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THE MELOLONTHINAE (COLEOPTERA) OF NEW ZEALAND

DESCRIPTIONS OF NEW SPECIES, NOTES ON TYPES, AND A CATALOGUE

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INTRODUCTION

This paper is designed to bring systematic knowledge of the Melolonthinae of New Zealand up to date, while recognising that much material has yet to be collected, and much collected material is yet to be examined. However, a certain number of clear-cut species have recently been discovered and during 1954 it was possible to examine closely and prepare drawings from type material at the British Museum of Natural History. What is herein set out completes, on present-day standards, a basis on which future work may be conducted without perpetuation of fundamental taxonomic errors.

This paper should be used in conjunction with the author's revision of the group (Given, 1952).

ACKNOWLEDGMENTS

The production of this paper, both in the execution of investigations and in final preparation for publication would not have been possible, without the assistance and permission of the Trustees and Staff of the British Museum of Natural History. In particular, the author is indebted to Mr E. B. Britton of that institution for his advice and opinions whenever these have been sought. Grateful acknowledgment is made to collectors and institutions throughout New Zealand who have given or loaned material; no specimens requested have been withheld.

KEY TO GENERA OF NEW ZEALAND Melolonthinae

- | | |
|--|----------------------------|
| 1. Antennae 9 - segmented..... | <i>Ocnodus</i> Burm. |
| Antennae 8 - segmented..... | 2 |
| 2. Metasternal process present..... | 3 |
| Metasternal process absent..... | 6 |
| 3. Large beetles not less than 12 mm. in length..... | <i>Chlorochiton</i> Arrow |
| Small beetles less than 10 mm in length..... | 4 |
| 4. Metasternal process in the form of a carina, not anteriorly produced..... | 5 |
| Metasternal process strongly anteriorly produced..... | <i>Pyronota</i> Boisd. |
| 5. Metasternal process anteriorly raised or angled..... | <i>Mycernus</i> Broun |
| Metasternal process not anteriorly raised or angled..... | <i>Psilodontria</i> Broun |
| 6. Elytral margins strongly flanged laterally; elytra fused medially..... | <i>Scythrodes</i> Broun |
| Elytra not flanged or fused..... | 7 |
| 7. Metasternum much longer than mesosternum..... | 8 |
| Metasternum not longer than mesosternum..... | <i>Prodontria</i> Broun |
| 8. Sternal surfaces without long silky hairs..... | <i>Sericospilus</i> Sharp. |
| Sternal surfaces with long silky hairs..... | 9 |
| 9. Alternate elytral interstices of equal width, uniformly punctate and not costate..... | <i>Odontria</i> White |
| Alternate elytral interstices very narrow, non-punctate and raised as distinct costae..... | <i>Costelytra</i> Giv. |

DESCRIPTIONS OF NEW SPECIES AND NOTES ON TYPE MATERIAL

NOTE—Comprehensive details of name changes, etc., are set out in the catalogue at the end of the paper.

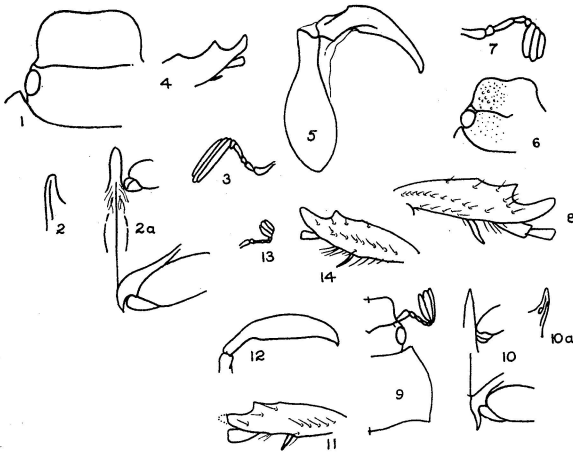
Genus *Chlorochiton* Arrow*C. lineata* (Arrow). (Figs 1-5)

Examination of the holotype male, from which the figures were drawn, shows that the material previously examined (Given, 1952) was correctly determined, any differences being within reasonable bounds of specific variation.

Other types examined were *C. suturalis* Fabr., *C. laevis* Arrow, *C. prasinus* (Broun), *C. longicornis* Arrow, *C. discoidea* (Broun) and *C. simmondsi* (Broun). *C. pulcher* (Broun) type has been previously examined.

Genus *Pyronota* Boisduval*P. festiva* (Fabricius). (Figs 6-8)

The type in the Banks collection is a female. This collection also contains a paratype female. The colour is light green, suture brownish red, scutellum dark, thoracic median stripe present, lateral elytral stripes rather faint, reddish purple, ventral surface red-brown, legs somewhat lighter. Ventral vestiture white. Details of form of fore tibia, antenna and head are as figured.



- FIG. 1—*Chlorochiton lineata* (Arrow) type male; clypeal outline
 FIG. 2—*Chlorochiton lineata* (Arrow) type male; metasternal process, lateral
 FIG. 2a—*Chlorochiton lineata* (Arrow) type male; metasternum
 FIG. 3—*Chlorochiton lineata* (Arrow) type male; antenna
 FIG. 4—*Chlorochiton lineata* (Arrow) type male; fore-tibial apex
 FIG. 5—*Chlorochiton lineata* (Arrow) type male; parameres, lateral
 FIG. 6—*Pyronota festiva* (Fabricius) type female; head
 FIG. 7—*Pyronota festiva* (Fabricius) type female; antenna
 FIG. 8—*Pyronota festiva* (Fabricius) type female; fore tibia
 FIG. 9—*Pyronota lugubris* Sharp, Broun material; male; head and pronotum
 FIG. 10—*Pyronota lugubris* Sharp, Broun material; male; metasternum
 FIG. 10a—*Pyronota lugubris* Sharp, Broun material; male; metasternal process, profile
 F.G. 11—*Pyronota lugubris* Sharp, Broun material; male; fore tibia
 FIG. 12—*Pyronota lugubris* Sharp, Broun material; male; parameres lateral
 FIG. 13—*Pyronota lugubris* Sharp, Broun material; female; antenna
 FIG. 14—*Pyronota lugubris* Sharp, Broun material; female; fore tibia

P. laeta (Fabricius) is represented in the Banks collection by the holotype female. This appears to be a variant of *P. festiva*.

