, C. J., Distribution map, 1897–1925; Canad. Field Nat. 36: 33, 1922; 39: 187, 1925; Auk 42: 159, 1925; Young, C. J., Vancouver, letter, 1925; Bryant, H. C., Berkeley, letter, 1925; Swarth, H. S., Univ. Calif., Berkeley, Calif., letter, 1925; Gabrielson, I. N., Portland Oreg., letter, 1924; U. S. Dept. Agr., Bur. Biol. Survey, importation records.

COMMON INDIAN MYNAH (Acridotheres tristis)

The common Indian mynah is now a pest in the Hawaiian Islands, where it has been present for many years, certainly before 1879.

OTHER STARLINGS

The orange-cheeked mynah (*Acridotheres ginginianus*) is a fairly common cage bird, coming direct from Calcutta and also from European ports. Another common cage species is the pagoda thrush (*Temenuchus pagodarum*), but so far as known none have ever been et free on a large scale. All these birds will bear watching.

Reference.—U. S. Dept. Agr. Yearbook 1898: 103, 1899.

AMERICAN CROW (Corvus brachyrhynchos brachyrhynchos)

For some untold reason the common crow of the Eastern States was introduced about 1876 into Bermuda, where for a time it became abundant. Later it was nearly exterminated but has continued to exist in small numbers ever since. A specimen in the Museum of Comparative Zoology at Cambridge, Mass., taken in 1912, is identical with the crow of the United States.

Reference.—Auk 32: 229, 1915.

JAVA SPARROW (Munia oryzivora)

The Bureau of Biological Survey allows the importation of these common cage birds with the understanding that they are not to be liberated. As the species has come over in enormous numbers for the past 20 or 30 years, however, it is possible that it has been turned out or escaped in many places. In the six months ended June, 1913, 4,473 came here.

Small numbers of Java sparrows were liberated in Central Park, N. Y., by Joshua Jones in 1878. The species is said to have been introduced in the Hawaiian Islands at least 25 or 30 years ago but apparently did not prosper.

RELATED SPECIES

The tariff on foreign birds has recently cut down the numbers of these and other species, like the strawberry finch (*Sporaeginthus amandava*), the zebra finch of Australia (*Taemopygia castanotis*), and some European birds, as chaffinches (*Fringilla coelebs*) and linnets. Other species of Munia have doubtless been set free in this country, since they comprise one of the largest groups of cage birds. The little rice bird (*Munia nisoria*) has taken hold in the Hawaiian Islands and is now well established there. Two other ploceids (*Sporaeginthus melpodus* and *Spermestes cucullatus*) have been successfully introduced into the West Indies.

References.—GENERAL: U. S. Dept. Agr., Bur. Biol. Survey, importation records. NEW YORK: Forest and Stream 9: 305, 1878. HAWAIIAN ISLANDS: Osprey 4: 1, 1899.

EUROPEAN GOLDFINCH (Carduelis carduelis)

The European goldfinch has proved to be more adaptable than most to the environmental conditions in this country and has responded in several cases sufficiently well to make a temporary success.

It is not known, however, why the bird did not finally succeed, after surviving for so many years in the Eastern States, especially about New York and Boston.

These goldfinches apparently reached this country in 1846 through the efforts of Thomas Woodcock, of Brooklyn, N. Y., and were liberated at that time. The following season these, with linnets, bullfinches, and others, were seen at Greenwood Cemetery and in the suburbs of Brooklyn. Some were set free in some numbers by the Cincinnati society from 1872 to 1874, but nothing came of this. Otto Widmann writes that in 1906 a pair was seen in the courthouse at Liberty, Mo., but these may have been escaped birds. One was shot at La Grange, Mo., in the spring of 1907.

