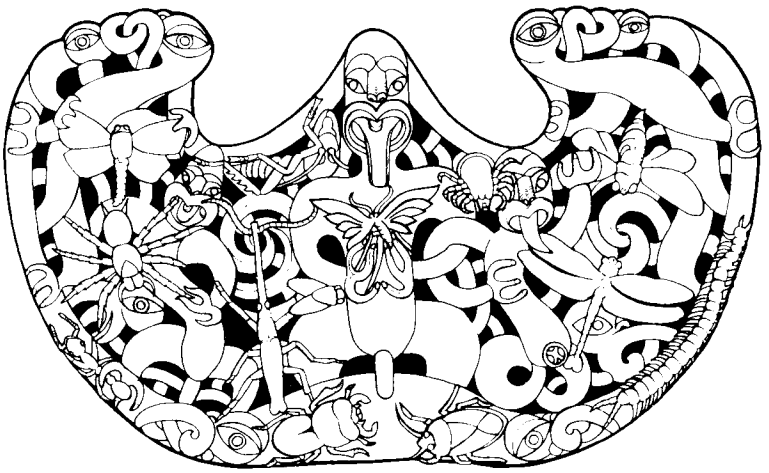

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Tenebrionidae
(Insecta: Coleoptera): catalogue of types and keys to taxa

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Front cover / Aro mua

The insect depicted is / Ko te ngaarara nei a *Mimopeus elongatus* (Brême). Artist / Toihanga: Des Helmore, DSIR Plant Protection / Te Wāhanga Manaaki Tupu.

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Class / Karaaihe **Insecta**
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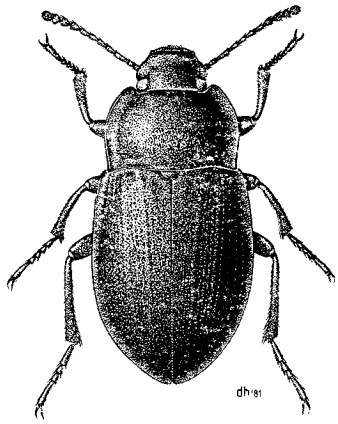
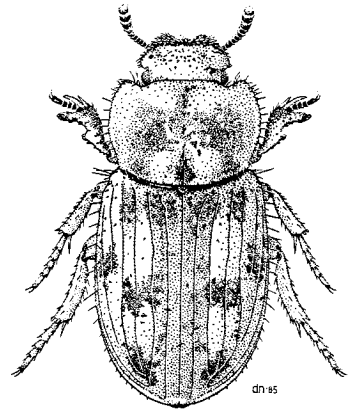
Family / Whaamere
Tenebrionidae

'Darkling beetles'
'Nga piitara poouriuri'





(a) (b)

Illustration / Whakaahua: (a) *Mimopeus elongatus*; (b) *Actizeta albata*. Artist / Toihanga: Des Helmore.

Tenebrionidae, or darkling beetles, are one of the most numerous and diverse families of beetles, with a world fauna of many thousands of species. The New Zealand fauna is relatively large and diverse for a small, temperate country, with about 150 species; this figure is comparable with the fauna of the British Isles, for example.

Tenebrionids are mostly rather large, flightless beetles, although a few species living in rotten wood and in stored products are small. They live mainly in the soil, under logs, or in leaf litter, and feed on dead organic material. Members of one New Zealand genus have the unique habit of feeding on lichens, often on trees at night.

Certain species infesting stored foodstuffs are called 'flour beetles', and the larvae of others are called 'mealworms'. Because mealworms are easily reared in large numbers they are a popular and nutritious form of food for insect-eating animals kept in captivity.

Darkling beetles can be recognised by two fairly conspicuous features: the base of the antenna is covered by a shelf-like expansion called a canthus, and the first three plates covering the underside of the abdomen (sternites)

(continued overleaf)

He tino maha nga Tenebrionidae, araa, nga piitara poouriuri. He mano tini nga whaamere-iti i roto i te ao. E tata ana ki te 150 nga whaamere-iti i Niu Tiireni nei, aa, e peenei ana ki te maha o nga whaamere-iti i nga moutere o Ingarangi me Airani.

He piitara nui, kaaore e taaea te rere, te nuinga o nga Tenebrionidae. Engari, he mea nohinohi eetahi whaamere-iti e noho ana i roto i nga raakau popo me nga kai. Ko te nuinga e noho ana i roto i te one, kei raro i nga poro raakau, kei roto raanei i nga otaota rau. Ka kai raatou i nga mea ora katoa kua mate. Ko teetahi o nga whaamere o Niu Tiireni ka kai poo i nga hawahawa o runga raakau.

Ko eetahi whaamere-iti e mui ana i roto i nga kai i e kiia ana he 'piitara paraaoa'; ko nga iroiro o eetahi e kiia ana 'toke paraaoa'. He ngaawari te whakatupu i nga toke paraaoa, no reira he kai pai eenei me nga kararehe e whaangaia-hereheretia ana.

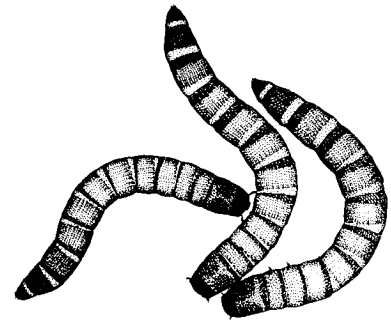
Ka moohio koe ki nga piitara poouriuri ki nga tohu e rua: kua uhia te puu o nga puuhihi e teetahi whata e kiia ana he 'canthus'. Ko te toru tuatahi o nga pereti e uhi ana a raro o te puku ('sternites') kua mau puu, kaaore e nekeneke ana. He pango, he paakaakaa raanei te kara; engari he aahua maa eetahi e noho ana i runga i nga one tea. Ko eetahi, he moohinuhinu te aahua.

E noho ana i Niu Tiireni anake te nuinga o nga piitara poouriuri e kitea ana i konei; he ruarua noa iho kua tae noa

(ara haere tonu)

Illustration: *Tenebrio molitor*, larvae – the yellow mealworm. Artist: Des Helmore.

Whakaahua: *Tenebrio molitor*, iroiro – te toke paraaoa koowhai. Toihanga: Des Helmore.



are fused together rather than loosely articulated. Colour is mostly black or brown, but some darkling beetles living on whitish beach sands are paler, and a few are shiny metallic.

Most of New Zealand's darkling beetles are endemic; the exceptions are a few species that were accidentally introduced. Also, most of them are nocturnal, with the exception of some species that inhabit sandy beaches. In contrast, many overseas tenebrionids are active during the daytime.

Many tenebrionids produce defensive secretions which make them distasteful to would-be predators. These substances may stain the skin when the live beetles are handled.

Tenebrionids have a sophisticated system for retaining water in the body which enables them to live in drier habitats than most other beetles. However, many of the New Zealand tenebrionids live in moist habitats. These species are probably useful as indicators of environmental quality, in that their presence signifies that the places where they occur are relatively undisturbed.

The relationships of Tenebrionidae to other families of beetles are still being debated, although the families Archaeocrypticidae and Chalcodryidae which were split off from the Tenebrionidae are closely related. The New Zealand tenebrionid fauna appears to be most closely related to that of Australia, especially in the tribes Adeliini and Helaeini.

Contributor ***J. Charles Watt*** *was born in England but moved to New Zealand at an early age. He was educated in New Zealand and graduated MSc (Hons) in zoology from the University of Auckland in 1960. In 1965 he graduated DPhil from Oxford University, where his work on Tenebrionidae was supported by a N.Z. National Research Fellowship. He then joined the Entomology Division of DSIR, with responsibility in the Systematics Section for all Coleoptera except weevils. In the mid 1980s Charles was working in Europe on the type specimens of New Zealand Tenebrionidae and their systematic revision, with the support of a DSIR Study Award. While visiting the Natural History Museum in Paris he suffered a major stroke which has left him hemiplegic, and he was obliged to retire prematurely in 1986. He has since been an honorary research associate of Systematics Group, and has now completed the cataloguing and revision of New Zealand's Tenebrionidae.*

mai i raawahi. He mea haere poo te nuinga, haaunga nga whaamere-iti noho one tai. Heoi, he maha nga Tenebrionidae o raawahi he mea haere ao.

He mimi kino too eetahi Tenebrionidae, no reira he kawa ki nga mea e hiakai ana i a raatou. Ka paarikorikoa to kiri mehemea ka tangotangohia nga piitara e ora ana.

Ka taaea e nga Tenebrionidae te mau wai i roto i te tinana; no reira ka aahei te noho i roto i nga waahi maroke e mate ai te nuinga o nga piitara. Heoi anoo, he maha nga Tenebrionidae o Niu Tiireni nei e noho ana i nga waahi maakuukuu. He pai eenei hei tohu i te pai, i te kino raanei o te waahi e nohoia ai; mehemea kei reira raatou e moohiotia ana kua kore taua waahi i takahia e te nuinga o te tangata, kararehe raanei.

Kei te tautohe tonu te whanaungatanga o Tenebrionidae ki eetahi iwi piitara, engari he whanaunga tata nga Archaeocrypticidae me nga Chalcodryidae. Ko te aahua, kei Aahitereiria nga whanaunga tata o nga Tenebrionidae o Aotearoa nei, ko nga iwi e kiia ana Adeliini me Helaeini.

I whaanau a ***J. Charles Watt*** *i Ingarangi, ka neke mai ki Aotearoa i a ia e tamariki ana. I kuraina ia i konei. I te tau 1960 ka whiwhi ia ki te tohu MSc(Hons) o te Whare Waananga o Aakarana i te waahanga maatauranga e paa ana ki nga kararehe. I te tau 1965 ka kaakahuria ki te tohu DPhil o te Whare Waananga i Oxford. Na te karahipi e kiia ana he N.Z. National Research Fellowship tana mahi Tenebrionidae i aawhini ai. Ka kuhu ia ki te Waahanga mo te aitanga-a-pepeke o te DSIR, aa, ko ia te kaiwhakahaere o te roopuu e aata maataki ana i nga Coleoptera katoa, haaunga nga wiiwara. I waenganui o nga tau 1980 e mahi ana i nga Haare i Oropi; ko tana mahi he aata maataki anoo i nga tauira Tenebrionidae o Aotearoa kia aata moohio ai oo raatou whanaungatanga teetahi ki teetahi. Na te DSIR teenei mahi i aawhina ai. I a ia e toro ana ki te Natural History Museum i Paris ka paangia ia e te ikura roro, aa, i riitaea ai ia i te tau 1986. I muri mai kua tuu ia hei kai-aawhina hoonore no tana roopu, aa, kua oti i a ia te aata maataki anoo me te whakaraarangi hoou o nga Tenebrionidae o Aotearoa.*

ABSTRACT

New Zealand's fauna of the family Tenebrionidae (Coleoptera) is recorded in a synonymic catalogue, presented alphabetically, which includes data on the primary type specimens. The composition of the fauna is summarised in a checklist of taxa, and keys are given to all valid taxa. Seven new genera and 35 new species are proposed, with brief diagnoses, and 23 new synonymies and 13 new combinations are recorded. The fauna here recognised comprises 36 valid genera in 16 tribes, and 149 valid species (10 of them introduced). There are 168 published specific names, excluding misspellings and misidentifications. Forty-five species are illustrated in photographs or scanning electron micrographs.

CHECKLIST OF TAXA

Subfamily ALLECULINAE

Tribe Alleculini (4 genera, 9 species) Page

Genus ***Omedes*** Broun, 1893 24
nitidus Broun, 1893 24
substriatus (Broun, 1880) 24
fuscatus Broun, 1893
apterus Broun, 1895
Genus ***Tanychilus*** Newman, 1838 24
metallicus (White, 1846) 24
rufescens Broun, 1880
violaceus (Broun, 1910)
sophorae (Broun, 1880) 24
Genus ***Xylochus*** Broun, 1880 24
dentipes Broun, 1886 25
spinifer Broun, 1893 25
tibialis Broun, 1880 25
triregius new species 25
Zomedes new genus 25
borealis new species 25

Subfamily COELOMETOPINAE

Tribe Coelometopini (1 genus, 2 species)

Genus ***Chrysopeplus*** Gebien, 1942 25
expolitus (Broun, 1880) 25
triregius new species 26

Subfamily DIAPERINAE

Tribe Diaperini (1 genus, 1 species)

Genus ***Gnatocerus*** Thunberg, 1814 26
cornutus (Fabricius, 1798) 26

Tribe Gnathidiini (1 genus, 19 species)

Genus ***Menimus*** Sharp, 1876 26
Ceramba Fauvel, 1904
batesi Sharp, 1876 26
striatulus Broun, 1886 new synonymy
vicinus Broun, 1893 new synonymy
borealis new species 26

Page
brouni new species 26
caecus Sharp, 1876 26
lineatus Broun, 1912 new synonymy
clarkei new species 27
crassus Sharp, 1876 27
aemulator Broun, 1910 new synonymy
humeralis Broun, 1910 new synonymy
piceus Broun, 1883 new synonymy
crinalis Broun, 1880 27
curtulus Broun, 1883 27
dubius Broun, 1880 27
elongatus new species 27
helmorei new species 27
laevicollis Broun, 1895 28
moehauensis new species 28
oblongus Broun, 1880 28
obscurus Broun, 1880 28
pubiceps Broun, 1921 28
puncticeps Broun, 1880 28
sinuatus Broun, 1886 28
thoracicus Broun, 1880 28

Subfamily LAGRIINAE

Tribe Adeliini (10 genera, 41 species)

Genus ***Adelium*** Kirby, 1818 29
sp. indet. 29
Genus ***Edalus*** Broun, 1893 29
alienus (Broun, 1880) 29
opacus (Broun, 1893) new synonymy
curtulus new species 29
pleuralis (Broun, 1893) 29
Exadelium new genus 29
rufilabrum (Broun, 1886) 29
Kaszabadelium new genus 29
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aucklandianum (Gebien, 1911)
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dubium Broun, 1917 new synonymy

Genus ***Mitua*** Hope, 1848 30
Pseudopatrum Sharp, 1886
tuberculicostata (White, 1846) 30
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sordida (Sharp, 1886)
sordidum (Sharp, 1886)
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edentatum new species 31
helmsi Sharp, 1886 31
manapouricum new species 31
rotundatum new species 31
tumipes Broun, 1893 31
Genus ***Pheloneis*** Pascoe, 1886 31
Amarosoma Redtenbacher, 1868
amaroides (Lacordaire, 1859) 31
harpaloides (White, 1846)
urquharti (Broun, 1893)
titahiensis (Broun, 1910)
simulans (Redtenbacher, 1868) 32
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Stenadelium new genus 32
striatum new species 32
Zeadelium new genus 32
aeratum (Broun, 1880) 32
sericatum (Sharp, 1886) new synonymy
dubitans (Broun, 1917) new synonymy
arthurensis new species 33
australe new species 33
bullatum (Pascoe, 1876) 33
chalmeri (Broun, 1883) 33
tinctum (Broun, 1914) new synonymy
halli (Broun, 1917)
complicatum (Broun, 1911) 33
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intermedium (Sharp, 1886) 34
intricatum (Broun, 1880) 34
lentum (Broun, 1880) 34
curtulum (Broun, 1917) new synonymy
dunedinis (Sharp, 1886) new synonymy
nigritulum (Broun, 1885) 35
turgidulum (Broun, 1893)
calcaratum (Broun, 1914) new synonymy
appositum (Broun, 1915)
angulatum (Broun, 1917) new synonymy
parvum new species 35
senile new species 35
simplex (Sharp, 1886) 35
thoracicum (Broun, 1880) 35
cheesemani (Broun, 1883)
multistriatum (Sharp, 1886) new synonymy
miniatum (Broun, 1893) new synonymy
zelandicum (Bates, 1874) 36

Tribe Chaerodini (1 genus, 2 species)

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Choerodes White, 1846
laetus Broun, 1880 36
trachyscelides White, 1846 36
concolor Sharp, 1878
fuscatus Broun, 1895

Tribe Lupropini (1 genus, 13 species)

Genus ***Lorelus*** Sharp, 1876 37
crassicornis Broun, 1880 37
sternalis Broun, 1910
kaszabi new species 37
laticornis new species 37
latulus Broun, 1910 37
marginalis Broun, 1910 37
obtusus new species 37
opacus new species 37
politus new species 37
priscus Sharp, 1876 38
pubescens Broun, 1880 38
punctatus new species 38
quadricollis Broun, 1883 38
tarsalis Broun, 1910 38
nigrescens Broun, 1910

Subfamily PHRENAPATINAE

Genus ***Archaeoglenes*** Broun, 1893 38
costipennis Broun, 1893 38

Subfamily PIMELIINAE

Tribe Cnemeplatiini (1 genus, 2 species)

Genus ***Actizeta*** Pascoe, 1875 00
albata Pascoe, 1875 39
ammobioides Pascoe, 1875
fusca new species 39

Subfamily TENEBRIONINAE

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laevigatus (Fabricius, 1781) 39

Tribe Amarygmini (1 genus, 2 species)

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tristis sensu Blackburn, 1893 not Fabricius, 1798 40
zelandicus Bates, 1874 40

Tribe Heleini (1 genus, 23 species)

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Cilibe sensu Lacordaire, 1859
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schauinslandi (Sharp, 1903)
clarkei Watt, 1988 40
convexus Watt, 1988 40
costellus (Broun, 1905) 40
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phosphugoides (White, 1846)
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nitidulus (Bates, 1873)
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major (Sharp, 1903)
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brevipennis (Bates, 1873)
tibialis (Bates, 1873) 44
velox (Sharp, 1903)
turbotti Watt, 1988 44
vallis Watt, 1988 44

Tribe Opatrini (1 genus, 1 species)

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Tribe Tenebrionini (1 genus, 2 species)

Genus ***Tenebrio*** Linnaeus, 1758 44
molitor Linnaeus, 1758 44
obscurus Fabricius, 1792 45
obscurans Thomson, 1922

Tribe Titaenini (4 genera, 22 species)

Genus ***Artystona*** Bates, 1873 45
erichsoni (White, 1846) 45
interrupta (Redtenbacher, 1868)
lata new species 45
obscura Sharp, 1886 45
collaris Sharp, 1886
obsoleta Sharp, 1886
tinctella Broun, 1910
vicina Broun, 1910
philpotti Broun, 1910
richmondiana new species 46
rugiceps Bates, 1874 46
porcatus (Allard, 1877)
wakefieldi Bates, 1874 46
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arthurensis new species 46
chrysomeloides Sharp, 1886 46
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curvellus Broun, 1912 47
genialis Broun, 1893 47
sulcisternus Broun, 1917
manepouricus new species 47
sinuatus new species 47
tuberculatus Broun, 1917 47
Partystona new genus 47
metallica new species 47
Genus ***Pseudhelops*** Guérin-Méneville, 1841 47
antipodensis Watt, 1971 new status 47
capitalis (Broun, 1917) 48
chathamensis new species 48
clandestinus Watt, 1971 new status 48
liberalis Watt, 1971 48
posticalis Broun, 1909 new status 48
interruptus Broun, 1909
nodosus Broun, 1910
substriatus Broun, 1910
quadricollis Broun, 1909 48
tuberculatus Guérin-Méneville, 1841 48
eastoni Brookes, 1951
wenhami Brookes, 1951

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Apthora Broun, 1880
rufipes Bates, 1872 49
Genus ***Uloma*** Dejean, 1821 50
Prioscelida White, 1846
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tenebrioides Gebien, 1910
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INTRODUCTION

The family Tenebrionidae (darkling beetles), excluding the Zopheridae, Chalcodryidae, and Archaeocrypticidae, is one of the largest in the animal kingdom, comprising approximately 15 000 described species worldwide, thus considerably exceeding the known species of birds. Great superficial diversity is apparent in adult tenebrionids, and some are often wrongly identified in preliminary sorting as they closely resemble members of other families such as Carabidae and Chrysomelidae.

All tenebrionids can be recognised by the following characteristics in combination: base of antenna covered by a canthus; prosternal intercoxal process straight, without lateral expansions of apex behind front coxae; tarsal formula 5-5-4 (very rarely 4-4-4, and if so then middle coxal cavities closed laterally by mesosterna); basal abdominal sternites 1–3 fused together, and the sutures between them faint, but sternites 4 and 5 more or less movable; tarsal claws simple or pectinate, never appendiculate. For further details, see Watt (1974).

Hudson (1934), in his index of New Zealand beetles, listed 173 species in the family Tenebrionidae (including Cistelidae). As a result of the revision reported here, the number of valid species is 149, including 10 introduced

species. Watt (1982) recorded the number of species of New Zealand Coleoptera in the New Zealand Arthropod Collection as 4520 native and 302 introduced. Thus, the number of tenebrionid species represents some 3.3% of the total known Coleoptera species.

