# THE SEARCH FOR THE FURRY CHAFER

*(Prodontria pinguis)*

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SUMMARY

A population of *Prodontria pinguis*, a chafer beetle previously known from a single specimen collected in 1938, has been found to exist in the original locality. Evidence was also found of its occurrence 4 km away. Larvae were discovered and have been bred through to adults.

## ORIGINS

On 15 December 1938, when looking for insects in the Upper Nevis Valley, Central Otago, I made the climb from the valley to the summit of the Hector Mountains. This range is the southern continuation of the Remarkables, and lies between the Nevis Valley on the east and Lake Wakatipu and the valley south from Kingston as far as Garston, on the west. On the eastern side of the Hectors a series of spurs, separated by deep gullies, run down to the Nevis Valley. The spur which I ascended in 1938 was that between Whittens Creek and Drummond Creek. At an elevation of about 1600 m I found one specimen of a beautiful furry, dark brown chafer beetle under a stone. The discovery was made at approximately NZMS1, Kingston, S142, 730380. The specimen, along with other beetles, was sent to Mr E S Gourlay of Cawthron Institute. It was eventually described by B B Given (1952).

## LATER VISITS

On a few occasions in later years, I had visited the valley without having the time or the weather to enable me to climb in search of the beetle. However, in February 1979, I made an effort to do so. Slips had blocked the road through the Nevis Gorge and I had to commence the climb on foot from Sproules Creek (called "Deep Creek" locally), and climb by a different ridge from the one where I had found the species. Although I reached a high altitude, I had limited time available for collecting and did not find any specimens. The area searched on this occasion commenced at approximately NZMS1, Alexandra, S143, 760413, and extended from there for about 1.5 km.

## THE NOVEMBER 1981 EXPEDITION

Following the establishment of the Otago Branch of the Entomological Society of New Zealand, and my joining it, the opportunity had become available to have the assistance of some able entomologists in making a further search for this beetle. With financial assistance from the 21st Anniversary Research Fund, I arranged an expediton for the period 13-16 November 1981. Telephone calls to the County Councils concerned with the roads were not very reassuring, but the route through the Nevis Gorge was passable, with difficulty. Accommodation in the Upper Nevis was kindly provided by Mr M Scott of Loch Linnhe Station in his musterers' hut by Whittens Creek.

Some of us planned to spend one night at a high altitude in order to make extra time available for insect hunting.

In addition, Rob Archibald arranged to climb with a party of three others from Lake Wakatipu and rendezvous with us for Saturday night at the tarn shown on S142 at 713403. His search of the western slopes and along the ridge of the Hectors as far north as James Peak did not disclose any specimens of *Prodontria pinguis*.

We were also pleased to meet Brian Patrick and Les Richards, who had come from Invercargill for the weekend, mainly to study and collect Lepidoptera.

On the morning of 14 November, we set out up Whittens Creek and then on to the tussock-covered slopes of the Hectors. Looking for all insects as we went meant that the going was slow but interesting. Once above the tussocks, in the area where the furry chafer had been found 43 years before, we all intensified our searching at ground level. After what seemed ages, one specimen was found. With its "slight golden sheen imparted by a dense clothing of decumbent golden hairs" (Given), shining in the mountain sunshine, there was no mistaking the identity of *Prodontria pinguis*. I would be able to report success!

Searching by five persons for about three hours produced a total of three living and one dead specimens. Three were on the prostrate shrub *Pimelea pseudo-lyallii*, as described in Flora of New Zealand, Vol. 1 H H Allen, and one was under a stone. Some larvae of the right conformity were also collected by digging and taken for rearing and preservation.

Some of the party now worked their way back down the slopes to the valley and the hut, while four of us continued along the ridge north-westwards, past the peak shown on S142 as being over 6100' (c. 1880 m), to the tarn mentioned earlier. On our way we did not find any more of the furry chafer, although many specimens of other species were about. The going was difficult in places, with enormous, jagged boulders and snow slopes to cross, but it was all worthwhile both entomologically and for the pleasant sight of this mountain tarn. Behind it towered a ridge with 400 m high cliffs, talus slopes and snow slopes; floating on the tarn were shimmering ice-floes, and on the hummocky ground before it the tents of the Rob Archibald party were being erected.

Now Graeme Bremner headed back to the valley. He had kindly helped by carrying the tent for our overnight party of Charlotte Morris, Barbara Barrett and myself. We set out our traplines before dark - three lines of pitfalls, some in stony ground, some among plants that a chafer beetle might find attractive.

