

SPREAD OF THE AUSTRALIAN MAGPIE WITHIN THE ROTORUA ACCLIMATIZATION DISTRICT.

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When McCaskill in 1945 published his detailed account of the distribution of the Australian magpies (*Gymnorhina hypoleuca* and *G. tibicen*) in New Zealand, there was only one record of magpies in the Rotorua Acclimatization District, namely from Wairoa ("At least one pair of birds in the township"). In Phillipps and Lindsay's preliminary list of the birds of the Rotorua Acclimatization District (1948) two more records were added, from Whakatane, 1946, and the Taupo district, 1946. Since then the magpie has been recorded from a number of different places within the district.

The spread pattern of New Zealand birds should prove extremely interesting for the understanding of general bird distribution problems especially as there are few places in the world today where such extensive bird introductions have taken place as in New Zealand. Although most of the passerine birds were introduced long ago and today seem to have reached their maximum distribution under present conditions, the magpie has—in spite of being introduced a long time ago—not yet spread very widely. The whole volcanic plateau, almost entirely embraced within the boundaries of the Rotorua Acclimatization District, seems to have been devoid of magpies until very recently.

A documentation of the occurrence of the magpie within the Rotorua Acclimatization District up till the end of 1952 may prove of some value years ahead when further extension of the range of the species may be recorded and spread routes discovered. There seem already to be four or five distinct magpie inroads into the district and it will be interesting in the future to see to what extent the spread pattern here visualized might be followed.

One of the unique characteristics of the present New Zealand avifauna composition is an almost complete lack of predators to control birds like the magpie (the New Zealand falcon seems very rarely, if ever, to be able to catch and kill a magpie). The spread of the magpie, therefore, seems determined more by presence of suitable habitat and food than by environmental pressure (from predators or from allied species).

During my stay in the district for more than a year, I have travelled by car fairly widely within the area; also the staff and field officers of the Rotorua Acclimatization District have been approached regarding occurrence of magpies in the various subdistricts; valuable information has also been received from nine members of the Ornithological Society of New Zealand. Mr. Peter Logan, of the Wildlife Division, supplied the information about the presence of magpies in the Kaimanawa Ranges which he knows thoroughly from repeated explorations during 1948-1952.

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1952 Distribution in the Rotorua Acclimatization District.

All the available information has been plotted on the distribution map, Fig. 1. Since the one occurrence recorded in 1945 (Wairoa), the magpie has spread and seems to be invading the district from four or maybe five quarters.

The routes followed seem to be (a) the Tongariro-Kaimanawa route, (b) the Napier-Taupo road, (c) the Wairoa-Galatea route, (d) the Gisborne-Opotiki route, and (e) possibly a route from the west into the Rotorua area. A further possible route is northwards around East Cape and south-westward along the Bay of Plenty coast.

(a) The Tongariro-Kaimanawa Route.

The first record of magpies in the south-western corner of the district is from the Kaimanawa Mountains where, in 1946, one was seen at an altitude of 4,000ft. (M. Johnson, N.Z. Bird Notes, 2 (1), 1946, p. 16.)

The spread of magpies in the Kaimanawa Ranges has been documented in detail by P. Logan, who first went into the ranges in November 1948 and was last through in May 1952. Although some of these observations were made outside the Rotorua Acclimatization District boundary, they are included here as well as on the map, Fig. 1. The Kaimanawa Ranges are a large system of mountains and it was found of value to have the present distribution of the magpie dealt with for the whole area.

According to Logan, magpies are increasing throughout the ranges though they are mainly confined to the areas surrounding permanent and old established huts. Magpies were not recorded around tent camps of the deer cullers operating in the area. Colonies throughout were small, and six was the highest number ever seen together. From memory, Logan states that they were mainly black-backed magpies.

The individual observations were as follows: Ngamatea Homestead, November 1948, magpies plentiful, extending over grassland; Log Cabin, November 1948, plentiful extending to Tararau and Cameron; Mansen Hut, December 1948, found along the tops; Hogget Top, December 1948, found along bushedge and tops; Golden Hills, January 1949, extend through to Gold Creek; Boyd Hut, November 1949, along bush edges; Kaimanawa Hut, January 1949, along hush edge, creek and tops; Forked Spurs, January 1949, along bush edge and into Mangamaire; Motumatai Hut, December 1949, along bush edge and adjacent basins; Mt. Michael, January 1949,

