



Forest and Bird



PIED FANTAIL AND BLACK FANTAIL

Piwakawaka (*Rhipidura flabellifera*)

Tiwakawaka (*Rhipidura fuliginosa*)

With nest on branch of *Kawakawa* (*Macropiper excelsum*) with green catkins.

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FOREST AND BIRD PROTECTION SOCIETY OF NEW ZEALAND (Inc.)

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APPEAL FOR BEQUESTS.

Is there any cause more worthy of bequests by public-spirited citizens than the objectives of the Forest and Bird Protection Society, which is working wholly and solely for the welfare of New Zealand, present and future? Here is a suggested form of bequest:—

"I give and bequeath the sum of..... to the Forest and Bird Protection Society of New Zealand (Incorporated), and I declare that the receipt of the Treasurer for the time being of the said Society shall be a complete discharge to my executors for the legacy hereby given to such Society."

The work and record of the Society, the personnel of its membership and Executive are a good guarantee that the best possible use will be made of such bequests.

CALL FOR SANCTUARIES.

The Society would also welcome the responsibility of administering suitable sanctuaries for land or sea birds, provided that a small annuity is added for the payment of a caretaker. Such sanctuaries could be named after the donor, and would thus be a perpetuation of his name as a saviour of New Zealand's forest and bird life. It is suggested that such sanctuaries should be administered in a manner to ensure their return to their original and natural conditions as nearly as possible.

Affiliated with the Society for the Preservation of the Fauna of the British Empire (Patron, His Majesty King George VI) and with the International Committee for the Protection of Wild Birds.

What the Scientists Say About Waipoua

NO more important declaration in support of the proclamation of the Waipoua Kauri Forest as a National Park could have been made than that issued by the Pacific Science Congress at Christchurch in February last. The Congress unanimously resolved:

"That the Congress impress on the New Zealand Government the great importance of Waipoua Kauri Forest as a sample of unique plant association of which there is no similar example in existence, and that the Government be urged to preserve absolutely intact and maintain indefinitely a sufficient area surrounded by a suitable zone."

In a desire not to interfere with the internal affairs of New Zealand, particularly as the policy of a Department of State is in question, the Congress very properly refrained from specifying the area required for segregation, and, contenting itself with stressing the "unique plant association of which there is no similar example in existence," urged the setting aside of "a sufficient area surrounded by a suitable zone."

The 50,000 petitioners, supported by thousands of others throughout New Zealand, have no hesitation, however, in requesting that the whole area of 39,000 acres be conserved, and in affirming that they will be satisfied with nothing less.

The petitioners have sought this on the ground that for the preservation of the kauri forested area of 9,000 acres it is essential, in view of the vital importance of close inter-plant relationship, to maintain the whole of the remaining afforested area exactly as it is. That they have been sound in representing this is emphasised in the Science Congress resolution desiring that a "sufficient area" be set aside "surrounded by a suitable zone." But the Congress went even further than that. In an attached footnote it added: "So that it may remain in a primitive undisturbed state, the area must be surrounded by a protective belt or buffer zone of reasonably undisturbed vegetation."

Sufficient backing has thus been given by the Pacific Science Congress—surely a most competent and unbiased body—to the petitioners to press on with their campaign in educating public opinion until they attain their object. They want Waipoua maintained as a natural forest, a forest as Nature created it. They do not want a State "managed" forest in which the trees will be regimented, arranged in rows, numbered and milled as they reach the age for commercial exploitation; they do not want a forest in which the whole of the nursery undergrowth will be cut out, a forest which will be roaded and sub-roaded for getting out the timber—and incidentally letting in all the death-killing winds that blow. Indeed, in such operations they foresee the doom of Waipoua, the expression of Nature in her sublimest mood, the wonder of New Zealand and of the world. With the exceptions of Trounson Park (which is protected by its difficulty of access) and of Waipoua (which is easy to get at) New Zealand, through excessive commercial exploitation and prodigal waste in the past, has already destroyed all the rest of her magnificent kauri forests. Why should not Waipoua, the last remaining great stand of kauri in this country, be kept in its natural state?

In the interests of so-called "regeneration" and "forest practice" the State Forest Service has been removing all the dead trees from Waipoua, while destroying thousands of young growth, the future giants, in the process. This method of "regeneration" is opposed by Waipoua conservationists in recognition of the fact that what comes out of the earth must be returned to the earth if perpetual regeneration is to be provided for. That is a natural law which has been carried on throughout the ages and will continue as long as this world lasts.

As Dr. O. J. Murie, Director of the Wilderness Society of U.S.A., has so well expressed it: "The old trees fall and rot, and new growth takes place from the old log." So-called thinning-out, he said, is never carried out in this type of forest in America;

its future is not endangered by such a policy. "They have," he declared, "been like that for thousands of years, and will remain like it for thousands more."

With that, all those who are not interested in the commercial exploitation of Waipoua will most emphatically agree.

The case thus stated by Dr. Murie is at first opposed and then supported by Dr. H. H. Chapman, Professor Emeritus of forestry at Yale University, and a former president of the American Society of Professional Foresters. In a statement at Christchurch on February 16, he is reported to have said: "The next consideration is that if the kauri is not regenerated the old trees will in time die, and the entire species will be lost. It is evident that the young kauri trees cannot survive in the shade of old trees or undergrowth. Where openings appear the young kauris may be able to survive."

Thus far he supports the contentions of the State Forest Service. Then he goes on immediately to confirm what Dr. Murie has stated:

"I also found what may be called the secondary regeneration of kauris in the old forest. This has started on the tops of prostrate trees where the seedlings have been able to find light and grow above the undergrowth. In most cases the old log was completely rotted away."

So what came from the earth returned to the earth and provided the means by which new life would grow!

Does this spell extinction of Waipoua if left in its natural state? Yet those who have ample opportunities of "regenerating" kauri forests elsewhere do not take advantage of them. Is this because they feel they have insufficient knowledge? If the answer is in the affirmative, as it seems it must be in view of the Commissioner's admission, then what is their justification for interfering with Waipoua.

