

NOTES ON NEW ZEALAND WEEVILS (COLEOPTERA : CURCULIONOIDEA)

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Observations on the collection, food plants and rearing of some New Zealand weevils are given.

INTRODUCTION

The information given in this paper has been compiled by the author from unpublished reports and laboratory records of the Forest Research Institute, Rotorua, from 1956 to 1965. It is additional to that already published about New Zealand weevils.

The weevils were reared and extracted by R. H. Milligan and L. H. Newman (Forest Research Institute, Rotorua) and identified by Dr. G. Kuschel (Entomology Division, D.S.I.R., Nelson). The paper supplements observations by Broun (1880-1893), Clark (1932), Gourlay (1951, 1960), Hudson (1934), Kuschel (1964, 1969, 1970, 1971), Marshall (1938, 1943), Miller (1925) and others. Research on the morphology of weevils and their larvae has also been done by May (1967).

Emergence dates are taken from laboratory or insectary records and will therefore be slightly different from emergences in the field. No attempt has been made to give the complete biology of each species.

Botanical nomenclature throughout for indigenous plants follows Allan (1961), and Poole and Adams (1963). Much work has still to be done on the ecology, food plants and distribution of New Zealand weevils. It is hoped that this paper will stimulate further interest in their study.

Additional information on weevils beaten from foliage, twigs, flowers, etc., of both indigenous and exotic plants, or collected in the field from selected areas has been published as an internal report of the Forest Service.

METHODS

Material was collected in the field by Forest Biology Observers, staff of the Entomology Section, Forest Research Institute, Rotorua, and others.

After examination and tentative identifications of the weevil species, samples were placed in suitable rearing containers either in the laboratory or insectary. Frequent observations were made and adult weevils, parasites or predators and other fauna collected.

When considered necessary, larvae were transferred to fresh branches, logs or roots, depending upon the weevil species being reared. At the same time a check was made on the stage of

development. The original food plant was used if available near Rotorua. If it was not, an alternative food plant of a species near to that originally collected in the field was selected.

After adult weevils and other fauna were considered to have completed emergence, the material was dissected and specimens remaining in the wood or under bark were noted. These were preserved in Bouin's fluid or 70 per cent alcohol and the observations closed.

WEEVIL SPECIES REARED AT FOREST RESEARCH
INSTITUTE, ROTORUA, OR CUT AS ADULTS AND
LARVAE FROM WOOD IN THE FIELD, WITH
DETAILS OF LOCALITIES AND FOOD PLANTS

Collectors

D. A. Bartram (D.A.B.), J. M. Cox (J.M.C.), R. F. Cormack (R.F.C.), J. S. Dugdale (J.S.D.), W. A. Holloway (W.A.H.), D. J. Kershaw (D.J.K.), J. G. R. McBurney (J.G.R.McB.), R. M. J. MacKenzie (R. M. J. MacK.), A. E. Marsack (A.E.M.), R. H. Milligan (R.H.M.), L. W. Newman (L.W.N.), G. B. Rawlings (G.B.R.), N. O. Seecombe (N.O.S.), M. A. Stoodley (M.A.S.) and R. Zondag (R.Z.).

CURCULIONOIDEA

BELIDAE

Agathinus tridens (Fabricius)

Kaweka Range, Hawke's Bay. Ex *Cassinia* sp. (Compositae), collected 23.3.61 (M.A.S.). Larvae reared in *Cyathodes fasciculata* (Forst. f.) Allan (Epacridaceae), *Coprosma* sp. (Rubiaceae), *Gaultheria* sp. (Ericaceae), and *Hebe salicifolia* (Forst. f.) Pennell (Srophulariaceae). Pupae observed December 1961 to January 1962, adults emerged January 1962.

Pachyurinus sumptuosus (Broun)

Speargrass Creek, Nelson. Ex *Phyllocladus alpinus* Hook. f. (Podocarpaceae), collected 9.10.63 (W.A.H.), emerged 15.10.63.

