

An historical review of tree martin (*Petrochelidon nigricans*) records in New Zealand

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Abstract: Tree martins (*Petrochelidon nigricans*) are vagrants to New Zealand from Australia, with the first record in 1851. However, there is some doubt as to whether every tree martin historical record can be assigned to this species, with the now-established welcome swallow (*Hirundo neoxena*) a likely confusion species. Records of tree martins and other hirundines were examined against historical record criteria in order to establish an accurate picture of past tree martin vagrancy. Forty-eight relevant records (1851–1978) were collated and reviewed. It was considered that 16 records were probable or confirmed tree martins, 19 were possible tree martins, and just three were possible welcome swallows. The remaining ten records were classified as unidentifiable, with most of these lacking descriptions. Only four 19th century tree martin records should be verified. None of the many 1892–93 hirundine invasion records could be certainly assigned to any particular species. Considering the tree martin was more frequently recorded, it is perhaps surprising it is the less successful colonist of the two species.

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INTRODUCTION

The most recent *Checklist of the birds of New Zealand* (Checklist Committee 2022) states that tree martins (*Petrochelidon nigricans*) are “Vagrant to New Zealand, both singly and in small flocks, mainly in autumn”. The only dated 19th century record in the *Checklist* (op. cit.) is “May have nested at Oamaru around 1893 (Buller 1895; Oliver 1955)” and the earliest dated 20th century record is Featherston (1946).

However, some of these records may have referred to welcome swallows (*Hirundo neoxena*) (Anonymous 1884; Anonymous 1888; Hill 1897; Edgar 1966; Heather & Robertson 1996). Buller (1872–73, 1883, 1887–88, 1905–06) perpetuated this situation by only considering one hirundine species, the tree martin, as visiting New Zealand, though being well aware of other Australian hirundines such as the “Common Swallow (*Hirundo frontalis*)” = welcome swallow (Buller 1872–73).

The two hirundine species are somewhat similar and fast-flying. Tree martins can be identified by their white rump, whitish underparts and short tail, compared to the welcome swallow’s longer forked

tail and rufous throat and breast (Falla, Sibson & Turbott 1970). Juvenile welcome swallows are whiter underneath and have shorter tails. If seen well they should be easily separable; however, in past times the optics used for birdwatching were inadequate, and most observers did not possess any. (It was not until 1894 that the first effective binoculars – the Zeiss Feldstecher – became available [Moss 2004]). Even more recently, Heather (1956) said about a welcome swallow at Farewell Spit that “The swift irregularity of the bird’s silent bat-like flight made binoculars virtually useless”. Henderson (1964) also stated that “The (hirundine’s) flight was so fast and erratic that although I kept the field glasses handy I never succeeded in viewing it through them”. Accordingly, it could often be difficult to ascertain a hirundine’s true identity just by sight. Specimens were also often collected in the 19th century to establish identity, and a few remain in museum collections.

Welcome swallows did not breed in New Zealand until the late 1950s (Michie 1959), with a few scattered records before then from the 1920s onwards (Checklist Committee 2022). Fairy martin (*Petrochelidon ariel*) is also a confusion species; however, the first New Zealand record was not until December 1978, when its distinctive nests were found in the Wairarapa (Bell 1984).

Ascertaining the hirundine species involved is also important in establishing specific vagrancy and potential colonisation patterns. The several hirundine species that may stray to New Zealand from Australia have different migratory and breeding behaviours (Higgins *et al.* 2006), and confirming which species have occurred, their frequency, and subsequent establishment (or not) can be important in biogeographical studies (Falla 1953; Fleming 1962; Trewick & Gibb 2010).

“Hicks Bay, Mahia, Cape Campbell, Collingwood, Wakapuaka, Blenheim, Mokihinui, Christchurch, Oamaru; Featherston May–Sept. 1946 (sight-record)” (Checklist Committee 1953). These localities are familiar to anyone who has read the tree martin account in Oliver (1930, 1955) or in any of the five *Checklists of the Birds of New Zealand* dating back to 1953 (Checklist Committee 1953, 1970, 1990, 2010, 2022). This introductory list of localities has been unchanged for nearly a century, but remains somewhat uninformative, as it mostly lacks dates or original references. The list was taken from Oliver (1930), with the Featherston record being added by Checklist Committee (1953). Buller (1872–73, 1887–88) was Oliver’s (1930) only cited source. Rarity records should be dated at least to year to be verifiable (Harrop 2011), and so Oliver’s (1930) records in particular were researched in order to provide missing dates and references.

