

**Nomination for the  
Plant Protection Medal**

**Arthur John  
Healy**

**The New Zealand Plant  
Protection Society**

Nominated by Ian Popay

Seconded by Paul Champion

## Arthur Healy, botanist

Arthur Healy has been an outstanding botanist and, as such, has provided unparalleled service, not only to New Zealand botany, but also and more importantly to our plant protection industry. He was a one-man biosecurity organisation for many years, helping introduce and foster the Noxious Weeds Act of 1950, guiding its administration for many years, and contributing to the birth and early administration of the 1978 Noxious Plants Act. He also spread the word about the dangers of adventive alien plants by helping those in the field identify many kinds of weeds through both publications and personal leadership. Although for all of his career weed administration was about the protection of agricultural industries, he also documented the spread of many species that later came into prominence as environmental weeds. Indeed Arthur was the first to recognise the serious spread of *Clematis vitalba* in parts of the South Island.

### The early years

Born in Feilding, Arthur attended Feilding Agricultural High School, where H. H. Allan taught and obviously became a model for the young Arthur. Dr. Allan later became the first Director of the Botany Division of DSIR, and it was there that Arthur was first employed.

From Feilding Arthur went on to Massey Agricultural College, where, in his second year he was awarded the Bledisloe Prize for the year's best student. During the long vacation he wrote a sheep farm report about Pelorus Sound, including a section on the local flora. This led to correspondence and later friendship with the veteran Marlborough botanist J H MacMahon.

After graduating with a B.Ag.Sc. in 1940, he joined Botany Division as a casual worker. He then spent 3 months on military training before being taken onto the temporary staff at Botany Division. He had already expressed to H. H. Allan, now director of the Division, his interest in ecological work on one of the more economically important weeds. Thus began his life's work of studying the taxonomy and ecology of our adventive plants.

### Nassella Tussock

At Botany Division, Arthur's first major task was to survey the occurrence of nassella tussock in North Canterbury. This study formed the basis for his M.Ag.Sc. thesis on the '*Ecology and economics of nassella tussock (N. trichotoma) in North Canterbury and Marlborough*'. Achievement of his masterate in 1944 was followed by his DSIR monograph on the subject, still the authoritative work. This bulletin gave impetus to the Nassella Tussock Act of 1946, and the young Arthur advised on this, sitting in the chamber to prompt the Minister during relevant debates. The Act established the

Canterbury and Marlborough Nassella Tussock Boards and Arthur was a foundation member of both.

### **Noxious Weeds**

In 1947 and 1948 he served on a committee considering noxious weeds and was largely responsible for drawing up the 1950 Noxious Weeds Act. This is obvious from the very obscure and then uncommon weeds listed there. This was probably New Zealand's earliest attempt at weed risk assessment.

Arthur was also on the Fitzharris Committee of Enquiry into Noxious Weeds Administration, whose report formed the basis for the 1978 Noxious Weeds Act. He was the leading light on the Technical Classification Committee of the newly established Noxious Plants Council, whose task was to decide which weeds, proposed by district committees, found their way on to official list. I, too, was a member of that committee and remember many of Arthur's pronouncements on weeds were regarded as incontestable: he knew more about weeds and their history than the rest of us put together.

### **Soil Conservator**

In June 1946 Arthur was appointed to the permanent staff of the Botany Division and later that year moved to the Public Works Dept (forerunner of the Ministry of Works) as Soil Conservator, Blenheim. The next year saw a transfer to Head Office in Wellington as Soil Conservator responsible for the Waikato.

### **Back in the DSIR**

In 1948 Arthur returned to the DSIR to work on agricultural publications in its Information Bureau in Wellington. Then, in 1949, he returned to Botany Division as Assistant Director. There he filled many roles besides that of Assistant Director.

### **Collector**

Arthur was an inveterate collector, not only of plants but of harvestman spiders, aphids, fungi and other organisms, an activity that resulted in him having species named after him. So we've got a *Rakaia healyi*, and an *Aphis healyi* and at least one other. He was also mentioned as a collector in papers on rust and smut fungi, plant galls, and lichens.

### **Author**

Between 1942 and 1959 he published a series of papers (in the Transactions of the Royal Society) describing the arrival of new adventive plant species and their spread through the country. He had an encyclopaedic memory of these species and could remember – years afterwards – exactly where he had

found plants of a species, and could describe how much it had spread and when its spread started. Following on from these papers, he began publishing a series of papers at Weed and Pest Conferences on how best to identify different groups of weeds (and some useful species) – clovers, docks, thistles, and so on. Later, these papers were revised and collected together into the book *Identification of Weeds and Clovers* published in 1970 by the Weed and Pest Society. This book, for the first time in NZ, introduced keys to help identification based on vegetative characters. Also, in 1969, he was responsible for the book, again published by the Society, entitled *Standard Common Names for Weeds in New Zealand*. This book is still in use and in demand by botanists, industry and students.