The Broun type material of the genus was examined and is placed in correct relationship in the catalogue. The *P. lugubris* illustrated in Figs 9–14 is Broun material. Broun did not see Sharp's type and there is therefore no certainty that his determination was correct. Broun's *P. pallida* is a colour variant of his *lugubris*.

Genus *Costelytra* Given

This genus presents numerous problems at present and until much more collecting has been done, these problems cannot be satisfactorily solved. The range of known occurrence of the genus (apart from the species *zealandica* (White)) is extending year by year, but most new locality records are known from single specimens, no two of which appear identical.

The genotype, *C. zealandica* (White) has been examined and is identical with material as described (Given, 1952). *C. brunneum* (Broun) type material has also been seen and checks with Given 1952 description and figures.

C. diurna n.sp. (Figs 15–24)

The smallest species of the genus, and the only one known to be diurnal in flight.

Colour: Head black or piceous, pronotum black with testaceous areas towards lateral margins, scutellum black or piceous, elytra sub-metallic fumose testaceous with sutural stripe and lateral margins dark, almost black. Ventral surface and legs dark brown or piceous except for fore tibiae and femora which may be partly testaceous. Antennal club brown.

Head small, clypeus rugosely punctate, broadly rounded, obscurely truncate anteriorly, the margin strongly reflexed, depressed medially to the frontal suture. Frontal area rather coarsely punctate, particularly towards suture, but not rugose, somewhat flattened. Antennae (Fig. 16) similar in both sexes, segments 1–5 short, club rather broad and short. Palpi very short, not apically truncate. Labrum not prominent.

Pronotum not strongly produced at anterior angles, not strongly transverse. Punctuation irregular, more coarse anteriorly than elsewhere.

Scutellum rather pointed posteriorly, irregularly punctate.

Elytra with punctures deeply impressed but rather sparse.

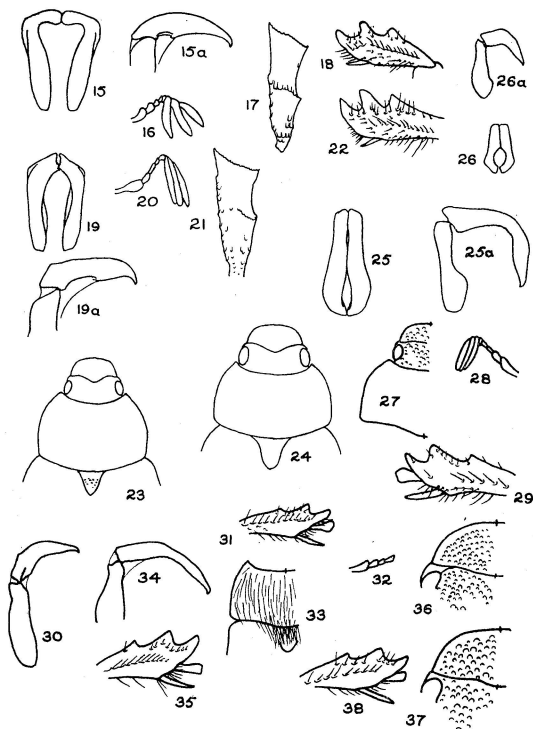
Fore tibiae (Fig. 18) not highly distinctive, rather bluntly toothed. Hind tibiae (Fig. 17) distinguished by the more or less complete row of strongly impressed setal bases below the tibial neck.

Vestiture moderately dense and long ventrally. Dorsally, long sub-erect bristles on the clypeus and anterior third of the pronotum, marginal bristles on pronotum and elytra and long decumbent hairs partly covering the scutellum.

Length: 7 mm – 9 mm.

Types: Holotype male and 58 paratypes in the collection of the Entomology Division, D.S.I.R., Nelson. Six paratypes in the collection of the British Museum (Natural History). All material was collected by Mr D. Wraight of the Department of Agriculture, Timaru, at the Gleniti golf links on 5 December 1955.

Remarks: The discovery of this species near Timaru is remarkable in view of the fact that the insect is day-flying and apparently congregates in conspicuous swarms. It is difficult to credit that a native insect of such conspicuous habits should for so long have remained undiscovered. In view of this, specimens were sent to Mr E. B. Britton of the British Museum (Natural History) who evidenced the opinion that the material was of the genus *Costelytra*, and not of Australian or other origin.



- FIG. 15—*Costelytra diurna* n. sp. type male; parameres, posterior
 FIG. 15a—*Costelytra diurna* n. sp. type male; parameres lateral
 FIG. 16—*Costelytra diurna* n. sp. type male; antenna
 FIG. 17—*Costelytra diurna* n. sp. type male; hind tibia
 FIG. 18—*Costelytra diurna* n.sp. type male; fore tibia
 FIG. 19—*Costelytra zealandica* (White) male; parameres, posterior
 FIG. 19a—*Costelytra zealandica* (White) male; parameres, lateral
 FIG. 20—*Costelytra zealandica* (White) male; antenna
 FIG. 21—*Costelytra zealandica* (White) male; hind tibia
 FIG. 22—*Costelytra zealandica* (White) male; fore tibia
 FIG. 23—*Costelytra diurna* male; head and thorax
 FIG. 24—*Costelytra zealandica* male; head and thorax
 FIG. 25—*Ocnodus brookesi* (Broun) male; parameres, posterior
 FIG. 25a—*Ocnodus brookesi* (Broun) male; parameres, lateral.
 FIG. 26—*Ocnodus unidentatus* Lea (Australia) male; parameres, posterior
 FIG. 26a—*Ocnodus unidentatus* Lea (Australia) male; parameres, lateral
 FIG. 27—*Odontria monticola* Broun, type female; head and pronotum
 FIG. 28—*Odontria monticola* Broun, type female; antenna
 FIG. 29—*Odontria monticola* Broun, type female; fore tibia
 FIG. 30—*Odontria fusca* Broun, type male; parameres, lateral
 FIG. 31—*Odontria fusca* Broun, type male; fore tibia
 FIG. 32—*Odontria fusca* Broun, type male; antennal remnant
 FIG. 33—*Odontria fusca* Broun, type male; pronotal outline
 FIG. 34—*Odontria suavis* Broun, type male; parameres, lateral
 FIG. 35—*Odontria suavis* Broun, type male; fore tibia
 FIG. 36—*Odontria suavis* Broun, type male; head
 FIG. 37—*Odontria rufescens* Given, type male; head
 FIG. 38—*Odontria rufescens* Given, type male; fore tibia

Mr Wraight has informed the author that he located two swarms of beetles, one on the golf links, and another in an area sown in rape some two miles distant.