CURCULIONIDAE

Cossoninae

Paedaretus hispidus Pascoe

Blue Lake Reserve, near Rotorua. Ex rotten *Litsea calicularis* (A. Cunn.) Benth. (Lauraceae), also dead branches of *Sophora* sp. (Papilionaceae), and *Beilschmiedia tawa* (A. Cunn.) Benth. (Lauraceae). Collected 25.9.58 (R.H.M.). Adults emerged 21.1.59 and 15.5.59.

Stewart Island. Ex *Cytisus* sp. (Papilionaceae), collected 21.3.61 (R.F.C.), emerged 8.12.61.

Phloeophagosoma dilutum Wollaston

Waitarere State Forest, Horowhenua County. Ex *Lupinus arboreus* Sims (Papilionaceae), collected 5.10.61 (M.A.S.), emerged 7.11.61.

Phloeophagosoma thoracicum Wollaston
Rotoehu State Forest, Bay of Plenty. Ex **Beilschmiedia tawa** adults cut from wood, 15.5.61 (G.B.R.).

Eutornus dubius Wollaston
Whakatane, Bay of Plenty. Ex **Rubus australis** Forst. f. (Rosaceae), collected 8.4.61 (J.S.D.), lab reared.

Motueka Gorge, Nelson. Ex **Muehlenbeckia australis** (Forst. f.) Meissn. (Polygonaceae), adults cut from wood, 3.7.63 (W.A.H.).

Protogonum helmsianum Sharp
State Forest 90, Taupo County. Ex **Neopanax** sp. (Araliaceae), adults cut from log 10.1.56 (R.H.M.).

Sericotrogus subaenescens Wollaston
Forest Research Institute, Rotorua. Ex **Coprosma** sp., collected 2.5.60 (R.Z.), emerged 16.9.60.

Microtribus huttoni Wollaston
Waitarere State Forest, Horowhenua County. Ex stems of **Lupinus arboreus**, collected 12.10.61 (M.A.S.). Adults collected during examination of sample in the laboratory.

Macroscytalus remotus (Sharp)
Waipoua State Forest, Northland. Ex **Coprosma** sp., collected 23.4.58 (J.M.C.), emerged 14.8.58.

Whakarewarewa State Forest, near Rotorua. Ex **Coprosma** sp., collected February 1968 (R.H.M.), emerged 2.10.58.

Pentarthrum zealandicum Wollaston
Hook Bush, Waimate, South Canterbury. Ex **Neopanax** sp., collected 23.6.59 (R.M.J.MacK.), emerged 28.9.59.
Esplanade Gardens, Palmerston North, Manawatu. Ex **Hoheria** sp. (Malvaceae), collected 14.12.59 (M.A.S.), emerged 1.8.60.

Cryptorhynchinae

Psepholax sulcatus White
Mahinapua State Forest, Westland. Ex **Weinmannia racemosa** Linn. f. (Cunoniaceae). Brood chambers cut from wood 16.11.59 (J.G.R. McB.). Adults emerged 8.2.60 to 14.4.60.

Psepholax granulatus Broun
Kaniere State Forest, Westland. Ex **Pinus nigra** Arnold (**laricio**) (Pinaceae). Collected 22.12.61 (W.A.H.), emerged 19.2.62.

Psepholax crassicornis Broun
Golden Downs State Forest, Nelson. Ex **Pittosporum tenuifolium** Sol. ex Gaertn. (Pittosporaceae), adults cut from wood 4.1.62 (J.G.R.McB.).

Rangataua State Forest, Waimarino County. Ex **Neopanax** sp., collected 12.10.61 (M.A.S.). Larvae and pupae observed. Adults emerged 23.3.62.

Psepholax femoratus Broun
Pandora, Northland. Ex **Pittosporum** sp., cut from wood 24.3.63 (J.S.D.), emerged 2.4.63. Adults and larvae observed in the laboratory during examination of wood sample.