Relatively few Tenebrionidae are of any great economic importance – notably the stored products pests, and the false wireworms of arid and semi-arid areas. Perhaps because of this the family has attracted less attention than the other very large families of Coleoptera such as weevils.

SUBFAMILY AND TRIBAL CLASSIFICATION

The higher classification of Tenebrionidae has changed substantially in recent years, following studies of larvae and the anatomy of the sclerotised parts of the male and female reproductive organs (Watt 1974, Doyen & Tschinkel 1982, Matthews 1987). The classification proposed here, suggested to me by Dr J.F. Lawrence (ANIC), is based in part on the work of Doyen (1985) and Doyen *et al.* (1990). It is almost certain that advancing knowledge will require further changes in subfamily and tribal classification. However, this is unlikely to affect one of the primary practical purposes of this contribution, i.e., identification.

BIOLOGY

Most adult and larval tenebrionids feed on dead and decaying vegetable matter. Many – e.g., the Adeliini and *Archeoglenes* species – inhabit leaf litter, and may frequently be found under logs. Others, such as *Menimus*, inhabit the dead fruiting bodies of large woody fungi. Some *(Actizeta* and *Chaerodes)* live in sandy beaches, others *(Mimopeus)* inhabit dry friable soil. Several genera *(Artystona, Pseudhelops, Partystona, Cerodolus)* feed on lichens at night.

Rotten wood is an important habitat for much of the New Zealand tenebrionid fauna *(Uloma, Aphtora, Ulomotypus, Zolodinus, Menimus)*, and *Mimopeus opaculus* lives in powdery, dry rotten wood. Introduced cosmopolitan species of the genera *Tenebrio, Tribolium, Gnatocerus,* and *Alphitobius* infest stored food products. *Lorelus* lives in dead tissue of tree ferns and dead flower stalks of speargrass *(Aciphylla)*. Several genera occur under loose bark of standing dead trees, e.g., *Demtrius, Amarygmus, Chrysopeplus* (the latter also on tree trunks at night).

Other genera occur under stones, e.g., *Gonocephalum, Mimopeus, Omedes, Zomedes,* and tribe Adeliini. *Tanychilus* and *Xylochus* occur on flowers in hot sunshine. During dry weather, adults and larvae of soil-inhabiting forms such as *Mimopeus* will feed on living plant tissue, but their normal food is dead plant tissue.

METHODS AND CONVENTIONS

Collecting. Ground-dwelling tenebrionids are most easily collected by carefully turning stones and logs and examining the underside, to which the beetles most commonly cling. Alternatively they may be collected by pitfall trapping. Those in leaf litter or wood mould may be extracted using Tulgren funnels or Winkler cloth extraction bags. Species which occur on tree trunks at night are best collected with the help of a head-mounted lamp, so that both hands are free to capture them. Sand-inhabiting species may be collected using a series of suitable sieves.

Dissection. Dissecting techniques for Tenebrionidae are described by Tschinkel & Doyen (1980).

Measurements. Select as far as possible specimens which have been properly extended longitudinally, i.e., do not measure specimens in which the head is strongly bent downwards. Length is measured as total length excluding appendages, width is greatest width of elytra.

SEMs. Smaller card-mounted specimens were attached to aluminium stubs using double-sided adhesive tape and colloidal silver paint and sputter-coated with gold. They were then observed in a Philips 505 scanning electron microscope at an accelerating voltage of 10 kV.

Abbreviations. The following abbreviations for type repositories are used in the Catalogue (after Watt 1979).

AMNZ Auckland Institute and Museum, Private Bag, Auckland, New Zealand
BMNH British Museum (Natural History), Cromwell Rd, London SW7 5BD, England
CMNZ Canterbury Museum, Rolleston Ave, Christchurch, New Zealand
HCOE Hope Entomological Collections, University Museum, Oxford OX1 3PW, England
MNHN Museum National d'Histoire Naturelle, 45 bis Rue de Buffon, Paris 5^{e}, France
MUTI Museo ed Istituto di Zoologia Sistematica della Universitá di Torino, 10123 Turin, Italy
NHMW Naturhistorisches Museum, Burgring 7, Wien 1, Austria
NZAC N.Z. Arthropod Collection, Mt Albert Research Centre, Private Bag, Auckland, New Zealand
SAMA South Australian Museum, North Terrace, Adelaide, S.A. 5000, Australia

The distribution of collecting localities is summarised using the the two-letter area codes of Crosby *et al.* (1976) – see p. 68. In citations of label data, [m.] denotes male symbol and [f.] denotes female symbol in the original.

KEYS TO TENEBRIONIDAE KNOWN FROM NEW ZEALAND

1 Procoxal cavities visibly open behind; elytra each with 10 distinct punctate striae and a scutellary striole; fore tarsus with penultimate segment not lobed beneath; ventrites 3–5 without visible intersegmental membranes ... ZOLODININAE, ***Zolodinus zealandicus***

—Procoxal cavities visibly closed behind; if elytra 10-striate with a scutellary striole then fore tarsus with penultimate segment lobed beneath and ventrites 3–5 with visible intersegmental membranes ... 2

2(1) Antenna with a distinct 2-segmentd club; tarsal formula 4-4-4; elytra 10-striate, without scutellary strioles; mandibles tridentate; length less than 2.3 mm ... PHRENAPATINAE, ***Archaeoglenes costipennis***

—Antennal club, if present, consisting of 3 or more segments; tarsal formula 5-5-4; if elytra 10-striate then scutellary strioles present; mandibles bidentate, unidentate, or truncate at apex length almost always greater than 2.4 mm ... 3

3(2) Ventrites 3–5 without visible intersegmental membranes; elytra 8-striate without scutellary striole; fore tibiae greatly expanded for digging; clypeus deeply emarginate; upper surfaces clothed with waxy scales; length not exceeding 3.5 mm ... PIMELIINAE, **Cnemeplatiini**, *Actizeta:* p. 20

—Ventrites 3–5 with visible intersegmental membranes; elytra, if striate, with 9 or more striae; without other characters in combination ... 4

4(3) Tarsal claws pectinate (Fig. A) ALLECULINAE: p. 14

—Tarsal claws not pectinate ... 5

5(4) Fore tarsus with penultimate segment lobed beneath, distinctly broader than base of claw segment, which is inserted subapically (Fig. B); elytra, if striate, with 10 or more striae; labrum (dissected out) elongate or at most weakly transverse ... LAGRIINAE .. 6

—Fore tarsus with penultimate segment not lobed beneath, about as wide as base of claw segment, which is inserted apically; elytra, if striate, with fewer than 10 striae; labrum (dissected out) moderately to strongly transverse ... 8

6(5) Legs strongly modified for digging in sand – fore tibia greatly expanded at apex and flattened, middle and hind legs very stout, their tibiae club-like, and all legs covered with stout bristles; body very convex, the elytra almost hemispherical; antenna short, shorter than head width, with a very strong 3-segmented club. On beaches ... **Chaerodini**, ***Chaerodes:*** p. 19

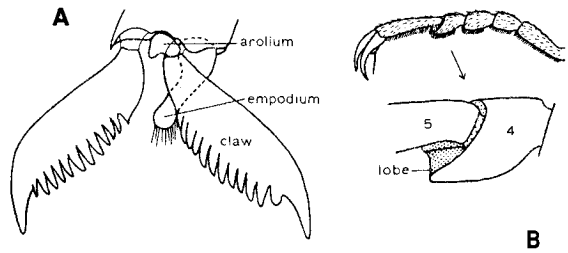

Fig. A Claws, left hind tarsus, *Tanychilus sophorae.*
Fig. B Left middle tarsus, *Zeadelium gratiosum.*

—Legs not modified for digging in sand;body less convex; antennae longer, distinctly longer than head width, with a weak club or none ... 7

7(6) Mesocoxal cavity closed laterally by meeting of meso- and metasternum; antenna with a weak but distinct 3-segmented club; labrum with basal membrane exposed; elytra without striae and not strongly sculptured ... **Lupropini**, ***Lorelus*****:** p. 19

—Mesocoxal cavity open laterally to mesepimeron; antennae filiform to incrassate, without a distinct club; labrum with basal membrane concealed beneath clypeus; elytra with at least traces of striae, or strongly sculptured ... **Adeliini:** p. 16

8(5) Mesocoxal cavity closed laterally by meeting of meso- and metasternum (if sterna slightly separated, then trochantin not extending between them to meet mesepimeron) ... 9

—Mesocoxal cavity open laterally to mesepimeron ... 16

9(8) Antenna 10-segmented, with a distinct club of 3 segments each bearing large compound sensoria at apex ... DIAPERINAE, **Gnathidiini**, ***Menimus:*** p. 14

—Antenna 11-segmented ... 10

10(9) Antenna with 5–7 distalmost segments bearing enlarged and modified sensoria (visible at lower magnification as discrete white spots) ... 11

—Antenna without enlarged and modified sensoria, but sometimes with concentrations of simple sensilla apically on distalmost 3–5 segments ... 13

11(10) Fore tibia with 6–8 sharp teeth on outer edge; antennal segments 5–10 bearing large placoid (flattened or slightly concave) sensoria, segment 11 with stellate sensoria; pronotum in male with a depression

near anterior edge; 12.2–14.8 x 4.8–5.9 mm
... TENEBRIONINAE, **Ulomini**, ***Uloma tenebrionoides***

—Fore tibia with outer edge not dentate, but sometimes crenulate or with short spines; antennal sensoria smaller, stellate, with several projecting papillae... 12

12(11) Elytral epipleura ending abruptly at anterior edge of ventrite 5; male with prominent, anteriorly projecting upcurved processes on mandibles, foliate canthi, and a pair of prominent teeth on vertex; female with planar foliate canthi; middle and hind tibiae with a row of closely spaced small spines or teeth forming a fine carina on outer edge; 3.1–4.5 x 1.3–1.5 mm. In stored grain, grain products, and poultry houses
... DIAPERINAE, **Diaperini**, ***Gnatocerus cornutus***

—Elytral epipleura gradually narrowing, extending to apex; sexes similar, with canthi not foliate; middle and hind tibiae without a carina on outer edge, sometimes with irregularly spaced teeth or spines
... TENEBRIONINAE, **Alphitobiini**, ***Alphitobius:*** p. 20

13(10) Middle and hind tibiae with outer apical angle expanded and acute; elytral intervals not carinate
... TENEBRIONINAE, **?Ulomini** .. 14

—Middle and hind tibiae with outer apical angle simple; most elytral intervals more or less carinate ... 15

14(13) Clypeus with deep triangular emargination of anterior edge; pronotum with lateral marginal channels separated from lateral carina by more than their own width in proximal half; antenna with a weak 5-segmented club; large, 10.1–13.2 x 4.1–4.9 mm
... ***Ulomotypus laevigatus***

—Clypeus with anterior edge very weakly emarginate; pronotum with lateral channels separated from lateral carina throughout by much less than their own width; antenna with a distinct 3-segmented club; small, 4.2–5.1 x 1.9–2.4 mm ... ***Aphtora rufipes***

15(13) Pronotum with lateral margins moderately broad, anterior angles distinctly produced forwards; canthus strongly elevated, not extending laterally as far as edge of eye; mesocoxal cavity bordered posteriorly by a distinct groove; maxillary palp with distalmost segment distinctly wider apically; elytral intervals 3–5 and 7 more strongly elevated; 5.0–6.0 x 1.3–1.55 mm
... TENEBRIONINAE, **?tribe**, ***Demtrius carinulatus***

—Pronotum with lateral margins very narrow, anterior angles not or only slightly produced; canthus flat, extending laterally to edge of eye or beyond; mesocoxal cavity not bordered by a groove posteriorly; elytral intervals about equally carinate, often only slightly so
... TENEBRIONINAE, **Triboliini**, ***Tribolium:*** p. 23

16(8) Antenna with 5–7 distalmost segments bearing enlarged and modified sensoria (visible at lower magnifications as discrete white spots) ... 17

—Antenna without enlarged and modified sensoria ... 18

17(16) Eyes very large, reniform, extending well onto dorsal surface of head, separated dorsally by less than the length of antennal segment 3; canthus small, not at all prominent, concealing only extreme base of scape; head strongly hypognathous; prosternum in front of coxae much shorter than coxal cavity; elytral epipleura extending to apex, without interlocking grooves
... TENEBRIONINAE, **Amarygmini**, ***Amarygmus tristis***

—Eyes smaller, not extending well onto dorsal surface of head, separated dorsally by much more than length of antennal segment 3; canthus more prominent, concealing more than extreme base of scape; head porrect; prosternum in front of coxae as long as coxal cavity or longer; elytral epipleura ending before apex, with grooves into which lateral edges of ventrites 3 and 4 lock ... COELOMETOPINAE, ***Chrysopeplus:*** p. 14

18(16) Clypeus with anterior edge deeply emarginate; body clothed with yellow recumbent bristles; antennal club indistinct, 4-segmente; 7.7–8.0 x 3.5–3.9 mm
... TENEBRIONINAE, **Opatrini**, ***Gonocephalum elderi***

—Clypeus with anterior edge not deeply emarginate; body glabrous or clothed with very fine hairs; antenna not clubbed ... 19

19(18) Body elongate, depressed, parallel-sided; pronotum basally with deep lateral depressions joined by a narrow transverse groove. In stored products, etc.
... TENEBRIONINAE, **Tenebrionini**, ***Tenebrio:*** p. 21

—Body, if elongate, strongly convex and not parallel-sided; if pronotum basally with lateral depressions, these shallow and not joined. Rarely synanthropic 20

20(19) Pronotum and often elytra with margins explanate; elytra without clearly defined striae or puncture rows; elytral epipleura complete to apex; tibiae with outer edges rough, bearing spinose bristles; scutellum triangular ... TENEBRIONINAE, **Heleini**, ***Mimopeus:*** p. 20

—Pronotum and elytra with margins not explanate; elytra with definite striae or puncture rows; elytral epipleura incomplete; tibiae with outer edges smooth, bearing fine, very short hairs; scutellum pentagonal or with curved sides ... TENEBRIONINAE, **Titaenini:** p. 22

Subfamily ALLECULINAE
Tribe Alleculini

1 Pronotum with sides almost straight, widest at acute posterior angles; mesosternal intercoxal process swollen, its front face vertical ... ***Tanychilus:*** below

—Pronotum with posterior angles obtuse, sides strongly curved, widest about midlength; mesosternal intercoxal process not swollen, its front face inclined ... 2

2(1) Pronotum with lateral carina obsolete in anterior third, very weakly developed elsewhere, and with a pair of prebasal lateral foveae; 11.9–13.4 x 4.4–4.7 mm ... ***Zomedes borealis***

—Pronotum with lateral carina distinct throughout, and at most with weak prebasal depressions; length less than 10 mm ... 3

3(2) Intercoxal process of abdominal sternite 1 sharply pointed; all coxae narrowly separated; male without teeth or projections on front femora; maxillary palpi strongly securiform ... ***Omedes:*** below

—Intercoxal process of abdominal sternite 1 bluntly rounded; middle and hind coxae more widely separated; male with a prominent triangular projection or tooth on inner side of each front femur; maxillary palpi weakly securiform ... ***Xylochus:*** below

Genus *Omedes*

Pronotum and elytra with microsculpture very strong, visible at x10 magnification, and surface dull; 6.2–8.3 x 2.4–3.2 mm ... ***substriatus***

—Microsculpture of pronotum and elytra weaker, not visible at x10 magnification, and surface shining; 6.7–7.3 x 2.4–2.8 mm ... ***nitidus***

Genus *Tanychilus*

Elytra with prominent basal shoulders considerably wider than base of pronotum; punctures of head and pronotum very fine, except prebasally, much smaller than facets of eyes; dark reddish, always without metallic reflections; metepisterna more sparsely, coarsely punctate; elytral striae equally impressed; 11.1–13.7 x 4.1–5.1 mm ... ***sophorae***

—Elytra with less prominent basal shoulders little wider than base of pronotum; punctures of head and pronotum larger, about same size as facets of eyes; typically dark brown or black, with metallic green or blue reflections; metepisterna densely, moderately punctate; inner elytral striae much more strongly impressed than outer striae, especially towards apex; 9.5–11.2 x 3.5–4.1 mm ... ***metallicus***

Genus *Xylochus*

1 Elytral interstices strongly convex, especially towards sides and apex; elytral striae strongly impressed; pronotum with very strong microsculpture visible at x10 magnification, but pronotal punctures minute, not visible at x10 magnification; front femur of male armed with a prominent tooth, squarely truncate at apex; 8.9–9.4 x 3.3–3.6 mm ... ***triregius***

—Elytral interstices flat or weakly convex; elytral striae less strongly impressed; pronotal microsculpture weaker, rarely visible at x10 magnification; pronotal punctures larger, usually clearly visible at x10 magnification; front femur of male with a sharp armature or rounded tooth or triangular projection, but armature not squarely truncate at apex ... 2

2(1) Sides of pronotum slightly sinuate in front of obtuse posterior angles; front tibia of male armed with a bluntish, not prominent triangular projection; 7.5–9.4 x 2.9–3.6 mm ... ***tibialis***

—Sides of pronotum slightly sinuate in front of rectangular posterior angles; front tibia of male bearing a distinct, prominent sharp tooth ... 3

3(2) Pronotal microsculpture strong, clearly visible at x10 magnification; front tibia of male with a long, sharp, triangular spine; 8.3–8.8 x 3.1–3.3 mm ... ***spinifer***

—Pronotal microsculpture weaker, not visible at x10 magnification; front tibia of male with a shorter, blunter tooth; 7.9–9.6 x 2.9–3.6 mm ... ***dentipes***

Subfamily COELOMETOPINAE
Tribe Coelometopini
Genus *Chrysopeplus*

Elytral striae deep; pronotal punctures distinctly visible at x25 magnification; segment 7 of antenna almost as broad as segment 8; larger, 10.1–14.7 x 5.7–7.8 mm ... ***triregius***

—Elytral striae shallow; pronotal punctures not visible at x25 magnification; segment 7 of antenna not almost as broad as segment 8; smaller, 7.6–12.2 x 3.7–6.1 mm ... ***expolitus***

Subfamily DIAPERINAE
Tribe Gnathidiini
Genus *Menimus*

1 Eyes very small and indistinct, composed of no more than 10 obscure, small facets; lateral elytral margin (viewed dorsally from a slight angle) at least weakly

denticulate just behind shoulder; size not exceeding 3.0 x 1.5 mm; pale red ... 2
—Eyes larger, composed of at least 12 distinct facets; lateral elytral margin rarely denticulate, and if so then larger than 3.0 x 1.5 mm; usually darker ... 3

2(1) Sides of pronotum strongly curved; pronotum almost as wide as elytra; denticulations at base of lateral margins of elytra serrate, sharp; eyes very small, with only 5 distinct facets; 2.5–2.6 x 1.1–1.2 mm ... ***thoracicus***
—Sides of pronotum less strongly curved, elytra distinctly wider than pronotum; denticulations at base of lateral margins of elytra smaller and blunter, or obsolete; eyes larger, with 10 distinct facets; 2.7–3.3 x 1.3–1.6 mm ... ***caecus***

3(1) Entire dorsal surface clothed with long, curved, reclined pubescence ... 4
—Long pubescence, if present, decumbent or semi-erect and confined to head, pronotum, and sometimes elytral shoulders ... 5

4(3) Pronotum shining; microsculpture not visible at x25 magnification; larger, broader, 3.6–4.1 x 1.9–2.2 mm ... ***crinalis***
—Pronotum dull; microsculpture visible at x25 magnification; smaller, elongate, 2.6 x 1.4 mm ... ***elongatus***

5(3) Lateral elytral margin denticulate; elytra seriate-punctate; 3.9–4.2 x 1.8–2.0 mm ... ***oblongus***
—Lateral elytral margin not denticulate; elytra rarely distinctly seriate-punctuate ... 6

6(5) Pronotum and usually shoulders of elytra with dense (although fine), curvedly decumbent or semi-erect pubescence ... 7
—Pronotum glabrous or with a few fine, short, erect setae towards lateral margins ... 9

7(6) Pubescence confined to head and pronotum, semi-erect, not recurved; 4.0–4.2 x 2.0–2.2 mm ... ***borealis***
—Pubescence semi-erect on head, recurved on pronotum and elytral shoulders ... 8

8(7) Pronotal punctures clearly visible at x25 magnification; interstices shining; microsculpture scarcely visible at x25 magnification; pubescence of ventrites much shorter than ventrite 4; elongate, larger, 4.2–4.6 x 1.9–2.2 mm ... ***puncticeps***
—Pronotal punctures not visible at x25 magnification; interstices dull; microsculpture clearly visible at x25 magnification; pubescence of ventrites with some setae as long as ventrite 4; broader, smaller, 2.6–3.1 x 1.4–1.7 mm ... ***obscurus***

9(6) Length exceeding 3.5 mm ... 10
—Length not exceeding 3.4 mm ... 16

10(9) Head, pronotum, and elytra shining; microsculpture not or scarcely visible at x25 magnification ... 11
—Head, pronotum, and elytra dull; microsculpture clearly visible at x25 magnification ... 12