About 1872 to 1874 a considerable number were set free by the Society for the Acclimatization of Foreign Birds at Mount Auburn Cemetery, Cambridge, Mass., and the results of this planting were seen for many years, at least up to about 1900. During the eighties and nineties these goldfinches were breeding commonly and were being continually reported in eastern Massachusetts, at New Haven, Conn., and as far north as Toronto, Ontario, where four were noted in May, 1887.

The species first appeared in Central Park, N. Y., in 1879, having probably crossed the river from Hoboken, N. J., where some had been set free the year previously. In 1886 it was recorded as common in New York. Two nests were taken, and one of these was sent to the Smithsonian Institution, Washington, D. C. according to a note by E. T. Adney in the Auk for 1886. It was probably introduced into Bermuda in 1875 and is now a settled resident there; and it seems also to have been introduced later (1884 and 1893) at St. Georges, where it multiplied rapidly.

The correspondence of the Portland, Oreg., bird club records the fact that 40 pairs of European goldfinches were put out from 1889 to 1892, and there is added a note to the effect that the birds became plentiful. At least 20, and probably 40, more pairs were set free in 1907 and later, but not even a temporary success resulted on the Pacific coast. A small trial by the Natural History Society of Victoria, British Columbia, in 1913, was also a failure.

Goldfinches were planted near San Francisco about 1891. These birds are still being brought over, particularly to cross with canaries, but in nothing like the enormous numbers that were received here before the World War.

References.—GENERAL: Bul. Nuttall Ornithol. Club 5: 120, 1880; Auk 3: 409–410, 1886; 4: 339, 1887; 5: 211, 1888; 8: 314, 1891; 10: 282, 1893; 12: 182, 1895; 18: 116, 1901; 21: 391, 1904; 24: 79, 199, 1907; 25: 324, 1908; Boston Soc. Nat. Hist. Proc. 20: 271, 1879; Ornithol. Monatsschr. Deut. Ver. Schutze Vogelwelt 14: 453, 1889. CALIFORNIA: Forest and Stream 37: 181, 1891. CONNECTICUT: Auk 9: 301, 1892. MASSACHUSETTS: Bul. Nuttall Ornithol. Club 5: 109, 1880; Auk 8: 314, 1891; 12: 182, 1895; 16: 196, 1899; Palmer, T. S., U. S. Dept. Agr. Yearbook 1899: 288, 1900. MISSOURI: Auk 25: 324, 1908. NEW YORK: Auk 3: 410, 1886; Forest and Stream 26: 487, 1886; Palmer, T. S., A Review of Economic Ornithology in the United States, U. S. Dept. Agr. Yearbook 1899: 259–292, 1900. OHIO: Journ. Cincinnati Soc. Nat. Hist. 4: 242, 1881; Jones, L., The Birds of Ohio, p. 223, 1903. OREGON: Portland Song Bird Club, manuscript records.

BRITISH COLUMBIA: Rochester (N. Y.) Post, April 9, 1913. ONTARIO: Auk 5: 211, 1888. BERMUDA: Reid, S. G., U. S. Nat. Mus., Bul. 25, pt. 4, 1884; Auk 13: 238, 1896; 18: 255, 1901; 21: 391, 1904; Osprey 5: 85, 1901.

EUROPEAN BULLFINCH (Pyrrhula pyrrhula)

The European bullfinch has doubtless been liberated in many places and at many different times—certainly at Cincinnati early in the seventies and at Portland, Oreg., in 1889–1892 (at least 20 pairs), as well as in California, in 1891. There is no evidence of any attempt on the part of the birds to establish themselves. Most bullfinches come from Bremen, Germany, and some of the trained singers bring large prices.

References.—Portland Song Bird Club, manuscript records.

ENGLISH SPARROW (Passer domesticus)

The English, or house, sparrow receives such frequent comment that it requires no more than passing notice here. The first of these birds reached this country through the efforts of the Brooklyn Institute, in 1850, and a full account of it has been written by Nicolas Pike. In the spring of 1853 a large number were released at Greenwood Cemetery, where they did well and multiplied.