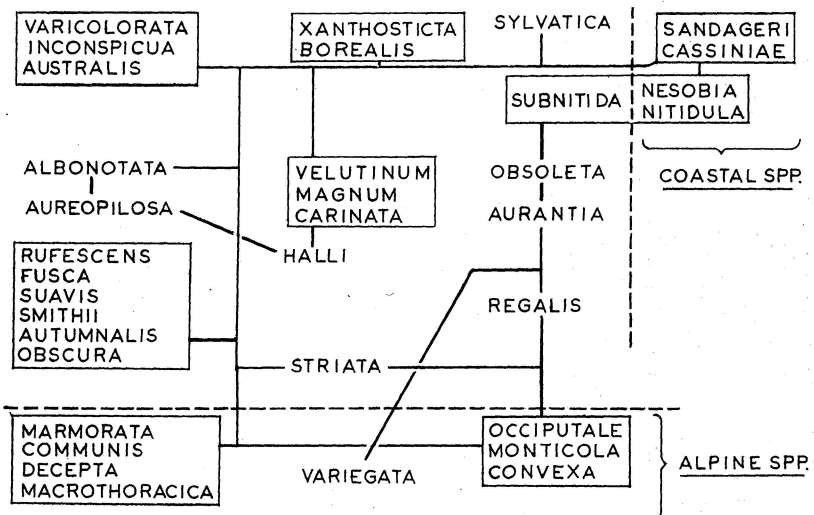
C. diurna is probably closest allied to *C. zealandica* (White), but is readily separated from this and other species of the genus by colour, antennal characters, hind tibiae, dorsal vestitute, punctuation, and genital characters.

Genus *Odontria* White

All type material of this genus as now interpreted (Given, 1952) has been seen and examined. Several corrections have been made to the 1952 status of species and synonymy, and in at least one case the position rather than becoming clarified, has become somewhat confused and must await further collecting for final analysis (the *rufescens*, *fusca*, *suavis* complex). The *marmorata*, *convexa* etc. group and the *occiputale* complex still need further collection and study. These species groups, being variable infra-specifically and closely allied specifically cannot be reliably determined until long series from numerous localities have been studied.

A new key to this genus is needed but cannot be satisfactorily produced until both sexes of many species are available, and until the groups mentioned above have been clarified. The following table illustrates apparent relationships of species and species groups.

TABLE 1



O. monticola Broun. (Figs 27-29)

The author had previously considered this species to be synonymous with *O. striata* White (Given, 1952, p. 34). Examination of the type has, however, shown it to be a valid species very close to *O. regalis* Given. It is unfortunate that the type, which is at present unique, is a female.

The *O. fusca* complex. (Figs 30-38).

This complex appears to embrace *O. fusca*, *O. suavis*, *O. rufescens*, perhaps *O. smithii* etc. (see Table 1) and several other forms at present better left undescribed. Within this broad grouping, *O. suavis* and *O. rufescens* are so close that it is probable that further collection will collapse the latter species. Outside the group are species such as *O. variegata* and related undescribed forms which, with extended knowledge of variation and distribution, will almost certainly merge into the group. As at present known, the group may be split into three sections. *O. fusca* stands slightly apart on genital characters, *O. suavis* and *O. rufescens* group together with a number of undescribed forms, and *O. smithii*, *O. autumnalis*, *O. obscura* and several undescribed forms make up the third group. The entire group shows clinal tendencies which are becoming more pronounced with each season's collecting.

Two species in the Broun collection (British Museum, National History) which the writer tentatively associates with types of the opposite sex are illustrated in Figs 39-44. These are probably females of *O. inconspicua* Given and *O. aureopilosa* Given.

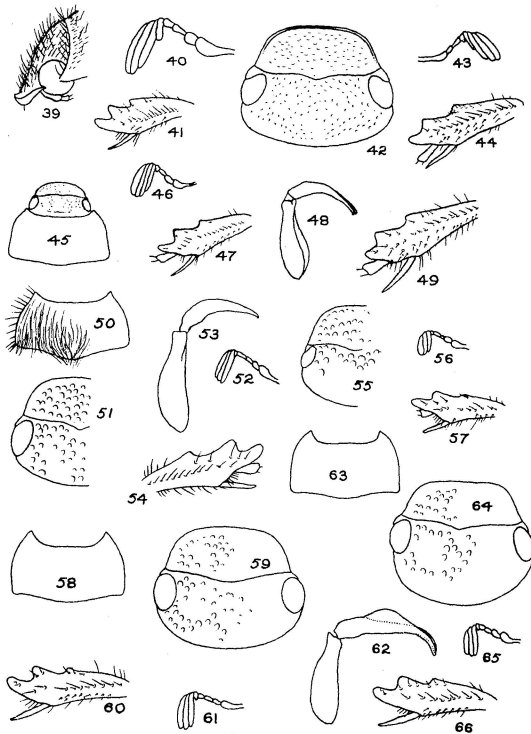
The type of *O. xanthostica* White is a female and is identical with material attributed to that species in New Zealand. Examination has shown that the following species fall into synonymy under *xanthostica*: *O. piciceps* Broun, *O. punctulata* Broun, and *O. cinnamomea* Broun. This leaves the *O. piciceps* of the author (Given, 1952, p. 32) without a name. For this species as described in the work referred to above, the name *O. borealis* is proposed.

O. albonotata Broun (Figs 45-48) has now been identified with material from the vicinity of Rotorua and a good series is present in the collection of the Entomology Division, D.S.I.R., at Nelson.

O. obsoleta Broun (Figs 50-54) appears to fall between *O. aurantia* Given and *O. nitidula* Broun. However, *obsoleta* is moderately densely invested with long hairs whereas this is not the case with *aurantia* or *nitidula*. The pronotal vestiture is fur-like as in no other known species of the genus. The colour is dull light yellow-brown.

The type of *O. occiputale* is unfortunately a female but appears to be identical with material in New Zealand under the same name.