11(10) Pronotal punctures visible at x25 magnification; elytral punctures fine, much smaller than facets of eyes; 3.9–4.6 x 2.1–2.3 mm ... ***batesi***
—Elytra with rather faint longitudinal depressions (not true striae); eyes reduced, weakly convex; fronto-clypeal suture crescentic; more elongate; 4.1–4.3 x 2.1–2.3 mm ... ***batesi*** (local variant; see p. 26)
—Pronotal punctures minute, not visible at x25 magnification; elytral punctures coarser, about same diameter as facets of eyes; 3.7–4.0 x 1.9–2.0 mm ... ***laevicollis***

12(10) Antennal club 4-segmented; segments 7–9 short and strongly transverse; head and anterior of pronotum very broad; 4.4–4.8 x 2.2–2.4 mm ... ***sinuatus***
—Antennal club 3-segmented; segments 8 and 9 more elongate; head and anterior part of pronotum relatively narrower ... 13

13(12) Segments of antennal club subcylindrical, with subparallel sides; basal pronotal groove complete; microsculpture of elytra very strong, visible at x10 magnification; 4.7 x 2.5 mm ... ***clarkei***
—Segments of antennal club somewhat flattened, strongly expanded from base to apex; if basal pronotal groove complete, then microsculpture of pronotum and elytra weaker, not visible at x10 magnification; length not exceeding 4.4 mm ... 14

14(13) Microsculpture of pronotum and elytra very strong, clearly visible at x10 magnification; pronotal basal transverse groove absent; eye reduced; 4.1–4.4 x 2.1–2.4 mm ... ***brouni***
—Microsculpture of pronotum and elytra weaker, not visible at x10 magnification; pronotal basal transverse groove complete, well impressed; eye normal, convex or reduced ... 15

15(14) Vertex of head normally covered with forward-directed, semi-recumbent pubescence; microsculpture strong, clearly visible at x25 magnification; surface dull; 3.6–4.1 x 2.0–2.2 mm ... ***pubiceps***

—Vertex of head glabrous; microsculpture weak, scarcely visible at x25 magnification; surface shining; 4.0–4.2 x 2.2–2.4 mm ... ***dubius***

16(9) Sides of pronotum strongly curved, explanate, widest just behind midlength; anterior angles completely rounded off; various shades of reddish brown; 2.6–3.4 x 1.3–1.7 mm ... ***curtulus***
—Sides of pronotum less strongly curved and not or little explanate; sides straighter; anterior angles prominent; various shades of blackish brown ... 17

17(16) Dorsal surface shining; microsculpture weak, not visible at x25 magnification; vertex of head glabrous; 2.5–3.2 x 1.4–1.6 mm ... ***crassus***
—Dorsal surface dull; microsculpture strong or very strong, visible at x25 magnification; vertex of head glabrous or pubescent ... 18

18(17) Vertex of head pubescent; eye composed of about 16 facets; a few small setae laterally on pronotum and shoulders of elytra; microsculpture very strong; 2.9–3.2 x 1.4–1.7 mm ... ***moehauensis***
—Vertex of head glabrous; eye composed of 12 facets; Pronotum and elytra glabrous; microsculpture not as strong ... ***helmorei***

Subfamily LAGRIINAE
Tribe Adeliini

1 Elytra not sculptured; sides of pronotum not dentate or crenate; surface shining, mostly glabrous; colour black or blackish-brown ... 2
—Elytra sculptured, bearing various gibbosities and tubercles; sides of pronotum dentate or crenate; surface dull, bearing coarse pubescence or scales; colour yellowish or reddish brown ... 7

2(1) Hind angles of pronotum and shoulders of elytra completely rounded off ... 3
—Hind angles prominent, rectangular or acute; elytral shoulders prominent, narrowly rounded ... 4

3(2) Head with a longitudinal sulcus on each side of frons extending back from clypeal suture to a supraorbital setiferous puncture; epipleural carina of elytra in normal lateral position, visible from above throughout its length; 7.8–9.5 x 3.4–4.2 mm ... ***Adelium* sp. indet.**
—Head without sulci; epipleural carina of elytra on reflexed (ventral) part, scarcely raised above elytral surface, not visible from above except near apex; 7.0–10.3 x 2.4–4.0 mm ... ***Kaszabadelium aucklandicum***

4(2) Head without sulci; elytra with 10 or more, often indistinct, usually somewhat irregular striae, or striae completely confused ... ***Zeadelium:*** p. 17
—Head with a pronounced sulcus on each side of frons mesad of and in front of eye; elytra each with 10 distinct, regular striae ... 5

5(4) Elytral shoulders produced laterally and angulate behind; pronotum with hind angles acute and sides markedly sinuate; elytra deeply, regularly punctate-striate, with interstices convex; striae 1–6 reaching base, 7 and 8 joined before base and running towards, but not reaching shoulder, 9 and 10 joined further back and combined stria running just inside shoulder angle; 8.9–12.1 x 3.5–4.2 mm ... ***Stenadelium striatum***
—Elytral shoulders less prominent, not angulate; sides of pronotum not or weakly sinuate; elytral striae not joined before base, shallower, with interstices flat .. 6

6(5) Elongate; pronotum widest a little behind front angles, weakly sinuate to the sharp, rectangular hind angles; only elytral striae 1–6 reaching base, 7 running into shoulder, and 8 and 9 joining marginal stria; front tarsi not expanded in male; 6.2–10.6 x 2.2–3.7 mm ... ***Exadelium rufilabrum***
—Broader; pronotum widest at about middle, not sinuate, with hind angles blunt and obtuse; elytral striae 1–8 reaching base, 9 and 10 joining at shoulder; front tarsi of male strongly expanded ... ***Pheloneis:*** p. 17

7(1) Antennal segment 6 distinctly longer than broad; sides of pronotum and elytra strongly reflexed, broadly explanate; length exceeding 10 mm ... ***Mitua:*** p. 17
—Antennal segment 6 not longer than broad, usually broader than long; sides of pronotum weakly or not reflexed and weakly or not explanate; sides of elytra not explanate; length less than 10 mm ... 8

8(7) Clypeus truncate anteriorly; lateral margins of pronotum and elytra not at all explanate; elytra without gibbosities or tubercles, but with large granules; dorsal surface with numerous stout, erect, cylindrical scales ... ***Edalus:*** p. 17
—Clypeus slightly emarginate anteriorly; lateral margins of pronotum, and usually elytra, somewhat explanate; dorsal surface without erect scales ... 9

9(8) Elytra at shoulders considerably wider than prothorax, broad, convex; punctures of thoracic sterna (later-

ally) and elytral epipleura very large and deep, at least laterally; legs with distinct transverse stripes; 5.8–7.8 x 2.8–3.8 mm ... ***Mesopatrum granulosum***

—Elytra at shoulders not wider than prothorax or scarcely so, more elongate and less convex; punctures of thoracic sterna and elytral epipleura small, shallow; legs with distinct transverse stripes on femora, tibiae, or both ... ***Periatrum:*** below

Genus *Edalus*

Elytra elongate, L/W ratio up to 1.6; sides gently curved ... ***alienus***

—Elytra elongate, L/W ratio up to 1.46; sides gently curved; 5.0–8.6 x 2.0–3.2 mm ... ***pleuralis***

—Elytra less elongate, L/W ratio up to 1.38; sides more strongly curved; 3.8–5.7 x 1.6–2.3 mm ... ***curtulus***

Genus *Mitua*

1 Sides of pronotum not crenate, or at most weakly so; top of hind slope of elytra each with 3 large tubercles arranged in a straight diagonal line; 10.1–15.3 x 4.9–7.9 mm ... ***tuberculicostata***

—Sides of pronotum strongly crenate; top of hind slope of elytra each with 3 large tubercles arranged in a triangle; 11.7–13.3 x 5.7–6.5 mm ... ***triangularis***

Genus *Periatrum*

1 Dorsal pubescence very fine and short, not visible at x25 magnification, except on sides and hind slope of elytra; head and pronotum with numerous shining, rounded, low elevations; tibiae each with a dark, transverse, median stripe ... 2

—Dorsal pubescence coarse, clearly visible at x25 magnification; head and pronotum with small, shining granules; tibiae not striped ... 3

2(1) Elytra with numerous gibbosities laterally, but without a distinct lateral carina; sides of pronotum not crenate; 6.5–7.5 x 2.6–3.1 mm ... ***manapouricum***

—Elytra with only a few tubercles laterally, and with a distinct lateral carina; sides of pronotum not crenate; 6.6–6.8 x 2.9–3.0 mm ... ***carinatum***

3(1) Pronotum with a median, oval, smooth shining, glabrous area on disc. Elytra without smooth shining glabrous areas each with a transverse row of 3 tubercles at top of hind slope. 6.1–9.5 x 2.8–4.0 mm ... ***helmsi***

—Pronotum without smooth areas, but with transverse, smooth, shining glabrous areas before top of elytral hind slope; elytra each with only 1 large (occasionally small) tubercle at top of hind slope ... 4

4(3) Middle and hind tibiae without a blunt tooth or angulation at about midlength dorsally; posterior tubercles and gibbosities of elytra weakly developed; 5.7–6.3 x 2.5–2.8 mm ... ***edentatum***

—Middle and hind tibiae bluntly dentate or strongly angulate at about midlength dorsally; posterior tubercles and gibbosities of elytra strongly developed ... 5

5(4) Elytral shoulders each with a distinct, projecting humeral callus; 6.2–8.0 x 2.6–3.5 mm ... ***tumipes***

—Elytral shoulders narrowly rounded; 5.6–7.7 x 2.3–3.0 mm ... ***rotundatum***

Genus *Pheloneis*

1 Body less strongly convex; epipleural carina visible from above throughout its length; 7.1–8.3 x 3.5–4.1 mm ... ***triregius***

—Body strongly convex; epipleural carina partly concealed from above by convexity of elytra; 5.6–7.4 x 2.6–3.4 mm ... 2

2(1) Interstrial and pronotal punctures relatively large, about half diameter of strial punctures; epipleura distinctly punctate; apex of aedeagus slightly bulbous in lateral view, more slender in dorsal view ... ***simulans***

—Interstrial and often pronotal punctures much smaller, much less than half diameter of strial punctures; epipleura not punctate; apex of aedeagus not bulbous in lateral view, broader in dorsal view ... ***harpaloides***

Genus *Zeadelium*

1 Elytra without distinct, equally spaced parallel longitudinal striae; striae forming confused patterns, including bullae laterally ... 2

—Elytra with distinct, equally spaced, parallel longitudinal striae, at least near suture, or striae very faint, not enclosing bullae ... 7

2(1) Front femur of male with a tooth or strong angulation on inner surface; colour shining black ... 3

—Front femur without a tooth or angulation; colour various shades of pale to dark reddish brown, bronze, or violet ... 4

3(2) Front tibia of male with a blunt tooth and a deep sinus on inner surface; elytra with numerous smallish, rounded bullae laterally, and 2nd stria very incomplete; 12.6–15.7 x 5.5–6.7 mm ... ***intricatum***

—Front tibia of male without a tooth and with a broad, shallow curve on inner surface; elytra with fewer,

larger, more elongate bullae laterally, and 2nd stria more or less continuous on disc; 12.1–14.6 x 5.1–6.4 mm ... ***bullatum***

4(2) Dorsal microsculpture very strong, visible at x10 magnification; elytral striae very shallow and irregular, frequently represented only by vague depressions and irregular rows of rather fine punctures; 14.6–16.8 x 6.8–7.8 mm ... ***australe***
—Dorsal microsculpture weak, not visible at x10 magnification; surface shining; elytra with at least some striae distinct ... 5

5(4) Only the sutural stria continuous for most of its length, and bearing large, obvious punctures; reddish black with violet reflections; large, broad convex; 17.8–21.5 x 7.3–10.1 mm ... ***gratiosum***
—Several striae continuous; strial punctures small or minute; reddish brown or reddish black, without violet reflections; smaller, more elongate, usually less convex ... 6

6(5) Elytra with several oval bullae laterally; reddish black; 11.3–13.8 x 4.3–5.8 mm ... ***complicatum***
—Elytral bullae irregular; pale reddish brown; 10.2-12.8 x 4.0–5.3 mm ... ***chalmeri***

7(1) Elytra each with 10 striae ... 8
—Elytra each with more than 10 striae, the striae sometimes faint and shallow ... 12

8(7) Length not exceeding 9 mm ... 9
—Length exceeding 11 mm ... 11

9(8) Surface shining; dark reddish brown with bronze reflections; basal pronotal foveae deep; elytral interstices convex; 7.4–8.4 x 3.2–3.5 m ... ***parvum***
—Surface dull, colour blackish-brown or black, without bronze reflections; basal pronotal foveae shallow; elytral interstices flat ... 10

10(9) Elytral striae faint; pronotum without perceptible sinuation of sides in front of hind angles; 6.5–7.8 x 2.9–3.6 mm ... ***lentum***
—Elytral striae distinct; pronotum with perceptible sinuation of sides in front of hind angles; 7.4–9.0 x 3.0–3.9 mm ... ***senile***

11(8) Elytra somewhat depressed, broadly oval, slightly explanate laterally; pronotum with a distinct median groove extending from apex to base; 12.6–18.6 x 5.2–7.1 mm ... ***hanseni***
—Elytra convex, less broadly oval, not explanate laterally; median groove of pronotum, if present, confined to disc; 11.5–17.8 x 5.9–7.5 mm ... ***nigritulum***

12(7) Elytral striae 5–10 irregular, usually anastomosing; pronotum with a distinct median longitudinal groove; length exceeding 11 mm; 11.2–13.6 x 4.3–5.4 mm ... ***indigator***
—Elytral striae 5–10 not irregular, if anastomosing then only 1 or 2 striae involved, and joining in a regular manner; length rarely exceeding 11 mm ... 13

13(12) Elytra each with 18 or 19 striae (counted at about midlength); 9.8–12.8 x 3.8–4.9 mm ... ***thoracicum***
—Elytra each with fewer than 18 striae ... 14

14(13) Elytral striae faint; intervals quite flat ... 15
—Elytral striae distinct; intervals slightly convex ... 16

15(14) Dull bronze; pronotum and elytra with pale grey recumbent pubescence clearly visible at x20 magnification; 7.4–9.0 x 3.3–3.8 mm ... ***zelandicum***
—Shining black; pronotum and elytra without discernible pubescence but with a few setiferous punctures bearing bristles; 7.8–9.4 x 3.3–4.0 mm .. ***intermedium***

16(14) Elytra with 17 deeply impressed, punctate striae; moderately convex, oval; shining blackish-brown; 9.3–10.9 x 3.9–4.2 mm ... ***simplex***
—Elytra with no more than 16 striae ... 17

17(16) Antennae clubbed, more strongly in male; elongate, convex; sides of pronotum and elytra not at all explanate; pronotal width/length ratio 1.35 or less; 7.7–8.8 x 2.9–3.4 mm ... ***hudsoni***
—Antennae not clubbed; legs not sexually dimorphic; less elongate, less convex; sides of pronotum and elytra slightly explanate; pronotal width/length ratio greater than 1.35 ... 18

18(17) Legs black or very dark reddish-brown; base of pronotum margined; 8.4–10.0 x 3.1–4.1 mm ... ***aeratum***
—Legs yellowish, at least on femora and base of tibiae; base of pronotum not margined ... 19

19(18) Lateral prebasal foveae of pronotum small, circular; 7.3–8.2 x 2.8–3.2 mm ... ***femorale***
—Lateral prebasal foveae of pronotum large, longitudinally elongate; 7.0–7.5 x 2.6–3.1 mm ... ***arthurensis***

Tribe Chaerodini
Genus *Chaerodes*

Outer emargination of front tibia deeper (Fig. C); pronotum with interstices between punctures convex, and surface dull; labrum densely covered with stout bristles; aedeagus stouter, with an asymmetrical flap-like process on underside of apicale near apex; larger, 6.5–8.6 x 3.9–5.2 mm ... ***trachyscelides***

—Outer emargination of front tibia shallower (Fig. D); pronotum with interstices between punctures flat, and surface shining; labrum with a single transverse row of stout bristles; aedeagus more slender, without a flap-like process on apicale; smaller, 4.5–5.5 x 2.6–3.2 mm ... ***laetus***

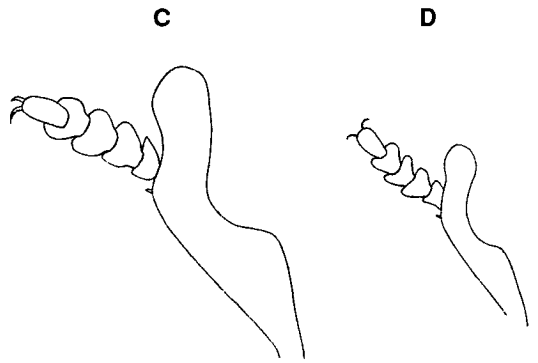

Fig. C, D Right front tibia and tarsus, male, *Chaerodes trachyscelides* and *C. laetus* (spines and setae omitted).

Tribe Lupropini
Genus *Lorelus*

1 Pronotum and elytra with recumbent pubescence, length of hairs considerably exceeding diameter of punctures of origin, especially laterally; 3.7–3.8 x 1.3–1.4 mm ... ***pubescens***

—Pronotum and elytra with length of recumbent hairs only slightly or not exceeding diameter of punctures of origin ... 2

2(1) Pronotum with front angles rectangular, sides little narrowed to them, and front margin straight; humeral callus of elytra usually strongly developed, obscuring fine margin from above ... 3

—Pronotum with front angles more rounded, sides more strongly curved; humeral callus of elytra not strongly developed, not obscuring margin from above ... 4

3(2) Humeral callus of elytra strongly developed, obscuring fine margin from above; posterior pronotal angles acute or (rarely) rectangular; 3.5–4.7 x 1.2–1.6 mm ... ***priscus***

—Humeral callus of elytra weak, not obscuring fine margin from above; posterior angles of pronotum slightly obtuse; 3.8–4.4 x 1.3–1.5 mm ... ***obtusus***

4(2) Strong microsculpture clearly visible on head and pronotum at x50 magnification; surface quite dull; canthi over antennal insertions angled upwards, with a diagonal depression of frons on each side parallel to margins of canthus; 3.9–4.6 x 1.4–1.8 mm ... ***opacus***

—Microsculpture weaker or absent on head and pronotum, not clearly visible at x50 magnification; surface shining to highly polished; canthi not angled upwards; frons with obsolete diagonal depressions or none ... 5

5(4) Pronotum quadrate, with sides weakly curved, lateral channels broad, surface highly polished and weakly convex; punctation fine and shallow, the punctures smaller than facets of eyes; eye in lateral view narrow, with sides straight; 4.3 x 1.6 mm ... ***quadricollis***

—Pronotum not notably quadrate, with sides more strongly curved; punctation coarser, the punctures at least as large as facets of eyes except sometimes near anterior margin; eye in lateral view broader, with sides usually curved ... 6

6(5) Broadly oval, somewhat depressed; sides of elytra slightly explanate between shoulder and about midlength; surface of pronotum and elytra highly polished; 4.7–4.9 x 1.8–1.9 mm ... ***crassicornis***

—Elongate oval, more convex; sides of elytra not explanate; surface of pronotum and elytra usually less highly polished ... 7

7(6) Pronotum 1.4x broader than long; marginal channels broad; less convex; dorsal surface highly polished; 4.3 x 1.6 mm ... ***politus***

—Pronotum less than 1.4x broader than long; marginal channels narrow; more convex; dorsal surface shining, but not highly polished ... 8

8(7) Antennal segment 3 L/W ratio exceeding 1.5 ... 9

—Antennal segment 3 L/W ratio not exceeding 1.4 ... 11

9(8) Dorsal punctures coarse, separated by their own diameter or less on disc of pronotum and elytra; lateral margins of pronotum slightly crenate; elongate, narrow; 4.4–5.2 x 1.3–1.6 mm ... ***punctatus***

—Dorsal punctures finer, separated by more than their own diameter on disc of pronotum and elytra; lateral margins of pronotum quite smooth; broader ... 10

10(9) Pronotum convex, with sides strongly curved, sinuate in front of posterior angles, which are acute; shoulder without a channel inside epileural carina; 4.2–4.8 x 1.4–1.8 mm ... ***tarsalis***

—Pronotum less convex, with sides weakly curved, not sinuate in front of posterior angles, which are obtuse; shoulder with a narrow channel inside epipleural carina; 4.0–5.0 x 1.6–1.9 mm ... ***kaszabi***

11(8) Segments of antennae very broad – length/width ratio of segment 4 not exceeding 0.64, of 5 not exceeding 0.60, of 10 not exceeding 0.54; sides of pronotum usually slightly angulate, with lateral margins uneven in width; 4.4–5.5 x 1.5–1.9 mm. In *Cyathea dealbata* ... ***laticornis***