They were started at Portland, Me., in 1854 and 1858, and a little later at various places, including Boston, New York, Philadelphia, and Quebec; in the latter city they were planted three times before they gained permanent hold. The bird was the subject of the first monograph of the Bureau of Biological Survey, prepared by Walter B. Barrows in 1889, when the species occupied little territory west of the Mississippi River. It has long since occupied almost every available domestic niche from coast to coast, and has traveled northward as far as Lake Athabaska, as Francis Harper discovered a few years ago, to Fort Simpson, Mackenzie, and Moose Factory, Ontario (Williams).

English sparrows are also present in Bermuda, the Bahama Islands, and Cuba. They were early taken to the Hawaiian Islands, at least by 1879, and have penetrated to many remote islands, such as Mauritius, Comoro Island off the southeast coast of Africa, Chatham Island, and New Caledonia. They are also common in South America, Australia, and New Zealand, which latter countries they reached as far back as 1865 or 1866. The bird does well anywhere outside the Tropics but not beyond latitude 50°.

English sparrows probably reached their peak of abundance in eastern United States at least 30 or 40 years ago, and in recent years they have greatly declined in numbers, both in cities and rural districts.

References.—Too numerous to cite.

EUROPEAN TREE SPARROW (Passer montanus)

According to a letter dated February 4, 1888, from C. Daenzer, an editor of the Anzeiger des Westerns, a German-language daily of St. Louis, Mo., 12 pairs of European tree sparrows were set free on April 25, 1870, in Lafayette Park in that city. Mr. Daenzer contributed to the purchase of these and other European birds. On April 24, 1871, the first of these sparrows was reported from a distant part of of the city. They were noted also by James C. Merrill near St. Louis in 1875. This seems to be the origin of the colony of this sparrow that has persisted in a small way in the vicinity of St. Louis ever since, but which was early driven out of the city by the stronger house

sparrow, which occupied most of the available nesting sites. It is difficult to say just what the status of the bird in Missouri is to-day. It was fairly common in Shaw's garden in St. Louis in 1909, and has now spread to neighboring cities of Alton, Grafton, and Belleville, Ill., as well as to Crevecoeur Lake, St. Charles, Mo., and westward as far as Washington, 54 miles from St. Louis.

It has been reported at different times in Fulton County, Ky., having perhaps come by river from St. Louis on steamboats. It was occasionally seen in the southwest corner of that State some 30 years ago, according to L. O. Pindar, of Versailles, Ky.

They are still being imported as cage birds, but not in large numbers.

References.—KENTUCKY: Auk 6: 326, 1889; Pindar, L. O., Versailles, letter, 1925; Wilson Bul. 37: 163, 1925. MISSOURI: Forest and Stream 5: 372, 1876; Bul. Nuttall Ornithol. Club 2: 73, 1877; 5: 121, 191, 1880; Auk 6: 326, 1889; 26: 322, 1909; Widmann, O., Birds of Missouri, p. 172, 1907; Widmann, O., letter, 1925; Cooke, W. W., Report on Bird Migration in the Mississippi Valley in the Years 1884 and 1885, U. S. Dept. Agr., Div. Econ. Ornithol. Bul. 2, 184, 1888.

HOUSE FINCH (Carpodacus mexicanus frontalis)

The familiar California house finch was introduced on several of the islands of the Hawaiian group many years ago. The birds were certainly there in 1870, and it is supposed that the stock came originally from the San Francisco region.

Joseph Grinnell has called attention to an interesting change in coloration among these Hawaiian house finches. In their new surroundings the birds have run to the yellow or orange types, and the red ones that predominate in California are not known there now.

Reference.—Grinnell, J., Univ. Calif. Pubs. Zool. 7: 179, 1911.