Heavy rain and high winds in the night tested our tent-pitching, but we came through it dry. Conditions had changed by morning, when it was calm and heavily clouded; we were in the midst of the cloud, of course, so we would be depending on the compass and our memory of the terrain to find our way back. Rob's group, mountaineers by inclination, foresaw no difficulties as they set off to climb to the summit ridge and drop down to Lake Wakatipu. Charlotte, Barbara and I took in our traps, found no chafer beetles but large numbers of large wetas. We took tender care of these, destined to be sent alive to Peter Johns for further study.

We could have descended immediately by Antonio's Creek (a local name, not on the maps) which runs from our tarn to Whittens Creek, and have followed it all the way down to the hut in the valley, but this would have meant no chance for *Prodontria*-hunting. Gamely, we attempted to follow the contours south-eastwards from the tarn, but this route led us towards dangerously steep slopes. The alternative route was by the spur we had initially climbed, so it was up to the unnamed peak, all the time in dense cloud, until we found our footprints from the day before in the snow. Then the ridge was easy to follow, and the compass confirmed our direction.

By midday we were back in known *Prodontria pinguis* territory, so it was all hands and knees to the ground as we searched all patches of *Pimelea pseudo-lyallii*. On this species we found, again, three specimens of the chafer, all in fine condition. For those who are mounting the specimens that we have distributed for collections, it should be observed that the total of seven specimens (six alive, one dead but in good order) were not individually labelled in the field. Some were found by each of us three - Charlotte R Morris, Barbara I P Barrett and Malcolm R R Foord.

In this report I shall not attempt to mention all of the other species that were collected. It is interesting, however, to note that other Melolothinae share the alpine habitat with *Prodontria pinguis*. These were a few of *Scythrodes squalidus*, and *Prodontria capito*, which was quite common.

About midday the clouds lifted for a moment, and then two of us thought that we heard, ever so faintly, a shout from the bottom of Whittens Creek, which would be straight down the mountain side, 2 km distant as measured on the slope, and 500 m of altitude below us. In reply I blew the whistle that I carried, and an hour later we received some visitors - a television crew, who produced an excellent film of our work.

The clouds came down again, and the droplets wetter now. We did a good deal of further searching, trying other plants as well as the *Pimelea*, but without any further success. To avoid the steep slopes of tall snowgrass, very slippery when wet, up which we had climbed the day before, I led our party of six in a rather southerly direction until we were below the clouds. Then we veered round towards Whittens, the musterers' hut, a fire and a hot drink.

The other members of the party had done some good collecting in the meantime. Brian and Les had collected all the Lepidoptera about and headed for other fields. Graeme had been all the way to the Eyre Mts and back in the search for the beetles of his special research job. Elma Cook and Wilf Rhodes had found many good subjects for Elma's photographic skill. Among these was a gathering of *Oncodes*, the flies like little bumble-bees. About twenty of them were moving up and down the stems of a rush, depositing literally thousands of eggs. Elma photographed this activity, and took away some of the stems with their coatings of very tiny eggs. She hopes to put on to film more of the amazing life cycle of this spider-parasitic dipteran.

That night some of the party departed. With two others I left the following morning, via the head of the Nevis Valley and over the

range to Garston. I wanted to study the southern end of the Hectors, and to pick out suitable routes for later visits, when I hoped to discover the southern limit of distribution for *Prodontria pinguis*. This led to the expedition that is now described.

## THE JANUARY 1982 EXPEDITION

On this trip I was accompanied by Anthony Harris, Stephen Ogden and Gordon Morris (aged 10, a keen-eyed observer). We travelled to the Upper Nevis on 12 January, and occupied a hut by courtesy of Mr I McLean. The kind assistance of Mr and Mrs McLean with information, history and supplies is gratefully acknowledged. On that evening we did some profitable collecting in the Nevis River, and at night collected numerous species of caddisfly at light.