### ***Taxonomist***

Arthur handled identifications of submitted plant material as well as the duties associated with being Assistant- Director.

Between 1974 and 1977 he was relieved of the Assistant Director's duties so that he and Elizabeth Edgar could complete Volume III of the Flora of NZ. That is a remarkable book for a Flora, because it comments, sometimes at length, on the weedy characteristics of and problems caused by the species described. Its focus then was on the weediness of these species in relation to agriculture which throughout New Zealand's history has been the major source of the country's prosperity. This volume of the Flora was also first to integrate native and introduced species. Before that the first thing a botanist had to do was to decide whether an unknown species was a native or an alien – a difficult task for an immigrant botanist.

### ***Ecology researcher***

Arthur's observations on the ecological conditions under which different species of invasive plants grew were reported in his many publications. He also wrote a paper on the regeneration of plants from different parts of dock roots.

### ***One Man Biosecurity Department***

Arthur was a one man Biosecurity Department, and warned of the dangers of importing plants likely to become weedy. He was required to comment on lists of requested plant imports sent to the Dept. of Agriculture.

He spent time investigating the methods by which seeds and fruit of weeds entered New Zealand by accident – on clothing or footwear, in agricultural produce and in machinery and tents imported from the Pacific war theatre. He published an article in *Nature* based on his experience of accidentally collecting seeds in the cuffs of his trousers.

### **Leader**

I well remember the sight of groups of noxious weeds officers trailing after Arthur as he wandered round a graveyard identifying and pointing out the exotic plants growing there. He was also a pioneer in highlighting the dangers of plant imports into the country, reporting on the uncontained spread of environmental weeds, and carrying out informal early weed risk assessments.

### **Botanist**

Observer, note-taker, taxonomist, ecologist, author. Isn't that what botanists do? Arthur was one of the first to notice the spread of old man's beard in northern South Island in the 1940s. At that time it was known as traveller's joy, and I well remember Arthur railing against the eventually successful move to call it old man's beard – a title he insisted belonged to lichens of the genus *Usnea*. Arthur also objected to naming the species as a noxious weed, insisting, quite rightly, that the Act reserved that title for threats to agriculture. Nonetheless it still became the very first environmental weed to be given the official title of 'noxious'.

### **Conclusion**

Arthur was one of a long chain of dedicated botanists charting the spread and importance of invasive alien species. In this he followed in the huge footsteps of men like Kirk, Cheeseman, Allan, and Hilgendorf.

His skills included those of taxonomist, collector, researcher, author, ecologist. I leave the last words to Lucy Moore and Eric Godley, both among New Zealand's foremost botanists:

'A. J. Healy, once a pupil of H. H. Allan, has become the authority on naturalised and adventive plants. His influence spreads widely, through weed inspectors and herbicide firms, and he has long been the watchdog of weed legislation, an area in which accurate identification of plants is of great national importance: consider only the cost of one noxious species in the hydro lakes of the Waikato.' – Lucy B. Moore (1976). DSIR 50 Guest Editorial: Aspects of New Zealand Botany, 1926-76. *New Zealand Journal of Botany*, 14, 1-7.'

'I would like to add my personal appreciation of all the work that Arthur Healy has done for New Zealand, and for the Botany Division, and for all the assistance which he gave me as assistant-Director. His career in the Public Service exemplifies "Botany in the service of Man", and his work still continues.' – Eric Godley (1978). A.J, Healy. *In* DSIR New Zealand Botany Division 1976-78 Triennial Report, 17-19.

**Distinctions**

1949-1977: Assistant Director Botany Division of DSIR for 25 of the 33 years he spent with them.

1968: Life member Institute of Noxious Plants Officers (now the Biosecurity Institute).

1972: Life member New Zealand Weed and Pest Control Society (now the NZ Plant Protection Society)

1977: Associate of Honour of the Royal NZ Institute of Horticulture

1983: MBE, for services to agriculture.

## Arthur John Francis Healy

### Brief CV

#### Highlights

- Acknowledged NZ authority on the taxonomy and ecology of adventive plants.
- Honorary Life Member of the N.Z. Association of Inspectors of Noxious Weeds (now the Biosecurity Institute) and the New Zealand Weed and Pest Control Society (now the N.Z. Plant Protection Society) (1972)
- Eric Godley, Director Botany Division, at Arthur's retirement, said 'His career in the Public Service exemplifies "Botany in the service of man" and his work still continues'.
- Advised on the cleaning of all earth-moving machinery involved in building the Manapouri dam to ensure that weeds were not carried into the area.
- Present in Parliament (to advise the minister during debates on nassella.
- Author or joint author of several books (see below), and of papers in scientific journals over a career of 35 years (see below).
- I remember Arthur telling me about witnessing this act – *'Robert Semple, Minister of Works in the first Labour government was turning the first sod at the Christchurch City Airport. After verbally attacking the old way of doing things, he mounted the driving seat of a large bulldozer and drove it straight over an old wheelbarrow and shovel crushing both completely.'* That was in February 1937.
- Awarded an MBE in 1983, for services to agriculture.