CHAFFINCH (Fringilla coelebs)

At least 30 or 40 pairs of chaffinches were liberated in New York City for several seasons prior to 1893. According to a letter of Eugene Schieffelin none were seen in the spring of that year, nor is there any indication they made any progress in the East. There is an old note to the effect that Joshua Jones introduced chaffinches and other birds into Central Park in 1878.

The chaffinch seems not to have been included among the many species turned out at Cincinnati in 1872–1874. The Portland Song Bird Club devoted considerable effort toward establishing this bird; 40 pairs were introduced in 1889; 20 pairs were purchased in November, 1907; and 20 more pairs later, according to the records of that club.

Apparently some birds in the San Francisco region were turned out by private effort late in the nineties in small numbers. One was shot at the Presidio of Monterey by Joseph Clemens in March, 1905, and Palmer saw one and heard it singing at Berkeley, Calif., in May, 1908.

The Bureau of Biological Survey discourages the planting of the chaffinch. It has become nearly a pest in New Zealand.

References.—CALIFORNIA: Condor 8: 58, 1906; 10: 238, 1908. MICHIGAN: Evening Star, Washington, D. C., Apr. 16, 1913. NEW YORK: Forest and Stream 9: 305, 1878. OHIO: Journ. Cincinnati Soc. Nat. Hist. 4: 342, 1881. OREGON: Portland Song Bird Club, manuscript records.
NEW ZEALAND: U. S. Dept. Agr. Yearbook 1909: 257, 1910.

GREEN FINCH, SERIN FINCH, OR GREEN LINNET (Chloris chloris)

The green finch was probably introduced in the Boston region, for one was captured in Weston, Mass., in the winter of 1880. Fifteen pairs were introduced at Portland, Oreg., in 1889–1892. Linnets of some kind have been introduced around Victoria, British Columbia, by the National Historical Society of that city. It is not as common a cage bird here as it was once. It is used by bird fanciers to cross with canaries.

Reference.—Bul. Nuttall Ornithol. Club 5: 119–120, 1880.

BROWN, OR GRAY, LINNET (Linota cannabina)

This is a common cage bird, which, however, is now imported in smaller numbers on account of the duty imposed by the tariff act of 1922. Thirty-five pairs were introduced at Portland, Oreg., in 1889 and 1892.

EUROPEAN SISKIN (Spinus spinus)

The European siskin was imported by the Cincinnati society in 1872–73. A few were released by the Portland, Oreg., club in 1889. 40 pairs being received at that time. There is no notice as to their subsequent fate. They come into this country in rather large numbers, sometimes in lots of 100 or more, but usually in smaller lots, from Hamburg and Bremen. Their numbers are much less since the World War.

References.—OHIO: Forest and Stream 2: 264, 1874. OREGON: Portland Song Bird Club, manuscript records.

MISCELLANEOUS AND DOUBTFUL SPECIES

The following species were also released in the Portland, Oreg., experiments: Grosbeaks (European hawfinch ?), singing quail (Coturnix), yellow-hammers (*Emberiza citrinella*), and crossbills. The Indian yellow-hammer or red-headed bunting (*E. icterica*) is now a common cage bird and may have been released. In the period from 1909 to 1913 nearly 4,000 reached this country.

The Cincinnati society is said to have introduced from 1872 to 1874 European wagtails (*Motacilla* sp. ?), dunnocks (*Prunella modularis*), redwings (*Arcenthornis musicus*), Dutch tits (sp. ?), "Hungarian thrush" (sp. ?), "cherry birds" (sp. ?), and "crossbills" (sp. ?).

In July, 1877, there were freed in Central Park some "Japanese finches," together with the European starlings. It is not known what the former may have been.

It must not be forgotten that the common practice of releasing cage birds still goes on; sometimes this is accidental, but more often not. Southern California may well be looked to for further additions to our bird fauna, both on account of the favorable climate of the region and the large number of residents interested in cage birds. It is quite possible that some of the imported Australian and Oriental nuns and weaver finches may be able to gain a foothold there.

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