O. marmorata Broun (Figs 58-62) embraces *similis* Broun (Figs 63-66). Unfortunately, the type of *similis* is a female.



- FIG. 39—*Odontria inconspicua* ? Given, female; head, lateral
 FIG. 40—*Odontria inconspicua* ? Given, female; antenna
 FIG. 41—*Odontria inconspicua* ? Given, female; fore tibia
 FIG. 42—*Odontria aureopilosa* ? Given, female; head
 FIG. 43—*Odontria aureopilosa* ? Given, female; antenna
 FIG. 44—*Odontria aureopilosa* ? Given, female; fore tibia
 FIG. 45—*Odontria albonotata* Broun, type male; head and pronotum
 FIG. 46—*Odontria albonotata* Broun, type male; antenna
 FIG. 47—*Odontria albonotata* Broun, type male; fore tibia
 FIG. 48—*Odontria albonotata* Broun, type male; parameres, lateral
 FIG. 49—*Odontria borealis* Given, type male; fore tibia
 FIG. 50—*Odontria obsoleta* Broun, type male; pronotum
 FIG. 51—*Odontria obsoleta* Broun, type male; head
 FIG. 52—*Odontria obsoleta* Broun, type male; antenna
 FIG. 53—*Odontria obsoleta* Broun, type male; parameres, lateral
 FIG. 54—*Odontria obsoleta* Broun, type male; fore tibia
 FIG. 55—*Odontria occiputale* Broun, type female; head
 FIG. 56—*Odontria occiputale*, Broun, type female; antenna
 FIG. 57—*Odontria occiputale* Broun, type female; fore tibia
 FIG. 58—*Odontria marmorata* Broun, type male; pronotum
 FIG. 59—*Odontria marmorata* Broun, type male; head
 FIG. 60—*Odontria marmorata* Broun, type male; fore tibia
 FIG. 61—*Odontria marmorata* Broun, type male; antenna
 FIG. 62—*Odontria marmorata* Broun, type male; parameres, lateral
 FIG. 63—*Odontria similis* Broun, type female; pronotum
 FIG. 64—*Odontria similis* Broun, type female; head
 FIG. 65—*Odontria similis* Broun, type female; antenna
 FIG. 66—*Odontria similis* Broun, type female; fore tibia

Genus *Prodontria* BrounKey to Species of the genus *Prodontria* Broun

1. Pronotum and elytra dull, invested with hairs.....2
Pronotum and elytra nitid, hairless or almost so.....4
2. Vestiture dense and velvety. (Remarkables, Queenstown).....*P. pinguis* Giv.
Vestiture not dense and velvety.....3
3. Antennal club of male quadrilamellate, colour light, distinctly striate mottled. (Coastal areas, Southland)*P. praelatella* (Broun)
Antennal club of male trilamellate, the fifth segment produced but not equal to lamellate segments, colour dark, not distinctly mottled. (Snare Is.).....*P. longitarsis* (Broun)
4. Colour light brown, with or without darker suffusions.....5
Colour black or very dark.....6
5. Colour uniform light brown. (Molyneux River, Cromwell).....*P. lewisii* Broun
Colour light brown with darker suffusions on pronotum and elytra (Alexandra).....*P. bicolorata* Giv.
6. Elytra strongly striate.....7
Elytra obscurely striate.....8
7. Elytra rather elongate with numerous whitish decumbent hairs. (Hunter Mts.).....*P. setosa* Giv.
Elytra short with few hairs except at margins. (Manor Burn, Central Otago).....*P. modesta* (Broun)
8. Colour black, elytra glabrous (Old Man Range).....*P. capito* Broun
Colour dark red-brown, elytra sparsely haired. (Lake Monowai).....*P. truncata* n. sp.

P. longitarsis (Broun). 1909 (Figs 67-72)

Examination of the type of this species in the Dominion Museum, Wellington, has clearly shown its affinity to *Prodontria* and it is therefore transferred from *Odontria*. The following descriptive notes with figures will serve to augment the original description of the species.

Colour: Dull red brown, legs shining and brighter in colour.

Head (Fig. 68) shining, sparsely, shallowly punctate.

Clypeus narrowly reflexed. Antennae as in Fig. 70.

Pronotum (Figs 67, 68) dull, finely punctate, vestiture short and decumbent, marginal bristles long. Scutellum finely punctate.

Elytra dull, characterised by irregular, shining, elongate strial punctures (Fig. 71) which do not bear bristles. Interspaces finely punctate and minutely transversely rugose with scattered larger punctures bearing elongate bristles.

Ventral surface invested with short hairs.

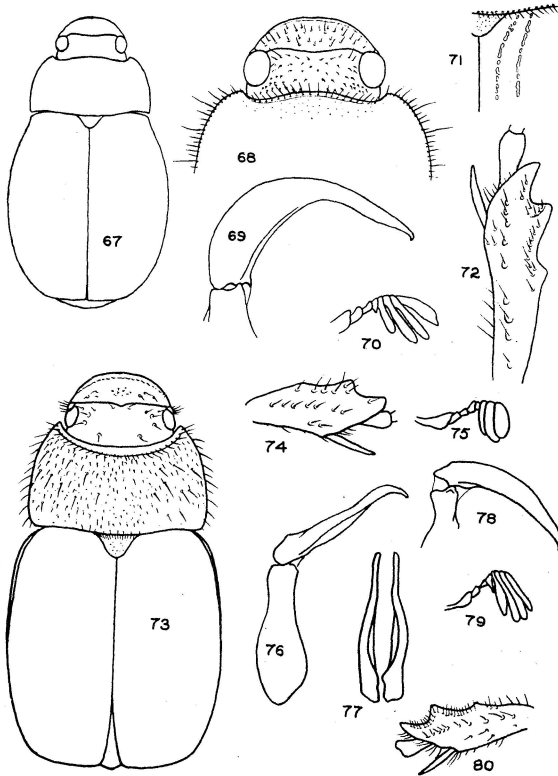
Fore-tibia and genital parameres as illustrated (Figs 72, 69).

Known only from the male holotype collected by G. V. Hudson at The Snare.

Length - 18 mm.

P. praelatella (Broun). (Figs 78-80).

The type of this species is identical with material identified in New Zealand from description.