In the light of the findings by the Pacific Science Congress, in the light of the wholesale destruction already committed by the State Forest Service at Waipoua, the obvious remedy is the proclamation of the whole 39,000 acres as a National Park and placing it under a National Park Board which is interested solely in preservation and not in the commercial exploitation. In truth, because he has different interests to some, a forester in the view of the petitioners, is the last person to give an opinion on the preservation of Waipoua because from his training his instincts are all for management. Waipoua is one of Nature's masterpieces and what the petitioners desire is that Waipoua shall be kept as it is—an **invaluable heritage for the future New Zealanders and a world asset that must be preserved for all time.**

Objects of the Society

To advocate and obtain efficient protection and preservation of our native forests and birds, enlisting the natural sympathy of our young, unity of control of all wild life, and the preservation of sanctuaries, scenic reserves, etc., in the native state.

The Destruction of an Avian Paradise

By MRS. PERRINE MONCRIEFF, J.P.

(Published by permission of the author and of the British Society for the Preservation of the Fauna of the Empire.)

NEW ZEALAND—the remains of a large continent, isolated in remote geologic times from land-masses of the Southern Hemisphere—consists of three main islands, with a number of others of varying size. This region, clothed in dense forest by reason of its long isolation, has no indigenous mammals, except bats, seals, and sea-lions. Here was an avian paradise of 103,284 square miles, where—prior to the advent of Man—it is estimated 97,200 square miles were under forest, which spread in a rich mantle right to the water's edge. This vegetation was as unique as the fauna which inhabited it: because of the varied climate which expressed itself in such types of growth as the Northern Kauri forests, the Podocarp or Rain forests, the dry Rata and beautiful Beech forests.

It is necessary to stress that this forest existed in intimate association with the indigenous fauna; the one inter-acting upon the other so delicately that, without each other, neither could flourish. Although fertilization of many forest plants is done by wind, it is estimated that insects and birds are responsible for 65 per cent. of the work—which extends to every timber tree except kauri (*Agathis australis*) and beeches. A large percentage of forest trees also depend upon birds for the dispersal of their seeds. Birds, also, together with parasitic insects, accomplish the important function of controlling destructive and plant-feeding insects. Thus the floor of the forest was policed by flightless kiwi (*Apteryx*) and woodhens (*Gallirallus*) assisted by smaller birds endowed with extremely sharp vision, such as native robins and tits.

In the trees huia (*Heteralochia acutirostris*), native crows, parrakeets, and kaka-parrots (*Nestor*) tore into rotten bark to control beetles which attack timber. Aloft countless insect-eating birds, such as fearless little fantails (*Rhipidura*), warblers, and wrens, rid the forest of harmful insects. Honey-eaters, such as tuis (*Prothemadura novaeseelandiae*) and bellbirds (*Anthornis melanura*) carried out the work of plant pollination. Seeds and berries were distributed by means of other species, such as the stately fruit-eating pigeon (*Hemiphaga novaeseelandiae*) which, because

of its important work, should never be molested, but is still shot for food contrary to the law. Into this perfect example of the harmony of Nature gate-crashed Man, destroying whole links in the chain-armour defence of the forest. To cite one example: the comparative destruction of an entire class of beetle-controlling birds, such as kaka, huia, and crow, exposed New Zealand timber to the unrestrained attacks of borer and other destructive insects—a fact which is still not sufficiently appreciated.

Towards the end of the fourteenth century Maoris established themselves in New Zealand, bringing with them a small vegetarian rat and a native dog known as kuri. They are believed to have hunted the famous wingless primitive moa. But whether the extermination of these creatures occurred through their agency or from natural causes, by the time Europeans reached this country moas had headed the list of extinct birds. Yet, although the Maoris burnt the forest, made inroads upon native birds for food, and fought each other for the right to hunt them, their destruction was not unduly severe because they obeyed rules framed by their leaders to conserve wild life.

Thus, when explorers and settlers reached New Zealand they found a land full of birds. A pioneer recorded that to enter the forest in those early days was to be deafened by the noise of birds singing. And—lying at anchor in Queen Charlotte Sound in 1770—Sir Joseph Banks wrote the much-quoted lines about the bellbird chorus at dawn: "We lay about a quarter of a mile from shore and in the morning were awakened by the singing of the birds. The number was incredible, they seemed to strain their throats in emulation . . . like small bells most exquisitely tuned . . ."

After the advent of Dutch, British, and French explorers New Zealand, though nominally belonging to the Maori, became a no-man's-land, visited by shipwrecked sailors and escaped convicts until the arrival of the Rev. Samuel Marsden in 1814. It was from these miscreants that the Maori learnt the white man's destructive habits and were encouraged to disobey the wise dictates of the chiefs, until

eventually they became as cruel towards the fauna as the depraved adventurers. The latter's special mission was the destruction of whales and seals, but they introduced dogs, cats, and rats, before which the flightless birds fell easy prey. A great deal of desolation on Kapiti Island can be attributed to wild goats, the progeny of those which were liberated eighty to ninety years ago by whalers. In the early days of New Zealand history fur-seals suffered severely. In 1792 a party from the *Britannia* at Dusky Bay accumulated during their year's stay from four to five thousand skins. In 1824 ten vessels touched the New Zealand coast and islands and took away 70,000 skins. It was feared that in the south-west portion of the coast the seal would become extinct. Today (1943) Mr. Noland writes from South Westland: "Seals are multiplying rapidly because of Government protection and the absence of poachers from oversea countries who were once numerous."

After the sealers came the main body of settlers. Then began the long drawn-out agony of the fauna of New Zealand, for when civilization touched this avian paradise with a devastating hand hundreds of miles of forests were destroyed, and, powerless against fire, gun and axe, the birds died by the hundred thousand.

In 1773 Captain Cook released in Queen Charlotte Sound three pigs—making the Maori to whom he gave them promise not to kill them. The Maori kept his word, and it was not long before the country was overrun with "Captain Cooks," which, unfortunately, although they provided adventurous Europeans and Maoris with food, went wild. Dr. Hochstetter in 1862, stated that, in twenty months, on an area of 250,000 acres three men killed no fewer than 25,000 pigs and pledged themselves to kill 15,000 more. These animals have never been eradicated, and at the least opportunity increase rapidly. Not only did they undermine the forest floor, but it is believed that their depredations exterminated the famous Tuatara lizard (*Sphenodon punctatus*) on the mainland. Today this primitive creature exists on outlying islands, such as Stephen Island; protected by law, but not secure from the assaults of gulls when it emerges from the breeding-holes it shares with certain species of petrel, on the barren slopes of a once wooded isle.