On the 13th we drove up the valley to Drummond Creek. This is the widest part of the valley, and from the road the base of the mountains seemed to be about 20 minutes' walk away. The way there was by a track leading to an old alluvial gold mine where Drummond Creek emerges from its gully. Distances are very deceptive in this clear air, where there is nothing on the plain taller than the flowerheads of the speargrass to provide measuring sticks, and it took us exactly 40 minutes to cover the distance. When we began our climb up the mountain, many observations made the progress slow but enjoyable. In an alpine weta burrow I saw an unusual insect-aspect - the rear end of one of the giant carabids of the Nevis country, *Mecodema chiltoni*. Careful excavation revealed its sinister purpose. The beetle's head was sunk into the thorax of a fully-grown female weta! At 1400 to 1500 m altitude we made our first chafer finds. The locality was on the spur south of Drummond Creek, NZMS1, S142, about 710350. We did not see any living specimens, but found one dead and disintegrating specimen, and two elytra, of *Prodontria pinguis*. In this area, and from there to the summit of the Hectors in this part of the range, Trig F, about 1680 m, there was considerable activity from *Lyperobius*, *Prodontria capito*, and *Scythrodes squalidus*. I hesitate to put a name to the species of *Lyperobius*. It could be *L. hudsoni*, but the numerous specimens of this giant weevil that we saw varied considerably in the degree of the white markings but were likely of course to be all of the one species. The genus is in need of revision. There was also the very large Byrrhid, probably *Pedilophorus humeralis*, under stones. During the last part of the climb to Trig F, and from the summit, we were rewarded with a magnificent view of Lake Wakatipu, one which is seen by very few people, the view stretching far to the north and west, and down to the plains of Southland far beyond Lumsden.

Our return to the valley was by the slopes we had used for the ascent.

The following day was wet at first, but with only light rain through the afternoon we made useful collections in the chain of dredge ponds in the valley. There were three species of Dytiscid as well as other beetles, and the larva of the pond moth, *Nymphula nitens*.

Next day was fine as we set off to climb the Hector peak at the head of the valley. We used the spur from reference S142, 698275, due west up to the summit at about 1700 m. Day-flying moths and tussock butterflies brightened the scene, but especially interesting were

numerous Hymenoptera, Tony's special study. There were Pompilidae, Evaniidae, Sphecidae, all very active in the sunshine. As we rose higher we were on the watch for the butterfly, *Percnodaimon pluto*. Brian Patrick had informed us that this was a season when the black mountain ringlet was flying, as he had seen them on other mountains. But, although the day was so fine and we were in what should have been suitable country - I had seen it before on the Hectors - we did not see one.

From above 1250 m we were in good Melolonthinae country, that is, our old acquaintances *Prodontria capito* and *Scythrodes squalidus*. When we reached the summit ridge we found these beetles numerous on the gentler slopes of the western side, which had a 4WD vehicle track running along it. All along the ridge, which we traversed as far as Trig G, about 1650 m, these beetles were to be found. Once again, we had the magnificent view from a slightly different angle, and with the spectacle enhanced by some great tors in the neighbourhood of the trig station. From Trig G we descended by the ridge shown on S142 as running down to the building marked (in error) as "Gold mine", situated at ref. 703278. At the higher altitudes there was much very likely habitat for *Prodontria pinguis*, including extensive areas of *Pimelea pseudo-lyallii*, but our searches were in vain. We found no living specimens, nor any remains under the mats of the plants, nor in spider webs, which contain recognisable remains of most of the Coleoptera of the mountain. On the plant mentioned we did collect one large and very brightly coloured caterpillar, which has since been well photographed and should be identifiable. It unfortunately did not survive beyond the pupa stage. The later part of this descent was through very tall snowgrass, which could have proved rather difficult to penetrate if it had been chosen as the way to climb up by.

The next day, 16 January, we should have been setting off for home bright and early, but Tony suggested that he should run up the mountain and have a look for the furry chafer in the area where my first party had come across it in the previous November. And so he did, striding up the slope at an incredible rate. Above the tussock he came across *Pimelea*, and *Prodontria pinguis* on the plant, feeding in the morning sunshine. He stayed at about the same altitude, moving around the spur to the north, or to his right, and during about two hours in this area he found twenty specimens of the beetle. Tony's morning run had been well worth while. He brought four specimens down, and at the time of writing these are alive and well, as I hope they will remain, at least until the forthcoming meeting of the Otago Branch. They have been given various foods, but the only one which they attack with gusto is catsear. The earlier specimens, which Elma Cook had looked after, had eaten white clover.

This ended my second trip of the summer in search of the furry chafer. The expeditions had given much pleasure to myself and to the several other members of the Society who co-operated in the fieldwork. All have been named in the course of the above account, and to them I express my acknowledgements. These also go to the Grants Committee of the Society, and to Mr M Scott and Mr and Mrs I McLean for their kindness in making huts available for our accommodation.