In this paper, historical records of tree martins and other hirundines in New Zealand were

examined against historical record criteria (Harrop 2011), in order to ascertain an accurate picture of past tree martin vagrancy.

METHODS

Records of tree martins and other hirundines were searched for in relevant publications, e.g. *Transactions and Proceedings of the New Zealand Institute*; Buller (1872–73, 1887–88, 1905–06); *Checklists of the birds of New Zealand* (op. cit.), the journals *Emu*, *New Zealand Bird Notes* and *Notornis*, and online Papers Past (2023). New Zealand, British and American museums with bird collections were also researched or contacted (see Acknowledgements). Birds New Zealand members were contacted via BirdingNZ.net for information. All unassessed (by the Birds New Zealand Rare Birds Committee [RBC] and Records Appraisal Committee [RAC]) tree martin records prior to 1979 were examined to see if they were verifiable according to historical record criteria (Harrop 2011).

Historical records should have as a minimum the species, date, location, and observer, with evidence of a specimen (including lost specimens that had been examined), photograph, or adequate description (Harrop 2011). Many historical tree martin records have not been verified, but have entered the literature through their incorporation into written works by various authorities (e.g. Buller 1905–06; Oliver 1930, 1955; Checklist Committee 1953). Some records have also never entered the ornithological literature for various reasons.

Each historical record is classified as either “unidentified hirundines”, “possible welcome swallows / tree martins”, “probable tree martins”, or “confirmed tree martins”. “Unidentified hirundines” do not have enough information to make an informed judgement; “possible” are those records which reference a species, but contain no further information (tree swallow, Australian martin and “marten” are considered to indicate tree martin; Australian swallow indicates welcome swallow in Australia [Higgins *et al.* 2006], but it also meant tree martin in New Zealand (e.g. Cook *in* Buller 1883; J.H.S. 1930). Dall [Buller 1895] also used “Australian Swallows or Martins” not as an either/or term, but as a tree martin signifier); “probable” have indicative descriptions or are late 20th century records with observers who would be familiar with the now-established welcome swallow; and “confirmed” have good descriptions (with the white rump the definitive feature) and/or specimens.

RESULTS

Forty-eight relevant historical records were collated for the period 1851–1978 (Table 1). Table 2 lists the probable and confirmed records of tree martin after assessment.

Table 1. Distribution by decade of historic hirundine records (n = 47; excludes one undated record from Cape Campbell).

1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970
2	1	6	2	14	2	3	4	0	2	0	3	8

Table 2. Probable (P) or Confirmed (C) records of tree martins in New Zealand, 1851–1978.

Location	Date	Probable or Confirmed	Reference
Wakapuaka, Nelson	Summer 1851	P	Buller (1868)
Taupata, Nelson	14 March 1856	C	Buller (1868)
Opaoa River, Blenheim	9 June & July 1878	C	Buller (1878a)
Grovetown, Blenheim	April 1879	C	Buller (1883)
Morton Mains, Southland	October 1914	C	Anonymous (1914)
Featherston, Wairarapa	May, 9–10 Sept. 1946	C	Barton (1947)
Spring Creek, Blenheim	29 March 1947	C	Phillips (sic) (1947)
Otatara, Invercargill	Nov 1963 – Mar 1964	C	Henderson (1964)
Waitaki RM, Canterbury/Otago	June – July 1972	P	Edgar (1973)
Lake Waituna, Southland	January 1973	C	Edgar (1973)
Hicks Bay, Gisborne	25 Apr – 13 Jul 1974	C	Henley (1974)
Waipori, Lake Waiholo, Otago	1975	P	Edgar (1975)
Rangitukia, Gisborne	9 April 1975	C	Edgar (1977)
Wainono Lagoon, Canterbury	June 1976	P	Edgar (1976); Pierce (1980)
Matata, Bay of Plenty	25 April 1977	C	Heather (1977); Edgar (1977, 1978)
Farewell Spit, Nelson	3 October 1978	P	Dennison & Robertson (1979)

Museum specimens

Of the New Zealand museums contacted, only the National Museum of New Zealand Te Papa Tongarewa, Wellington (Te Papa), possessed a New Zealand tree martin specimen (Te Papa OR. 014040). Museums without tree martin specimens included Kiwi North Museum, Whangarei (N. Brookland, *pers. comm.*), Auckland War Memorial Museum (AWMM. 2023), Nelson Provincial Museum (M. Davies, *pers. comm.*), Canterbury Museum, Christchurch (P. Scofield, *pers. comm.*) and Hokitika Museum, Westland (V. Bradley, *pers. comm.*).