Psepholax coronatus White

Otautau, Longwood State Forest, Southland. Ex **Weinmannia racemosa**, adults cut from wood 15.5.63 (D.J.K.).

Kelseys Bush, Waimate, South Canterbury. Ex **Sophora microphylla** Ait., adults cut from wood 18.10.63 (R.M.J.MacK.).

Psepholax mediocris Broun

Woodlaw State Forest, Southland. Ex **Carpodetus serratus** J.R. & G. Forst. (Escalloniaceae), adults cut from wood 13.5.63 (D.J.K.).

Golden Downs State Forest, Nelson. Ex **Coprosma** sp., adults cut from wood 21.9.61 (J.G.R.McB.).

Psepholax simplex Pascoe

Rotoehu State Forest, Bay of Plenty. Ex **Neopanax arboreum** (Murr.) Allan, cut from wood October 1958 (N.O.S.). Adults emerged 14-28.10.58.

Oreda notata White

Whakarewarewa State Forest, near Rotorua. Ex **Alnus rubra** Bong. (Betulaceae), larva in wood collected 21.10.58 (A.E.M.). Adults emerged 30.6.59.

Kentraulax murinus Broun

Ashhurst, Oroua County. Ex **Myoporum** sp. (Myoporaceae), cut from roots 18.9.63 (M.A.S.). Adults emerged 29.10.63.

Oreda brevis Pascoe

Ashhurst, Oroua County. Ex **Myoporum** sp., cut from roots 18.9.63 (M.A.S.). Adults emerged October 1963.

Bledisloe Park, Palmerston North. Ex **Myoporum laetum** Forst. f., collected 21.4.61 (M.A.S.), emerged 24.4.61 and 12.8.61.

Mt. Victoria, Wellington. Ex **Myoporum laetum**, collected 27.11.63 (M.A.S.), lab reared.

Mesoreda sulcifrons Broun

Golden Downs State Forest, Nelson Ex **Neopanax** sp., adults cut from wood 11.10.61 (J.G.R.McB.).

Raincliff State Forest, South Canterbury. Ex **Pittosporum tenuifolium**, adults cut from wood 24.1.63 (R.M.J.MacK.).

Mesoreda orthorhina Broun

Waitohi Scenic Reserve, near Geraldine, South Canterbury. Ex

Myrsine australis (A. Rich.) Allan (Myrsinaceae). Larvae and adults cut from wood 21.3.63 (R.M.J.MacK.).

Aldonus hylobioides White

Pandora, Northland. Ex **Leptospermum ericoides** A. Rich. (Myrtaceae), adults cut from wood 24.3.63 (J.S.D.).

Hongi's Track, Rotorua-Whakatane highway, Bay of Plenty. Adults cut from log of **Podocarpus totara** G. Benn. ex D.Don (Podocarpaceae), 1956 (L.W.N.).

Paengaroa, Bay of Plenty. Ex **Elaeocarpus dentatus** (J.R. & G. Forst.) Vahl. (Elaeocarpaceae), adults cut from wood 1.9.63 (R.H.M.).

Esplanade Gardens, Palmerston North. Ex **Hoheria** sp., collected

14.12.59 (M.A.S.), emerged 12.10.60.

Anzac Park, Palmerston North. Ex *Eucalyptus fastigata* (Myrtaceae), 2.7.62 (M.A.S.).

Waikanae Beach. Adults cut from log of *Dysoxylum spectabile* (Forst. f.) Hook. f. (Meliaceae), 7.1.62 (L.W.N.).

Cape Farewell, Nelson. Ex *Pinus radiata* D. Don, adults cut from log 27.7.62 (J.G.R.McB.).

Rhynchodes ursus White

Waipoua State Forest, Northland. Ex *Beilschmiedia tarairi* (A. Cunn.) Benth. Larvae in wood collected October 1959 (J.M.C.). Adults emerged May 1960.

Tychanus bufo Sharp

Esplanade Gardens, Palmerston North. Ex *Pittosporum tenuifolium*, larvae in dead branches collected 26.7.63 (M.A.S.). Adults emerged 11.11.63.