- FIG. 67—*Prodontria longitarsis* (Broun), type male; dorsal
 FIG. 68—*Prodontria longitarsis* (Broun), type male; head
 FIG. 69—*Prodontria longitarsis* (Broun), type male; parameres, lateral
 FIG. 70—*Prodontria longitarsis* (Broun), type male; antenna
 FIG. 71—*Prodontria longitarsis* (Broun), type male; strial punctures
 FIG. 72—*Prodontria longitarsis* (Broun), type male; fore tibia
 FIG. 73—*Prodontria truncata* n. sp. type male; dorsal
 FIG. 74—*Prodontria truncata* n. sp. type male; fore tibia
 FIG. 75—*Prodontria truncata* n. sp. type male; antenna
 FIG. 76—*Prodontria truncata* n. sp. type male; parameres, lateral
 FIG. 77—*Prodontria truncata* n. sp. type male; parameres, posterior
 FIG. 78—*Prodontria praelatella* (Broun) type male; parameres, lateral
 FIG. 79—*Prodontria praelatella* (Broun) type male; antenna
 FIG. 80—*Prodontria praelatella* (Broun) type male; fore tibia

P. truncata n. sp. (Figs 73–77).

Colour dark red-brown dorsally, somewhat lighter ventrally.

Head (Fig. 73) broad, rounded, sparsely haired. Clypeus broad and anteriorly uniformly rounded. Eyes small.

Pronotum (Fig. 73) moderately strongly transverse, vestiture as illustrated. Posterior angles rounded, anterior angles moderately prominent.

Elytra short, markedly truncate, strongly convex. Vestiture (not illustrated) about as dense as on pronotum.

Fore-tibiae, antennae, and genitalia as illustrated (Figs 74-77).

Length - 11 mm.

Type: Holotype male, collected by Mr D. Tuart near Lake Monowai about December 1956, in the collection of the Dominion Museum, Wellington. The specimen was submitted for description by Mr G. Ramsay.

Remarks: This species is allied to *P. capito* Broun, but may be distinguished by the presence of dorsal vestiture, less convex and compact form and lighter colour.

Genus *Sericospilus* Sharp

It is unfortunate that the genotype (*S. advena* Sharp) has not been examined.

An examination of the type of *S. rossii* (White) (Figs 93, 94) shows this species to be allied to *S. brevis* Given and *S. minor* Given. In fact, the last two species may be better placed in subspecific status under *rossii*. A specimen in the Broun collection labelled as *rossii* (Figs. 95, 96) is also close but is even closer to *minor*.

S. costella (Broun) type (Figs 84-86) is in general appearance close to *aenealis* (Broun), but differs from that species markedly in genitalia. Differences in external structure (pronotal outline, less strongly reflexed clypeal margin and minor antennal differences) could be considered as sub-specific.

The type of *S. eximia* (Broun) (Figs 87, 89, 91) is similar to *S. truncatus* Given, differing as illustrated in relative antennal size, truncation of elytra, ultimate fore-tarsal segment and genital parameres.

The type of *S. aenealis* (Broun) is exactly as illustrated previously (Given, 1952).

Sericospilus ornatus n. sp. (Figs 81-83)

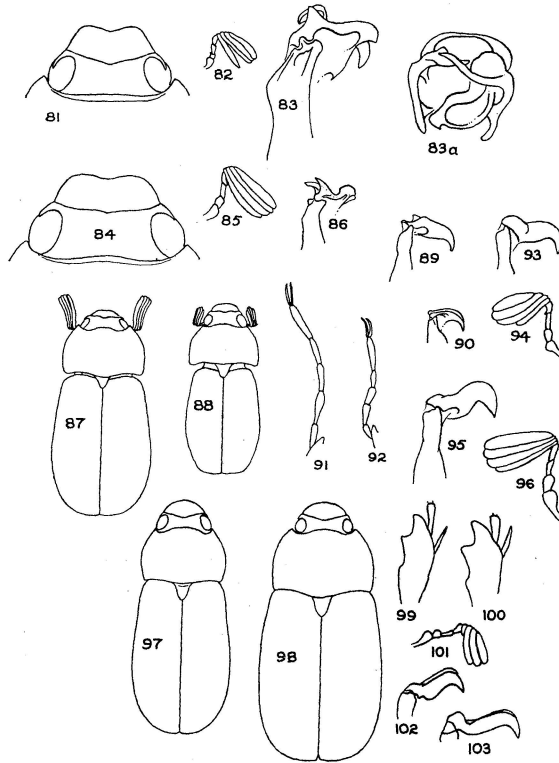
Colour: Iridescent testaceous dorsally with darker suffusions on head and thorax and sooty black striae patches on elytra, testaceous ventrally.

Form slender, similar to *aenealis* and *costella*.

Clypeus (Fig. 81) anteriorly incurved, with anterior and lateral margins strongly reflexed. Antennae of male (Fig. 82) with four equal lamellae, the fourth segment not modified.

Pronotum broadest posteriorly, anterior angles acute and prominent, posterior angles rectangular.

Elytra very elongate, otherwise not characteristic.



- FIG. 81—*Sericospilus ornatus*, n. sp. type male; head
 FIG. 82—*Sericospilus ornatus*, n. sp. type male; antenna
 FIG. 83—*Sericospilus ornatus*, n. sp. type male; parameres, lateral
 FIG. 83a—*Sericospilus ornatus*, n. sp. type male; parameres, posterior
 FIG. 84—*Sericospilus costella* (Broun), type male; head
 FIG. 85—*Sericospilus costella* (Broun), type male; antenna
 FIG. 86—*Sericospilus costella* (Broun), type male; parameres, lateral
 FIG. 87—*Sericospilus eximia* (Broun), type male; dorsal
 FIG. 88—*Sericospilus truncatus* Given, type male; dorsal
 FIG. 89—*Sericospilus eximia*, type male; parameres, lateral
 FIG. 90—*Sericospilus truncatus*, type male; parameres, lateral
 FIG. 91—*Sericospilus eximia*, type male; fore tarsus
 FIG. 92—*Sericospilus truncatus*, type male; fore tarsus
 FIG. 93—*Sericospilus rossii* (White), type male; parameres, lateral
 FIG. 94—*Sericospilus rossii* (White), type male; antenna
 FIG. 95—*Sericospilus rossii* (according to Broun), male; parameres, lateral
 FIG. 96—*Sericospilus rossii* (according to Broun), male; antenna
 FIG. 97—*Sericospilus watti* n. sp. type male; dorsal
 FIG. 98—*Sericospilus glabrata* (Broun), male; dorsal
 FIG. 99—*Sericospilus watti*, type male; fore tibia
 FIG. 100—*Sericospilus glabrata*, male; fore tibia
 FIG. 101—*Sericospilus watti*, type male; antenna
 FIG. 102—*Sericospilus watti*, type male; parameres, lateral
 FIG. 103—*Sericospilus glabrata*, type male; parameres, lateral

Ultimate fore tarsal segment considerably longer than penultimate.