—Segments of antennae not as broad – length/width ratio of segment 4 exceeding 0.78, of 5 exceeding 0.70, of 10 exceeding 0.65; sides of pronotum evenly curved, with lateral margins even in width. Rarely (if ever) in *Cyathea dealbata* ... 12

12(11) Antennal segments 4 and 5 slightly more transverse – length/width ratios not exceeding 0.90 and 0.85 respectively; larger, 4.5–5.5 x 1.5–1.8 mm ... ***latulus***

—Antennal segments 4 and 5 slightly less transverse – length/width ratios exceeding 0.90 and 0.85 respectively; smaller, 3.2–4.2 x 1.2–1.5 mm ... ***marginalis***

Subfamily PIMELIINAE
Tribe Cnemeplatiini
Genus *Actizeta*

Outer edge of anterior tibia deeply emarginate; scales very pale, almost white; body and antennae dark brown; eyes large, round, prominent; 2.6–3.4 x 1.2–1.6 mm ... ***albata***

—Outer edge of anterior tibia shallowly emarginate; scales darker; body and antennae medium brown; eyes reduced; smaller, 2.1–2.9 x 1.0–1.3 mm ... ***fusca***

Subfamily TENEBRIONINAE
Tribe Alphitobiini
Genus *Alphitobius*

Eye almost completely divided by canthus, with only 1 facet between it and hind margin; dorsal surface dull, with microsculpture clearly visible at x25 magnification; sides of pronotum explanate, with broad lateral channels; 5.2–6.4 x 2.2–2.8 mm ... ***laevigatus***

—Eye not almost completely divided, with at least 3 facets between canthus and hind margin; dorsal surface shining; microsculpture not visible at x25 magnification; sides of pronotum not explanate, with lateral channels very narrow. In stored grains and deep litter poultry houses, sometimes abundant ... ***diaperinus***

Tribe Heleini
Genus *Mimopeus*

1 Elytral costae very distinct; lateral and posterior slopes of elytra bearing numerous backward-inclined bristles, these considerably longer than diameter of punctures of origin; 10.9–12.9 x 5.2–6.0 mm ... ***rugosus***

—Elytral costae indistinct, obsolete; if bristles present on lateral and hind slopes of elytra, these decumbent and no longer than diameter of punctures of origin ... 2

2(1) Outer apical angle of front tibia strongly dentate, with a distinct sinus between it and basal articulation of tarsus; elongate oval, with narrow marginal channels on pronotum and elytra ... 3

—Outer apical angle of front tibia weakly or not dentate, without a sinus; broadly oval or parallel-sided, with marginal channels of pronotum and elytra usually broader ... 4

3(2) Lateral angle of postgenal emargination at base of cardo dentate in lateral view; aedeagus broad apically; 10.4–15.7 x 5.5–7.6 mm ... ***tibialis***

—Lateral angle of postgenal emargination not dentate in lateral view; aedeagus very slender apically; 11.0–16.8 x 5.5–7.7 mm ... ***convexus***

4(2) Basal segments of anterior tarsus very short and stout, their width equal to length of antennal segment 5; aedeagus with dorsolateral outer surface of apicale carinate; 16.5–17.1 x 7.3–8.1 ... ***johnsi***

—Basal segments of anterior tarsus more slender, their width less than length of antennal segment 5; aedeagus with apicale not carinate laterally ... 5

5(4) Marginal channels of elytra obsolete; elytral shoulder not at all prominent ... 6

—Marginal channels of elytra well developed; elytral shoulder more prominent ... 7

6(5) Pronotum and elytra more convex; aedeagus relatively stout; dark, usually almost black; elytra not granulate; epipleural carina not at all reflexed; 10.9–17.2 x 5.4–8.3 mm .. ***impressifrons***

—Pronotum and elytra less convex; aedeagus slender; reddish brown; elytra with small granules, visible at

x25 magnification; epipleural carina slightly reflexed; 12.8–17.1 x 6.2–7.8 mm ... ***lewisianus***

7(5) Broad, parallel-sided, with prominent elytral shoulders; elytral surface uneven, with definite costae ... 8
—Not broad and parallel-sided with prominent elytral shoulders; elytral surfaces not uneven, without definite costae ... 12

8(7) Elytral base with a raised, transverse carina ... 9
—Elytral base without a raised, transverse carina ... 11

9(8) Costae of elytra distinct, with longitudinal rows of shining granules between them; 10.6–17.2 x 5.7–8.9 mm ... ***costellus***
—Costae of elytra less distinct, without longitudinal rows of shining granules between them ... 10

10(9) Elytral interstices shining, with very weak microsculpture or none; elytral submarginal channel flat, and inner angle very sharp and clearly defined; 8.8–13.9 x 4.8–6.2 mm ... ***parallelus***
—Elytral interstices dull except for small, shining granules, with strong microsculpture clearly visible at x25 magnification; elytral submarginal channel concave, without a defined inner angle; 10.6–16.8 x 5.7–7.3 mm ... ***clarkei***

11(26) Elytra with 9 longitudinal depressions (best seen with side lighting) and with large, coarse punctures; interstices with fine punctures separated by much more than their own diameter; granules absent; 9.1–14.8 x 4.7–7.3 mm ... ***subcostatus***
—Elytra without such depressions; punctation uniformly dense and coarse, the punctures separated by much less than their own diameter; shining granules present on elytra; 11.0–15.0 x 5.0–7.0 mm ... ***granulosus***

12(7) Parallel-sided; elytral shoulder prominent, approximately rectangular; base of elytron with a raised, transverse carina; inner angle of elytral marginal channel sharply defined ... 13
—Not parallel-sided; elytral shoulder less prominent, not rectangular; base of elytron without a raised, transverse carina; elytral marginal channel without a sharply defined inner angle ... 15

13(12) Dorsal surface dull, and with very strong microsculpture, apart from small, shining granules on vertex, pronotum, and elytra; larger, 11.1–16.6 x 6.1–7.8 mm ... ***lateralis***
—Dorsal surface shining; microsculpture weaker ... 14

14(13) Aedeagus elongate, very slender; body more elongate, 9.6–13.6 x 4.8–6.3 mm ... ***humeralis***
—Aedeagus less elongate, less slender; body broader, 8.2–12.0 x 4.5–5.9 mm ... ***thoracicus***

15(12) Elytral base sharply marked, rectangular ... 16
—Elytral base not sharply marked, rounded off ... 18

16(15) Broadly oval, somewhat depressed; pale to dark brown; 10.0–18.2 x 4.9–9.8 mm ... ***buchanani***
—Elongate oval, more convex; black or blackish brown ... 17

17(16) Shining granules clearly visible at x25 magnification present on elytra; microsculpture very strong, visible at x10 magnification; basale of aedeagus broad at base; 8.7–13.0 x 4.3–6.1 mm ... ***vallis***
—Shining granules absent; microsculpture weaker, not visible at x10 magnification; basale of aedeagus slender at base; 8.2–12.6 x 4.2–5.7 mm ... ***parvus***

18(15) Large beetles exceeding 17 mm in length ... 19
—Smaller beetles not exceeding 17 mm in length ... 20

19(18) Elytra with indistinct costae visible to naked eye, broadly oval, with marginal channels sloping off laterally; epipleural carina not upturned outside them; 21.8–25.3 x 10.6–11.9 mm ... ***insularis***
—Elytra with no trace of costae, less broadly oval, and with marginal channels not sloping off laterally; epipleural carina upturned outside them; 13.1–26.8 x 7.2–11.8 mm ... ***opaculus***

20(18) Elytra with indistinct longitudinal depressions (best seen with side lighting) in which punctures are larger and deeper than on intervals; surface without raised, shining granules; 9.1–16.5 x 4.7–8.3 mm ... ***pascoei***
—Elytra without regular longitudinal depressions; punctation fairly uniform; surface with raised, shining granules visible at x25 magnification ... 21

21(20) Marginal channels of elytra broad at shoulders, narrowing rapidly and becoming obsolete posteriorly; sides of pronotum broadly explanate and reflexed; 12.2–15.8 x 5.8–8.2 mm ... ***turbotti***
—Marginal channels of elytra not broad at shoulders, narrowing gradually posteriorly and moderately distinct almost to apex; sides of pronotum less broadly explanate and reflexed ... 22

22(21) Apicale of aedeagus slender, short; inner side of elytral marginal channels at base distinctly marked by an angle; 10.0–13.1 x 5.2–5.9 mm ... ***neglectus***

—Apicale of aedeagus broader, longer; inner side of elytral marginal channels at base rounded off, not at all angulate; 8.6–14.9 x 5.2–7.3 mm ... ***elongatus***

Tribe Tenebrionini

Genus *Tenebrio*

1 Shining reddish-brown; pronotum and elytra moderately punctate, the punctures separated mostly by more than their own diameter; 13.7–16.6 x 5.3–5.8 mm ... ***molitor***

—Dull black; pronotum and elytra densely punctate, the punctures separated mostly by less than their own diameter; 13.0–18.2 x 4.5–6.0 mm .. ***obscurus***

Tribe Titaenini

Genus *Artystona*

1 Pronotum and elytra tinged with metallic green or purple; elytral intervals with large setiferous punctures, especially posteriorly, and with setae (very prone to rub off) as long as width of intervals or longer; 9.8–14.4 x 3.8–4.8 mm ... ***erichsoni***

—Without metallic tinges; elytra bare, or with setae often much shorter than width of intervals ... 2

2(1) Sides of pronotum not strongly curved, often almost straight for most of their length; anterior angles prominent in dorsal view, approximately rectangular in lateral view; elytral striae clearly defined for most of their length ... 3

—Sides of pronotum strongly curved; anterior angles not prominent in dorsal view, obtuse in lateral view; elytral striae obsolete except near apex ... 5

3(2) Eyes reduced, extending less on to ventral surface of head; lower margin level with or lateral to outer margin of base of antenna; facets stopping short of postocular groove; no more than 8 facets in a row diagonally down from hind margin of eye to canthus; 6.2–9.1 x 2.6–3.8 mm ... ***rugiceps***

—Eyes large, convex, extending into ventral surface of head so that lower margin is mesal to outer margin of base of antenna; facets extending to edge of postocular groove; 9–11 facets in a row diagonally down from hind margin of eye to canthus ... 4

4(3) Pronotal surface dull, with microsculpture clearly visible at x25 magnification; elytral interstices flat in anterior half, bullate only towards apex; elytral stria 8 obsolete in basal half; apterous; last ventrite of male without a median fovea; 9.5–11.7 x 3.7–4.5 mm ... ***obscura***

—Pronotal surface shining; microsculpture not visible at x25 magnification; elytral interstices convex and bullate throughout; stria 8 distinct except at extreme base; fully winged; last ventrite of male with a median fovea; 9.8–10.9 x 3.5–4.0 mm ... ***wakefieldi***

5(2) Pronotum little broader than long (about 1.2x); in dorsal view eyes moderately convex, projecting laterally about as far as canthus; punctures of pronotum and elytra relatively sparse and fine, not confluent, smaller than facet of eyes; elytral shoulder rounded off; 9.5–12.3 x 3.7–4.8 mm ... ***richmondiana***

—Pronotum much broader than long (about 1.5x); in dorsal view, eyes strongly convex, projecting laterally well beyond canthus; punctures of pronotum and elytra dense and coarser, confluent on parts of pronotum, some as large as facets of eyes or larger; elytral shoulder angulate; 8.3–9.6 x 3.5–4.3 mm ... ***lata***

Genus *Cerodolus*

1 Pronotum much wider at middle than at posterior angles, with sides strongly curved; middle of pronotum as wide as elytra at shoulders or wider; basal marginal line of pronotum distinctly impressed throughout; prosternal intercoxal process convex longitudinally, depressed posteriorly, without a posterior process; 8.2–8.9 x 3.7–4.2 mm ... ***tuberculatus***

—As above, but lacking tubercles on hind slope of elytra ... ***manepouricus***

—Pronotum not or little wider at middle than at posterior angles, with sides less strongly curved; middle of pronotum narrower than elytra at shoulders; basal marginal line of pronotum obsolete in middle, confined to lateral quarters or thirds; prosternal intercoxal process flat longitudinally, with a prominent, acute posterior process ... 2

2(1) Black, with slight metallic greenish reflections; strial punctures foveate; hind slope of elytra tuberculate; elytra very convex, much broader than pronotum; 5.7–8.3 x 2.8–3.7 mm ... ***chrysomeloides***

—Front and middle tarsi of male expanded; posterior part of prosternal intercoxal process slightly depressed ... ***chrysomeloides*** (geographical variant?)

—Black or dark brown, without greenish reflexions; strial punctures not foveate; hind slope of elytra less

strongly or not tuberculate; elytra less convex, less broad than pronotum ... 3

3(2) Not convex, narrowly oval; pronotum with deep lateral basal impressions; surface shining; microsculpture weak, scarcely visible at x25 magnification; elytral hind slope without tubercles or elevations, smooth; 6.4 x 3.0 mm ... ***arthurensis***

—Convex, broadly oval; pronotum with shallow basal impressions or none; surface dull; microsculpture strong, clearly visible at x25 magnification; elytral hind slope with tubercles or slight elevations ... 4

4(3) Microsculpture of pronotum weak, not visible at x10 magnification; sides of pronotum slightly sinuate in front of acute posterior angles; punctures of striae more numerous (13–15 in 2.5 mm on disc in stria 1); 6.7–7.8 x 2.9–3.7 mm ... ***sinuatus***

—Microsculpture of pronotum strong, visible at x10 magnification; sides of pronotum evenly curved, not at all sinuate posteriorly; punctures of striae fairly sparse (9–11 in 2.5 mm on disc in stria 1) ... 5

5(4) Sides of pronotum more strongly and evenly curved, narrowed to obtuse posterior angles; striae slightly impressed between punctures, which are larger than facets of eyes; 8.3 x 3.6 mm (teratological specimen with a dome-shaped convexity on left elytron) ... ***curvellus***

—Sides of pronotum weakly curved, widest at acute posterior angles; striae not at all impressed between punctures, which are much larger than facets of eyes; 6.0–7.2 x 2.9–3.7 mm ... ***genialis***

Genus *Pseudhelops*

1 Pronotum widest at hind angles, narrowed to anterior angles; prosternal intercoxal process almost plane longitudinally, broad or very broad posteriorly; upper surface black or dark brown with slight metallic green reflections ... 2

—Pronotum widest in front of hind angles, with sides more strongly curved; prosternal intercoxal process convex longitudinally and depressed posteriorly, differing in shape; upper surface dark or pale brown; metallic reflections, if present, not green ... 4

2(1) Body more convex; prosternal intercoxal process narrower posteriorly; base of pronotum with marginal lines confined to basal quarter; 7.0–7.7 x 3.0–3.6 mm ... ***capitalis***

—Body somewhat depressed; prosternal intercoxal process very broad posteriorly; base of pronotum with a continuous, distinct marginal groove ... 3

3(2) Pronotum shining, without microsculpture visible at x25 magnification; striae 5 and 6 running into a longitudinal elevation posteriorly; slope of anterior face of mesosternum steep. 6.4 x 2.8 mm ... ***chathamensis***

—Pronotum dull, with microsculpture clearly visible at x25 magnification; striae 5 and 6 running together between longitudinal elevations posteriorly; slope of anterior face of mesosternum shallow; 6.5–7.6 x 3.0–3.5 mm ... ***quadricollis***

4(1) Elytra with distinct striae and large strial punctures, mostly visible to the naked eye; body strongly convex; basal 4 segments of anterior tarsi expanded in male; prosternal intercoxal process moderately convex longitudinally, depressed and expanded behind coxae; spermatheca a very fine, unbranched tube ... 5

—Elytra with striae weakly impressed or obsolete, and strial punctures small, not visible to naked eye; body less convex; tarsi not expanded in male; prosternal intercoxal process less convex, less depressed and less expanded behind coxae; spermatheca a much thicker, branched tube ... 6

5(4) Microsculpture of upper surface of head and pronotum moderately strong, the punctures small but visible at x12 magnification; length exceeding 9.5 mm, width exceeding 4.1 mm; 9.6–11.2 x 4.2–5.3 mm ... ***liberalis***

—Microsculpture of upper surface of head and pronotum very strong, with punctures minute, barely visible at x25 magnification; length not exceeding 8 mm, width not exceeding 3.7 mm; 7.7–8.0 x 3.3–3.7 mm ... ***clandestinus***

6(4) Upper surface of head and pronotum with larger, deeper punctures, the diameter of the largest half or more that of facets of eyes; microsculpture of head and pronotum weaker, not appearing shagreened; 6.4–9.2 x 2.7–4.1 mm ... ***tuberculatus***

—Upper surface of head and pronotum with fine, shallow punctures, the diameter of the largest much less than half that of facets of eyes; microsculpture of head and pronotum very strong, appearing shagreened ... 7

7(6) Pronotum with sides fairly strongly curved, posterior angles not prominent; strial punctures and often striae distinct; elytra each with 3 prominent tubercles on hind slope; 6.6–8.4 x 2.7–3.8 mm ... ***posticalis***

—Pronotum with sides less strongly curved, posterior angles more prominent; strial punctures and striae obsolete; tubercles of hind slope of elytra weak; 7.3–8.1 x 3.2–3.8 mm ... ***antipodensis***

Tribe Triboliini
Genus *Tribolium*

Antennal club distinct, 3-segmented; vertex not carinate above dorsal margin of eye, eye with 4 or 5 facets between canthus and hind margin; 3.0–3.4 x 0.9–1.3 mm ... ***castaneum***

— Antennal club indistinct, 5-segmented; vertex strongly carinate above dorsal margin of eye; eye with 2 facets between canthus and hind margin; 3.3–3.8 x 1.1–1.4 mm ... ***confusum***

TAXONOMIC CATALOGUE

Subfamily ALLECULINAE

Tribe Alleculini

• ***Omedes*** Broun, 1893a, p. 1169

Type species *Omedes nitidus* Broun, here designated.

nitidus Broun, 1893a, pp. 1169–1170

Watt, 1982, p. 304.

Lectotype male 6.7 x 2.5 mm, BMNH: "2076 / Omedes nitidus [Broun] / Mokohinau / New Zealand, Broun Coll. Brit. Mus. 1922-482 [printed] / LECTOTYPE [m.] Omedes nitidus Broun, det. J.C. Watt, 1985."

Paralectotypes: 1 female, BMNH, labelled "Omedes nitidus [Broun] T. Broun Collection / A.E. Brookes Collection [printed];" 1 female, NZAC, labelled "Omedes nitidus Broun, det. J.C. Watt, 1985."

— / ND (Mokohinau Is) / —

substriatus Broun, 1880, p. 397 *(Xylochus)* Fig. 1

Lectotype female 8.1 x 3.1 mm (estimate; elytra spread), BMNH: "700 [printed on green paper] / Tairua / Xylochus substriatus [Broun] / New Zealand, Broun Coll., Brit. Mus. 1922-482 [printed] / LECTOTYPE, Xylochus substriatus Broun (Omedes) det. J.C. Watt, 1985."

— / CL, WN / SD, NN, NC, MC, DN, SL / SI / Chatham Is / —

fuscatus Broun, 1893a, p. 1170

Holotype (sex not determined) 7.4 x 2.6 mm, BMNH: "2077 / Omedes fuscatus [Broun] / Port Chalmers / New Zealand, Broun Coll. Brit. Mus. 1922-482 [printed] / HOLOTYPE, Omedes fuscatus Broun, det. J.C. Watt, 1895."

apterus Broun, 1895, pp. 244–245

Holotype (sex not determined) 6.5 x 2.5 mm (estimate; elytra spread), BMNH: "2850 / Omedes apterus [Broun] / Wellington / New Zealand, Broun Coll. Brit. Mus. 1922-482 [printed] / HOLOTYPE, Omedes apterus Broun (= fuscatus), det. J.C. Watt, 1985."

• ***Tanychilus*** Newman, 1838, p. 487

Lacordaire, 1859, p. 498. –Redtenbacher, 1868, p. 134.

Type species *Tanychilus metallicus* White.

metallicus White, 1846, p. 12 Fig. 2

Broun, 1880, p. 395; –1893, p. 1169 ("not a true *tanichylus*"). –Hutton, 1904, p. 188 *(Amarosoma)*. –Hudson, 1934, p. 202. –Watt, 1982, p. 304.

Holotype not found.

— / ND, AK, CL, TO, HB, WN / NN / —

rufescens Broun, 1880, p. 395 (as variety of *T. metallicus* White)

violaceus Broun, 1910, p. 49 *(Amarosoma)*

Hudson, 1934, p. 202 *(Tanychilus)*. –Gebien, 1942, p. 744 *(Pheloneis)*.