The Southland Museum (SM), Invercargill, had one older welcome swallow specimen (SM 0000.5107; no provenance [np]) and a supposed tree martin egg (SM 85.393), labelled “South I.” (K. Brett, *pers. comm.*). Otago Museum (OM) had one older welcome swallow specimen (OM AV1915; np) (E. Burns, *pers. comm.*). Whanganui Regional Museum (WRM) had two welcome swallow specimens: WRM TO. 121 (np) originally identified as a tree

martin, and WRM TO. 122 (np) originally identified as a “Black North Island Robin” (T. Nugent-Lyne, *pers. comm.*). These were re-identified in the 1990s. Puke Ariki, New Plymouth (PANP), had one welcome swallow specimen (PANP A64.946 (np)) (M. Wells, *pers. comm.*).

A tree martin specimen (np) was in the New Zealand bird collection of Mr S. William Silver at the Manor House, Letcomb Regis, England, obtained prior to 1885 (Buller 1888). This was part of the collection of 252 birds sold by Buller to Silver in 1885 (Galbreath 1989; Bartle & Tennyson 2009). The Oxford University Museum of Natural History (OUMNH) acquired this specimen (OUMNH 09932) in 1906 (OUMNH 2023).

The Carnegie Museum of Natural History (CMNH) has a study skin from Buller’s “third” collection (CMNH P24640), the specimens of which were collected between 1891–98 (Bartle & Tennyson 2009); it is a female with location given as New Zealand, but with no other data (Rogers

2022). Buller (1872–73, 1887–88, 1905–06) made no reference to any other tree martins being in his collection, besides the Grovetown (April 1879) specimen (Buller 1883) (now in the American Museum of Natural History (AMNH) (AMNH Skin 560834). However, he was constantly adding to his collection (Bartle & Tennyson 2009), and so would have included these on an *ad hoc* basis. It may have been collected during the 1892–93 hirundine invasion. Bartle & Tennyson (2009) stated that “1. Walter Buller did not label his specimens except for sale. He removed all collectors’ labels. 2. None of the three Buller collections studied was adequately labelled. Specimens in the 1871 ‘First Collection’ carried only numbered tags.”

Probable or Confirmed (P/C) tree martin records
(Table 1) (*Localities in Oliver [1930]).

(P) Wakapuaka*, Nelson; summer 1851: The first report of tree martins in New Zealand is that of F. Jollie, who “observed a flight of Swallows at Wakapuaka, in the vicinity of Nelson, and succeeded in shooting one” in the summer of 1851 (Buller 1868). Jollie’s description led Buller to believe it was this species. The specimen’s fate is unknown. As Buller apparently did not view the specimen it is classified as probable.

(C) Taupata, Nelson; 14 March 1856: A specimen shot by Mr Lea on 14 March 1856 at Taupata was identified by Buller (1868) as a tree martin. The specimen was placed in the OM, Dunedin (Buller 1872–73). The *Catalogue* (New Zealand Exhibition 1865) listed this bird as *Hirundo* (?) Swallow, shot by A.A.W. Lee (sic), so Buller appears to have examined it after this date. Hutton (1871) re-examined this bird and described it well in his *Catalogue of New Zealand birds*. The record can be considered confirmed on the basis of Buller’s and Hutton’s verification.

(C) Opaao River, “Blenheim”* (i), Marlborough; 9 June and July 1878: Oliver (1930) apparently subsumed Buller’s (1878a; 1878b; 1883) Opaao River and Grovetown records into his “Blenheim” locality. J.R.W. Cook wrote to Buller (1878a) describing a martin (“more like the English House-Martin [(*Delichon urbicum*)] than the common Australian Martin”, indicating that the bird had a prominent white rump) that he saw at the Opaao River (sic), two miles from Blenheim on 9 June 1878. Cook (Buller 1878b) saw it again a month later.