Tychanus verrucosus Pascoe

Erua State Forest, Taumarunui County. Ex *Rubus* sp., larvae in wood collected 22.11.62 (J.S.D.). Adults emerged 11.1.63.

Tychanus gibbus Pascoe

Russell State Forest, North Auckland. Ex *Olearia albida* var. *angulata* (Kirk), Allan (Compositae). Collected 17.7.61 (J.M.C.), emerged 24.7.61 and 23.3.62.

Crisius binotatus Pascoe

Whakarewarewa State Forest, near Rotorua. Ex *Pinus radiata*, collected 23.12.59 (R.Z.), lab reared.

Crisius variegatus Broun

Waipoua State Forest, Northland. Larvae, pupae and adults in *Beilschmiedia tarairi*, collected 23.3.63 (J.S.D.).

Sympedius vexatus Pascoe

Tatua Bush, near Rotorua. Ex *Rubus* sp., collected 4.10.62 (N.O.S.), emerged 20.11.62.

Galatea, Kaingaroa State Forest, Whakatane County. Ex *Clematis* sp. (Ranunculaceae), collected 29.1.63 (D.A.B.), lab reared.

Sympedius testudo Pascoe

Tapu Hill, Coromandel. Ex *Coprosma* sp., larvae and pupae cut from wood 21.1.60 (R.Z.). Adults emerged February 1960.

State Forest 90, Taupo County. Ex *Nothofagus menziesii* (Hook. f.) Oerst. (Fagaceae), collected 12.10.57 (R.H.M.), emerged 21.3.58.

Sympedius lepidus Broun

Tapu Hill, Coromandel. Ex *Coprosma* sp., cut from wood 21.1.60 (R.Z.), emerged 19.2.60.

Acallopais rudis Pascoe

Mt. Maunganui, Bay of Plenty. Adults and larvae cut from wood of *Quercus ilex* L. (Fagaceae), 19.7.63 (A.E.M.).

Acalles decemcristatus Broun

Erua State Forest, Taumarunui County. Ex *Weinmannia silvicola* Sol. ex A. Cunn., collected 2.7.59 (M.A.S.), emerged 11.1.60.

Acalles volens Broun

Paengaroa, Bay of Plenty. Ex *Litsea calicaris*, cut from wood May 1961 (R.H.M.). Adults emerged 6.10.61.

Acalles crisioides Broun

Paihia, Bay of Plenty. Ex *Ficus* sp. (Moraceae), collected 3.11.60 (R.Z.), lab reared.

Kaingaroa State Forest, Rotorua-Taupo County. Ex *Clematis* sp., collected 14.2.62 (D.A.B.). Larvae and pupae noted during examination of sample. Adults emerged 21.3.62.

New Plymouth, Taranaki. Ex *Lupinus arboreus*, collected 17.10.61 (M.A.S.), emerged 30.11.61.

Acalles impexus Pascoe

Hook Bush, Waimate, South Canterbury. Ex *Fuchsia excorticata* (J.H. & G. Forst. Linn. f. (Onagraceae), collected 23.6.59, emerged 17.12.59; Ex *Neopanax* sp. collected 23.6.59. Larvae and pupae noted during examination of sample. Adults emerged 25.11.59; Ex *Olearia* sp., collected 13.9.62, emerged 16.11.62; Ex *Clematis* sp., collected 13.9.62, emerged 30.1.63.

Duvauchelle, Banks Peninsula, Canterbury. Ex *Urtica ferox* Forst. f. (Urticaceae), collected 2.9.63, emerged 8.10.63.

Waitohi Scenic Reserve, near Geraldine, South Canterbury. Ex *Fuchsia excorticata* collected 20.3.63, emerged 2.7.63; Ex *Clematis* sp., collected 20.3.63. Adults cut from wood 26.3.63.

Kakahu State Forest, South Canterbury. Ex *Leptospermum ericoides*, collected 24.1.63, lab reared.