It was not long before the outside world discovered that New Zealand was inhabited by birds unique in the history of ornithology. Out of a total list of 238 species, including those

that have become extinct within European times, and thirty-one naturalised species, *more than half the birds are visitors to New Zealand*. Among these are two cuckoos, some waders, and a number of accidental visitors and one-fifth of the total are petrels which return at certain seasons of the year to breed on outlying islands. The above facts explain why visitors to the Manland see so small a number of species. But the paucity of land-birds is made up by their uniqueness. They include such wonders as the living fossil, the kiwi (*Apteryx*). Also the kakapo (*Strigops habroptilus*), which has ample wings yet cannot fly, is semi-nocturnal, and is suspected of breeding in alternate seasons to coincide with the maximum flowering of certain trees. More remarkable still is the huia, unique in having radically different skull-forms in the two sexes. In addition to these highlights of biology—the result of long isolation—there exist closely allied representative species in the North and South Island. For example, the yellowhead (*Mohoua*) of the South Island and the whitehead of the North Island. Many outlying islands harbour certain sedentary species which have acquired distinctive characters through isolation. Others are breeding-sites for penguin, albatross and petrel. Also shags, so numerous that, to the settlers, it seemed as if each island had a distinctive species, amongst them representatives of both Asiatic and South American types. The world of museums and private collectors decided that all these rare birds were doomed! and deemed it their sacred duty to ensure that specimens of these unique creatures should be secured for the benefit of posterity.

Consequently the first native birds to become extinct were those which tempted the cupidity of collectors. What a field for Reischek and his contemporaries, who filled their museums with dried and stuffed skins of New Zealand's rarest fauna! Unfortunately, the residents of this country, instead of setting aside sanctuaries in which the native birds might exist unmolested, concurred with the collectors' views and even assisted them to secure specimens. Thus, today, New Zealanders must seek their finest treasures overseas, in the museums of Britain, Austria and America.

The story of the kiwi affords an example of what befell the native birds once their value became known. Long before and after Sir Richard Owen's *Memoirs of the Kiwi* were published in 1879, an extensive and lucrative export trade in kiwi skins, from both islands, to Britain and Germany was carried on; until, after many years, the British market became

glutted. Sir Walter Buller described numerous "kiwi-hunts" in one of which forty kiwis were captured, in another three hundred. And Sir Walter Rothschild in his *Extinct and Expiring Birds*, 1850, records having seen several sacks of kiwi skins at Stevens' Natural History Sale Rooms, London. Today the kiwi—ostensibly protected by law—leads a precarious existence, and it is surprising how well it evades its foes. Doubtless the fact that it is nocturnal is in its favour.

Three species of Chatham Island rail were greedily collected, making a considerable reduction in their numbers; and the saddleback (*Creadion Carunculatus*), once plentiful, were killed in large numbers to settle a biological argument. Persecuted by collectors and deprived of its forest home, the saddleback became a rarity on the Mainland, though still found on certain outlying islands. On one of these rats have become established, and constitute a grave menace to the saddleback; unless it can follow the example of the whitehead—which became almost extinct as a dweller in low trees, but staged a come-back by taking to the branches of lofty trees.

Certain species of birds appear to have been on the decline prior to the advent of the European. Such were the thrush and the kakapo—which according to the Maoris fell a victim to wild dogs. Incidentally, the kuri met its fate by 1860 and the vegetarian rat disappeared before the advent of the fierce Norwegian rat.

Other unique species of birds were no sooner discovered than they made their exit. The Stephen Island wren (*Traversia lyalli*), for instance, succumbed to the lighthouse-keeper's cat; which brought in eleven and then no more. Apparently it had killed out the whole of a species unknown to science. The discovery of a large rail resulted in the capture of four specimens of the Takahe (*Notornis hochstetteri*) between the years 1849 and 1898, after which the brief history of the Takahe—whose skin fetched in the vicinity of £250—came to an end. Though it is possible that the world may yet hear of this bird, whose remote haunts have never been thoroughly explored.

Whilst collectors hastened the doom of native birds early settlers proceeded to open up the country. The pressing need was for agricultural land, and a period of rapid clearing of the forest for planting of crops and for pastures ensued. Such clearing was especially thorough in the North Island, until the area of 62,000 square miles, which existed in 1840,

has been reduced to some 17,000 square miles at the present day. After sawmillers came pit-prop, firewood and fence-post merchants, who, in early days, ruined the floor of the forest with bullock-carts, and in modern times arrive in motor-trucks, attended by cats and pig-dogs. The scars thus made in the forest are invaded by bramble, gorse, ragwort and other introduced weeds. In the Urewera country there are some 2,000 acres abandoned to ragwort alone.

Whilst the dictates of civilisation demanded the sacrifice of the New Zealand forest, it is now apparent that, in the light of modern knowledge, many bush areas were unwisely cleared. Yet in 1938 despite all that had been written against cutting down the indigenous forest on high places, sawmillers were operating at an altitude of one to three thousand feet in watersheds and catchment areas which should never have been touched by sawmiller or farmer.

Behind the destruction of the forest lies the disappearance of the native birds of New Zealand. Unable to cope with the change of habitat those which could not adapt themselves to changed conditions became extinct.

In 1892 Lord Onslow, Governor-General of New Zealand, placed a memorandum before Parliament, directing the attention of his ministers to the fact that under changed conditions of existence many of the native species were passing away; that some had already disappeared, whilst others were verging on extinction. Amongst these was the beautiful huia, of which the chiefs, assembled to commemorate the birth of a son to Her Majesty's representative, said: "There yonder in the snowclad Ruahine Range is the home of our favourite bird. We ask you, O Governor, to restrain the pakehas from shooting it, that when your son grows up, he may see the beautiful birds which bear his name." Although the memorandum did much good in that it persuaded Parliament to declare Little Barrier (in the north) and Resolution Island (in the south) bird sanctuaries, unless there exist in some remote corner a few as yet not discovered huia, this bird of curiously restricted habitat, the pride of the Maori race, must swell the list of birds exterminated by Man. Fortunately the rare stitchbird (*Notomystis cincta*), which soon gave up its struggle against civilisation on the Mainland, still exists on Little Barrier Island. [Whence Andreas Reischek, the collector, removed 150 specimens.]