Holotype female 10.3 x 3.9 mm, BMNH: "3108 / Titahi Bay, Southland [sic; should be WN] / Amarosoma violacea [Broun] / New Zealand, Broun Col. Brit. Mus. 1922-482 [printed] / HOLOTYPE [f.] Amarosoma violacea Broun (= metallicus Wh.) det. J.C. Watt, 1985 (Tanychilus)."

sophorae Broun, 1880, p. 396

Broun, 1893a, p. 1169 ("Not a true *Tynalichus*"). –Hutton, 1904, p. 188 *(Amarosoma)*. –Hudson, 1934, p. 202.

Lectotype male 11.4 x 4.0 mm (elytra spread), BMNH: "699 [printed on green paper] / Stokes Point / Amarosoma sophorae [Broun] / New Zealand, Broun Coll. Brit. Mus. 1922-482 [printed] / LECTOTYPE [m.], Tanychilus sophorae Broun, det. J.C. Watt, 1985."

Paralectotype male, BMNH, with same original data as lectotype.

— / ND, AK, TO / —

• ***Xylochus*** Broun, 1880, pp. 396–397

Type species *Xylochus tibialis* Broun, here designated.

Note. The description of this genus is accompanied by descriptions of two species, *X. substriatus* and *X. tibialis*.

The first has synonyms *Omedes fuscatus* and *O. apterus;* if either were designated as type species of *Xylochus, Omedes* would become a junior synonym and *Xylochus* as usually understood would be left without a name. This is avoided by designating *tibialis* as type species of *Xylochus.*

dentipes Broun, 1886, p. 788

Lectotype male 8.6 x 3.3 mm, NZAC: "[m.] [Broun] / 1406 [printed on green paper] / Parua [printed] / T. Broun Collection / A.E. Brookes Collection [printed] / LECTOTYPE [m.], Xylochus tibialis Broun, det. J.C. Watt, 1985."

Paralectotype female, NZAC, labelled "dentipes / [f.] [Broun] / T. Broun Collection / A.E. Brookes Collection [printed]."

— / ND (?incl. Hen I.) / —

Note. None of the BMNH Broun Collection specimens (4) identified as this species agree with the description, and all bear locality labels other than Parua – they are all *X. tibialis.* Broun sexed the type specimen wrongly.

spinifer Broun, 1893a, pp. 1168–1169

Lectotype male 8.3 x 3.2 mm, BMNH: "2075 / [m.] / Xylochus spinifer [Broun] / Mokohinau / New Zealand, Broun Coll. Brit. Mus. 1922-482 [printed] LECTOTYPE [m.], Xylochus spinifer Broun, det. J.C. Watt, 1985."

Paralectotype female, BMNH, with same original data as lectotype.

— / ND (Mokohinau Is, ?Poor Knights Is) / —

tibialis Broun, 1880, p. 397

Holotype male 8.5 x 3.2 mm, BMNH: "701 [printed, on green paper] / Tairua, Auckland / Xylochus tibialis [Broun] / New Zealand, Broun Coll. Brit. Mus. 1922-482 [printed] / HOLOTYPE [m.], Xylochus tibialis Broun, det. J.C. Watt, 1985."

— / AK, CL, BP, WN / —

triregius new species Fig. 3

Shining black. Elytral interstices strongly convex, especially towards sides and apex; elytral striae strongly impressed. Pronotum with very strong microsculpture, visible at x10 magnification, but pronotal punctures minute, not visible at x10 magnification. Front femur of male armed with a prominent tooth, squarely truncate at apex. Size range 7.4–9.4 x 2.7–3.6 mm.

Holotype male 7.4 x 2.7 mm, NZAC: "Holotype Xylochus triregius [m.] J.C. Watt 1990 [red label] / Xylochus triregius Watt MS det. J.C. Watt 1981 / Three Kings Is. Great I. Nov. 70 NZ Ent. Div. Exp. / Tasman Valley."

— / Three Kings Is / —

• *Zomedes* new genus

Pronotum with posterior angles obtuse, sides strongly curved, widest at midlength. Mesosternal intercoxal process not swollen, its front face inclined (differing from genus *Omedes*, which has intercoxal process of abdominal sternite 1 sharply pointed). Coxae narrowly separated. Male without teeth or projections on front femora. Maxillary palpi strongly securiform.

Type species *Zomedes borealis* n.sp.

borealis new species Fig. 4

Shining reddish brown, elongate, somewhat depressed. Lateral carina of pronotum obsolete in anterior third, very weakly developed elsewhere. Pronotum with a pair of prebasal lateral foveae. Size range 11.9–13.4 x 4.4–4.7 mm.

Holotype female 11.5 x 4.3 mm, NZAC: "Holotype Zomedes borealis [f.] J.C. Watt 1990 [red label] / Tasman Valley / Three Kings Is. Great I. Nov. 70 NZ Ent. Div. Exp."

— / Three Kings Is / —

Subfamily COELOMETOPINAE

Tribe Coelometopini

• *Chrysopeplus* Gebien, 1942, p. 755 (replacement name for *Leiopeplus* Broun, 1893, not Murray, 1862)

Broun, 1893a, pp. 1160–1161.

Type species *Helops expolitus* Broun.

expolitus Broun, 1880, pp. 392–393 *(Helops)*

Broun, 1893a, p. 1161 *(Leiopeplus).* –Gebien, 1942, p. 755. –Watt, 1982, p. 304.

Lectotype female 9.5 x 5.0 mm (estimate; spread), BMNH: "Lectotype [f.]: 696 [printed on green paper] / New Zealand, Broun Coll. Brit. Mus. 1922-482 [printed] / Whangarei Heads [printed] / Leiopeplus expolitus [Broun] / LECTOTYPE [f.], Helops expolitus Brn. (Chrysopeplus) det. J.C. Watt, 1985."

Paralectotype female, BMNH, labelled "696 [printed on green paper] / Whangarei [printed] / New Zealand – [etc.]"

— / ND, AK, CL (east coast) / —

triregius new species

Form very convex, broadly oval, shining. Elytral epipleura continuing almost to apex, with grooves into which lateral margins of ventrites 3 and 4 lock. Basal segments of hind tarsus shorter than 2 and 3 together. Elytral striae deep. Pronotal punctures distinctly visible at x25 magnification. Segment 7 of antenna almost as broad as segment 8. Size range 10.1–14.7 x 5.7–7.8 mm.

Holotype male 11.9 x 6.3 mm, NZAC: "Holotype [m.] Chrysopeplus triregiae [sic] Watt det. J.C. Watt, 1989 [red label] / Great I. Three Kings 3.1.63 E.S. Gourlay / E.S. Gourlay Acc 1970 Ent. Div."

— / Three Kings Is / —

Subfamily DIAPERINAE

Tribe Diaperini

• ***Gnatocerus*** Thunberg, 1814, p. 47

Seidlitz, 1894, pp. 571, 586 *(Gnathocerus)*. –Spilman, 1972, pp. 32–34. –Melville, 1975, pp. 136–138 (fixation of type species).

Type species *Gnatocerus nuber* Thunberg (= *cornutus* Fabricius).

Gnathocerus of authors (unjustified emendation)

cornutus Fabricius, 1798, p. 51 *(Trogosita)* Fig. 5

Hutton, 1904, p. 352. –Hudson, 1934, p. 200. –Archibald & Chalmers, 1983, p. 378.

Type material not seen.

Note. In stored grain, grain products, and poultry houses.

Tribe Gnathidiini

• ***Menimus*** Sharp, 1876, pp. 73–74

Broun, 1880, pp. 360–361. –Gebien, 1925, p. 106.

Type species *Menimus batesi* Sharp.

Ceramba Fauvel, 1904, p. 206.

batesi Sharp, 1876, p. 74

Broun, 1880, p. 361.

Lectotype (sex not determined) 4.3 x 2.3 mm, BMNH: "Menimus batesi Type D.S. [Sharp on card] / type H.T. [printed in red circle] / Sharp. Coll. 1905-313 [printed] / LECTOTYPE, Menimus batesi Sharp det. J.C. Watt, 1985."

Paralectotypes: 2, BMNH, with same original data as lectotype except "Ind. typ." instead of "Type".

— / ND, AK, CL, WO / —

Note. Examples of *batesi* taken at Waitakere and Howick (AK) key out separately – see p. 15.

striatulus Broun, 1886, p. 842 new synonymy

Holotype (sex not determined) 4.1 x 2.1 mm, BMNH: "1497 [printed on green paper] / Waitakere / NZ, Broun Coll. Brit. Mus. 1922-482 [printed] / Menimus striatulus [Broun] / HOLOTYPE, Menimus striatulus Broun, det. J.C. Watt, 1985."

vicinus Broun, 1893b, pp. 288–289 new synonymy

Holotype (sex not determined) 4.3 x 2.3 mm, BMNH: "2840 / Menimus vicinus [Broun] / Paparoa / NZ Broun Coll. Brit. Mus. 1922-482 [printed] / HOLOTYPE, Menimus vicinus Broun, det. J.C. Watt, 1985."

borealis new species Fig. 6

Pronotum and head with dense, fine, semi-erect pubescence. Size range 4.0–4.2 x 2.0–2.2 mm.

Holotype male 4.1 x 2.2 mm, NZAC: "Holotype [m.] Menimus borealis Watt det. J.C. Watt 1989 [red label] / New Zealand ND E. Pandora Rd, Te Paki Coastal Park 7 Feb. 1975. A.K. Walker / 75/140 Ganoderma on dead standing tree."

— / ND (Te Paki) / —

brouni new species Fig. 7

Segments of antennal club somewhat flattened and strongly expanded from base to apex. Microsculpture of pronotum and elytra very strong, clearly visible at x10 magnification. Pronotal basal transverse groove absent. Eye reduced. Size range 4.0–4.4 x 2.1–2.4 mm.

Holotype (sex undetermined) 4.0 x 2.1 mm, NZAC: "Holotype Menimus brouni Watt det. J.C. Watt 1989 [red label] / New Zealand ND E. Pandora Rd Te Paki Coastal Park 7 Feb. 1975 A.K. Walker / 75/140 Ganoderma on dead standing tree / Menimus sp. 11 det. J.C. Watt 1980."

— / ND (Te Paki) / —

caecus Sharp, 1876, p. 75 Fig. 8

Broun, 1880, pp. 362–363. –Hudson, 1934, p. 87.

Lectotype (sex not determined) 3.0 x 1.6 mm, BMNH: "Menimus caecus Type D.S., N. Zeald. [Sharp on card] / Type HT [printed in red circle] / Sharp Coll. 1905-313 [printed] / LECTOTYPE, Menimus caecus Sharp, det. J.C. Watt, 1985."

Paralectotype BMNH, with same original data as lectotype except "Ind. typ." instead of "Type".

— / AK, CL, BP, TO, WA, WN / —

lineatus Broun, 1912, pp. 436–437

Holotype (sex not determined) 3.2 x 1.6 mm, BMNH: "3253 / Erua, Jany 1910 / Menimus lineatus [Broun] / NZ, Broun Coll., Brit. Mus. 1922-482 [printed] / holotype, Menimus lineatus Broun, det. J.C. Watt, 1985."

Note. Specimens of *caecus* from Tairua (type locality) have the lateral denticulations obsolete, as does the type specimen of *lineatus*. *M. caecus* seems to be very variable.

clarkei new species

Segments of antennal club subcylindrical, with subparallel sides. Basal pronotal groove complete. Microsculpture of elytra very strong, visible at x10 magnification.

Holotype (sex undetermined) 4.9 x 2.1 mm, AMNZ: "Holotype Menimus clarkei J.C. Watt 1990 [red label] / Waimatenui / C.E. Clarke Collection / Hobson Co., North Island, New Zealand, Auckland Museum."

— / ND (Waimatenui, Waipoua S.F.) / —

crassus Sharp, 1876, pp. 74–75

Broun, 1880, p. 363.

Lectotype (sex not determined) 3.1 x 1.7 mm, BMNH: "Menimus crassus Type D.S. NZeald [Sharp on card] / Type H.T. [printed in red circle] / Sharp Coll. 1905-313 [printed] / LECTOTYPE, Menimus crassus Sharp, det. J.C. Watt, 1985."

Paralectotype BMNH, with same original data except "Ind. typ." instead of "Type."

— / AK, CL, WO, BP, TO, TK, GB, WN / —

piceus Broun, 1883, p. 377

Broun, 1886, p. 786.

Lectotype (sex not determined) 2.8 x 1.6 mm, BMNH: "1402 [printed on green paper] / Taranaki / NZ, Broun Coll. Brit. Mus. 1922-482 [printed] / LECTOTYPE (right way up), PARALECTOTYPE (on its back), Menimus piceus, det. J.C. Watt, 1985."

Paralectotype: same data as lectotype.

humeralis Broun, 1910, pp. 41–42 new synonymy

Holotype (sex not determined) 2.8 x 1.5 mm, BMNH: "3094 Waimarino, Jany. 1909 / Menimus humeralis [Broun] / NZ, Broun Coll., Brit. Mus. 1922-482 [printed] / HOLOTYPE, Menimus humeralis Broun, det. J.C. Watt, 1985."

aemulator Broun, 1910, p. 42 new synonymy

Lectotype (sex not determined) 3.0 x 1.7 mm, BMNH: "3095 / Waimarino, Jany. 1909 / Menimus aemulator [Broun] / NZ, Broun Coll. Brit. Mus. 1922-482 [printed] / LECTOTYPE, Menimus aemulator."

Paralectotypes: 2, Broun Coll., BMNH, with same locality data as lectotype.

crinalis Broun, 1880, p. 363

Lectotype (sex not determined) 3.9 x 2.0 mm, BMNH: "658 [printed on green paper] / Parua / NZ Broun Coll. Brit. Mus. 1922-482 [printed] / Menimus crinalis [Broun] / LECTOTYPE, Menimus crinalis Broun, det. J.C. Watt, 1985."

Paralectotype BMNH, with same original data as lectotype except type label.

— / ND, AK / —

curtulus Broun, 1883, pp. 376–377

Broun, 1886, pp. 785–786.

Lectotype (sex not determined) 2.6 x 1.3 mm, BMNH: "1401 [printed on green paper] / Tairua / NZ Broun Coll., Brit. Mus. 1922-482 [printed] / Menimus curtulus [Broun] / LECTOTYPE, Menimus curtulus Broun, det. J.C. Watt, 1985."

Paralectotypes: [number not noted], BMNH, with same original data as lectotype.

— / AK, CL, TO, TK / —

dubius Broun, 1880, pp. 363–364

Lectotype (sex not determined) 4.2 x 2.3 mm, BMNH: "660 [printed, on green label] Parua / NZ Broun Coll., Brit. Mus. 1922-482 [printed] / Menimus dubius [Broun] / LECTOTYPE, Menimus dubius Broun, det. J.C. Watt, 1985."

Paralectotypes: 1, BMNH, with same original labels as lectotype except locality Whangarei; 3, NZAC, labelled "660 / Parua, Broun Coll."

— / ND / —

elongatus new species

Entire dorsal surface clothed with long, curved, reclined pubescence. Pronotum dull; microsculpture visible at x25 magnification. Small, elongate species.

Holotype (sex not determined) 2.6 x 1.4 mm, NZAC: "Holotype Menimus elongatus. Watt 1990. Holotype [red label] / Fern Flat Rd, Maungataniwha Range 1200 [feet]. 20 Feb. 1967 B.M. May / Menimus sp. 3 det. J.C. Watt 1980."

— / ND (Maungataniwha Ra.) / —

helmorei new species Fig. 9

Dorsal surface dull, with microsculpture strong. Vertex of head glabrous. Eye composed of 12 facets. Pronotum and elytra glabrous.

Holotype male 3.6 x 1.6 mm, NZAC: "Holotype [m.] Menimus helmorei Watt det. J.C. Watt, 1989 [red label] / New Zealand BP Mt Te Aroha 700–850 m. 12 Nov. 83 P.M. Hammond."

— / BP (Mt Te Aroha, etc.) / —

laevicollis Broun, 1895, p. 242

Lectotype (sex not determined) 3.8 x 2.0 mm, BMNH: "2841 / Tarukenga / Menimus laevicollis [Broun] T. Broun Collection / A.E. Brookes Collection [printed] / LECTOTYPE, Menimus laevicollis Broun. det. J.C. Watt, 1985 [on red card]."

Paralectotypes: 5, NZAC, labelled "laevi [Broun]"; 2, BMNH (general collection); 2, Broun Coll., BMNH, labelled "2841 / Tarukenga [Broun]."

— / BP, TO, GB / —

moehauensis new species Fig. 10

Dorsal surface dull, with microsculpture very strong; vertex of head pubescent. Eye composed of about 16 facets. A few small setae laterally on pronotum and elytral shoulders. Size range 2.9–3.2 x 1.4–1.7.

Holotype male 3.2 x 1.7 mm, NZAC: "Holotype [m.] Menimus moehauensis Watt det. J.C. Watt, 1989 [red label] / Mt Moehau Auckland NZ 2000 [feet] under log 28-xii-1961 J.C. Watt 1584 / J.C. Watt Collection Ent. Div. DSIR, 1966 / Menimus sp. 14 det. J.C. Watt 1980."

— / CL (Mt Moehau, Great Barrier I.) / —

oblongus Broun, 1880, p. 362

Lectotype (sex not determined) 4.1 x 2.0 mm, BMNH: "656 [printed on green paper] / Manaia / NZ, Broun Coll., Brit. Mus. 1922-482 [printed] / Menimus oblongus [Broun] / LECTOTYPE, Menimus oblongus Broun det. J.C. Watt, 1985."

Paralectotypes: 1, NZAC, with same original data as lectotype; 1, Broun Coll., BMNH, labelled "Parua".

— / ND / —

obscurus Broun, 1880, p. 364

Lectotype (sex not determined) 2.8 x 1.5 mm, BMNH: "661 / Menimus oblongus [Broun] / Manaia / NZ, Broun Coll. Brit. Mus. 1922-482 [printed] / LECTOTYPE, Menimus obscurus Broun, det. J.C. Watt, 1985."

Paralectotypes: 2, BMNH, with same data as lectotype except determination label.

— / ND, AK, CL / —

pubiceps Broun, 1921, p. 541

Lectotype (sex not determined) 3.6 x 2.0 mm, BMNH: "4072 / Menimus pubiceps [Broun] / Hunua / NZ Broun Coll. Brit. Mus. 1922-482 [printed] / Novr 1887 [Broun] / LECTOTYPE, Menimus pubiceps Broun det. J.C. Watt, 1985."

Paralectotypes: 2, BMNH, NZAC, with same original data as lectotype.

— / AK / —

puncticeps Broun, 1880, pp. 361–362

Holotype (sex not determined) 4.3 x 2.2 mm, NZAC: "655 [Broun] / Parua / T. Broun Collection / A.E. Brookes Collection / HOLOTYPE, Menimus puncticeps Broun, det. J.C. Watt, 1985 [on red card]."

— / ND, AK, BP / —

Note. There is one other specimen of this species labelled "Parua", in the Broun Collection, BMNH. The NZAC specimen agrees better with Broun's description, especially as regards colour. It is mounted on a short card of the kind used most frequently by Broun for his earlier material, whereas the BMNH specimen is on a long card.

sinuatus Broun, 1886, p. 842

Holotype (sex not determined) 4.4 x 2.2 mm, BMNH: "1498 [printed, on green paper] / Helensville / NZ, Broun Coll. Brit. Mus. 1922-482 [printed] HOLOTYPE, Menimus sinuatus Broun, det. J.C. Watt, 1985."

— / AK (Helensville, Titirangi) / —

thoracicus Broun, 1880, pp. 364–365

Holotype (sex not determined) 2.6 x 1.2 mm, BMNH: "662 [printed on green paper] / Manaia / NZ, Broun Coll., Brit. Mus. 1922-482 [printed] / Menimus thoracicus [Broun] / HOLOTYPE, Menimus thoracicus Broun, det. J.C. Watt, 1985."

— / ND (Whangarei Heads), CL / —

Note. *M. thoracicus* may be no more than a variant of *M. caecus* – more ND specimens need to be checked.

Subfamily LAGRIINAE
Tribe Adeliini

• ***Adelium*** Kirby, 1818, p. 420

Type species *Adelium calosomoides* Kirby.

sp. indet.

Note. I have examined New Zealand material of *Adelium 'virescens'* with the following data: "Mt Wellington, Remuera, Auckland, 10 Oct '34, C.E. Clarke, [m.f.] (comp. type), Gourlay Coll., NZAC"; 6, same data, BMNH; 6, same data except 18 July '43, BMNH.

There is in BMNH a specimen labelled: "?Type [printed, red circle] / Adelium virescens Lat. Nov. Holl. [not in Boisduval's script, on a big label, folded on pin, on pink-surfaced paper which has gone black where exposed to light] / F. Bates 81-19 [printed]. [f.] 8.7 x 4.2 mm." This specimen is conspecific with the holotype of *Adelium neophytum* Pascoe, 1869 (examined), and there is a further apparent synonym in *Adelium brevicorne* Blessig, 1861 (fide Blair, cited in Carter 1914).