(C) Grovetown, “Blenheim”* (i), Marlborough; April (1879): Some confusion attends the year of this

record as Buller (1883) firstly said he received this specimen “which I now exhibit (October 1883)” in “April last”, which would be 1883. Later, in Buller (1887–88) he then stated he received the specimen in “April of the following year” (after Cook’s 1878 sightings), which would be 1879. Buller (1887–88) also quoted directly from Cook’s accompanying letter with the specimen, in which Cook states “Since writing to you last winter (=1878)”, which suggests 1879. The year is further confused by Cook’s statement in a letter (11th June) noting a paragraph in the *Kaikoura Star* concerning “Swallows” appearing at the same time as the Grovetown birds. The *Kaikoura Star* was not published until November 1880; 1879 is presumed to be the correct year in this paper until further information comes to light.

An adult female tree martin (of six or seven birds) was shot by Mr Cheeseman in April 1879, given to J.R.W. Cook and then to Buller (Buller 1883). It was subsequently sold to Rothschild (Bartle & Tennyson 2009) and is now in the AMNH (AMNH Skin 560834; P. Scofield, *pers. comm.*; Trombone 2013). The specimen has its collector (J.W. Cook) and locality (Blenheim, South I., New Zealand) written on the Rothschild label and given in the catalogue, and so it is most likely to be this record. The identification was confirmed by P. Sweet, Collection Manager, Department of Ornithology, AMNH (*pers. comm.*). The sternum was placed in Prof. Newton’s collection at Cambridge University (Buller 1883). Bartle & Tennyson (2009) contradicted the identification and said that this bird was a welcome swallow, “the third New Zealand record”, but without accompanying clarification.

(C) Morton Mains, east of Invercargill, Southland; October 1914: A tree martin collected in October 1914 was placed in the Invercargill Museum (SM), after identification by the Curator Robert Gibb (Anonymous 1914). The specimen has since disappeared (K. Brett, *pers. comm.*).

(C) Featherston, Wairarapa; May & 9–10 September 1946: A tree martin was seen by Barton (1947) at Wharetoto, Featherston on 9–10 September. It had been present since May. Barton described the black upperparts, black tail tip, forehead patch and short tail.

(C) Spring Creek, Grovetown, Blenheim, Marlborough; 29 March 1947: one of six tree martins in March 1947 (Phillips [sic.] 1947) was collected by S. G. Connolly and is now in Te Papa (Te Papa OR.014040). Connolly also stated that he had seen this species “on at least four different occasions in the last ten years”. This record has not entered the New Zealand literature, probably because the note

was published in the Australian journal *Emu*.

(C) Otatarā, Invercargill, Southland; November 1963 – March 1964: A supposed welcome swallow was described by Henderson (1964). Edgar (1966) thought that this bird was a tree martin instead, as it had a pale rump and brownish-black upperparts.

(P) Waitaki River mouth, Canterbury / Otago; June – July 1972: Reports of five tree martins in mid-June and two in mid-July at Waitaki River mouth by R. Wallis (Edgar 1973).

(C) Lake Waituna, Southland; January 1973: A hirundine with white rump and no long outer tail feathers at L. Waituna was seen by Dr L. Franklin per M.L. Barlow (Edgar 1973).

(C) Karakatuwhero River mouth, Hicks Bay, Gisborne; 25 April – 13 July 1974: Thirty-five tree martins were in a loose flock here in autumn and winter 1974 (Henley 1974). These birds were well-described, with “the distinguishing features of greyish-white rump....and chestnut-brown forehead” noted (Henley 1974).

(P) Waipori, Lake Waiholā, Otago; 1975: Tree martins were reported at Waipori sometime during 1975 by M.L. Falconer (Edgar 1975).

(C) Rangitukia, Gisborne; 9 April 1975: Twenty tree martins with welcome swallows seen by J.C. Henley (Edgar 1977), who had previously seen them at Hick’s Bay (Henley 1974).

(P) Wainono Lagoon, Canterbury; June 1976: One tree martin reported by R.J. Pierce (Edgar 1976; Pierce 1980).

(C) Matata, Tarawera estuary, Bay of Plenty; 25 April 1977: A tree martin with c. 40 welcome swallows on 25 April, seen by P.C. Latham [PCL] (Edgar 1977; Heather 1977). The white rump was obvious, along with other plumage and behavioural differences (Heather 1977). Edgar (1978) also referred to a tree martin being seen by PCL in January at the same locality with 40 welcome swallows, which appears to be in error.

(P) Farewell Spit, Nelson; October 1978: A tree martin at the base of the Spit (Dennison & Robertson 1979).

Possible tree martin records (*Localities in Oliver [1930]).

River Avon, Christchurch*, Canterbury; 1861: Mr J.D. Enys saw “Tree Swallow”, “skimming over the Avon in Christchurch” in 1861 (Buller 1883; Potts 1884-85).