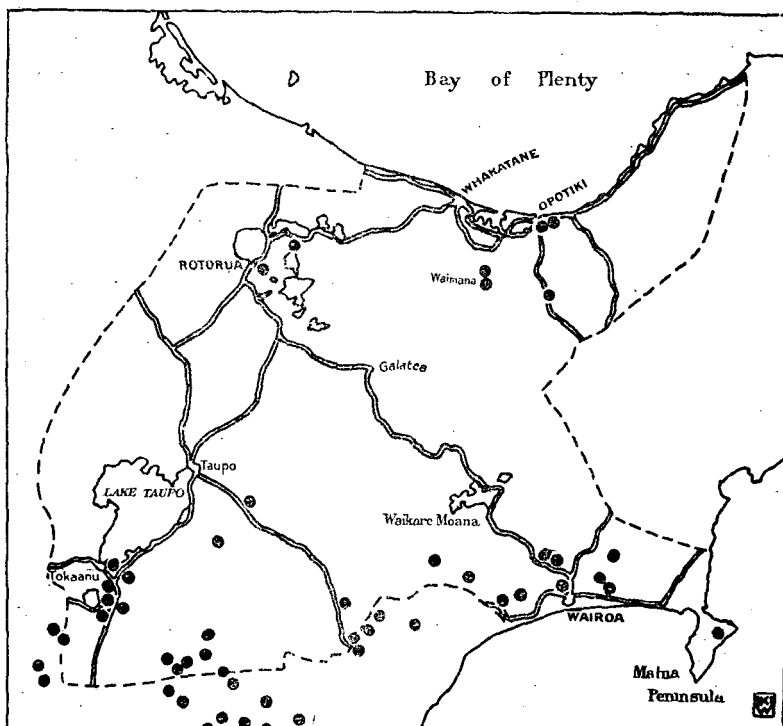


Fig. 1—Distribution in 1952 of the Australian magpie in the Rotorua Acclimatization District.

along west side, at bush edge and tops; Cameron tops, November 1948, along bush edge; Kuripapanga Homestead, November 1948, throughout district; Tiki Tiki Bush, December 1949, from bush edge to river; Lowry Hut, June 1950, magpies found throughout.

During 1948-49 on several occasions magpies were seen at the Poronui bottom homestead right on the bush edge; the homestead is situated in the Taharua Valley, about two-thirds of the way down the Taharua River (P. Logan).

At the Chateau, Tongariro golf links, two magpies were seen 15/10/47 (R. H. D. Stidolph, N.Z. Bird Notes, 3 (4), 1949, p. 106). They were reported numerous near the Chateau 23/3/50 (L. W. McCaskill, Notornis, 4 (3), 1951, p. 59). Mr. Gordon V. Gow, of Walton, reports (in litt., 27/4/52) that in October 1951 he noticed about a dozen magpies at the Chateau. On several occasions during 1952 I have seen groups or single magpies around the Chateau.

Eight magpies were seen at 3,700ft. at Waihohonu Stream, near the base of Ngaurohoc on 2/4/49 (B. Davis, N.Z. Bird Notes, 3 (8), 1950, p. 220).

In March, 1952, several magpies were seen near Salt Hut on Mt. Ruapehu, altitude approximately 5,600ft. (F. L. Newcombe).

In the Turangi-Tokaanu area, a pair of magpies was seen daily during March/May 1952, and magpies have been seen regularly since near the State Hatchery, three miles south of Turangi. On 25 May 1952 two magpies were also seen on the Rangipo Prison Farm, where I also have seen them regularly since. Magpies were also seen on several occasions in the autumn of 1952 at the delta of Tongariro River. Mr. M. J. S. Black, of Rotorua, has informed me (in litt. 28/4/52) that two magpies were seen at Turangi as early as 3/6/51 by Messrs. H. Smith and Frank Jones.

By 1952 magpies were also present on the Hautu Prison Farm on the north-western side of Tongariro River (T. P. Fisher).

The magpies present in this area have come either from south-west (National Park area), from the Kaimanawas, or from the south in the Waiouru-Taihape area where they are very common; (on 19/5/53 I saw 56 magpies in one flock in a pasture about 10 miles north of Taihape).

Further spread of the magpie in this area will be aided by the opening up of new land from Tokaanu towards Taumarunui. The Kaimanawa Mountains and desolate manuka and fern land of the lower Kaingaroa Plains seem to cut off a further spread in a north-easterly direction. Towards the north the only outlet is the lake, the road, and a narrow rim of partially developed pastoral land along the eastern shore of Lake Taupo to Taupo, and later along the western shore when that country has been brought in. The pastoral land between Taupo and Rotorua and the new land being brought in around the Kaingaroa plantations and in several places along the Taupo-Rotorua highway would undoubtedly be suitable habitat for magpies if regular spread was possible or stragglers happened to reach the area.

(b) The Napier-Taupo Road.

Magpies have long been common in many parts of Hawke's Bay and also found on many back-country sheep stations.