PROPOSED STUDIES

The southern limit of the range of *Prodontria pinguis* has probably been established. I would next like to investigate how far north it

extends. My visit of 1979 to the spur of the Hectors between Whittens Creek and Sproules Creek was brief, and I do not rule out the possibility that it may exist in that area. Much further north, about Double Cone at the northern end of the Remarkables, the beetle was not collected by Dugdale, although he found both *Prodontria capito* and *Scythrodes squalidus* there. (These specific names are inferred). The words in Dugdale's (1975) text are: ". . . diurnal, flightless Scarabaeids such as the small black *Prodontria*, and the large, bumbling *Scythrodes*." I should therefore like to collect from that part of the range in the neighbourhood of the old Nevis township (Lower Nevis), and to work from there either northwards or southwards, depending upon whether *Prodontria pinguis* is found or not.

REFERENCES

Dugdale, J S (1975). Statement on Invertebrate Fauna of Remarkables Ranges, particularly around Double Cone in The Remarkables and Hector Mountains, Otago, New Zealand. Department of Lands and Survey, Dunedin, 1977.

Given, B B (1952). A Revision of the Melolonthinae of New Zealand. Part I, The Adult Beetles. DSIR Bulletin 102.

This article is based on the text of a report to the Entomological Society of New Zealand, following the award of a grant from the 21st Anniversary Research Fund to study *Prodontria pinguis*.

# THE AUSTRALIAN REDBACK SPIDER - AN UNWELCOME IMMIGRANT TO NEW ZEALAND

Lyn Forster
Dunedin

Closely related to the American 'black widow' and the New Zealand 'katipo', the Australian 'redback' spider *Latrodectus hasselti* has been finding its way into this country with increasing frequency. In the last year three fully grown females have been found by accident apparently living in the wild in central Otago. Since it is extremely unlikely that three such spiders, having sucessfully made their way to this country, should then all be found, it is reasonable to assume that one or more colonies have become established somewhere.

The latest find, a gravid female, was uncovered by someone collect- rocks near Wanaka for his rockery. Shortly after capture, it laid an eggsac, from which 110 spiderlings later emerged.

These spiderlings are being reared at different temperatures and it is clear that the rate of development is greatly affected by this variable. It is also evident that they can withstand sub-zero temperatures since fifteen spiderlings in tubes placed outside (in Dunedin) and fed occasionally with fruitflies are still very much alive. Another fifteen, similarly treated but which were not fed, died after about five weeks; there seems little doubt however that they died of starvation and not of the cold. These studies suggest that these spiderlings would have survived in Wanaka provided that they had found suitable shelter and were able to obtain an occasional meal. One criterion for the establishment of redbacks in this area would seem to relate to whether the summer is warm enough for them to breed and not on whether they can live through the winter.

Distinguishing between the katipo and redback is a difficult task for persons unfamiliar with spiders. Anyone finding a spider which is suspected of being a redback is asked to post it to me together with date and details of the find (locality, habitat, circumstances etc.,) The best procedure is to put it in a plastic jar containing a firmly wedged twig to which the spider can cling.

In general, differences between the redback and the katipo include
(1) size (the redback is half as big again as the katipo).
(2) hair-covering (the redback is covered with two kinds of hair - short and fine, large and coarse: the katipo has only short, fine hairs.)
(3) habitat (the redback can live in any arid sheltered, inland area whereas the katipo is confined to coastal regions.)

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# WASPS IN THE SCORIA PATCH

Brenda May, Huia

A bulging wall in our garden at Huia, then post-hole boring followed by extensive (and expensive!) back-filling, meant that we found ourselves with an area of fairly deep scoria, partly flat and partly sloping to the north. The north face has now become a sub-tropical alpine garden and it is intriguing to find that so many mountain plants will adapt, even to flowering, in Auckland's west coast humidity. The flat portion is still unplanted.

The insects which arrived during the summer, because it is their sort of place, included short-horn grasshoppers *Phaulacridium marginale*, tiger beetles *Neocicindela tuberculata* and two kinds of native wasps, both belonging to the genus *Tachytes* (family Larridae). These appeared in February and March on hot, sunny afternoons. They are both black and not unlike *Pison spinolae*, the mason wasp, except for size. *T. sericops*, the smaller wasp, is 8.0 mm long with a silky covering of grey hairs and large green eyes, always extremely busy and fast moving but, although they have the right shaped legs for digging, I never actually saw them working at it or found out what they were doing there.