All collections (R.M.J.MacK.).

Acalles intutus Pascoe

Tiritea Dam, near Palmerston North. Ex *Pennantia corymbosa* J.R. & G. Forst. (Icacinaceae), dead and dying branches collected 8.2.63 (M.A.S.). Larvae noted feeding in pith and heartwood. Adults collected 14.2.63.

Waipou State Forest, Northland. Ex *Cassinia leptophylla* (Forst. f.) R. Br., larvae and pupae collected 17.9.64 (J.S.D.). Adults emerged 4.11.64.

Acalles scitus Broun

Paengaroa, Bay of Plenty. Under bark of *Litsea calicaris*, collected May 1961 (R.H.M.). Adults emerged November to December 1961.

Acalles peelensis Broun

Alford State Forest, Canterbury. Ex *Fuchsia excorticata*, collected 21.11.60 (R.M.J.MacK.), emerged 14.1.61.

Acalles erroneus Broun

Blue Lake Reserve, near Rotorua. Ex small dead branches of *Sophora* sp., and *Beilschmiedia tawa*, collected 25.9.58 (R.H.M.), emerged 16.12.58.

Acalles hystriculus Broun

Mt. Ngongotaha, Rotorua. Ex dead *Rhipogonum scandens* Forst. (Polygonaceae). Larvae and pupae collected October 1960

(R.H.M.). Adults emerged November to December 1960.

Kaingaroa State Forest, Rotorua-Taupo County. Ex *Clematis* sp., Larvae and pupae collected 14.2.62 (D.A.B.). Adults emerged 21.3.62. Kakahu State Forest, South Canterbury. Ex *Leptospermum ericoides*, larvae and adults collected 24.1.63 (R.M.J.MacK.), lab reared.

Hook Bush, Waimate, South Canterbury. Ex *Clematis* sp., collected 13.9.62 (R.M.J.MacK.), emerged 16.11.62.

Acalles facilis Broun

Mamaku State Forest, Rotorua County. Ex *Brachyglottis repanda* J.R. & G. Forst. (Compositae). Larvae in bark collected 6.12.61 (J.S.D.). Adults emerged 9.1.62.

Lake Okataina, near Rotorua. Ex *Fuchsia excorticata*, collected 18.6.60 (J.S.D.), emerged 2.11.60.

Pachyderris nigricans (Broun)

Dusky State Forest, Otago. Ex *Fraxinus* sp. (Oleaceae). Larvae and pupae collected 17.4.63 (D.J.K.). Adults emerged April to May 1963.

Pachyderris triangulatus (Broun)

Hanmer State Forest, North Canterbury. Ex *Carpodetus serratus*, collected 17.10.58 (R.M.J.MacK.), emerged 5.3.59.

Cheviot Hills Plantations, North Canterbury. Ex *Crataegus oxyantha* L. (Rosaceae). Larvae and pupae collected 6.11.59 (R.M.J. MacK.). Adults emerged December 1959 to January 1960.

Kakahu State Forest, South Canterbury. Ex *Neopanax* sp., collected 24.1.63 (R.M.J.MacK.), lab reared.

Pachyderris punctiventris Broun

Stewart Island. Ex *Cytisus* sp., collected 21.3.61 (R.F.C.), emerged 27.4.61.

Phrynixinae

Phrynixus terreus Pascoe

Blue Lake Reserve, near Rotorua. Ex dead branches of *Sophora* sp., and *Beilschmiedia tawa*, collected 25.9.58 (R.H.M.), emerged 4.12.58 and 9.2.59.

Forest Research Institute, Rotorua. Ex *Dacrydium cupressinum* Lamb. (Podocarpaceae), collected November 1962 (J.S.D.), lab reared.

Lake Mangamahoe, near New Plymouth. Ex *Coprosma* sp., collected 14.1.59 (M.A.S.), emerged 16.3.59.