(To be continued)

Along the Track

NAPIER.—I paid a visit recently to the Gannet Sanctuary at Cape Kidnappers. The birds are very quiet, but it does not pay to walk among them, as they have very powerful beaks. There is a ranger on the spot to see that the birds are not molested. The birds have established a new colony, of about five hundred, further inland on a grassy hill near a cliff edge, and here they can easily be watched.

OTOROHANGA.—I live nine miles from Otorohanga in fairly hilly country. My father is a very keen observer of nature and has planted a large part of our garden in native trees and shrubs. These are very large now and I have seen many tuis, bellbirds and other native birds feeding on the nectar in the flowers. A few years ago we were all greatly excited by the appearance of a tui in the garden, but now they have become so numerous we take hardly any notice.

GISBORNE.—We have unfortunately suffered an invasion of magpies lately. An advance agent arrived some five or six weeks back, and a fortnight ago no less than 15 arrived in a body, and have apparently come to stay. Since then the tuis, of which there were always three or four about, with one nesting pair, have completely disappeared. We are sorry for this, especially as several flax bushes near the house are just coming into flower.

NELSON.—A member of the Dunedin Naturalists' Field Club relates the following incident told to her by the driver of a service car on a trip through the beautiful Maitai Valley, where bird life added greatly to the pleasure of the excursion. On one of his trips a quail and her brood stood in the middle of the road directly in front of the car he was driving. As all his efforts to move them proved unavailing, he alighted from the car to investigate the cause, and discovered a stoat nearby. Having frightened the animal away, he let the quail and her brood go on ahead,

but he greatly feared they would eventually fall victims to this dreaded enemy. The terrified quail had preferred destruction by the car to the deadly work of the stoat.

DUNEDIN.—During their excursions in 1948, the Dunedin Naturalists' Field Club recorded a small flock of yellowheads (bush canaries) in bush near the city. For a period of at least 20 years this has been the only time these birds have been noted near Dunedin on Club excursions, but during the heavy fall of snow in 1939, small flocks were seen in two separate suburban gardens.

BROADWOOD.—I enclose a picture of a pigeon's nest with an egg in it, which is a subject not often photographed. I heard of it towards the end of November. The nest was seen by me on November 27th, and the egg hatched out three days later. The young bird was continually fed by both parents for just over three weeks, when it appeared ready to fly. Prior to taking off it destroyed the nest, pulling it to pieces. The incubating period is three weeks, and in a little over three weeks later it is able to fly. The nest was built in a small kahikatea sapling with a bushy head and was well in the centre, making it hard to get light enough to get a good snap. The farm is a sanctuary and the pigeons feed on the plums in the orchard. Pigeons, tuis and other native birds are as plentiful as the food allows, and the owners are very strict as to whom they allow to roam over the farm. The oldest bushmen in the district state that they have never come across a pigeon's nest with an egg in it. (See picture, page 12.)

RAURIMU.—In the bush by our place there is a morepork. Every night just before dark he cries out; if it is going to rain he makes a noise like a wood-hen; when it is going to be fine the noise he makes is just "more-pork." This morepork is a very good weather-prophet. Besides the morepork there are about six long-tailed cuckoos and many other birds that we don't allow to be destroyed.

The Forest and Bird Protection Society of N.Z. (Inc.), invites all those who have respect for our wonderful and unique native birds, all those who realise the great economic and aesthetic value of birds, all those who wish to preserve our unrivalled scenic beauties, to band together with the Society in an earnest endeavour fully to awaken public interest and secure efficient preservation, conservation, and intelligent utilisation of our great heritage.

The subscriptions are—Life members £10:—Endowment members £1, Ordinary members 7/6, Children 2/6, per annum. Endowment members comprise those who desire to contribute in a more helpful manner towards the preservation of our birds and forests. Besides this, we ask for your co-operation in assisting to conserve your own heritage. Is it not worth while? This Magazine is issued quarterly to all subscribers without further charge.

Quarterly Newsletter

Presentation to Mr. Anthony Eden.—At the civic reception tendered to the Rt. Hon. Anthony Eden in Wellington, on 11th February, the Mayor, Mr. Appleton, presented him, on behalf of the Society, with a copy of "Forest-Inhabiting Birds" together with a letter asking him to use his influence in the furtherance of Nature protection throughout the world. This was subsequently gratefully acknowledged in a letter to the President of the Society.

Ordinary Membership Subscription.—With our small office staff it has been impossible to thank individually all those who, having been ordinary members before the subscription was increased to 7/6 for new entrants, have nevertheless voluntarily consented to pay the extra 2/6 per annum. Will they therefore accept this expression of the Society's thanks. As, since the inauguration of the Society in 1923 until last year, the ordinary subscription had remained the same though costs have rocketed, the necessity for the increase can be understood.

Befriending a Blue Penguin.—An outstanding instance of kindness to a native bird has been brought to our notice. Mr. D. Bolland, of Hamilton, finding an injured blue penguin on Ohope Beach, near Whakatane, made a special journey to Rotorua to have it attended to by a veterinary surgeon, after which he took it back to Ohope and nursed it until it was sufficiently on the way to recovery to be released. This was reported to us by Mr. Brian L. Lovelock, of Whakatane. Though neither of these are members of the Society, we feel that such an act should not go unrecognised.

Loder Cup Committee.—Under a new arrangement, this Society has been appointed one of the nominators of a member of the Loder Cup Committee, an honour which is appreciated. Its first nominee to the Committee is Mrs. A. J. Du Pont.

Threatened Extinction of Carunculated Shag (also known as the King Shag or Rough-faced Shag).—We were glad to see that the Minister for Internal Affairs, Hon. Mr. Parry, made a Dominion-wide appeal for the protection of this beautiful and rare bird. It cannot be too strongly stressed that of the fourteen species of shag in New Zealand, only four, black shag, pied shag, white-throated shag and little pied shag, are not protected by law, and of these the three latter do more good than harm; even the first-named is probably not nearly so "black" as he is painted.

Auckland Section had a most successful meeting in February which was addressed by Dr. Shepherd, one of the visiting American scientists. This had to be arranged at such short notice that no hall was available, and the University zoology lecture theatre was kindly lent through the instrumentality of Mr. W. R. McGregor. In spite of the short notice the lecture theatre was filled and some were standing outside the door; it was estimated that over 300 were present. Dr. Shepherd made reference to the need for leaving Waipoua Forest alone.