#### Details

Born Feilding, 3 March 1917

#### Education

Feilding Agricultural High School (where he was a pupil of H H Allan, later first Director of DSIR's Botany Division).

BAGSci, First class Hons., Massey Agricultural College (1940) (Bledisloe Prize for best student)

**Professional progress**

1940 Casual worker, DSIR

1941 Temporary staff, DSIR

1944 M. Ag. Sc., Massey. Thesis on *Ecology and economics of nassella tussock (N. trichotoma) in North Canterbury and Marlborough.*

1946 Permanent staff. Soil Conservator, Public Works Department, Blenheim

1947 Soil Conservator, Public Works Department, Wellington

1947-48 Major contributor to the Noxious Weeds Act 1950.

1948 Returned to DSIR (Information Bureau)

1948-49 Assistant Editor New Zealand Journal of Science and Technology

1949-1974 Assistant Director, Botany Division, DSIR

1976-1978 Member of the Fitzharris Committee of Enquiry into Noxious Weeds Administration, whose report formed the basis for the 1978 Noxious Weeds Act.

1977: Retired from DSIR.

## Publications

**Books and book chapters** (some published by the NZ Plant Protection Society, still in demand and badly in need of updating).

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- Healy, A. J. (1970). *Identification of Weeds and Clovers*. Wellington, N.Z. Weed and Pest Control Society;
- Healy, A. J. (1973). Introduced Vegetation. Chapter 7 in G.R Williams (ed.). *The Natural History of New Zealand: An Ecological Survey*. Wellington, New Zealand, A.H. & A.W. Reed Ltd, pp. 170-189.
- Healy, A. J. (1984). *Standard Common Names for Weeds in New Zealand*. N.Z. Plant Protection Society, Hastings.
- Healy, A. J.; Edgar, E. (1980) *Flora of New Zealand. Volume III, Adventive cyperaceous, petalous & spathaceous monocotyledons*. Botany Division, DSIR, Wellington.
- Parham, B. E. V.; Healy, A. J. (1976). *Common Weeds in New Zealand: An Illustrated Guide to their Identification with a Section on Noxious Plants*. P.D. Hasselberg, Govt. Printer (Wellington, N.Z.)

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- Healy, A. J. (1943). Some Hitherto Unrecorded Plant Stations. *Transactions and Proceedings of the Royal Society of New Zealand 1868-1961*, 72, 322-334. Accessed 21/11/07 from [http://rsnz.natlib.govt.nz/volume/rsnz\\_72/rsnz\\_72\\_04\\_002930.html](http://rsnz.natlib.govt.nz/volume/rsnz_72/rsnz_72_04_002930.html).
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- Healy, A. J. (1946). Contributions to a Knowledge of the Naturalized Flora of New Zealand: No. 1. *Transactions and Proceedings of the Royal Society of New Zealand*

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Healy, A. J. (1948). The Place of the Botanist in Soil Conservation. *Tuatara* 1.

Healy, A. J. (1948-49). Evolution of the alien flora of New Zealand. *Transactions and Proceedings of the Royal Society of New Zealand 1868-1961*, 77, 160-162. [http://rsnz.natlib.govt.nz/volume/rsnz\\_77/rsnz\\_77\\_05\\_009480.html](http://rsnz.natlib.govt.nz/volume/rsnz_77/rsnz_77_05_009480.html).

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Healy, A.J. (1953). Identification and distribution of rushes (*Juncus* spp) in New Zealand . *NZ Weed Control Conference* 6, 1-11. (Accessed 25/3/08 from [http://www.nzpps.org/journal/06/nzpp06\\_001.pdf](http://www.nzpps.org/journal/06/nzpp06_001.pdf)).

Healy, A.J. (1953). The identification of some common buttercups (*Ranunculus* spp). *NZ Weed Control Conference* 6, 93. (Accessed 25/3/08 from [http://www.nzpps.org/journal/06/nzpp06\\_093.pdf](http://www.nzpps.org/journal/06/nzpp06_093.pdf)).

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Flora of New Zealand, No. 5. *Transactions and Proceedings of the Royal Society of New Zealand 1868-1961*, 84, 649-659. [http://rsnz.natlib.govt.nz/volume/rsnz\\_84/rsnz\\_84\\_04\\_006300.html](http://rsnz.natlib.govt.nz/volume/rsnz_84/rsnz_84_04_006300.html).

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