Maketu, Bay of Plenty; September 1876: A correspondent wrote that the “Australian swallow ... is now to be found in our midst.... the only conclusion.... is that they have been blown here in some of the strong westerly gales from Australia” (Anonymous 1876).

Auckland; <1878: a pair of “tree swallows” were shot at Auckland “some time ago” (pre-1878) (Anonymous 1878).

Opaoa River, “Blenheim”* (ii), Marlborough; 16 February 1879: Cook (Buller 1883) described a martin with a dingy white rump (but he also mentioned chestnut on the breast, which calls into question the species).

Moeraki, Otago; March & April 1881: Bills (Anonymous 1881a) and M’Kenzie (Anonymous 1881b) saw five or six “Australian swallows” at Moeraki Point in March (Anonymous 1882) and April 1881. A later correspondent called these “welcome swallows”, but without explanation (Anonymous 1884). Buller (1883) referred to these as tree martins.

“Collingwood”* = New Zealand; 1892–93 (apparently referred to as Collingwood by Oliver [1930] because Buller’s [1895] correspondent J. Dall (a well-known plant and animal collector [Godley 1985] lived there): Dall stated that large numbers of “Australian Swallows or Martins” visited New Zealand during spring, summer and autumn 1892–93 (Buller 1895, 1905–06). Buller (1905–06) did not doubt that these were all tree martins.

Farewell Spit, Nelson; spring 1892: Flocks of two or three dozen “Australian Swallows or Martins” (implied) were at Cape Farewell (sic) in spring 1892 (Buller 1895, 1905–06).

Oamaru*, Otago; 1893: a pair of “Australian Swallows or Martins” (implied) bred at a mill near Oamaru in 1893 (Buller 1895, 1905–06). (The original source (*Canterbury Times*) was not seen).

New Brighton, Christchurch; March–May 1893: A flock of a dozen swallows or “Martens” were seen by Messrs Warner, Curtis and Murphy (Anonymous 1893c, Anonymous 1893d).

Bay of Plenty; May 1893: Three “Martens” were seen “in this neighbourhood” (Anonymous 1893e). Collingwood, Nelson; June 1893: A number of “Australian martins” were seen about the township, but quickly moved on (Anonymous 1893f).

Westport, Westland; 1894-96: "It (tree swallow) has also been seen at Westport, in small numbers, for several years in succession" (Townsend *in* Buller 1905-06).

Mokihinui*, Buller District, Westland; 1896: Two "Australian Tree-Swallows" were seen at Mokihinui in c. 1896, by W. Townsend (Buller 1905-06).

Matakawa, "Hicks Bay* (i)", Gisborne; June 1897: Mr Henderson saw martins around his homestead in the first week of June, after seeing (welcome) swallows in April 1897, apparently able to differentiate between the two hirundine species (Hill 1897). Oliver (1930) did not separate the April and June sightings, apparently of two different hirundine species.

Cape Foulwind, Westland; 1908: Drummond (1908) in reply to a correspondent said that "you are probably right in assuming that the bird seen near Cape Foulwind was an Australian Swallow. A fairly large number of these birds have wandered from the Commonwealth to this dominion", which implied Drummond was referring to tree martins.

Kennington, Invercargill, Southland; c. June 1911: An "Australian Swallow" was reported at Kennington in c. June 1911 (Anonymous 1911).

Awanui, Northland; 23 - 28 July 1914: An "Australian Swallow" was seen by J. H. Smith at Awanui, skimming the water (Drummond 1914).

Manakauaia, Westland; December 1963 - January 1964: A tree martin reported by P. Grant (1964).

Raoul Island, Kermadec Islands; 14 September 1966: Unconfirmed records of a tree martin seen on 14 September, and another in an exhausted state captured about this time by T. Blake (Merton 1970).

Possible welcome swallow records (*Localities in Oliver [1930]).

Matakawa, "Hicks Bay* (ii)," Gisborne; April 1897: Mr Henderson saw swallows with russet-brown on the back (presumably the breast) around his homestead in April (Hill 1897).

Kaitaia, Northland; 1920's: Michie (1959) had a welcome swallow under observation for more than a week. The locality was not stated, but Herekino was "about fifteen miles from here", which implied it was around Kaitaia.

Herekino, Northland; 1920's: One was shot about the same time as the above record, and the wings displayed in the local "Northlander" newspaper office window (Michie 1959).