Christchurch Section held their first meeting of the year on 20th April, but this goes to press before then and we must leave our report on it until the next Newsletter.

Pacific Science Congress.—The Society's main interest in connection with this was the symposium on the Protection of Nature and Conservation during the session at Christchurch. Mr. L. W. McCaskill, the Society's Canterbury representative, acted as our delegate at this session. Dr. Skottsburg, Secretary and Acting-Chairman of the Pacific Science Congress Committee for the Protection of Nature, reported on the proceedings of his committee. Dr. Coolidge presented the United States section of the report and gave delegates some information on the Fontainebleau Conference (mentioned below). He particularly stressed that the International Union for the Protection of Nature will become a useful and influential organisation and urged the adherence of all Governments and substantial nature protection organisations; in the latter connection he particularly mentioned the Forest and Bird Protection Society of New Zealand.

International Protection of Nature.—At the International Conference at Fontainebleau mentioned in the November, 1948, Newsletter, the International Union for the Protection of Nature (IUPN) was formed and took over the activities of the Provisional Union which had been functioning, under the agency of the Swiss League for the Protection of Nature, since its inception at the Brunnen Conference in June/July, 1947. IUPN's headquarters are at the Natural History Museum at Brussels, where are also housed the library and archives of the International Office for the Protection of Nature, which was formed in 1928, practically ceased to function during World War II, but resumed activity at the end of 1946. The indications are that IUPN, although it will have no definite authority, will become an influential "watch-dog" and champion of world nature conservation. It has already commenced its duties in working alongside UNESCO in preparing the agenda for the Conference on the Conservation and Utilization of Resources to be held in the U.S.A. this year, to be followed immediately by an International Technical Conference for the Protection of Nature. Our Society has applied to "adhere" to IUPN, or in other words to join as a member, and we hope the New Zealand Government will follow suit. The Society's thanks are due to Dr. G. F. Herbert Smith, of the Society for the Promotion of Nature Reserves, of London, who acted as our observer at both the Brunnen and Fontainebleau Conferences, and kept us fully informed of the proceedings.

An Enquiry to Maungaturoto.—On 16th February we received an empty envelope with the Maungaturoto postmark dated 14th February. It had a health stamp, 2d. postage 1d. health, and the flap was open; in fact, the gum had not been wetted. If this catches the sender's eye, please communicate with us.

The Memorial at the Top of Burke's Pass

To put on record that
MICHAEL JOSEPH BURKE
A graduate of Dublin University
and the first occupier of
Raincliff Station
Entered this pass, known to the
Maoris as Te Kopi Opihi
in 1855.

O Ye who enter the portals of the Mackenzie to found homes, take the word of a child of the misty gorges, and plant forest trees for your lives: so shall your mountain facings and river flats be preserved to your children's children and for evermore.

1917

This pass is 2,200 feet
above sea level.



The
Whitehead,

Kapiti
Island.

—Photo
Government
Publicity.

Nests of Our Sacred Kingfisher and How to Build Them

By FRANCIS E. WILKIN

KNOWN to the Maori as kotare and far from being the dour bird that he is reported to be, our sacred kingfisher (*Halcyon sanctus*) is a colourful little assassin who works havoc in the ranks of insects and pests to crops. He thereby commends himself to farmers and gardeners. Birdlovers will agree that this is so, and when his bright plumage is added to his other qualifications, it is quite evident that the kingfisher is well worthy of our affection and protection. But if we wish to maintain this useful bird in worthwhile numbers in all localities we must pay more attention to its interesting breeding habits—mere protection is only going half way. The writer feels convinced that the lack of suitable nesting sites accounts for the sparse population of kingfishers in many districts.

Kingfishers become very active about October and November, when their mating calls are heard frequently. About November and in December they get down to the serious business of preparing a nursery for their eggs and young. In districts where there are areas of virgin bush, trees with decayed trunks or boughs are often plentiful, and they make ideal nurseries for breeding kingfishers. With their powerful bills these birds dig tunnels from 2½ to 15 inches long, into the rotted wood, terminating in nest chambers about 7 inches in diameter, and 4 or 5 inches high. A similar nest is sometimes made in the large epiphytic wharawhara (*Astelia Banksii*) or in a clay bank or road cutting, provided that these sites are not too damp or hard, and there are suitable perches within striking distance of them. In many districts most of the suitable indigenous trees have long been destroyed. Plantations and second growth bush make quite unsuitable sites. During the breeding season a number of kingfishers were carefully watched, and although they seemed to be busy, hunting for places to nest in, not one pair found a suitable site—hence the idea of providing artificial sites. At first decayed logs of the brush wattle (*Albizia lophantha*) were placed in tree forks in places frequented by kingfishers. These logs were about 11 inches in diameter and sawn into 3ft. lengths; no holes were provided.

Some of these were gratefully accepted by homeless kingfishers, who were able to rear broods of up to five chicks in them. A problem, however, was to find enough logs of the right texture, so next season I broke up one of the old nests and the careful measurements I made of its dimensions were compared with those of other nests to obtain data for the design of the bird homes described below.

Fig. 1 (see page 11).

For the log nest shown in figure 1, choose a sound seasoned log 26 inches long by 12 inches in diameter, rip it in half lengthwise and hollow it out with a chisel, as shown in the diagram. The faces should be coated thinly with asbestos cement, or painted, before nailing the two halves together, to make the nest snug, draught-tight and weather-tight.

The log should then be placed in the fork of a tree (a large cabbage tree is often very suitable) 10 to 18 feet from the ground; it should be tilted slightly, so that the floor of the tunnel tends upwards to the nest as in nature. The log can also be slung under a convenient bough with wire.

Fig. 2 (see page 11).

The target-nest depicted in figure 2 should have the nest box 12 inches square and 11 inches deep inside. The 2½-inch hole bored in the centre of the front has its centre 5 inches up from the inside bottom of the box and is tapered to take the end of the tunnel. The middle bottom board is 6 inches wide and should protrude 14 inches from the front. The inside of the box should be treated with creosote or wood preservative. A layer 3 inches deep of decayed wood is placed in the box (the brown-rot of the brush wattle is excellent) and pressed tightly with a rammer. To prevent the box bursting apart during this process it should be compressed in some way (say by burying in the earth and ramming tight). This is followed by successive 3-inch layers of slightly moist earth rammed tight right to the edges until the box has been filled up to the 8½-inch mark. A nest cavity

is then carefully hollowed out, from the top of the rammed earth, as is shown in the diagram. The decayed wood makes an excellent absorbent nest bottom; a piece of board serves for an observation lid.