Golden Downs State Forest, Nelson. Adults cut from log of *Pinus nigra* (laricio), 24.4.61 (J.G.R.McB.).

Bradypatae capitalis Broun

Dusky State Forest, Otago. Ex decaying *Populus* sp. (Salicaceae), collected 27.11.58 (R.F.C.), emerged 15.12.58.

Tychiinae (Eriirhininae)

Peristoreus acceptus (Broun)

Paengaroa, Bay of Plenty. Under bark of *Litsea calicaris*, collected

May 1961 (R.H.M.). Adult emerged 21.7.61. This weevil is usually restricted to *Muehlenbeckia* (G. Kuschel, pers. comm.).

Peristoreus discoideus (Broun)

Forest Research Institute, Rotorua. Larvae mine the leaves of *Griselinia lucida* Forst. f. (Cornaceae). Adults collected 13.11.60 and 22.12.60 (L.W.N.).

Peristoreus grossus (Broun)

Cobb/Burgoo Creek Saddle, Tasman Mts., Nelson. Collected 2.12.62 (J.S.D.). Adult lab reared from the central peduncle spike of *Dracophyllum traversii* Hook. f. (Epacridaceae).

Eugnominae

Stephanorhynchus tuberosus Broun

Mt. Ngongotaha, Rotorua. Ex *Neopanax* sp., larvae and pupae collected 22.9.60 (R.H.M.). Adults emerged 25.10.60 to 9.11.60.

Pureora Mt., Waitomo County. Ex *Neopanax colensoi* (Hook. f.) Allan, collected 11.10.62 (N.O.S.), emerged 23.11.62.

Stephanorhynchus curvipes White

Blue Lake Reserve, near Rotorua. Ex *Neopanax arboreum*, collected 25.9.58 (R.H.M.), emerged 27.11.58.

Waimangu, near Rotorua. Ex *Neopanax* sp., collected 17.8.58 (R.H.M.), emerged 3.12.58.

Gwavas State Forest, Hawke's Bay. Ex *Neopanax* sp., collected 30.7.63 (M.A.S.), emerged 21.10.63.

Stephanorhynchus lawsoni Sharp

Rotoehu State Forest, Bay of Plenty. Ex *Coprosma robusta* Raoul, collected 22.9.60 (A.E.M.), emerged 18-21.10.60.

Hoplocneme hookeri White

Rotoehu State Forest, Bay of Plenty. Ex *Aristotelia serrata* (J.R. & G. Forst.) W.R.B. Oliver (Elaeocarpaceae), collected 2.10.59 (A.E.M.), emerged 19.10.59.

Hoplocneme forcipata Marshall

Blue Lake, near Rotorua. Ex dead branches of *Sophora* sp., and *Beilschmiedia tawa*, collected 25.9.58 (R.H.M.), emerged 20-29.10.58.

Rotoehu State Forest, Bay of Plenty. Ex *Pittosporum* sp., collected October 1958 (N.O.S.), emerged 17.10.58.

Pactola fuscicornis Broun and *P. variabilis* Pascoe

Mt. Ngongotaha, Rotorua. Ex *Neopanax* sp. Larvae collected 22.9.60 (R.H.M.). Adults emerged October to November 1960.

Rhopalomerus tenuicornis Blanchard

Dusky State Forest, Otago. Ex rotting *Populus* sp., collected 27.11.58 (R.F.C.), emerged 8.12.58.

Tapanui State Forest, Otago. Larvae in rotting *Pinus radiata*, collected 19.6.59 (R.F.C.). Adults emerged 11.9.59.

Oreocalus pullatus (Broun)

Forest Research Institute, Rotorua. Adult cut from the wood of *Hebe* sp., 16.2.62; adults reared from *Hebe* spp., December 1960

and January 1961 (L.W.N.). One specimen in pith of plant.

Scolopterus penicillatus White

Blue Lake Reserve, near Rotorua. Ex *Neopanax arboreum*, collected 25.9.58 (R.H.M), emerged 10.12.58 z

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