Unidentifiable hirundine records (*Localities in Oliver [1930]).

Nelson; <1875: "Swallows" were seen several times in Nelson before 1875 according to Sir David Munro (Anonymous 1874; Buller 1883).

Kaikoura, Canterbury; April 1879: Two "Swallows" were seen at Kaikoura, about the same time as the Grovetown birds (Cook citing the *Kaikoura Star* in Buller [1883]).

Timaru, Canterbury; 1888: W.W. Smith recorded hirundines in the neighbourhood of Timaru in 1888 (Thomson 1922). Thomson confused the tree martin with the welcome swallow (his account listed Buller's early tree martin records under "Australian Swallow (*Hirundo neoxena*)", and so it is uncertain which species was being referred to.

Canterbury; 1893: A flock of swallows appeared in Canterbury, and some were shot (Anonymous 1893a).

Waipaua, Nelson; c. April 1893: Swallows were seen here (Anonymous 1893b).

Mahia Peninsula*, Gisborne; August 1893: H. Guthrie-Smith saw "some birds like Martins or Swallows" in August 1893, which had been present for some weeks (Buller 1895, 1905-06). The tails were not forked, as far as he could tell.

New Brighton, Christchurch; 1901: Numbers of hirundines appeared around New Brighton, Christchurch (Thomson 1922).

Whangarei, Northland; undated <1922: Unconfirmed hirundines were reported to Thomson (1922).

Auckland; undated <1922: Unconfirmed hirundines were reported to Thomson (1922).

Cape Campbell*, Marlborough; undated <1930: Listed in Oliver (1930, 1955), but no further information has been found. Lighthouse Keeper A. Hansen was active here in the late 19th century, and his annual bird returns (Hansen 1891) have been examined; but tree martin was not listed. This record may be in error, as Oliver (1930) refers to Cape Farewell in an introductory paragraph, but then does not list it in his localities.

Accepted and recent unsubmitted records

There are also 22 recent (1960-2022) RBC/RAC accepted records of tree martin (Table 3). Records were from both main islands, but with a strong

Table 3. Rare Birds Committee (RBC) and Records Appraisal Committee (RAC) accepted records of tree martins in New Zealand (1960–2022).

Location	Date	Reference
Farewell Spit, Nelson	January 1960	Wright (1960)
The Snares	February 1969	Warham & Keely (1969)
Punakaiki RM, Westland	June 1977	Miskelly <i>et al.</i> (2021)
Miranda, South Auckland	February 1979	Checklist Committee (1990)
Vernon Lagoons, Marlborough	April 1980	Checklist Committee (1990)
Nelson Haven, Nelson	November 1981	Birds New Zealand (2023)
Lake Holm Farm, Otago	December 1981 – March 1984	Nevill (1984)
The Snares	August – October 1982	Miskelly <i>et al.</i> (2001)
Nelson Haven, Nelson*	November 1982	Fennell (1983)
Eglinton Valley, Fiordland	October 1983	Morrison & Morrison (1985)
The Snares	February 1984	Miskelly <i>et al.</i> (2001)
Farewell Spit, Nelson	January 1988	Checklist Committee (1990)
Chatham Island	November 1988	Miskelly <i>et al.</i> (2006)
Pukete, Hamilton	February 1992	Medway (2000)
Torrent Bay, Nelson	December 1999	Scofield (2008)
Lake Ohakuri, Waikato	November 2004	Scofield (2008)
The Snares	December 2014	Miskelly <i>et al.</i> (2017)
The Snares	March 2015	Miskelly <i>et al.</i> (2017)
Bromley, Canterbury	February 2017	Miskelly <i>et al.</i> (2019)
Farewell Spit, Nelson	December 2019	Miskelly <i>et al.</i> (2021)
Lake Ellesmere / Te Waihora, Canterbury	February 2020	Miskelly <i>et al.</i> (2021)
Wainono Lagoon, Canterbury	October 2020	Miskelly <i>et al.</i> (2021)

*The November 1983 record from Nelson Haven (Checklist Committee 1990; 2010; 2022) is erroneous (C. Miskelly *pers. comm.*).

Table 4. Unsubmitted records for tree martin in New Zealand, post-1979.