In MNHN, Paris, the more likely repository for Boisduval types, is a specimen of 9.8 x 4.4 mm under the name *Adelium virescens* Boisduval, 1835 with a red type lozenge and the labels: "Australie [illegible] / Adelium virescens Boisd. Lat. Cat. [?], N. Holland [on pink paper, old cabinet label]." This specimen is not conspecific with the New Zealand material, being slightly larger and more convex, with finer, shallower punctures on head and pronotum, and more convex elytral interstices which are much more finely punctate (punctures scarcely visible at x25 magnification).

I am obliged to record the New Zealand *Adelium* as of uncertain identity and status, probably an introduced species from Australia, where the genus is well represented and in need of revision.

• ***Edalus*** Broun, 1893a, pp. 1159–1160

Type species *Adelium alienum* Broun.

alienus Broun, 1880, pp. 391–392 *(Adelium)*

Broun, 1893a, p. 1160 *(Edalus)*.

Holotype male 6.4 x 2.9 mm, BMNH: "695 [printed, on green paper] / Parua [printed] NZ, Broun Coll. Brit. Mus. 1922-482 [printed] / Edalus alienus [Broun]."

— / ND, CL (Great Barrier I.) / —

opacus Broun, 1893a, p. 1160 new synonymy

Holotype female 7.0 x 2.6 mm, BMNH (card-mounted; originally pinned): "2057 [Broun] / Parua [printed] / NZ Broun Coll. 1922-482 [printed] / Edalus opacus [Broun]."

curtulus new species Fig. 11

Similar to *E. pleuralis*, but elytra less elongate (length / width ratio less than 1.4, cf. more than 1.5), and sides more strongly curved. Size range 3.8–5.7 x 1.6–2.3 mm.

Holotype female 5.0 x 2.2 mm, NZAC: "Holotype [f.] Edalus curtulus Watt det. J.C. Watt, 1989 [red label] / New Zealand ND Waipoua SF 4 Feb. 1975 S.E. Nichols / Litter 75/84."

— / ND (Waipoua, Puketi) / —

pleuralis Broun, 1893b, pp. 289–290

Lectotype male 5.1 x 2.2 mm, BMNH: "2847 [Broun] / Waikato [printed] / NZ Broun Coll. Brit. Mus. 1922-482 [printed] / Edalus pleuralis [Broun]."

Paralectotype BMNH (mounted upside down), labelled "2847 / Ohaupo / Broun Coll. / Edalus pleuralis."

— / ND, AK, CL (Little Barrier I.), BP, WO / —

• ***Exadelium*** new genus

Elytral shoulders not prominent nor angulate. Sides of pronotum not sinuate or weakly so. Elytral striae not joined before base, shallow; interstices flat. Size range 6.2–10.6 x 2.2–3.7 mm.

Type species *Adelium rufilabrum* Broun.

rufilabrum Broun, 1886, pp. 840–841 *(Adelium)*

Fig. 12

Hudson, 1934, p. 202 *(Pheloneis)*.

Lectotype male 7.8 x 3.2 mm, BMNH: "1495 [Broun] / Wangapeka [Broun] / NZ Broun Coll., Brit. Mus. 1922-482 [printed] / Adelium rufilabrum [Broun].

— / NN / —

Note. Broun refers to "specimens" from Wangapeka. This is the only specimen seen; there are none in NZAC.

• ***Kaszabadelium*** new genus

Posterior angles of pronotum and shoulders of elytra completely rounded off. Head without sulci. Epipleural carina of elytra on reflexed (ventral) part, scarcely raised above elytral surface, not visible from above except near apex. Size range 7.0–10.3 x 2.4–4.0.

Type species *Kaszabadelium aucklandicum* Broun.

aucklandicum Broun, 1880, pp. 387–388 *(Adelium)*

Fig. 13

Hudson, 1934, p. 92 *(Pheloneis)*.

Lectotype female 9.7 x 3.7 mm, NZAC: "689 [printed, on green paper] T. Broun collection / A.E. Brookes collection."

Paralectotype male, BMNH, labelled "689 [Broun] / NZ Broun Coll., Brit. Mus. 1922-482 [printed]."

— / North I. / —

aucklandianus Gebien, 1911, p. 514 *(Pheloneis)*

Gebien, 1942, p. 743 (760 in reprint).

• ***Mesopatrum*** Broun, 1893a, p. 1355

Type species *Mesopatrum granulosum* Broun.

granulosum Broun, 1893a, pp. 1355–1356 Fig. 14

Holotype female 7.1 x 3.3 mm, BMNH: "2376 [Broun] / Canterbury [printed] / NZ, Broun Coll. Brit. Mus. 1922-482 [printed] / Mesopatrum granulatum [sic] [Broun]."

— / WN (Manawatu Gorge) / SD, NN, BR, MB, KA, MC / —

dubium Broun, 1917, pp. 396–397

Lectotype male 6.3 x 2.9 mm, BMNH: "3857 [Broun] / NZ Broun Coll. Brit. Mus. 1922-482 [printed] Gordons 15.11.1914 [Broun] / Mesopat. dubium [Broun]."

Paralectotypes: 2, BMNH, with same data as lectotype; 1, NZAC, labelled "3857 / Gordons Knob, Nelson 15.11.14 [Broun] / T. Broun Collection / A.E. Brookes Collection [printed]."

• ***Mitua*** Hope, 1848, p. 56

Blair, 1919, pp. 531–532 (syn. *Pseudopatrum*).

Type species *Mitua bidwelli* Hope.

Pseudopatrum Sharp, 1886, p. 406

Type species *Pseudopatrum sordidum* Sharp.

triangularis new species Fig. 15

Sides of pronotum strongly crenate. Top of hind slope of each elytron with 3 large tubercles arranged in a triangle. Size range 10.6–13.3 x 5.5–6.5 mm.

Holotype male 10.6 x 5.5 mm, NZAC: "Holotype [m.] Mitua triangularis Watt det. J.C. Watt 1989 [red label] / New Zealand ND Kauri Reserve Omahuta SF 10 Oct. 1974, J.C. Watt / Litter 74/76."

— / ND (Puketi, Omahuta, Mangamuka, Waipoua, Waimatenui) / —

tuberculicostata White, 1846, p. 11 *(Opatrum)*

Lacordaire, 1859, p. 277 *(Cestrinus)*. –Broun, 1880, p. 353 *(Syrphetodes)*. –Blair, 1919, p. 532 *(Mitua* – syn. *bidwelli)*. –Hudson, 1934, pp. 86, 200, pl. 9 fig. 3, 3a (redescription of adult; larva).

Holotype female 13.2 x 6.6 mm, BMNH: "Type [printed in red circle] / Opatrum tuberculicostatum White Zool. Ereb. & Terr. p. 11, pl. 1 f. 13 [White on blue paper]."

— / AK, CL, WA, WN / SD, NN, BR, MB / —

Note. A very variable species. Specimens from Maud I. are exceptionally large, with unusually weak elytral sculpture, but see specimens from Wakamarina, etc., which are intermediate. Specimens from Little Barrier I. are unusually small. The holotype compares very closely with specimens from Wellington.

bidwelli Hope, 1848, p. 56, pl. 7 fig. 6–6e

Holotype female 12.5 x 6.2 mm (composite length measurement, prothorax bent down), HCOE: "Holotype [f.] [pinned specimen, with mouthparts dissected out and mounted on a card underneath]. Type Hope, Trans. Ent. Soc. 1848 p. 56 T7 fig. 6a–e, Coll. Hope Oxon [red-margined printed label ref. handwritten]. Mitua bidwelli Macleay N. Holl. [Hope] / Type Col. 1074 Mitua bidwelli Hope, Hope Dept Oxford [printed 'Col-Hope' in E. Taylor's hand]."

sordidum Sharp, 1886, pp. 406–407 *(Pseudopatrum)*

Hudson, 1934, p. 200 *(Mitua)*.

Holotype male 12.0 x 5.9 mm, BMNH: "Pseudopatrum sordidum Type D.S., Picton NZ Helms [Sharp, on card] / Type [printed, in red circle] / Sharp Coll. 1905-313 [printed]."

• ***Periatrum*** Sharp, 1886, p. 407

Broun, 1893a, pp. 1152–1153. –Watt, 1974, p. 423.

Type species *Periatrum helmsi* Sharp.

carinatum new species

Elytra with only a few tubercles laterally, and with a distinct lateral carina. Sides of pronotum not crenate. Size range 6.6–6.8 x 2.9–3.0 mm.

Holotype male 6.8 x 3.0 mm, NZAC: "Holotype Periatrum carinatum Watt det. J.C. Watt [red label] Mt Dewar 1100 m J.G. McBurney / Litter 8 Dec 69 69/263."

— / BR (Paparoa Ra.) / —

edentatum new species

Dorsal surface of middle and hind tibiae without a blunt tooth or angulation at midlength. Posterior tubercles and gibbosities of elytra weakly developed. Size range 5.7–6.3 x 2.5–2.8 mm.

Holotype male 5.7 x 2.5 mm, NZAC: "Holotype [m.] Periatrum edentatum Watt det. J.C. Watt 1989 [red label] Mt Arthur 1140 m. Nelson 13–19 Nov. 1969 J. I. Townsend / moss 69/215."

— / NN (Mt Arthur, L. Sylvester, Mt Domett, Gouland Downs) / —

helmsi Sharp, 1886, p. 408, pl. 13 fig. 5

Broun, 1893a, p. 1153.

Lectotype female 7.2 x 3.2 mm, BMNH: "Periatrum helmsi Type D.S. Greymouth, NZd [Sharp on card] / Type [printed in red circle] / Sharp Coll. 1905-313 [printed]."

Paralectotypes: 4, BMNH, with same or similar data except "Type".

— / NN, BR, WD / —

manapouricum new species

Dorsal pubescence coarse. Head and pronotum with small shining granules. Elytra with numerous gibbosities laterally but without a distinct lateral carina. Sides of pronotum not crenate. Size range 6.4–7.5 x 2.6–3.1 mm.

Holotype male 6.4 x 2.9 mm, NZAC: "Holotype Periatrum manapouricum Watt det. J.C. Watt 1989 [red label] Wilmot Pass 300 m – 630 m / Manepouri [sic] Exp. Jan 70 I. Townsend."

— / FD (Wilmot Pass, Wolfe Flat, Spey R., Hump Ridge) / —

rotundatum new species Fig. 16

Like *P. tumipes*, but shoulder of each elytron lacking a projecting humeral callus, and narrowly rounded. Size range 5.6–7.7 x 2.3–3.0 mm.

Holotype male 6.0 x 2.5 mm, NZAC: "Holotype [m.] Periatrum rotundatum Watt det. J.C. Watt, 1989 [red label] New Zealand BR Fletchers Creek 6 km SW of Rotokohu Biological Res. / 9 Nov. 1971 J.S. Dugdale Litter 71/129 / Beech Forest Utilisation Project."

— / NN (Karamea–Denniston, Devil's Thumb, Wangapeka), BR (Inangahua Vly) / —

Note. Inangahua Valley – Devil's Thumb and Karamea – Denniston specimens differ, but probably not specifically.

tumipes Broun, 1893a, pp. 1456–1457

Lectotype male 6.9 x 3.0 mm, BMNH: "2527 [Broun] / Hunua, Maketu [Broun] / NZ Broun Coll. Brit. Mus. 1922-482 [printed] / Periatrum tumipes [Broun]."

Paralectotypes: 2, BMNH, with same data as lectotype except determination label; 4, NZAC, with same data as lectotype except determination label and with printed labels "T. Broun Collection".

— / AK, CL, BP, WO, TO, TK, RI, HB / SD, NN / —

Note. *P. tumipes* and *P. rotundatum* are closely related and allopatric; there appears to be very little, if any, genetic interchange between them.

• ***Pheloneis*** Pascoe, 1866, p. 483

Carter, 1908, p. 258.

Type species *Amarosoma simulans* Redtenbacher.

Note. Species here placed in the new genera *Zeadelium*, *Kaszabadelium*, and *Stenadelium* were hitherto included in *Pheloneis*, where they are listed in Hudson's 'Index of New Zealand Beetles'. *Pheloneis* as recognised here contains only three species.

Amarosoma Redtenbacher, 1868, p. 131

amaroides Lacordaire, 1859 (replacement name for *harpaloides* White)

Note. This species was known in the past as *Pheloneis harpaloides* White, but *Adelium harpaloides* White is preoccupied by *Adelium harpaloides* Boisduval, 1835. Lacordaire (1859) suggested *Adelium amaroides* as a replacement name for *Adelium harpaloides*. Thus, *Pheloneis amaroides* is an available name for this species.

— / TK, WN / SD, NN, MB, KA / —

harpaloides White, 1846, p. 11 *(Adelium)*

Lacordaire, 1859, p. 438 note 1 *(Adelium)*. –Pascoe, 1866, p. 483 *(Pheloneis)*. –Bates, 1874, p. 112 *(Pheloneis)*. –Pascoe, 1876, p. 52 *(Pheloneis)*. –Hudson, 1934, p. 92 *(Pheloneis)*.

Holotype female unique, broken and glued together, 2.5 + 3.8 = 6.3 x 2.7 mm: "(Type) BMNH (red ringed) 45/30 (circular, upside down) / Harpaloides White Zool, Ereb & Terror [White's script on blue label, black ink]."

Note. Holotype pinned previously through prothorax, now pinned through right elytron and double-mounted on card. Identical with specimens from the Wellington area; stated type locality "Waikouaiti" wrong.

urquharti Broun, 1893a, p.1157 *(Adelium)*

Holotype female unique, 6.7 x 3.1 mm, BMNH: "2053 [Broun] / Stratford [printed] N.Z., Broun Coll. Brit. Mus 1922-482 [printed] / Adelium urquharti [Broun]."

titahiensis Broun, 1910, pp. 48–49 *(Adelium)*

Holotype female unique, 7.3 x 3.0 mm, BMNH: "3107 [Broun] / N.Z., Broun Coll. Brit. Mus. 1922-482 [printed] / Adelium titahiense [Broun]."

simulans Redtenbacher, 1868, p. 132 *(Amarosoma)*

Pascoe, 1876, p. 52 *(Pheloneis)*.

Type data incomplete on card. *Amarosoma simulans* Redtenbacher is represented by a series of seven syntypes in NHMW. Each bears a printed square white label "Novara 1857–59 Reise" and a small pink label bearing the letter W.

The lectotype selected from this series is a female in good condition, which bears a label "Fallax Rdt. Aucland" in a copperplate script matching Redtenbacher's writing. I have photocopies of these labels. A further label reads "Ist wohl identisch mit Pheloneis harpaloides White. Ein exemplar derselben von Bates zur Ansicht erhalten." Dimensions of the lectotype 6.7 x 2.7 mm.

The remaining specimens of the syntype series are regarded as paralectotypes.

— / ND, AK / Chatham Is / —

triregius new species

Like *P. simulans* but larger, and body less strongly convex. Epipleural carina visible from above throughout its length. Size range 7.1–8.3 x 3.2–4.1 mm.

— / Three Kings Is / —

Holotype female 7.0 x 3.2 mm, NZAC: "Holotype Pheloneis triregius Watt det. J.C. Watt 1989 [red label] / Southwest I. 3 Kings Is. 1 Dec. 70 J.C.W. / Genitalia in microvial / Amarasoma sp. 2 (nov.) det. J.C. Watt 1982."

• ***Stenadelium*** new genus

Head with a pronounced longitudinal sulcus on either side of frons mesad of and in front of eye. Elytra each with 10 distinct regular striae. Elytral shoulders produced laterally, angulate behind. Hind angles of pronotum acute, with a pronounced sinuation of the sides in front of them. Size range 8.9–12.1 x 3.5–4.2 mm.

Type species *Stenadelium striatum* n.sp.

striatum new species Fig. 17

Elytra deeply regularly punctate-striate; interstices convex; striae 1–6 reaching base, 7 and 8 joined before base and running towards, but not reaching shoulder; 9 and 10 joined further back; combined stria running just inside shoulder angle.

Holotype male 9.5 x 3.2 mm, NZAC: "Holotype Stenadelium striatum [m.] J.C. Watt 1990 [red label] / New Zealand BP Mt Te Aroha 400 m. 12 Nov. 82 P.M. Hammond."

— / CL, BP, TO, GB, HB, TK / —

• ***Zeadelium*** new genus

Posterior angles of pronotum prominent, rectangular or acute. Elytral shoulders prominent, narrowly rounded. Head without sulci. Elytra with 10 or more, often indistinct, usually somewhat irregular striae, or striae completely confused. In general considerably larger than *Pheloneis*.

Type species *Adelium lentum* Broun.

aeratum Broun, 1880, p. 388 *(Adelium)*

Gebien, 1911, p. 514 *(Pheloneis)*.

Lectotype female 9.8 x 4.2 mm, BMNH: "691 [printed on green paper] / Otago [Broun] / NZ, Broun Coll Brit. Mus. 1922-482 [printed] / Adelium aeratum [Broun].

Paralectotypes: 1 female, BMNH, with labels 1 and 3 only; 1 male, NZAC, labelled "691 [Broun] / T. Broun Coll. [printed]". Three others labelled "691" and "Zeadelium dubitans [Broun] type" agree with the type series of *sericatum* Sharp (q.v.).

— / OL, CO, DN, SL / —

sericatum Sharp, 1886, p. 409 *(Adelium)* new synonymy

Broun, 1893a, p. 1156 *(Adelium)*. –Gebien, 1911, p. 514 *(Pheloneis)*.

Lectotype female 9.8 x 4.1 mm, BMNH: "Adelium sericatum Type D.S., Dunedin, Hutton 1878 [Sharp, on card] / Type [printed, in red circle] / Sharp Coll., 1905-313 [printed].

Paralectotypes: 1 male, BMNH, same data as lectotype except "Ind. typ. D.S." and no circular type label; 1 female (mounted on back), BMNH, same data as male except no "Ind. typ."

Note. Three *Z. aeratum* paralectotypes are very similar to *sericatum*, probably from the same area, and agree well with a specimen from the northern slopes of Mt Cargill (NZAC).

dubitans Broun, 1917, p. 394 *(Pheloneis)* new synonymy

Lectotype male 8.5 x 3.5 mm, BMNH: "3852 [Broun] / NZ Broun Coll Brit Mus 1922-482 [printed] / Mt Dick 10.3.1914 [Broun] / Pheloneis dubitans [Broun]."

Paralectotypes: 2 females, BMNH, with same data as lectotype (one mounted upside down).

Note. Differs from typical *aeratum* in weaker microsculpture and larger punctures, especially of striae; also somewhat deeper striae. The male has the front and middle tarsi slightly expanded, as in *aeratum*.

arthurensis new species

Legs yellowish, at least on femora and base of tibiae. Base of pronotum not margined. Lateral prebasal foveae of pronotum large, longitudinally elongated. Size range 7.0–7.5 x 2.6–3.1.

Holotype male 7.4 x 2.8 mm, NZAC: "Holotype [m.] Zeadelium arthurensis Watt det. J.C. Watt 1989 [red label] / Mt Arthur 1140 m. Nelson 13–19 Nov 69 J.I. Townsend / litter 69 / 220."

— / NN (Mt Arthur, Mt Domett) / —

australe new species

Colour dull black. Front femur without tooth or angulation. Dorsal microsculpture very strong, visible at x10 magnification. Elytral striae shallow, irregular, frequently represented only by vague depressions and irregular rows of rather fine punctures. Size range 13.9–16.8 x 6.8–7.8 mm.

Holotype male 13.9 x 7.3 mm, BMNH: "Holotype [m.] Zeadelium australe Watt det. J.C. Watt 1989 [red label] / Long I. SW Stewart I. Exp. Nov. 68 / Flax J. McBurney."

— / SI (Big South Cape) / —

bullatum Pascoe, 1876, p. 52 *(Adelium)*

Broun, 1880, p. 386 *(Adelium)*. –Gebien, 1911, p. 514 *(Pheloneis)*. –Hudson, 1934, p. 93 *(Pheloneis)*.

Lectotype female 13.4 x 5.7 mm, BMNH: "Type [printed in red circle] / Otago (Pascoe) / Adelium bullatum type Pasc. [Pascoe] / NZ [unknown hand on back] Pascoe Coll. 93-60 [printed]."

Paralectotype male, BMNH, labelled "NZ Otago [Pascoe on oval label] Adelium bullatum Pasc. [Pascoe] / Pascoe Coll. 93-60 [printed]."

— / WD (mountains in extreme south), OL, FD, SL (Owaka) / —

Note. *Z. bullatum* is close to *Z. nigritulum*. They are readily distinguished by the elytral interstices of *nigritulum* bearing numerous coarse punctures, cf. a few fine punctures in *bullatum*.

chalmeri Broun, 1883, pp. 378–379 *(Adelium)*

Broun, 1886, pp. 787–788 *(Adelium)*. – Gebien, 1911, p. 514 *(Pheloneis)*.