Length: 11 mm.

Type: Male collected by Dr R. A. Cumber, Waipoua Forest, 21 January 1957, in the collection of the Entomology Division, D.S.I.R., Nelson.

No other specimens known.

Remarks: In general appearance, this species resembles *costella* (Broun) and *aenealis* (Broun). However, it may be separated from *costella* on the form of the fourth antennal segment (Figs 82, 85) and the clypeal outline (Figs 81, 84). From *aenealis* it may readily be distinguished by the relatively long ultimate segment of the fore tarsus, which is little if any longer than the penultimate one in *aenealis*. Pronotal outline and antennal characters also distinguish it from *aenealis* and the fact that the pronotum is broadest about the middle in *aenealis*, and broadest between the posterior angles in *ornatus* may also assist in separation.

Sericospilus watti n. sp. (Figs 97, 99, 101, 102).

A small slender glabrous species, closely allied only to *S. glabrata* (Broun).

Colour: Dark brown dorsally, darker areas suffused on discal areas of head and pronotum, ventral surface and legs lighter.

Head with clypeus strongly depressed and finely punctate-rugulose, frons finely punctate but not rugulose. Antenna of male tri-lamellate, club short. Labial palpi apically truncate.

Pronotum (Fig. 97) definitely narrowed posteriorly, not strongly transverse, anterior angles acute.

Elytra (Fig. 97) elongate, parallel-sided.

Male genitalia (Fig. 102) similar to those of *S. glabrata*, but with parameres less slender and more sharply pointed.

Length: 8 mm. Breadth: 3 mm.

Type: Collected by Mr J. C. Watt, Mt Hobson, Gt Barrier Island, 20 November 1954. In the collection of Mr J. C. Watt.

Remarks: This species is the only one except *S. glabrata* (Broun) in the genus with a tri-lamellate antennal club in the male. From *glabrata* it differs in being smaller, more slender, in having the pronotum narrowed posteriorly (Figs 97, 98), somewhat more slender fore tibia and less slender male genital parameres (Figs 102, 103). Antennae and colour are almost identical in the two species.

Genus *Ocnodus* Burmeister (Figs 25, 26)

The genus *Xylostygnus* Broun has been considered for some time to be inconsistent with the New Zealand melolonthid fauna. Being entirely coastal, it was thought to have originated as a possible wanderer of relatively recent times from Australia. This has proved almost certainly to be the case and *Xylostygnus* is now submerged beneath the Australian genus *Ocnodus*.

Figures 26 and 27 illustrate fundamental similarities of structure in genital parameres between Australian and New Zealand species. These basic similarities are clearly seen in all aspects of material from the two countries. This is the only melolonthid genus in New Zealand having 9-segmented antennae and is the only genus of the subfamily common to Australia and New Zealand.

REFERENCE

GIVEN, B. B. 1952: *Bull. N.Z. Dep. sci. industr. Res.* 102.

CATALOGUE OF THE MELOLONTHINAE OF NEW ZEALAND

Family SCARABAEIDAE

Subfamily MELOLONTHINAE

Tribe SERICINI Dalla Torre, 1912, *Coleopt. Cat.* 45, Scarabaeidae: Melolonthinae, 1:8. (Britton, 1957, *A Revision of the Australian Chafers* (Coleoptera: Scarabaeidae: Melolonthinae), 1:9.)

Genus *Mycernus* Broun, 1904

Ann. Mag. nat. Hist. (7) 14:52

Genotype: *Mycernus Elegans* Broun, 1904.

elegans Broun, 1904. *Ann. Mag. nat. Hist.* (7) 14:52

Intermediatus Given, 1952. *Bull. N.Z. Dep. sci. industr. Res.* 102:74

Genus *Psilodontria* Broun, 1895

Ann. Mag. nat. Hist. (6) 15:200

Genotype: *Psilodontria Viridescens* Broun, 1895.

viridescens Broun, 1895. *Ann. Mag. nat. Hist.* (6) 15:201

Tribe XYLONYCHINI Britton, 1957, *A Revision of the Australian Chafers* (Coleoptera: Scarabaeidae: Melolonthinae) 1:9.

Genus *Chlorochiton* Arrow, 1903

Ann. Mag. nat. Hist. (7) 2:305

Neostethaspis Dalla Torre, 1912. *Cat. Coleopt.* 47:89

Melolontha (Part) Fabricius, 1775. *Syst. Ent.* : 31

Rutela (Part) Schoenherr, 1817. *Syn. Insect.* 1 (3) : 149

Micronyx Boisduval, 1835. *Voy. de L'Astrolabe, Coleopt.* : 188 (Not Schoenherr, 1833)

Rutele Boisduval, 1835. *Op. cit.*, Atlas

Stethaspis Hope, 1837. *Coleopt. Man.* 1:104

Paranonca Castelnau, 1840. *Hist. Nat. Coleopt.* 2:143

Costleya Broun, 1893. *Man. N.Z. Coleopt.* 5:1115

Poecilodiscus Broun, 1895. *Ann. Mag. nat. Hist.* (6) 16:201

Genotype: *Melolontha Suturalis* Fabricius, 1775.

- convexa* Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:94
discoidea (Broun), 1893. Man. N.Z. Coleopt. 5:1116 (*Costleya*).
 Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:96 (*Chlorochiton*)
intermediata Given, 1952. *ibid.*:95
lineata (Arrow), 1924. Ann. Mag. nat. Hist. (9) 13:553 (*Costleya*)
 Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:97 (*Chlorochiton*)
longicornis Arrow, 1924. Ann. Mag. nat. Hist. (9) 13:550
prasinus (Broun), 1893. Man. N.Z. Coleopt. 5:1115 (*Stethaspis*)
 Arrow, 1903. Ann. Mag. nat. Hist. (7) 11:305 (*Chlorochiton*)
 Dalla Torre, 1912. Coleopt. Cat. 47:89. (*Neostethaspis*)
planiclypeus Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:94.
pulcher (Broun), 1895. Ann. Mag. nat. Hist. (6) 15:205. (*Poecilodiscus*)
 Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:96 (*Chlorochiton*).
simmondsi (Broun), 1893. Man. N.Z. Coleopt. 5:1115. (*Costleya*)
 Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:98 (*Chlorochiton*).
suturalis (Fabricius), 1775. Syst. Ent. : 34. (*Melolontha*).
 Schoenherr, 1817. Syn. Insect. 1 (3):150. (*Rutela*)
 Hope, 1837. Coleopt. Man. 1:104. (*Stethaspis*).
 Arrow, 1903. Ann. Mag. nat. Hist. (7) 11:305. (*Chlorochiton*)
chlorophyllus Boisduval, 1835. Voy de l'Astrolabe, Coleopt. :189.
 (*Micronyx*).
chlorophylle Boisduval, 1835. *ibid.*, Atlas (*Rutela*).
laevis Arrow, 1924. Ann. Mag. nat. Hist. (9) 13:551.