The other wasp, *T. nigerrimus*, is about twice as large 16.0 mm and is shiny black all over, including eyes. They made no secret of their tunnelling activities. Both mandibles and legs were used to move the scoria particles and it took about one hour for an individual wasp to construct a 6.0 cm long diagonal tunnel leaving a small pile of detritus near the entrance. *T. nigerrimus* gathers cockroaches. The one I watched was away for some time when suddenly a large dark object zoomed around and landed with a plop! It was the excavator returning, transporting a black cockroach *Platyzosteria novaeseelandiae* larger than itself. After a series of "flutter-jumps", the burrow was located and the burden dragged inside, still twitching. Eventually, the wasp came out, blocked up the entrance with pieces of scoria and flew off. I marked the spot and 12 days later opened up the burrow. Inside, there was a fat, white grub and only the skeleton of the cockroach. In that short time the egg had hatched and the larva had grown to 10.0 mm. Other cockroaches I disinterred were mostly the brown species *Celatoblatta sedilotti*, some with a single egg pushed between the coxae, others half eaten. Activity declined in early April. I did not locate any more burrows but it seems likely that winter may be spent in the prepupal stage, for spring emergence.

CREEPY CRAWLIES ON MARCH AT WAIKANAE!

'Women and children fled Waikanae esplanade yesterday as big black beetles swarmed over the concrete'

'You could have made a horror film out of this'
'The women looked panicky and the kids were screaming'
'I don't know where they came from!'

These and other suitable remarks, plus photographs, graphicly recorded an "invasion" of Pericoptus truncatus , the dreaded sand scarab at Waikanae beach, Gisborne recently.

Miller says that the larvae resemble 'oversize grassgrubs' and occur in the sand under partly buried logs. The life cycle takes about three years.

In this particular case, P.truncatus was observed to emerge from between cracks in the concrete and from sand adjacent to buildings near the beach. The reporter from the Gisborne Herald was not exaggerating - there were literally thousands of them and their exit holes were clearly recognisable. A quick search of the beach by no less a personage than the President of the Entomological Society himself, who happened to be in Gisborne at the time and heard the report over the local radio station, failed to find any at all. It seems likely that the warmth of the sun on the concrete would raise the temperature of the sand and hasten expupation.

J.D.Tenquist

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# *Archaeoteleia novaezelandiae* Masner

(HYMENOPTERA, Scelionidae)

F. D. Chambers

Namu rd, OPUNAKE

A Note

Masner (1968) describes a new Genus and five new species of Proctotrupoid wasps. Four of these wasps are recorded from Southern Chile, all from open country. The New Zealand record is from a limestone cave at United Creek, Roding Valley, Nelson. Because of its association with cave wetas, Masner considered this wasp to be parasitic on these animals.

During January 1977 I collected two males which I took to be *A. novaezelandiae* just inside the reserve on the western slopes of Mt. Egmont. In early February 1981, another male was captured, this time at Dawson Falls on the other side of the mountain.

The latter (approximately 5.2mm) is a little larger than the other two and appears to fit Masner's description of the male.

The 1977 males differ from *A. novaezealandiae* on the following points:

1. Slight ridge at base of fifth antennal segment.
2. No spines on scutellum.
3. Dorsal longitudinal lines on gaster not continuous but strongly evident at beginning of tergites 1-5.

*A. novaezelandiae* has a slight ridge at base of the 4th and 5th antennal segments, a spine on each side of the scutellum and the longitudinal lines on the gaster are continuous.

REFERENCE

Masner L. 1968. A New Genus of Scelionidae (HYMENOPTERA) with Austral Disjunctive Distribution. *N.Z.Jl.Sc.* 11: 652 - 663

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# LIST OF ABBREVIATIONS USED IN ENTOMOLOGY AND BIOLOGY IN NEW ZEALAND AND THE SOUTH PACIFIC

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The following list has been prepared in response to the increasing use of abbreviations in scientific and semi-scientific communication in New Zealand and the South Pacific, and the problems that result for the uninitiated. The list is provisional only, and obciously very incomplete. Should the list generate interest, and its need and usefulness be established by response, then a fuller list will be prepared in due course. If you agree, please send in your comments and suggestions.