Holotype female 11.5 x 5.2 mm, BMNH: "1405 [printed on green paper] / NZ, Broun Coll., Brit Mus 1922-482 [printed] / Flagstaff Hill, Dunedin Adelium chalmeri [Broun]."

— / DN, OL, FD, SL / SI / —

tinctum Broun, 1914, p. 111 *(Adelium)* new synonymy

Hudson, 1934, p. 202 *(Pheloneis)*.

Holotype female 12.3 x 5.4 mm, BMNH: "3429 (Broun) / Broun Coll Brit Mus 1922-482 [printed] / Paradise, Wakatipu / Adelium tinctum [Broun]."

halli Broun, 1917, pp. 392–393 *(Pheloneis)*

Holotype male(?) 10.9 x 4.8 mm, BMNH: "3850 [Broun] / NZ Broun Coll Brit Mus 1922-482 [printed] / Mt Alfred, 4 Feb. 1914 / Pheloneis halli [Broun]."

Note. The type locality is given as "Hollyford, north of Lake Wakatipu. A single specimen of this conspicuous species was captured on 19 Feb 1914, at a height of 3500 ft by Mr T. Hall, in whose honour it has been named."

complicatum Broun, 1911, p. 437 *(Adelium)*

Hudson, 1934, p. 202 *(Pheloneis)*.

Holotype male 13.1 x 4.7 mm, BMNH: "3254 [Broun] / NZ Broun Coll. Brit. Mus 1922-482 [printed] / Greymouth J.H. Lewis [Broun] Adelium complicatum [Broun]. Identical with specimens from Lake Kanieri."

— / BR (south), WD (north: Greymouth, L. Kanieri, Mt Greenland) / —

femorale Broun, 1910, p. 48 *(Adelium)*

Hudson, 1934, p. 202 *(Pheloneis)*.

Holotype male 7.4 x 3.0 mm, BMNH: "3106 [Broun] / Greenhills, 21.9.08 [Philpott] / New Zealand Broun Coll, Brit. Mus. 1922-482 [printed] / Adelium femorale [Broun]."

— / CO, SL / —

gratiosum Broun, 1893a, p. 1158 *(Adelium)*

Gebien, 1911, p. 514 *(Pheloneis)*.

Lectotype male 17.9 x 8.3 mm, BMNH: "2055 / Capleston, Westland [Broun] / NZ Broun Coll. Brit. Mus 1922-

482 [printed] / Adelium gratiosum [Broun]."

— / NN (west), BR, WD (north), MB (extreme south), MC (Banks Pen.) / —

Note. The second specimen referred to by Broun is not in BMNH.

hanseni Broun, 1885, p. 385 *(Adelium)*

Broun, 1886, p. 929 *(Adelium)*. –Gebien, 1911, p. 514 *(Pheloneis)*.

Lectotype female 15.4 x 6.8 mm, BMNH: "1668 [Broun] / Preservation [printed] / NZ Broun Coll. Brit. Mus. 1922-482 [printed] / hanseni [Broun]."

Paralectotypes: 1 female, BMNH, with same data as lectotype except "hanseni"; 1 male, NZAC, relabelled by A.E. Brookes "Coll. Mr Hansen co-type / 1668 ex Broun Coll. / Preservation Inlet, Southland NZ / Pheloneis hanseni Broun."

— / FD (west) / —

hudsoni Broun, 1909, pp. 411–412 *(Adelium)*

Gebien, 1911, p. 514 *(Pheloneis)*.

Lectotype female 7.9 x 3.0 mm, BMNH: "2846 [Broun] / New Zealand, Broun Coll., Brit. Mus. 1922-482 / Lake Wakatipu [printed] / Adelium hudsoni [Broun]."

Paralectotypes: 1 female, BMNH, with same data as lectotype; 1 female, NZAC, labelled "2846 [Broun] / Lake Wakatipu [printed] / T. Broun Collection / A.E. Brookes Collection [printed]."

— / WD, OL, FD, SL / —

indigator Broun, 1886, p. 839 *(Adelium)*

Hudson, 1934, p. 202 *(Pheloneis)*.

Lectotype female 12.6 x 5.4 mm, BMNH: "1494 [Broun] / NZ Broun Coll, Brit. Mus. 1922-482 [printed] / Wangapeka / indigator [Broun]."

Paralectotypes: 1 male, BMNH, with same data as lectotype; 1 male, 1 female, NZAC, labelled "indigator [Broun] / T Broun Coll. [printed] NZAC."

— / NN, BR (north) / —

intermedium Sharp, 1886, p. 410 *(Adelium)*

Broun, 1893a, p. 1156 *(Adelium)*. –Gebien, 1911, p. 514 *(Pheloneis)*.

Lectotype male 8.5 x 3.4 mm, BMNH, left-hand specimen of two syntypes on single card: "Adelium intermedium Type DS [Sharp on card] Bealey NZ Helms 1884 [?Helms on card] / Type [printed in red circle] / Sharp Coll, 1905-313 [printed]."

Paralectotypes: 1 male, BMNH, right-hand specimen on card with lectotype; 7 males, 3 females, BMNH, with same data as lectotype except date and the word "type".

— / BR, MB, KA, NC, MC, SC, MK / —

Note. Specimens from Mt Grey, etc. (NC) with distinct striae and barely expanded male tarsi are not this species, but *Z. simplex*.

intricatum Broun, 1880, p. 387 *(Adelium)*

Hudson, 1934, p. 202 *(Pheloneis)*.

Holotype male 12.6 x 5.3 mm, BMNH: "688 [printed, on green paper] / Westland [printed] / NZ Broun. Coll., Brit Mus. 1922-482 [printed] / Adelium intricatum [Broun]."

— / WD / —

lentum Broun, 1880, pp. 389–390 *(Adelium)*

Gebien, 1911, p. 514 *(Pheloneis)*.

Holotype male unique, 7.5 x 3.2 mm (estimate), BMNH: "692 [printed on green paper] / Otago [Broun] / NZ, Broun Coll. Brit. Mus. 1922-482 [printed] / Adelium lentum [Broun].

Note. The holotype, which is on a large pin, is damaged: the right elytron is elevated, and the scutellum is depressed and obscured by the pronotum, hence Broun's statement that the scutellum is concealed.

— / DN, CO (Rock and Pillar Ra., upper Manorburn, Dunstan Ra., Carrick Ra., Crown Ra.) / —

dunedinis Sharp, 1886, p. 410 *(Adelium)* new synonymy

Broun, 1893a, p. 1157 *(Adelium)*. –Gebien, 1911, p. 514 *(Pheloneis)*.

Lectotype female 7.9 x 3.2 mm, BMNH: "Adelium dunedinis Type D.S. [f.] Dunedin, Hutton, 1878 [Sharp written on card] / Type [printed, in red circle] Sharp Coll. 1905-313 [printed]."

Paralectotypes: 1 male, 1 female, BMNH, with same data as lectotype except for the word "Type".

curtulus Broun, 1917, p. 394 *(Pheloneis)* new synonymy

Hudson, 1934, p. 92 *(Pheloneis)*.

Lectotype male 6.8 x 3.0 mm, BMNH: "3853 / Lomond 31.1.14 [Broun] / NZ, Broun Coll. Brit Mus. 1922-482 / Pheloneis curtulus [Broun]."

Paralectotype female, BMNH, with same data as lectotype.

nigritulum Broun, 1885, p. 386 *(Adelium)*

Broun, 1886, p. 930 *(Adelium)*. –Gebien, 1911, p. 514 *(Pheloneis)*.

Lectotype female 14.0 x 6.7 mm, BMNH: "1669 [f.] [Broun] / NZ, Broun Coll. Brit. Mus. 1922-482 [printed] / Maungatua [printed] / Adelium nigritulum [Broun].

Paralectotype female, NZAC, labelled "1669 [f.] [Broun] / Adelium nigritulum / T. Broun Collection / A.E. Brookes Collection [printed] NZAC."

— / MK, OL, CO, DN, FD, SL / SI / —

Note. The male of *nigritulum* mentioned by Broun is in neither BMNH nor NZAC. *Z. nigritulum* is a very variable species, possibly a complex, although the extreme forms seem to be linked by intermediates. See also note under *Z. bullatum*.

turgidulum Broun, 1893a, pp. 1158–1159 *(Adelium)*

Gebien, 1911, p. 514 *(Pheloneis)*.

Lectotype female 14.1 x 7.0 mm, BMNH: "2056 [f.] [Broun] / Taieri [printed] / NZ Broun Coll., Brit. Mus. 1922-482 [printed] / Adelium turgidulum [Broun]."

calcaratum Broun, 1914, pp. 110–111 *(Adelium)* new synonymy

Hudson, 1934, p. 93 *(Pheloneis)*.

Holotype male 10.7 x 5.0 mm, BMNH: "3428 [Broun] NZ Broun Coll. Brit. Mus. 1922-482 [printed] / Paradise, Wakatipu / Adelium calcaratum [Broun]."

appositus Broun, 1915, p. 322 *(Pheloneis)*

Lectotype male 11.4 x 5.7 mm, BMNH: "3751 [Broun] NZ, Broun Coll., Brit. Mus. 1922-482 [printed] / Lomond, Dec. 1912 / Pheloneis appositus [Broun]."

Paralectotypes: 2 males, BMNH, same data as lectotype.

angulatus Broun, 1917, p. 393 *(Pheloneis)* new synonymy

Holotype male 11.8 x 5.6 mm, BMNH: "3851 [Broun] / NZ, Broun Coll. Brit. Mus. 1922-482 [printed] / Mount Dick, 26 Jan 1914 / Pheloneis angulatus [Broun]."

parvum new species Fig. 18

Surface shining; dark reddish-brown with bronze reflections. Basal pronotal foveae deep. Elytral interstices convex. Size range 7.4–8.4 x 3.2–3.5 mm.

Holotype female 8.0 x 3.3 mm, NZAC: "Holotype [f.] Zeadelium parvum Watt det. J.C. Watt 1989 [red label] / Table Hill Stewart I / 2000 [feet] 16/11/68 J. McBurney / mat plants 681/55."

— / SI (Table Hill, Big South Cape) / —

senile new species Fig. 19

Surface dull, blackish brown or black. Elytral striae distinct. Pronotum with perceptible sinuation of sides in front of hind angles. Size range 7.4–9.0 x 3.0–3.9 mm.

Holotype male 8.0 x 3.0 mm, NZAC: "Holotype [m.] Zeadelium senile det. J.C. Watt 1989 [red label] / Old Man Ra, 1432 m. CO 24 Feb. 74 J.C. Watt / Under Pimelia."

— / OL (Mt Dick, Coronet Peak, Headlong Peak, Mt Ansted), CO (Old Man Ra.) / —

simplex Sharp, 1886, p. 409 *(Adelium)*

Broun, 1893a, p. 1156 *(Adelium)*. –Gebien, 1911, p. 514 *(Pheloneis)*.

Holotype female(?) 9.3 x 4.0 mm, BMNH (unique): "Adelium simplex. Type D.S. Christchurch, Wakefield [Sharp on card]. Type [printed in red circle] Sharp Coll. 1905-313 [printed]."

— / BR, MB, NC (Lobum), MC (Christchurch) / —

Note. See note under *Z. intermedium*.

thoracicum Broun, 1880, pp. 390–391 *(Adelium)*

Gebien, 1911, p. 514 *(Pheloneis)*.

Lectotype male 9.5 x 3.8 mm (abdomen missing), BMNH: "694 [printed, on green paper] / New Zealand, Broun Coll., Brit. Mus. 1922-482 [printed] / Adelium thoracicum [Broun]."

Paralectotype female, BMNH, labelled "694 [Broun] / T. Broun Collection / A.E. Brookes Collection [printed]."

— / SD, NN, BR, MB (north-west) / —

Note. *Z. thoracicum* is a very variable species. High altitude populations (*cheesemani* Broun) seem always to be darker than lowland specimens, but there are no reliable characters for separation.

cheesemani Broun, 1883, p. 378 *(Adelium)*

Broun, 1886, p. 787 *(Adelium)*. –Gebien, 1911, p. 514 *(Pheloneis)*. –Hudson, 1934, p. 93 *(Pheloneis)*.

Lectotype female 10.0 x 4.2 mm, BMNH: "1404 [printed, on green paper] / Mt. Arthur [Broun] / New Zealand, Broun Coll., Brit. Mus. 1922-482 [printed] / Adelium cheesemani [Broun]."

Note. The second example from Mt Arthur mentioned by Broun is not in BMNH or NZAC.

multistriatum Sharp, 1886, p. 409 *(Adelium)* new synonymy

Broun, 1893a, p. 115 *(Adelium)*. –Gebien, 1911, p. 514 *(Pheloneis)*.

Holotype female 10.9 x 4.3 mm, BMNH: "Adelium multistriatum Type D.S. Picton Helms [Sharp on card] / type [printed, in red circle] Sharp Coll. 1905-313."

miniatum Broun, 1893, pp. 1157–1158 *(Adelium)*

Gebien, 1911, p. 514 *(Pheloneis)*.

Holotype female 10.7 x 4.0 mm, BMNH: "2054 [Broun] / NZ Broun Coll Brit. Mus. 1922-482 [printed] / Reefton, Boatman's / Adelium miniatum [Broun]."

zelandicum Bates, 1874, pp. 110–111 *(Adelium)*

Broun, 1880, p. 390 *(Adelium)*. –Gebien, 1911, p. 514 *(Pheloneis)*.

Lectotype male 8.3 x 3.3 mm, BMNH: "Type [printed, in red circle] / NZ [printed] / Adelium zelandicum [m.] type F. Bates [Bates] / F Bates 81-19 [printed]."

Paralectotypes: 3 males, 4 females, BMNH, with same date as lectotype.

— / MC (Banks Pen. and vicinity only) / —

Note. A syntype male supposedly of this species is in fact *Z. intermedium* (Sharp).

Tribe Chaerodini

• ***Chaerodes*** White, 1846, p. 12, pl. 2 fig. 12

Lacordaire 1859, p. 287. –Gemminger & Harold, 1870, p. 1944. –Broun, 1880, p. 357. –Gebien, 1910, p. 350. –Hudson, 1934, pp. 87, 201. –Gebien, 1939, p. 744.

Type species *Chaerodes trachyscelides* White.

Note. In White's text (p. 12) the name is given as *Chaerodes* at the head of both the genus and species descriptions, yet in tab. 2 it is given as *Choerodes*. In tab. 1 *Helaeotrechus* (spelt thus twice in the text) is engraved as *Heloeotrechus*. Apparently the *oe* diphthong was an idiosyncracy of the engraver. White himself clearly intended the spelling to be *Chaerodes* (and *Helaeotrechus*).

Choerodes White, 1846 (misspelling)

laetus Broun, 1880, p. 358

Waterhouse, 1884, pl. 149, fig. 1. –Hudson, 1934, p. 87. –Watt, 1983, p. 36 (biology).

Lectotype female 5.3 x 3.0 mm, BMNH: "648 [printed, on green paper] / NZ Broun Coll., Brit. Mus. 1922-482 [printed] / Tairua, Auckland / Chaerodes laetus [Broun] LECTOTYPE [f.], Chaerodes laetus Broun, det. J.C. Watt, 1985."

— / ND, AK, CL / —

Note. No paralectotypes found.

trachyscelides White, 1846, p. 12, pl. 2 fig. 12

Fig. 20

Broun, 1880, pp. 357–358. –Hudson, 1934, p. 87. –Harris, 1970, p. 60, fig. 9E. –Watt, 1983, p. 36 (biology).

Lectotype female 7.4 x 4.6 mm, BMNH: "New Zealand / 47 / 22 [on top and bottom respectively of circular, blue-tinted label] / Type [printed in red circle] / Chaerodes (White) trachyscelides White. Zool Ereb. & Terror. p. 12 t. 2 f. 12 [White, on blue-tinted paper] / lectotype [f.], Chaerodes trachyscelides White, det. J.C. Watt, 1985."

Paralectotypes: 3 females, BMNH, with same circular locality / collection label data.

— / North I. / South I. / SI / —

concolor Sharp, 1878, p. 81

Broun, 1880, p. 358.

Lectotype male 7.4 x 4.5 mm, BMNH: "Chaerodes concolor [m.] Type D.S., Otago, Hutton [Sharp, on card] Type [printed in red circle] Sharp. Coll., 1905-313 [printed] / LECTOTYPE [m.] Chaerodes concolor Sharp (= trachyscelides White), det. J.C. Watt, 1985."

Paralectotypes: 1 female, BMNH, with same original data as lectotype except [f.] instead of [m.]; 5 males, 5 females, BMNH, labelled "Chaerodes concolor Ind. type. D.S., Otago, Hutton [Sharp, on card] / Sharp Coll. 1905-313 [printed] / BMNH."

Note. As pointed out by Sharp, this differs from typical (Wellington) specimens in that there is less sexual dimorphism in the front tarsi and especially the middle tarsi. The other supposed differences between *concolor* and *trachyscelides* are illusory (especially "only about half the size of White's species" – they are the same size).

fuscatus Broun, 1895, pp. 241–242

Gebien, 1938, p. 744 (as syn. of *trachyscelides*)

Lectotype male (dimensions not recorded), BMNH: "Lectotype [m.]: 2839 / Taranaki: / Chaerodes fuscatus [Broun] / NZ, Broun Coll. Brit. Mus. 1922-482 [printed] / LECTOTYPE [m.], Chaerodes fuscatus Broun (= trachyscelides) det. J.C. Watt, 1985."

Paralectotypes: 2 females, BMNH, and 1 male, 1 female, NZAC, with same Broun number and locality as lectotype; 1 male, 1 female, NZAC; 1 male, 1 female, Broun Coll., BMNH, labelled "2839 / Manukau."

Tribe Lupropini

• *Lorelus* Sharp, 1876, pp. 76–77

Broun, 1880, pp. 380–381. –Kaszab, 1955, p. 488. –Watt, 1974, p. 423 (larva). –Kaszab, 1982a, pp. 152–154.

Type species *Lorelus priscus* Sharp.

crassicornis Broun, 1880, p. 382

Kaszab, 1982a, pp. 183–184, fig. 25.

Holotype (sex not determined) 4.8 x 1.9 mm, BMNH: "682 [printed on green paper] / Parua [Broun] / NZ, Broun Coll, Brit. Mus. 1922-482 [printed] / crassicornis Broun det. Kaszab / Holotype, Lorelus crassicornis Broun, det. J.C. Watt 1985."

— / ND, AK / —

Note. The holotype is mounted on a transparent rectangle with a green base. It agrees well with the description. A second specimen, labelled "Parua / Lorelus crassicornis" by Broun, agrees less well with the description (it is paler, and possibly teneral) and does not bear the number 682. This specimen was remounted by Kaszab.

sternalis Broun, 1910, p. 44 new synonymy

Kaszab, 1982a, pp. 182–183, fig. 24.

Lectotype (sex not determined) 4.8 x 1.8 mm, BMNH: "Syntype [printed in blue circle] / NZ Broun. Coll., Brit. Mus. 1922-482 [printed] / Waitakere Range / Lorelus sternalis [Broun] / Lectotypus, Lorelus sternalis [Broun], Dr Z. Kaszab, 1982 [on red-bordered label] / Lorelus sternalis Broun, Dr Z. Kaszab det., 1981."

Paralectotype (mounted on its back) BMNH, with same original data as lectotype.

kaszabi new species Fig. 21

Like *L. tarsalis*, but pronotum less convex; sides weakly curved, not sinuate in front of posterior angles, which are obtuse. Shoulder with a narrow channel inside epipleural carina. Size range 4.0–5.0 x 1.6–1.9 mm.

Holotype female 4.3 x 1.6 mm, NZAC: "Holotype [f.] Lorelus kaszabi Watt det. J.C. Watt, 1989 / Foxton Nov. 1949 R.A. Cumber, (Phormium) / C32 / M5010 / Lorelus sp. 15 det. J.C. Watt 1985."

— / WI / —

laticornis new species Fig. 22a,b

Antennal segments very broad – ratios of s4 not exceeding 0.64, s5 not exceeding 0.60, s10 not exceeding 0.54. Sides of pronotum usually slightly angulate; lateral margins uneven in width. Size range 4.4–5.5 x 1.5–1.9 mm.

Holotype male 5.0 x 1.8 mm, NZAC (dissected specimen): "Holotype [m.] Lorelus laticornis Watt det. J.C. Watt, 1989 [red label] / Waipoua SF 9–16.vi.66 / Cyathea dealbata / J.C. Watt & J.I. Townsend / Lorelus sp. 10 det. J.C. Watt Prep. 622-1985."

— / ND, AK, CL / —

Note. Inhabits the tree fern *Cyathea dealbata*.

latulus Broun, 1910, p. 43

Kaszab, 1982a, pp. 184–185, fig. 27.