On 22/9/52 I saw a black-backed magpie in a paddock near the bridge across the Mohaka River, which is the Acclimatization District boundary. At Te Pohue, a few miles nearer to Napier, two more magpies were seen, and from there on magpies were seen regularly to Napier. Mr. Roy Cavanagh, of Ngongataha, saw a pair of white-backed magpies a quarter of a mile south of Tarawera Hotel on the Napier-Taupo Road in June 1952. Mr. G. G. Potts, of Taupo, has once seen a magpie in this part of the district: a bird flying across the road, near Opepe Bush, Napier-Taupo Road, on 21/7/46.

As the land is used at present in the whole Kaingaroa Plains and Ahimanawa/Urewera Country, these vast areas are not suitable magpie habitat; but magpies will undoubtedly migrate from this direction when new land is broken in. Magpies may also travel over the mountains and the vast bush and scrub areas and invade sheep stations from the south. By 1952 magpies were at the gate to the district from this quarter.

(c) The Wairoa-Galatea Route.

Wairoa was the only part of the Rotorua Acclimatization District from where magpies were reported in McCaskill's report (1945). The report stated: "At least one pair of birds in township. Last year they reared two young."

In November 1947 magpies were reported from the vicinity of a small bush reserve at Moutere, Mahia Peninsula; "but the magpie is generally rare on Mahia" (W. J. Phillipps, 1948).

When on field work in the Wairoa area in September 1952, I saw magpies near Ardkeen; one and later two black-backed magpies were seen on 26/9/52. W. H. Axbey saw a few magpies near Hereheretau in the spring of 1952, and five magpies (2 adults and 3 young ones) about half-way between Wairoa and Nuhaka on 24/9/52.

By 1952 Mr. H. W. Axbey estimates that six pairs of magpies lived in the area round Wairoa. On 27/9/52 three magpies were seen in the Mangapoike Valley, and two old (magpie) nests were seen in pines nearby. On 28/9/52 one magpie was seen in the Waihua Valley, near the last bridge crossing the Waihua Stream. On 29/9/52 five magpies were seen 26 miles from the main Wairoa-Napier Road around Putere Lakes, and another 11 magpies along the Putere Road, seven miles past the lakes. (H. W. Axbey.)

On the road from Napier to Wairoa on 25/9/52, eight magpies were observed, seven (all black-backed) in the Hawke's Bay Acclimatization District, and one (white-backed) 11 miles west of Wairoa in the Rotorua Acclimatization District.

Magpies may spread north-west from the Wairoa area, but the mountains and bush-clad country and the limited amount of land in pasture are not inviting factors for possible magpie spread. When more land is opened up magpies will be able to colonize the area more easily, perhaps on a broader front.

(d) Gisborne-Opotiki.

From their stronghold in the Gisborne district, magpies have moved north-west towards Opotiki and Whakatane.

Three magpies appeared in the neighbourhood of Whakatane in 1946 (Phillipps and Lindsay, 1948, p. 50). The former district field officer, Mr. Ken Frances, who reported these birds, has told me that the magpies were seen near Waimana and were still present in 1952. Mr. J. D. Clark, of Opotiki, also reports on these birds (in litt., 5/5/52): "Four birds at Mr. Sinclair's farm, Bells Road, Nukuhou, Waimana. I understand that these birds have been there for about four years and have not increased."

At Nukuhou North, near Bells Road, and about a mile from Mr. Sinclair's farm, 4-5 magpies have been present on Mr. Eagle's farm for three or four years; one was shot (J. D. Clark, in litt., 7/5/52).

Mr. E. Pratt has told Mr. J. D. Clark (in litt. 1/6/52) that he saw a magpie at "Hamilton's" about 20 miles up the Waiocka Gorge from Opotiki; one more magpie was seen another half mile up the gorge. These birds were seen in 1945 or 1946. Magpies have not been seen in the gorge since then.

A magpie was observed regularly in the Tirohanga Valley, five miles east of Opotiki, on Mr. E. J. Parkinson's farm "for the past three months" (J. D. Clark, in litt., 7/5/52).

Three magpies were seen on Paerata Ridge, four miles from Opotiki, on 4/11/52 by Mr. L. Matthews (J. D. Clark, in litt., 4/11/52).

The few birds in this area have undoubtedly their origin in the Gisborne magpie population. No magpies are present between Opotiki and East Cape (N. Potts, in litt. 1/5/52). Mr. L. Walker, of Waihou Bay (in litt., 28/4/52) confirms that there are no magpies in that area; the nearest place one was seen was five miles north of Ruatoria, late April, 1952, which may be the northernmost point of distribution in the East Cape area.

The mountainous, bush-clad country covering the major part of this north-eastern part of the North Island is generally unsuitable magpie habitat, aside from the drained bottom-lands of the Whakatane area, valleys and other suitable areas being broken in for farming.

(c) Rotorua.

There are only a few records of magpies seen around Rotorua.

As early as 1940 a magpie stayed for some weeks in the garden of the Fishing and Tourist Lodge at Lake Okataina and was eventually killed by a rooster which objected to the magpie eating meat that had been given to the fowls (Mrs. K. O. Beamish-White, in litt., 27/4/52).