The entrance tunnel is made of cabbage tree (*Cordyline australis*) stem, cut to a 15-inch length and a round hole is made up the middle $2\frac{1}{8}$ inches in diameter, like a pipe; this is the size the birds themselves almost invariably make naturally; of course this tube could be made of something else, such as a cardboard cylinder, but this would have to be painted inside and out to prevent dampness, etc., rotting it. The target front is covered on the outside with sheet metal to prevent rats climbing to the entrance, but 2 inches should be left clear of metal all round the entrance hole, as the kingfisher does not like metal. The front can, if desired, be painted to resemble a target; if this is done, Mr. and Mrs. Kotare are sure to score a bullseye every time they fly into their home.

This bird-house can be set up as described for figure 1 or it can be mounted on a pole.

Various other methods of building kingfishers' nests have been successfully tried out.

This kingfisher residence can be painted to suit any garden colour scheme. I suppose buff-brown, the shade of rotted wood, should be most acceptable to the birds. I have had them accept other colours, notably white, but so far they have not favoured a green house.

The nesting cavities and tunnels of the kingfisher residences described above should be lightly tamped full of soft, dry, well-rotted wood, and the kingfisher will excavate his nest in it. The brown-rot of the brush wattle is very good, but other kinds of wood may be found to be as good or better. *Unless this is done the site will not be accepted*; for it is tunnelling out their own home with their powerful bills that evidently makes Mr. and Mrs. Kotare feel more secure.

I have had several pairs of kingfishers start tunnelling operations on their new homes within two hours of completion. The tunnels may be made shorter than in the descriptions if desired.

Landing boards to the kingfisher houses are not desirable and should not be provided, but a suitable perch is a necessity as an approach to the nest. I found the one illustrated best. The two cross perches shown seem most suited to the kingfisher temperament, for sometimes

Mr. Kotare and his industrious wife seem a bit quarrelsome. This landing pole or perch should be placed from 10 to 18 feet from the front of the tunnel entrance. This completes the nursery, and it is now up to the kingfishers.

As the baby kingfishers get older it will be found that they partly block the entrance tunnel with their droppings, etc. The parent birds are then only able to go part of the way up the tunnel and their babies come down to meet them and are fed through the small opening that is left. When the fledglings are ready to leave the nest, their parents are faced with the task of digging their offspring out. But when at last they do get them out, they seem very proud of the little fellows, usually five in number, who are then able to fly at once.

I think the kingfisher has been much maligned in the past in books and publications in regard to its so-called savage disposition when anyone approaches its nesting tunnel. I have yet to see a breeding pair that is in any way aggressive. One pair was provided with a site in which they reared a brood, only 20 yards from a house, and a collie bitch reared a litter of pups in a kennel close to the base of the tree where their precious clutch was ensconced. The kingfishers took all this for granted and never tried to drive either human beings or animals away.

However, they will not tolerate another pair trying to nest in the vicinity, but will drive them away with great vigour. So nesting sites should be some distance apart. A good position in which to erect an artificial nest is near a stream or mud-flat in a secluded place where trees or shrubs are handy, but these conditions are not absolutely essential. A lot depends on the temperament of individual pairs; they will sometimes nest long distances from a stream, and if befriended, will nest quite close to a house, as cited above.

Kingfishers will sometimes indicate where they would like to nest by flying up to a tree trunk and pecking it.

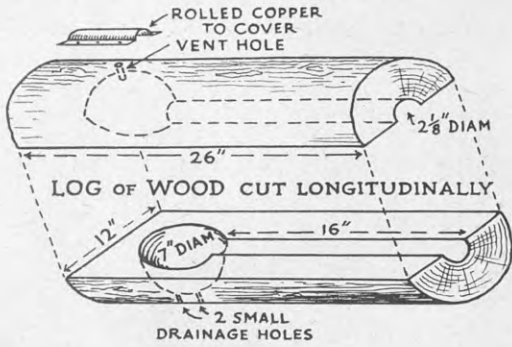


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FIG 1 LOG NEST



SKETCHES — WM. ROYEL.

LANDING PERCH
DOWLING 4' LONG x 1/2" WIDE

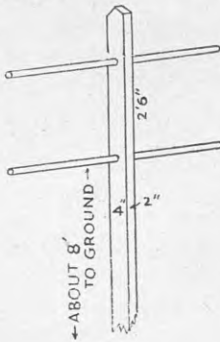
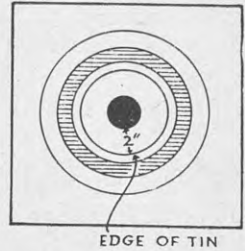
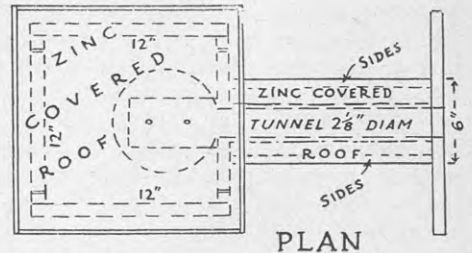
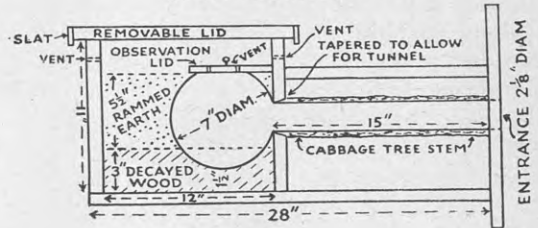


FIG. 2
TARGET
NEST.

FRONT ELEVATION



SIDE ELEVATION



From an American Member

MISS CATHERINE A. HURLBUTT, of Denver, U.S.A., an Endowment member of the Society, after having heard a lecture on New Zealand by Miss Bathie Stuart, writes to us:—

“I had never realised before that New Zealand has so many high, snow-covered mountains, and was surprised to see them rising up from sea level, with fiords of the sea between them, like pictures I have seen of Norway

“This was the first motion picture dealing entirely with New Zealand that has been shown on this museum series, and everyone

went away much impressed with their introduction to your beautiful country. For my own part, I felt very thankful to realise that your organization was formed with the purpose in mind of preserving all that beauty and New Zealand's unique wildlife. It is a tragedy that in the past so many countries and continents possessing the greatest natural wealth and resources have been exploited and their natural treasures permanently damaged or even destroyed as civilization moved into those areas, before the people as a whole got over the idea that their wildlife and natural resources were inexhaustible.”