| | |
|---|---|
| AID | United States Agency for International Development |
| AMD | Applied Mathematics Division |
| ANIC | Australian National Insect Collection (Canberra) |
| ANZAAS | Australia and New Zealand Association for the Advancement of Science |
| AQS | Agricultural Quarantine Service |
| BGLA | Bluegreen lucerne aphid |
| BM(NH) | British Museum (Natural History)(London) |
| BRC | Biological Resources Centre, Wellington |
| B.Sc | Batchelor of Science degree |
| BSIP | British Solomon Islands Protectorate |
| Bti | Bacillus thuringiensis israeliensis |
| Bt | Bacillus thuringiensis |
| CAB | Commonwealth Agricultural Bureau (Great Britain) |
| CIBC | Commonwealth Institute of Biological Control (London) |
| CIE | Commonwealth Institute of Entomology (London) |
| CIH | Commonwealth Institute of Helminthology (St Albans, England) |
| CMI | Commonwealth Mycological Institute (London) |
| CNFRA | Comitē National Francais de Recherches Antarctiques |
| CPV | cytoplasmic polyhedrosis virus |

| | |
|---|---|
| CSIRO | Commonwealth Scientific and Industrial Research Organisation (Australia) |
| DPI | Department of Primary Industry (Australia) |
| D.Sc | Doctor of Science degree |
| DSIR | Department of Scientific and Industrial Research |
| EDF | Eurpoean Development fund |
| EM | electron microscope |
| ERM | European red mite |
| FAO | Food and Agriculture Organisation (United Nations) |
| FRI | Forest Research Institute |
| GEIC | Gilbert and Ellice Islands Colony |
| GTZ | Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), GmbH (German agency for Technical Cooperation, Ltd (GTZ) |
| GV | granulosis virus |
| IMC | integrated mite control |
| ICSU | Conceil International des Unions Scientific |
| ICOM | International Committee of Natural History Museums |
| ICIPE | International Centre for Insect Physiology and Ecology |
| IUBS | L'Union International des Sciences Biologique: |
| IPM | Integrated pest management |
| IRRI | International Rice REsearch Institute (Philippines) |
| IRECA | Institute for Research, Extension, and Training in Agriculture (W. Samoa) |
| LBAM | light brown apple moth |
| MAB | Man and Biosphere Programme |
| MAF | Ministry of Agriculture and Fisheries |
| MARC | Mt Albert Research Centre, Auckland |
| MEV | multiply enveloped virus |
| MV | mercury vapour |
| M.Sc | Master of Science degree |
| NPV | nuclear polyhedrosis virus |
| NRAC | National Research Advisory Council, Wellington |
| NZAC | New Zealand Arthropod Collection, Auckland |
| NZCS | New Zealand Certificate of Science |
| NZFS | New Zealand Forest Service |

| | |
|---|---|
| NZOI | New Zealand Oceanographic Institute, Wellington |
| OC or O/C | organochlorine insecticide |
| OFM | oriental fruit moth |
| ORSTOM | Office de la Recerche Scientifique et Technique Outre-Mer (New Caledonia) |
| PA | pea aphid |
| PAS | Port Agriculture Service (now renamed AQS) |
| Ph.D | Doctor of Philosophy degree |
| PHDS | Plant Health Diagnostic Station |
| PM | pest management |
| PMS | pest management system |
| PNG | Papua New Guinea |
| PQ | Port quarantine |
| RLEM | red-legged earth mite |
| Ruakura ARC | Ruakura Agricultural Research Centre, Hamilton |
| SAA | spotted alfalfa mite |
| SCAR | Comitē Scientific pour la Recherche Antarctique |
| SEM | scanning electron microscope |
| SEV | singly-enveloped virus |
| SIRIS | Science nad Industrial Research Information System |
| SPC | South Pacific Commission (New Caledonia) |
| SPEC | South Pacific Bureau for Economic Co-operation (Fiji) |
| SPRCTA | South Pacific Regional College of Tropical Agriculture (Samoa) |
| TGMLI | Tussock Grasslands and Mountain Lands Institute, Linclon, Canterbury |
| TEM | transmission electron microscope |
| TSM | two spotted mite |
| ULV | ultra low volume |
| UNDP | United Nations Development Programme (Fiji) |
| UNEP | United Nations Environment Programme |
| USP | University of the South Pacific (Fiji) |
| UV | untra-violet |
| Wallaceville ARC | Wallaceville Animal Research Centre, (Wellington) |