Genus *Pyronota* Boisduval, 1835.

Voy. de l'Astrolabe, Coleopt. :213.

Melolontha (Part) Fabricius, 1775. Syst. Ent. : 36.

Rutela (Part) Schoenherr, 1817. Syn. Insect 1 (3):149

Calonota Hope, 1837. Coleopt. Man. 1:107

Dalla Torre, 1912. Coleopt. Cat. 47:90

Genotype: *Melolontha festiva* Fabricius, 1775.

edwardsi Sharp, 1876. Ent. mon. Mag. 13:72

Dalla Torre, 1912. Coleopt. Cat. 47:90. (*Calonota*).

dives Broun, 1893. Man. N.Z. Coleopt. 5:1117

Var. A. Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:78

Var. B. Given, 1952 *ibid.* : 79.

Var. C. Given, 1952. *ibid.* :79.

Var. D. Given, 1952. *ibid.* :79.

festiva (Fabricius), 1775. Syst. Ent. : 36. (*Melolontha*).

Schoenherr, 1817. Syn. Insect. 1 (3):153. (*Rutela*).

Hope, 1837. Coleopt. Man. 1:74, 107. (*Calonota*).

Boisduval, 1835. Voy de l'Astrolabe, Coleopt. : 213. (*Pyronota*).

Dalla Torre, 1912. Coleopt. Cat. 47:90 (*Calonota*).

laeta Fabricius, 1775. Syst. Ent. :36 (*Melolontha*).

electa Broun, 1893. Man. N.Z. Coleopt. 5:1116.

regalis Broun, 1893. *ibid.* : 1116

aurata Broun, 1893, *ibid.* : 1117

purpurata Broun, 1893. *ibid.* : 1117

caerulea Broun, 1893. *ibid.* : 1117

- inconstans* Brookes, 1926. Trans. N.Z. Inst. 56:444
 Var. *A.* Given, 1952. N.Z. Dep. sci. industr. Res. Bull. 102:80
lugubris Sharp, 1876. Sci. Trans. R. Dublin Soc., 3 (2):398.
 Dalla Torre, 1912. Coleopt. Cat. 47:90 (*Calonota*).
minor Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:81
munda Sharp, 1876. Ent. mon. Mag. 13:73
 Dalla Torre, 1912. Coleopt. Cat. 47:90 (*Calonota*).
pallida Broun, 1893. Man. N.Z. Coleopt. 5:1118
punctata Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:83.
rubra Given, 1952. *ibid.* : 82
setosa Given, 1952. *ibid.* : 81.
sobrina Sharp, 1876. Ent. mon. Mag. 13:73.
 Dalla Torre, 1912. Coleopt. Cat. 47:91 (*Calonota*).
splendens Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:83

Tribe COLPOCHILINI Britton, 1957. A revision of the Australian
 Chafers (Coleoptera: Scarabaeidae: Melolonthinae) 1:10

Genus *Costelytra* Given, 1952.

Bull. N.Z. Dep. sci. industr. Res. 102:13

Rhisotrogus White, 1846. Voy. Erebus and Terror, Zool., Insects:10
 (Not Latreille, 1829).

Odontria Blanchard, 1850. Mus. d'hist. Nat. Paris.

Cat. Coll. Ent., Coleopt. 1:106. (Not White, 1846).

Genotype: *Rhisotrogus Zealandicus* White, 1846.

austrobrunneum Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:17.

brunneum (Broun), 1880. Man. N.Z. Coleopt. 1:270. (*Odontria*).

Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:16 (*Costelytra*).

macrobrunneum Given, 1952. *ibid.* : 17

piceobrunneum Given, 1952. *ibid.* : 18.

pseudobrunneum Given, 1952. *ibid.* : 19

zealandica (White), 1846. Voy. Erebus and Terror, Zool., Insects : 10
 (*Rhisotrogus*).

Blanchard, 1850. Mus. d'hist. Nat. Paris, Cat Coll. Ent., Coleopt.
 1:106. (*Odontria*).

Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:14 (*Costelytra*).

castanea Blanchard, 1850. Mus. d'Hist. Nat. Paris Cat. Coll. Ent.
 Coleopt. 1:107. (*Odontria*).

diurna n.sp.

Genus *Odontria* White, 1846.

Voy. Erebus and Terror, Zool., Insects : 10

Genotype: *Odontria Striata* White, 1846.

albonotata Broun, 1893. Man. N.Z. Coleopt. 5:1118

aurantia Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:47

aureopilosa Given, 1952. *ibid.* : 34

australis Given, 1952. *ibid.* : 36.

autumnalis Given, 1952. *ibid.* : 37.