Stewart Island or Rakiura

"The Land of the Glowing Skies"

By W. M. C. DENHAM

THE Maori name is, I think, the more appropriate. Looking out from Half Moon Bay I have often witnessed the beautiful glow of the eastern sky when morning opened its golden gates. I have also seen the glowing sky in the west when the sun has been sinking behind the hills at the head of Patterson's Inlet. What lovely sunsets! The setting sun would stretch its vivid and golden red lights over the tranquil waters of the Inlet and beautiful reflections could be seen in the water, until gradually deeper and deeper the mountain shadows grew until night spread its quiet wings over dim and solitary loveliness.

I am thankful that sunrises and sunsets are something that man cannot spoil or desecrate. But, what of the birds and the bush? I have tried to visualise Stewart Island before the introduction of deer, opossums, cats, rats and rabbits—so far it has been mercifully spared from goats, weasels and stoats. The dissemination of vermin roaming uncontrolled has effected wounds irremediable. How profound has been this injury! These pests invaded the deep solitude of the forest—into gullies and hollows—the haunts of the saddleback, the

little bush wren, fantail, robin, orange wattled crow, etc. Cats and rats alike attack the birds, and depredations by deer of those stately forests goes on all the time. In season and out of season for three hundred and sixty-five days of the year, incessant war is waged on birds and bush. The public is waking up to the extent of this biological tragedy, and I am now wondering how much will be saved of what is left of our natural inheritance on what must be one of the most beautiful islands in the world.

There are many thousands of people today who find that nature study is becoming more attractive and more interesting and a pleasant diversion from the hard materialistic grind and grab in an uncultured atmosphere of their workaday lives.

But, what is nature? Nature is a gentle mother as well as a stern parent exacting terrible penalties. It was Goethe who said—"Nature was the living visible garment of God."

Let us cry "Halt" to the devastating disfigurement of the natural countenance of this treasure of quiet beauty, Rakiura—Islet of the glowing skies.



PIGEON'S NEST WITH
EGG.

See "Along the Track"
(Broadwood), page 6.

—Photo E. T. Frost.

COVER PICTURE (From a Water-colour by the late Miss L. A. Daff)

Pied Fantail and Black Fantail

Piwakawaka

Rhipidura flabellifera

Tiwakawaka

Rhipidura fuliginosa

With Nest on branch of Kawakawa (*Macropiper excelsum*) with green catkins.

COMMON all over New Zealand, conspicuous in appearance, and fearless of man, there is probably no bird better known than the pied fantail. Similar species of the flycatcher family to which the fantail belongs are found in many parts of the world, some in Australia being closely related to the New Zealand bird. The special prey of these birds is small flying insects such as gnats, midges, and sandflies, and the long tail is primarily useful in enabling them to twist and turn quickly when in pursuit, for they almost invariably feed when on the wing. All the aerobatics of a modern human flyer and many more are second nature to a fantail; not even "looping the loop" is beyond it.

Among the fantails in the South Island, and to a lesser extent in the North Island, a fair

percentage is entirely black. As these black birds often breed separately from the pied birds, and birds of intermediate colours are unknown, black fantails are regarded as belonging to a different species. That they are not entirely separate from the pied, however, is shown by the fact that a pied and a black bird may pair and raise a mixed brood—some black and some pied—but never apparently of mixed colours. This tendency for a black form of a normally black and white species to occur is known as melanism.

No plant food of any kind is included in the diet of fantails, but they devour a wide range of insects in both grub and flying stages. In relation to human welfare, then, these birds may be regarded as beneficial in a material sense as well as being a constant inspiration to cheerfulness.

Native Birds of Kaipara Harbour

By C. DEVONSHIRE

SOME of the smaller birds—fantail, grey warbler and morepork—are very common and would be more so if the large number of wild cats could be reduced. The tui is fairly common in patches of bush of any size. They visit the school very occasionally in search of nectar from the kowhai. Kiwi and weka have not been seen for many years, though about three years ago I heard of a kiwi being killed by a mower while haymaking was in progress.

The pukeko and grey duck are fairly numerous. The hawk can often be seen; I have seen them find blackbirds' nests in the manuka and eat the young, also chasing grey ducklings, which I don't think they often catch.

Sea birds are numerous here. The blue heron can often be seen flying across the harbour. Black and a white-throated shag are to be seen any day. Pied oyster catchers and pied stilts inhabit the shores all the year, while the

godwit is often found in large numbers in the lower reaches of the harbour. Many are shot in spite of the fact that they are protected by law. Red-billed gulls and terns call with their raucous voices all day and sometimes at night.

One day I was chopping puriri wood which was full of termites! Afterwards I noticed the sparrows there, and upon investigating, found that they had eaten every termite exposed by the chopping. Not a single one remained.

In conclusion, I think that by judicious planting of native trees, tuis and other forest birds could be induced to stay, even if most of the remaining bush had been cut. Enough remains, however, for these birds to remain for all time if unmolested by man. I have been told of a yellow flowered rata on the reserve at Puke-Karoro hill. Does any member know definitely about this tree, and if it is any different from those at Otira, Westland?

Miriam Ballard Memorial Essay Competition

PRIZEWINNERS, 1949.

First Prize: NANCY MARION REED, age 13, 48 Kingsview Rd., Mt. Eden, Auckland. Epsom Girls' Grammar School.

Second Prize: LAUREL WILLIAMS, age 14, Lupton House, Lupton Ave., Whangarei. Whangarei Girls' High School.

To both these the Society offers its congratulations and thanks the other competitors whose essays were all of a high standard. The First Prize Essay is printed below.

THE sun shone down with a steady brilliance on a glorious day early in December when I set out to observe the habits and characteristics of the sea-birds which haunt the coastal regions of the mainland and islands off the coast of New Zealand. I scrambled over the sharp rocks rising jaggedly across the sparkling sand.

Reaching the point, I was delighted to see a small island of rock about fifty feet in diameter. The birds, realising a human was approaching, circled their home, squalling loudly, the tern's series of short, sharp cries sounding amongst the screams of the gulls.