Aside from the above record there seems to be only one other occurrence of magpies near Rotorua. In January 1949 a magpie stayed for about two weeks at Lewis Hill, a suburb of Rotorua. The bird was fairly tame and was thought to have escaped from captivity (M. J. S. Black, in litt., 28/4/52); it was also reported by Mr. J. H. Clayton (in litt., 9/5/52).

It is not possible to say whether these birds had escaped, or were stragglers, possibly from the Whakatane area. It is very unlikely that they have come down from the magpie population in the Auckland district or from south or west of Lake Taupo.

If magpies are to colonize the area around Rotorua it looks as if the birds must come either from a northward extension of the bird's distribution from National Park-Taumarunui towards Te Kuiti and a later invasion of the Rotorua area from the west, or from the east from the Whakatane-Opotiki area where magpies have just arrived and may be in the process of colonizing. Immigration from the Auckland area is very unlikely as the birds are unknown in the vast area of fertile land in the South Auckland-Hamilton district. Direct movement of birds from Turangi towards Taupo and from Tarawera or Wairoa are faint possibilities.

DISCUSSION.

The information presented above is believed to be a fairly accurate picture of the distribution of magpies within the Rotorua Acclimatization District by the end of 1952.

The justification for such detailed treatment is thought to be the interest attached to the spread of birds generally and to the magpie particularly. This species is known for its pugnacious habits towards other birds, but is also considered beneficial to farming. McCaskill (1945) gives a detailed review of magpies' attacks on other birds, poultry, sheep and human beings, summarizing his finding thus: "At the same time it receives commendation for its destruction of insect pests, there is much evidence of attack on and injury to human beings. There is grave suspicion that it is a menace to native birds in certain areas." The magpie is no longer on the list of protected birds.

Whatever the position of the magpie is in nature, there is very little we can do to check its possible further spread even if we wanted to.

A detailed study of the ecology of the magpie is much needed—including its food habits, relation to farming and to other birds.

This project has been limited to the Rotorua Acclimatization District, partly because the bird was almost completely absent from this vast area

in 1943, partly because the author has been stationed in this district and knows it fairly well. A similar spread of magpies in other parts of New Zealand is shown by the many new records outside the 1943 distribution limits published in the annual summarized classified bird notes in "Notornis."

One fact which has struck me while travelling through magpie country in North Auckland, Hawke's Bay, Taihape-Wellington, Wairarapa, Canterbury and Otago has been the apparent association of magpies and sheep. Magpies seem to thrive in sheep country, whether it is pleasant green pasture of coastal areas, or vast sheep stations in the rugged back country of Hawke's Bay. To what extent magpies may be dependent upon certain factors generally correlated with sheep farming is not known. The main reasons are undoubtedly that the requirements of magpies are satisfied in most areas suited for sheep farming; it may be that their food is abundant in sheep-grazed pastures, and that their nesting requirements are met in the form of wind-breaks and plantings around farms.

Ornithologists and sportsmen living within the Rotorua District or visiting it, are urged to watch the appearance of magpies in new localities and to report such observations to "Notornis."

In 10 years or so it may be possible to map quite a different distribution of magpies in the area, and as the very limited distribution of magpies in the district by 1952 is known fairly accurately, it may be possible to correlate a further spread of the species with environmental factors and maybe arrive at basic facts in the spread pattern in magpies.

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WEKAS IN GISBORNE DISTRICT.—I have recently (May 1, 1953) returned from the East Coast, 20 miles north of Gisborne and ten miles inland. I found that the weka is there in considerable numbers. Every night during my stay of two weeks, wekas could be heard calling. The area is sheep country—grass hills with isolated patches of native bush. At a friend's place it was not uncommon to see six wekas walking on the lawn just before dusk, and earlier in the season six wekas and seven (three and four) chicks were seen on the lawn. At another homestead about five miles distant about a dozen wekas appeared on the large lawn in front of the house which is surrounded by a plantation of pine and native trees. The owner informed me that he considers that there are about 30 wekas in this plantation and that they are a great nuisance as they take the hen and duck eggs.—Magnus Johnson, Auckland.

LAND BIRDS AT SEA.—Last January (1953), when cruising in my yacht a pipit came aboard. It was very tired, but took some food and drink and recovered. Later it flew off and fell in the sea. When recovered it was dead. The yacht was 30 miles from the nearest land and on the west coast a N.E. gale was blowing. On another occasion when about six miles from Auckland a song thrush flew aboard at dawn. It appeared to be very tired and judging by its plumage was a young bird. It made several landings on the yacht but could not be caught. Later it left the yacht and was forced down into the sea by a black-backed gull, which swallowed it whole.—Magnus Johnson, Auckland.