Location	Date	Reference
Waipori, Otago	13 March 1984	OSNZ OtagoDATA (2023)
Lake Holm Farm, Otago	March 1986	Gaze (1987)
Lake Holm Farm, Otago	20 April – 14 May 1986	Nevill (2023)
Farewell Spit, Nelson	December 1990 – January 1991	O'Donnell & West (1994)
Farewell Spit, Nelson	December 1991 – January 1992	O'Donnell & West (1994)
Lake Holm Farm, Otago	12–13 December 1996	O'Donnell & West (2001)
Lake Holm Farm, Otago	17 January 1997	O'Donnell & West (2001)
Lake Waikare, Waikato	22 December 2006	Linderström (2007)
Little Barrier Island	February 2013	Berg (2013)
Wairau Lagoons, Blenheim	9 April 2017	Leask & Leask (2017)

South Island bias. There were no records of tree martin from Stewart Island or north of Miranda, South Auckland. The Chatham Islands and Snares had one and three records respectively. Ten unsubmitted records since 1979 are also listed for completeness (Table 4).

Historical record assessments

This review of historical records indicated that 32 (66%) of the 48 records could not be confidently assigned to any hirundine species, as they lacked specimens or adequate descriptions.

Several specimens were obtained, but currently only the whereabouts of the Grovetown, Blenheim (1879) (AMNH) and Spring Creek, Blenheim (1947) (Te Papa) specimens are known. The Wakapuaka (1851), Taupata (1856) (OM) and Morton Mains (1914) (SM) specimens have disappeared. Undated specimens in the OUMNH and the CMNH were probably obtained in New Zealand by Buller in the late 19th century; however, they lack provenances and do not contribute further to this assessment. Unconfirmed museum records include a supposed South Island tree martin egg in the SM, and a WRM welcome swallow specimen (np) originally identified as a tree martin.

Of the sight records only Opaoa River (1878), Featherston (1946), Otatara (1963) and the eight records between 1972–78 could be determined as either probable or confirmed tree martins.

Christchurch (1861), Maketu (1876), Auckland (<1878), Opaoa River (1879), Moeraki (1881), “Collingwood” (=New Zealand invasion 1892–93), Farewell Spit (1892), Oamaru, New Brighton, Bay of Plenty, Collingwood (all 1893), Westport (1894–96), Mokihinui (1896), “Hick’s Bay (i)” (June 1897), Cape Foulwind (1908), Kennington (1911), Awanui

(1914), Manakauaia (1963–64) and Raoul Island (1966) were classified as possible tree martins.

“Hick’s Bay (ii)” (April 1897), Kaitaia (1920s) and Herekino (1920s) were assessed as possible welcome swallows. The remaining ten records were considered unidentifiable hirundines.

The localities in Oliver (1930, 1955) which have continued to be listed in the Checklists (op. cit.) ever since can now be mostly dated and referenced (see Results). Some of Oliver’s localities referred to two or three separate records i.e. “Blenheim” and “Hick’s Bay”, and “Collingwood” encompassed most of New Zealand. Only the Wakapuaka (1851) and “Blenheim (i)” (= Opaoa River 1878 & Grovetown 1879) records were of probable or confirmed tree martins.

Of the others, Christchurch (1861), “Blenheim (ii)” (= Opaoa River 1879), Oamaru (1892), “Collingwood” (= the New Zealand-wide hirundine invasion of 1892–93), Mokihinui (1896) and “Hicks Bay (i)” (June 1897) were of possible tree martins; “Hicks Bay (ii)” (April 1897) were of possible welcome swallows. Mahia (1893) and Cape Campbell (= Farewell Spit? <1930) were of unidentifiable hirundines.

This review has resulted in a reduction of acceptable tree martin records from 50 (Doyle 2013 [updated 2017]) to a current 39 records (this review; Birds New Zealand 2023).

An assessment of probable and confirmed tree martin arrival dates between 1851 and 2022 indicates that tree martin is as likely to arrive in any season of the year, rather than “mainly in autumn” contra Checklist Committee (2022) (Table 5). A chi-square test on the summed records in each season (summer = 14, autumn = 9, winter = 5, spring = 9) indicates that the difference between each season is not statistically significant ($\chi^2 = 3.556$, d.f. = 3, NS).

Table 5. Month of first sighting for each dated probable and confirmed tree martin record in New Zealand, 1851–2022 (n = 36).