I crept slowly toward a young black-backed gull on the mainland which was running wildly to and fro, his black spotted head and downy, sometimes feathered body, streaked with brown, finally coming to a standstill. Another fledgling was huddled in a nook of the rock, its grey fluff and speckled wings nearly indistinguishable in its surroundings.

A channel about fifteen feet wide, with sluggish seaweed moving slowly in its green depths, separated the whitened rocks, covered with terns, on which I was standing, where the noise of birds was terrific, from the land.

The white-fronted tern (*Sterna striata*), or Tara of the Maoris, lives in Tasmania and Eastern Australia as well as New Zealand. The schools of small surface fish are the tern's food and you will see it darting and wheeling as it pursues its prey. The "Sea-swallow" (so named because of

its swallow-like tail) has soft grey plumage above and a white breast with a jet black cap on its head. The bird has rather a small body with a long, white, forked tail. When the mating season comes, the male presents a fish to the female, and this is fascinating to watch.

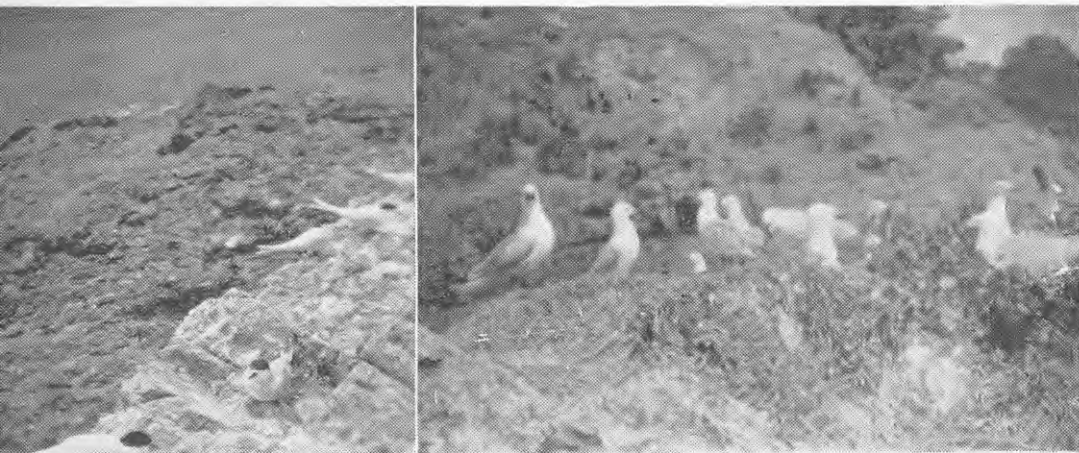
Terns are found in nesting colonies in the beginning of summer on sandy spaces and crevices of rocks off the coast similar to the one I visited. Their young resemble the black-backed gull's, but are very much smaller in size, with white below.

A number of red-billed gulls (*Larus novae-hollandiae*) which are useful, for they are scavengers in harbours and "insect-eaters" inland, were on the island distinct from other species by their black tails with white bars and red bills and feet. The colouring of their bodies are grey and white. These also nest in early summer. Birds of this character have wonderful camouflage and are hardly visible against the grey rock.

The large black-backed gull (*Larus Dominicanus*), with its conspicuous black and white feathers, was still hovering around her little one, with a lot of squawking and flapping of its wings. In November breeding colonies of these species are found on lava rocks at Rangitoto, for when I saw that island the birds were there in great numbers.

Reluctantly I left the islet, and as I drew further away into perspective the birds settled down until only one remained wheeling above, and he, with a last melancholy cry, sank on to the slimy rock.

—NANCY M. REED.



Two Photographs Accompanying Nancy Reed's Essay.

The one above shows red-billed gulls on top of the small island mentioned in her essay with the mainland in the background, and the one on the left shows white-fronted terns and their young; note how cleverly the young are camouflaged; can you spot them?

TONGUES

HAVE you ever thought what a wonderful thing your tongue is? There are all sorts of tongues; the anteater's which it pokes into an ant's nest for the ants to stick to; the chameleon's, as long as itself, which it shoots out to catch flies on its sticky end; the flickering snake's tongue which has some senses in it which we do not understand, and lots of other "specialised" tongues, but none, I think, more wonderful than the brush tongues of our four nectar-eating birds, the tui, bellbird, silvereve and stitchbird. Here you will see a sketch of the tongues of three of these; the "hairs" are not really hairs, but threads of tissue, but they have just the same effect as a paint brush dipped in water, and the tongues have a sort of jack-in-the-box arrangement at the back of them which enables the birds to push them farther out than ordinary birds' tongues, so that they can get them right into the cups of the tree flowers and pick up the nectar in them; and they move from flower to flower very quickly.

While they are getting the nectar they are carrying pollen just like bees, and so they help to pollinate, or fertilise, the flowers so that they will produce seed. In addition to doing this, these birds are both insect eaters and fruit eaters, so that they carry out the triple function of pollinating, keeping down insects, and spreading seed, and so are most useful birds.



Tui.

BRUSH TONGUES.



Bellbird.



Silvereve.

Sketch Dominion Museum.

The Mischievous Kaka By A. McANALLY

IT was many years ago on the edge of the bush in the heart of the King Country that I saw my first kaka. We were very isolated, and our only means of communication was a bush tram that ran up from Mananui, a small town some miles from Taumararui. There were only a few Maori houses, a cook house and the house of the bush contractor. It was at this house that the kaka made himself at home. He would fly in from the bush and hop round the back door. Then he got a little bolder and came inside, peering round the kitchen; but at no time were we able to handle him. He would stay quite a long time and come practically every day. But we soon learned to be on the watch when we heard

his peculiar half scream, as he got very destructive. He would knock any dishes off the table, or off a bench outside, and had a particular aversion to cups—they always went first. Also he would chew up any pens or pencils left lying about and tear a newspaper to bits.

One day he met his match. We had a hut outside and it appears he decided to go in there and look round. Evidently the first object he saw was a plug of tobacco, as some time after we saw him frantically trying to turn on an outside tap. He had torn the tobacco to pieces and was reaping the consequences with a very hot tongue and dry throat. As far as I know, he continued to come until my friends left the district.

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JACKSON, SISTER DOROTHY M.
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JONES, M. A.
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KUHTZ, W. W.
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