carinata Given, 1954. Rec. Auckland (N.Z.) Inst. 4 (5):269

cassiniae Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:29

- communis* Given, 1952. *ibid* : 42.
convexa Given, 1952. *ibid.* : 42.
decepta Given, 1952. *ibid.* : 44.
fusca Broun, 1893. *Man. N.Z. Coleopt.* 7:1452.
balli Broun, 1921. *Bull. N.Z. Inst.* 1 (6) :533.
inconspicua Given, 1952. *Bull. N.Z. Dep. sci. industr. Res.* 102:33
macrothoracica Given, 1952. *ibid.* : 45.
magnum Given, 1952. *ibid.* : 27
marmorata Broun, 1893. *Man. N.Z. Coleopt.* 7:1451
 similis Broun, 1912. *Trans. N.Z. Inst.* 44:427
monticola Broun, 1912. *Trans. N.Z. Inst.* 44:426.
 Given, 1952. *Bull. N.Z. Dep. sci. industr. Res.* 102:34. (*Syn. of striata*)
nesobia Broun, 1912. *Bull. N.Z. Inst.* 1 (7) :615.
nitidula Broun, 1911. *Trans. N.Z. Inst.* 44:425.
obscura Broun, 1895. *Ann. Mag. nat. Hist.* (6) 15 :203
obsoleta Broun, 1917. *Bull. N.Z. Inst.* 1 (5) :390.
occiputale Broun, 1893. *Man. N.Z. Coleopt.* 7:1451.
 epomeas Lewis, 1903. *Trans. N.Z. Inst.* 35 :272.
regalis Given, 1952. *Bull. N.Z. Dep. sci. industr. Res.* 102:48
rufescens Given, 1952. *ibid.* : 40
sandageri Broun, 1881. *Man. N.Z. Coleopt.* 2:929.
smithii Broun, 1893. *ibid.* 7:1450.
striata White, 1846. *Voy. Erebus and Terror, Zool., Insects* : 10
suaavis Broun, 1880. *Man. N.Z. Coleopt.* 1:266
subnitida Given, 1952. *Bull. N.Z. Dep. sci. industr. Res.* 102:26
sylvatica Broun, 1880. *Man. N.Z. Coleopt.* 1:268.
 puncticollis Broun, 1915. *Bull. N.Z. Inst.* 1 (4) :317.
 calvescens Brookes, 1926. *Trans. N.Z. Inst.* 56:445.
varicolorata Given, 1952. *Bull. N.Z. Dep. sci. industr. Res.* 102:35.
variegata Given, 1952. *ibid.* : 47
velutinum Given, 1952. *ibid.* : 30
xanthosticta White, 1846. *Voy. Erebus and Terror, Zool. Insects* : 10
 cinnamomea White, 1846. *ibid.* :10
 punctulata Broun, 1880. *Man. N.Z. Coleopt.* 1:266.
 piciceps Broun, 1893. *ibid.* 7:1450 (Not Given, 1952)
borealis (new name) Given, 1952. *Bull. N.Z. Dep. sci. industr. Res.* 102:32 (*piciceps*) (Not Broun, 1893)

Genus *Prodontria* Broun, 1904.

Ann. Mag. nat. Hist. (7) 14:53

Odontria (Part) Broun, 1909. *Ann. Mag. nat. Hist.* (8) 3:400 Not White, (1896)

Lewisella Broun, 1909. *Ann. Mag. nat. Hist.* (8) 3:398

Genotype: *Prodontria Lewisii* Broun, 1904.

bicolorata Given, 1952. *Bull. N.Z. Dept. sci. industr. Res.* 102:58.

capito (Broun), 1909. *Ann. Mag. nat. Hist.* (8) 3:400 (*Lewisella*)

Given, 1952. *Bull. N.Z. Dep. sci. industr. Res.* 102:58. (*Prodontria*).

lewisii Broun, 1904. *Ann. Mag. nat. Hist.* (7) 14:54

longitarsis (Broun), 1909. *Subantarctic Isls. N.Z.* 1:105. (*Odontria*)

- modesta* (Broun), 1909, Ann. Mag. nat. Hist. (8) 3:399 (*Lewisiella*)
 Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:57. (*Prodontria*).
pinguis Given, 1952. *ibid.* : 56
praelatella (Broun), 1909, Ann. Mag. nat. Hist. (8) 3:400. (*Odontria*)
 Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:55 (*Prodontria*)
setosa Given, 1952. *ibid.* : 59.
truncata n. sp.

Genus *Sericospilus* Sharp, 1882.

- Trans ent. Soc. Lond. 1882:83
Eusoma White, 1846. Voy. Erebus and Terror, Zool. Insects : 10
Odontria (Part) Broun, 1880. Man. N.Z. Coleopt. 1:268 (Not White, 1846)
 Genotype: *Sericospilus Advena* Sharp, 1882
advena Sharp, 1882, Trans. ent. Soc. Lond. 1882:84
aenealis (Broun), 1909, Ann. Mag. nat. Hist. (8) 3:397 (*Eusoma*).
 Dalla Torre, 1912. Coleopt. Cat. 47:128. (*Odontria*).
 Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:62 (*Sericophilus*).
Var. A. Given, 1952. *ibid.* : 63.
Var. B. Given, 1952. *ibid.* : 63.
Var. C. Given, 1952. *ibid.* : 63.
Var. D. Given, 1952. *ibid.* : 63.
brevis Given, 1952. *ibid.* : 65.
costella (Broun), 1880. Man. N.Z. Coleopt. 1:268. (*Odontria*).
 Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:68. (*Sericospilus*).
cumberi Given, 1952. N.Z. Ent. 1 (3):19.
eximia (Broun), 1917. Bull. N.Z. Inst. 1. (5):380. (*Eusoma*).
 Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:69. (*Sericospilus*).
glabrata (Broun), 1893. Man. N.Z. Coleopt. 7:1452. (*Odontria*).
 Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:67. (*Sericospilus*).
intermediatus Given, 1952. *ibid.* : 63
minor Given, 1952. *ibid.* : 66.
obscura Given, 1952. *ibid.* : 66.
piliventris (Broun), 1921. Bull. N.Z. Inst. 1 (6); 61 (*Eusoma*).
 Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:64. (*Sericospilus*).
rossii (White), 1846. Voy. Erebus and Terror, Zool., Insects: 10 (*Eusoma*).
 Broun, 1880. Man. N.Z. Coleopt. 1:268. (*Odontria*).
 Given, 1952. Bull. N.Z. Dep. sci. industr. Res. 102:68. (*Sericospilus*).
truncatus Given, 1952. *ibid.* : 64.
watti n. sp.
ornatus n. sp.

Genus *Scythrodes* Broun, 1886.

- Man. N.Z. Coleopt. 4:955.
 Genotype: *Scythrodes Squalidus* Broun, 1886.
squalidus Broun, 1886. Man. N.Z. Coleopt. 4:955.

Tribe SCITALINI Britton, 1957, A Revision of the Australian Chafers (Coleoptera: Scarabaeidae: Melolonthinae) 1:10.

*Genus *Ocnodus* Burmeister, 1855.

Handbk. Ent. 4 (2):208.

Xylostygnus Broun, 1881. Man. N.Z. Coleopt. 4:956.

Genotype: *Ocnodus Decipiens* Burmeister, 1855. (Australia).

brookesi (Broun), 1921, Bull. N.Z. Inst. 1 (6):534. (*Xylostygnus*)

piceus (Broun), 1881. Man. N.Z. Coleopt. 4:956. (*Xylostygnus*)

*The genus *Ocnodus* is here accepted in the sense used by Blackburn, 1907. Trans. roy. Soc. S. Austr. 31:277.