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Number of records	3	6	3	5	1	4	0	1	0	4	5	4

DISCUSSION

Hirundines have a distinctive flight and foraging behaviour, and are easily recognised as such, even by non-birdwatchers. All the reviewed historical records are therefore considered to refer to this family. No hirundines were resident in New Zealand before the 1950s, and so their appearance

would have drawn some attention. The most likely source of New Zealand hirundines is Australia, where there are four native species (including white-backed swallow [*Cheramoeca leucosternus*], which has never been reported from New Zealand) and two migrant species, of which barn swallow (*Hirundo rustica*) might conceivably also straggle

here (barn swallow is the champion wanderer – it has been recorded more widely as a vagrant than any other bird [Lees & Gilroy 2021]).

Gill (2000) discussed the holdings of New Zealand museums, with 112,000 registered bird specimens. Given this large number of specimens and the propensity of 19th century collectors to shoot anything interesting, it is surprising that only one tree martin specimen is extant in New Zealand museums, and this from the 20th century.

In some museums provenance was an issue, with hirundine specimens being without data, and/or re-identified, also without any data. Rasmussen & Prys-Jones (2003) discussed these issues in detail, but also suggest that data-less specimens may yield valuable information. Bartle & Tennyson (2009) for instance, found that Buller used distinctive labels on some of his specimens, and this assisted in identifying them. More tree martin specimens may be in overseas museums, especially in the United Kingdom. Written records of accessions may be the only way to verify some specimens.

A newspaper article by J.H.S. (1930) discussed the Haerenoa, or Go-as-you-please, aka Australian swallow. The writer referred to it as being first seen in small flocks in the Nelson district in 1851, indicating the writer was referring to the tree martin. The author stated Māori were aware of the species, had named it Haerenoa, and had seen it 50 years earlier. Many specimens had been seen or captured. The species had a steel blue body with a chestnut head, and lays pink eggs. Curiously the description fits fairy martin or even welcome swallow rather more than tree martin. The author appears to have had extensive knowledge of the “Australian Swallow”. The article indicates that Australian hirundines of one or perhaps two species were well-known and even common in some places. Drummond (1908) also said much the same thing. This knowledge did not enter the bird literature then or subsequently. Newspaper accounts also reported widespread hirundine occurrences, but lacked descriptive details as to which species had actually been seen. The accounts are still useful in indicating the frequency and location of hirundine sightings, albeit unconfirmed as to species..

Out of the 48 historical records, only 16 should now be accepted as probable or confirmed tree martins. There are also a large number of possible records, which rely on the name that the observer used for their specific attribution. In cases where tree-swallow or martin are used tree martin is obviously the species meant, but the usage of Australian Swallow is more ambiguous. It appears that in New Zealand this term also referred to the tree martin. This affects the number of acceptable historical records, as only four 19th century records should be considered as probable or confirmed.

Even the many records concerning the hirundine invasion of 1892-93 lack details confirming the species involved.

Welcome swallows were likely also visitors during the 19th century, but only suggestions of 19th century vagrancy are museum specimens (without provenances), a tree martin re-identified as a welcome swallow, and possible sight records in 1881 and 1897.

The tree martin and welcome swallow accounts in the next Checklist should therefore be amended to reflect this paper’s findings. The possible and unconfirmed records could be appended (as they still indicate hirundine occurrence), to fill out the broader picture of Australian hirundines visiting, and one species eventually colonising, New Zealand.

Further research should be conducted in local and overseas museums to ascertain if there are any other New Zealand tree martin and welcome swallow specimens, with provenances. Older sight records should be submitted to the RAC with supporting descriptions, especially those from before the 1980s, to complete the database.

This review has uncovered many previously unknown records and shown the value of museum specimens and the “grey” literature in researching and verifying historical records. Although there were fewer verifiable tree martin records than previously thought, it is still apparent that hirundines arrived on frequent occasions from Australia during the 19th and 20th centuries. Why the tree martin eventually became the less successful colonist is a question that remains to be answered.

The first five records

Guidance for rarities committees suggests that for national rarities “the first (or preferably the first five) records should be published in detail in a national journal” (AERC. 1996). The first five tree martin records, based on this paper’s assessments, would be:

1. Wakapuaka, Nelson; summer 1851 (New Zealand Exhibition 1865; Buller 1868).
2. Taupata, Golden Bay, Nelson; 14 March 1856 (Buller 1868, 1873; Hutton 1871).
3. Opaoa River, Blenheim, Marlborough; 9 June and July 1878 (Buller 1878a, b).
4. Grovetown, Blenheim, Marlborough; April 1879 (Buller 1883).
5. Morton Mains, east of Invercargill, Southland; October 1914 (Anonymous 1914).

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