Holotype (sex not determined) 4.7 x 1.7 mm, BMNH: "Holotype [printed, in red circle] / 3096 / Parua / Lorelus latulus [Broun], NZ, Broun Coll. Brit. Mus. 1922-482 [printed] / Lorelus latulus, Dr Z. Kaszab det., 1981 / HOLOTYPE, Lorelus latulus Broun, det. J.C. Watt, 1985."

— / North I. / —

marginalis Broun, 1910, pp. 43–44

Kaszab, 1982a, 185, fig. 28.

Holotype (sex not determined) 3.9 x 1.4 mm, BMNH: "Holotype [printed in red circle] / NZ, Broun Coll. Brit. Mus. 1922-482 [printed] / Broken River Canterbury / Lorelus marginalis [Broun] / Lorelus marginalis Broun, Dr Z. Kaszab det., 1981 / HOLOTYPE, Lorelus marginalis Broun, det. J.C. Watt, 1985."

— / MB, KA, NC, MC / —

obtusus new species Fig. 23

Humeral callus of elytra weak, not obscuring fine margin from above (cf. *L. priscus*). Posterior angles of pronotum slightly obtuse. Size range 3.8–4.4 x 1.3–1.5 mm.

Holotype (sex undetermined) 4.3 x 1.5 (elytra spread), NZAC: "Holotype Lorelus obtusus Watt det. J.C. Watt 1989 [red label] / New Zealand SL Waipati Beach 38 km SW of Owaka 19 Jan. 1978 G. Kuschel / Sifted litter 78/43 / Lorelus sp. 13 det. J.C. Watt 1985."

— / SL (Waipati Beach) / —

opacus new species Fig. 24a,b

Strong microsculpture clearly visible on head and pronotum at x50 magnification; surface quite dull. Canthi over antennal insertions angled upwards, with a diagonal depression on frons on either side parallel to margins of canthus. Size range 3.9–4.6 x 1.4–1.8 mm.

Holotype (sex undetermined) 4.2 x 1.6 mm, NZAC: "Holotype Lorelus opacus Watt det. J.C. Watt 1989 [red label] / Clevedon / 680 / T. Broun Collection / A.E. Brookes Collection / Lorelus sp. 12 det. J.C. Watt 1985."

—/Three Kings Is/ND (Mokohinau Is), AK, CL (Mercury Is), WN (Makara Bush)/—

politus new species Fig. 25

Form elongate oval, convex. Pronotum 1.4x as broad as long, with marginal channels broad; dorsal surface highly polished. Size range 4.0–4.3 x 1.5–1.6 mm.

Holotype female 4.0 x 1.5 mm, NZAC: "Holotype Lorelus politus Watt det. J.C. Watt 1989 [red label] / Hol[l]yford Valley 13.1.67 A.K. Walker / at night off ferns."

Paratype NZAC, DN (Leith Saddle).

—/DN, FD/—

priscus Sharp, 1876, p. 77

Broun, 1880, p. 381. –Hudson, 1934, p. 89. –Kaszab, 1982a, p. 181, fig. 21.

Lectotype female (designated by Kaszab 1982a) 4.5 x 1.0 mm, BMNH: "Lorelus priscus – Type D.S., N. Zeald [Sharp, on card] / Syntype / Type H.T. [printed, in blue and red circles] / Sharp Coll., 1905-313 [printed] / Lectotypes, Lorelus priscus Sharp, Dr Z. Kaszab det., 1981."

Paralectotypes: 1 female (male according to Kaszab; the tips of the styli, which could be mistaken for the apex of an aedeagus, are projecting), BMNH, det. J.C. Watt, 1985; 9 (including 5 apparently not seen by Kaszab), BMNH, labelled "Ind. typ. D.S."

—/North I./NN/—

pubescens Broun, 1880, p. 381

Hudson, 1934, p. 89. –Kaszab, 1982a, pp. 168–169, fig. 7.

Lectotype (sex not determined) 3.8 x 1.3 mm, BMNH: "681 [printed on green paper] / Manaia / NZ, Broun Coll. Brit. Mus. 1922-482 [printed] / Lorelus pubescens [Broun] / Lorelus pubescens Broun, det. Kaszab / LECTOTYPE, Lorelus pubescens Broun, det. J.C. Watt, 1985."

Paralectotype BMNH, with same original data as lectotype.

—/ND, CL, WN/—

punctatus new species Fig. 26a,b

Dorsal punctures fine, separated by their own diameter or less on disc of pronotum and elytra. Lateral margins of pronotum slightly crenate. Elongate, narrow species. Size range 4.0–5.2 x 1.3–1.6 mm.

Holotype male 4.0 x 1.3 mm, NZAC: "Holotype [m.] Lorelus punctatus Watt det. J.C. Watt, 1989 [red label] / Lower Tr[ack] to Silica Springs, Ruapehu 3900 [feet] 29/11/65 J.I. Townsend 65/640 / moss in bush."

—/WO, TO, WN/MB/—

quadricollis Broun, 1883, p. 377

Broun, 1886, pp. 786–787. –Kaszab, 1982a, pp. 181–182, fig. 22.

Holotype male 4.3 x 1.6 mm, BMNH: "Holotype [printed, in red circle] / NZ, Broun Coll., Brit. Mus. 1922-482 [printed] / Parua / Lorelus quadricollis [Broun] / Lorelus quadricollis Broun, Dr Z. Kaszab det. 1981 / HOLOTYPE, Lorelus quadricollis Broun det. J.C. Watt 1985."

—/ND (Parua)/—

Note. Apparently known only from the holotype.

tarsalis Broun, 1910, p. 43

Kaszab, 1982a, p. 184, fig. 26.

Holotype female 4.7 x 1.6 mm, BMNH: "Holotype [printed in red circle] / 3097 / Lorelus tarsalis [Broun] / Otago / NZ, Broun Coll. Brit. Mus. 1922-482 [printed] Lorelus tarsalis Broun, Dr Z. Kaszab det. 1981 / HOLOTYPE [f.] Lorelus tarsalis Broun, det. J.C. Watt, 1985."

—/NN, MK, CO, DN/—

nigrescens Broun, 1910, p. 45 new synonymy

Kaszab, 1982a, p. 182.

Holotype (sex not determined) 4.7 x 1.5 mm, BMNH: "Holotype [printed, in red circle] / 3100 / Mount Cook Jany 1909 / Lorelus nigrescens [Broun] / NZ, Broun Coll. Brit. Mus. 1922-482 [printed] / HOLOTYPE, Lorelus nigrescens Broun (= tarsalis) det. J.C. Watt, 1985."

Note. The neotype designation for this species by Kaszab (1982a) of a Broun Collection specimen from Pudding Hill, 10 December 1912, is invalid.

Subfamily PHRENAPATINAE

• ***Archaeoglenes*** Broun, 1893b, pp. 188–189

Watt, 1974, pp. 411–412. –Doyen & Lawrence, 1979, pp. 356–357. –Kaszab, 1982, p. 45.

Type species *Archaeoglenes costipennis* Broun.

costipennis Broun, 1893, p. 189 *(Archaeoglenes)*

Fig. 27

–Watt, 1974, p. 412, fig. 54, 57, 59 (larva). –Doyen & Lawrence, 1979, pp. 356–357. –Kaszab, 1982, pp. 51–52, fig. 7.

Lectotype (sex not determined) 2.0 x 1.0 mm, BMNH: "Type [printed, in red circle] / 2777 / Archaeoglenes costipennis [Broun] / Pirongia / New Zealand, Broun Coll. Brit. Mus. 1922-482 [printed] / LECTOTYPE, Archaeoglenes costipennis Broun, det. J.C. Watt, 1985."

Paralectotype: Broun Coll., BMNH, "Hunua."

Holotype male [not measured], NZAC: "Actizeta fusca Watt det. J.C. Watt, 1989 [red label] / Ruakaka Beach, Auckland 11 Oct 67 / J.C. Watt In dry sand."

— / ND, AK, WN / NN / —

Note. *Actizeta fusca* inhabits sandy beaches, and is very variable.

Subfamily PIMELIINAE
Tribe Cnemeplatiini

• ***Actizeta*** Pascoe, 1875, pp. 214–215

Broun, 1880, p. 359. –Watt, 1965, p. 24.

Type species *Actizeta albata* Pascoe.

albata Pascoe, 1875, p. 215 *(Actizeta)* Fig. (b), p. 5

Broun, 1880, p. 360. –Hudson, 1934, p. 85. –Watt, 1965, p. 24 (syn. *ammobioides*).

Lectotype (sex not determined) 3.0 x 1.5 mm, BMNH: "Type [printed, in red circle] / Waikato, NZ [Pascoe on oval lemon-tinted label] Actiz. albata type Pasc. [Pascoe] / Pascoe Coll. 93-60 [printed] / Lectotype Actizeta albata Pascoe, det. J.C. WATT, 1985."

Paralectotypes: 3, Pascoe Coll. 93-60, BMNH, labelled "Waikato [on oval label]" (1) and "NZ" (2).

— / North I. / northern South I. to MC / —

Note. Although the paralectotypes carry scant data, they are mounted identically to the lectotype on very small pieces of card, and are clearly part of the series on which Pascoe based his description.

ammobioides Pascoe, 1875, p. 215 *(Actizeta)*

Broun, 1880, pp. 359–360.

Lectotype (sex not determined) 2.7 x 1.3 mm, BMNH, left-hand specimen of 2 mounted on a single card: "Type [printed in red circle] / NZ Gt Barrier Isl. [Pascoe on oval lemon-tinted label] / Actiz ammobioides. Type Pasc. [Pascoe] / Pascoe Coll. 93-60 [printed] / Lectotype (left hand spec.) Actizeta ammobioides Pasc. (= albata) det. J.C. Watt, 1985."

Paralectotype BMNH, right-hand specimen mounted on its back on same card as lectotype.

fusca new species Fig. 28

Outer edge of anterior tibia shallowly emarginate. Scales dark. Body and antennae medium brown. Eyes reduced. Small, size range 2.1–2.9 x 1.0–1.3 mm.

Subfamily TENEBRIONINAE
Tribe Alphitobiini

• ***Alphitobius*** Stephens, 1832, p. 11

Seidlitz, 1894, pp. 592–600. –Spilman, 1972, pp. 32–34. –Melville, 1975, pp. 136–138 (fixation of type species).

Type species *Helops picipes* Panzer (= *laevigatus* Fabricius).

diaperinus Panzer, 1797, p. 16 *(Tenebrio)*

Hudson, 1934, p. 200. –Belton, 1950, p. 44. –Koch, 1953, pp. 16–17. –Hewlett, 1958, p. 114.

Type material not seen.

Note. In stored grains and deep litter poultry houses, sometimes abundant.

laevigatus Fabricius, 1781, p. 90

Fabricius, 1781, p. 90 *(Opatrum)*; –1801, p. 117 *(Opatrum)*. –Olivier, 1795, p. 56, tab. I, fig. 8. –Blair, 1914, p. 486. –Hudson, 1934, p. 200. –Koch, 1953, p. 13. –Hewlett, 1958, p. 144. –Zimsen, 1964, no. 334. –Radford, 1981, p. 178. –Archibald & Chalmers, 1983, p. 374 ("intercepted").

Lectotype (sex not determined) 5.9 x 2.7 mm, Banks Collection, BMNH: "Opatrum laevigatum Fabr., sp. ins. n4 / Hab. in Nova Zel. / Lectotype opatrium laevigatum Fabr. (Alphitobius), det. J.C. Watt, 1985."

Paralectotype (sex not determined), Banks Coll., BMNH, no data on specimen.

Drawer labels: "Type [printed in red circle] / Type (Ms) / laevigatum [Waterhouse]. Zimsen, p. 39 No. 344 / Opatrum laevigatum Spec. Ins. 1., 90.4 / in Nova Zelandia Mus. Dom. Banks / (Syst. El. 1 117.8) – London 2 specimens."

Original description: "*laevigatum* 4.0 nigrum, clypeo antice piceo, elytris substriatus. Habitat in nova Zelandia Mus. Dom. Banks. Statura omino praecedentium. Caput et thorax laevia, nigra, clypeo antice integro, piceo. Thorax antice posticeque truncatus, subsinuatus. Elytra nigra, immaculata, obsolete striata. Pedes nigri."

— / MC (Christchurch) / —

Note. Can be sexed using the middle and hind tibial spurs, which are not, however, visible on either type specimen.

piceus Olivier, 1792 (etc. – see Gebien, II, p. 586)

Type data not available.

Tribe Amarygmini

• ***Amarygmus*** Dalman, 1823, p. 60

Lacordaire, 1859, p. 473. –Blackburn, 1893, pp. 87–89. –Ardoin, 1965, p. 634; –1967, p. 1615.

Type species *Chrysomela micans* Fabricius.

Note. For species of *Amarygmus* recorded in New Zealand, see Watt (1989b).

tristis in the sense of Blackburn, 1893, p. 91, not Fabricius, 1798 (wrongly recorded as *Amarygmus tristis*)

Carter, 1913, pp. 32 (syn. *obtusus* Pascoe), 35; –1914, p. 237 (*obtusus* not a synonym). –May, 1963, p. 51, fig. 5 (first N.Z. records). –Gnanasunderam *et al.*, 1982, pp. 221–224 (defensive secretions).

— / AK / —

Note. This introduced Australian species was previously known as *Amarygmus tristis*. It is actually an undescribed species best known in the meantime as '*Amarygmus tristis* sensu Blackburn,' as discussed in Watt (1989b). It occurs commonly in the vicinity of Auckland City, adults on bark of dead tree trunks at night and larvae in decaying tree stumps, especially *Pinus*.

Amarygmus zelandicus Bates is a junior synonym of *Platolenes hydrophiloides* Fairmaire, a Pacific species not to be included in the New Zealand list.

Tribe Heleini

• ***Mimopeus*** Pascoe, 1866, p. 477

Watt, 1968, pp. 37–38; –1988, pp. 95–146; –1989a, pp. 39–81.

Type species *Mimopeus amaroides* Pascoe (syn. *elongatus* Brême).

Cilibe in the sense of Lacordaire, 1859, p. 349

Broun, 1880, p. 368. –Gebien, 1940, p. 1079 (p. 612 in reprint).

buchanani Broun, 1880, pp. 377–378 *(Cilibe)*

Hudson, 1934, p. 88 *(Cilibe)*. –Watt, 1968, p. 39 *(Mimopeus;* syn. *schauinslandi)*; –1989a, pp. 51–55.

Lectotype male 13.3 x 6.2 mm, BMNH: "Type [printed, in red circle] / 677 [printed on green paper] / NZ Broun Coll. Brit. Mus. 1922-482 [printed] / Wellington / Cilibe buchanani [Broun] / LECTOTYPE [m.], 677 [printed, on green paper] / NZ, Broun Coll. Brit. Mus. 1922-482 [printed]."

Paralectotype female, BMNH, labelled "PARALECT. [f.], Mimopeus buchanani det. J.C. Watt, 1985, BMNH."

— / WN / SD, NN / —

Note. Mostly coastal.

schauinslandi Sharp, 1903, p. 106 *(Cilibe)*

Lectotype female 16.1 x 7.7 mm, BMNH: "Cilibe schauinslandi. Type D.S. [f.], Stephens Island, Schauinsland [Sharp, on card] / Type [printed, in red circle] / Stephens Island, Schauinsland [unknown hand – Schauinsland?] / Sharp Coll., 1905 / 313 [printed]."

Paralectotype female, BMNH, labelled "Cilibe schauinslandi Sharp (= Mimopeus buchanani) (Broun), det. J.C. Watt, 1985."

clarkei Watt, 1988, pp. 136–138

Holotype male 12.1 x 6.3 mm, AMNZ: "Holotype [m.] Molesworth, Awatere Valley 25 Dec. 1945, C.E. Clarke CEC."

Allotype female AMNZ, with same data as holotype.

— / MB (Awatere, Avon, and Wairau vlys) / —

convexus Watt, 1988, pp. 141–144

Holotype male 11.9 x 5.8 mm, CMNZ: "Holotype [m.] Mt Hay Tekapo 2600 [feet]. 7 Dec. 1962 P.M. Johns."

Allotype female CMNZ, Lake Tekapo.

— / MK / —

Note. Apparently confined to the McKenzie Basin.

costellus Broun, 1905, pp. 544–545 *(Cilibe)* Fig. 29

Watt, 1968, p. 39 *(Mimopeus)*; –1989a, pp. 62–63.

Holotype female 19.0 x 9.2 mm, BMNH: "2842 / North Canterbury / Cilibe costella [Broun] / NZ, Broun Coll. Brit. Mus. 1922-482 [printed] / holotype [f.], Cilibe costella Brn. (Mimopeus), det. J.C. Watt, 1985."

— / NC, MC (Rangiora, Loburn, Mt Grey) / —

elongatus Brême, 1842, p. 38, pl. vii fig. 6 *(Cilibe)*

Front cover and Fig. (a), p. 5

Broun, 1880, p. 371 *(Cilibe).* –Watt, 1968, p. 39; –1989a, pp. 39–44.

The type series comprises four specimens, one male and three female, fairly uniform and probably from one population. All have weak pronotal microsculpture, with granules confined virtually to marginal channels. These are closest to *huttoni* (Otago).

Lectotype male 11.4 x 5.5 mm, MUTI: "N^{le} Guinée [Brême] det. J.C. Watt, 1985 (Mimopeus) 11.4x5.5 mm." Some sand grains are adhering to the specimen ventrally.

Paralectotypes: 1 female, MUTI, with same original data as lectotype; 1 female, MUTI, with no original labels but standing over same cabinet label as lectotype; 1 female(?; head and abdomen missing) bearing a small black triangle.

Beneath the type series is another cabinet label, "C. elongatus," above which are dissected mouthparts and antenna presumably belonging to this last specimen. Below the cabinet label of *C. granulosus* are three specimens of *elongatus*, the first of which bears the label "Selenepistoma australasica mihi. N. Zealand [Brême]"; this is apparently an unpublished manuscript name.

— / ND–SI (except GB–SC on east coast) / —

Note. Coastal.

phosphugoides White, 1846, p. 11 *(Cilibe)*

Blanchard, 1853, p. 150 *(Cilibe).* –Bates, 1873, p. 478 *(Cilibe;* syn. *elongata).* –Watt, 1989a, p. 42.

Holotype male 13.0 x 6.4 mm, BMNH: "Type [printed in red circle] 43/70 (in a circle) / Cilibe phosphugoides White, Zool., Erebus & Terror [White] / HOLOTYPE [m.], Cilibe phosphugoides White = Mimopeus elongatus, det. J.C. Watt, 1985."

amaroides Pascoe, 1866, p. 477

Bates, 1873, p. 474 *(Cilibe?* syn. *elongata).* –Watt, 1989a, p. 42.

Lectotype (sex not determined, abdomen missing) 12.8 x 6.4 mm, BMNH: "lectotype [printed in purple circle] / Australia [Pascoe on green oval label] Pascoe Coll. 93-60 [printed] / LECTOTYPE, Mimopeus amaroides Pasc. = elongatus (Brême), det. J.C. Watt, 1985."

Note. A second specimen of this species from the Pascoe Collection is labelled "Cilibe elongata de B., Australia [Pascoe]." It hardly seems justified to regard this specimen as a syntype of *M. amaroides* in view of the determination. The lectotype lacks a determination label by Pascoe, but agrees well with his description. No other specimens have been seen which could be syntypes of *M. amaroides*. Perhaps Pascoe realised that *amaroides* is a synonym of *elongatus* before his collection went to BMNH, and therefore removed the determination label; alternatively, he may never have labelled it. The locality 'Australia' is erroneous, even though published as such. The specimen here designated as lectotype is conspecific with typical New Zealand specimens of *M. elongatus*.

granulipennis Bates, 1873, p. 479 *(Cilibe elongata* var. *granulipennis)*

Broun, 1880, p. 375 *(Cilibe elongata* var. *granulipennis).* –Watt, 1989a, p. 42.

Holotype female 11.4 x 5.6 mm, BMNH: "Type [printed, in red circle] / Cilibe elongata var. granulipennis (type) F. Bates [Bates]."

huttoni Sharp, 1878, p. 51 *(Cilibe)*

Broun, 1880, pp. 378–379 *(Cilibe).* –Hudson, 1934, p. 88 *(Cilibe).* –Watt, 1989a, p. 42.

Lectotype male 11.2 x 5.5 mm, BMNH (pinned aedeagus on card): "LECTOTYPE [printed in purple circle] / Cilibe huttoni [m.] Type D.S., Otago Hutton 1877 [Sharp] / Sharp Coll., 1905-313 [printed] / LECTOTYPE [m.], Cilibe huttoni Sharp (= Mimopeus elongatus (Brême)), det. J.C. Watt, 1985."

Paralectotypes: 2 females, BMNH, with same original data as lectotype except "[m.]"; 3 male, 5 female, BMNH, with same original data as lectotype but with "Ind. typ." instead of "Type".

marginalis Broun, 1893a, p. 1155 *(Cilibe)*

Watt, 1989a, pp. 42, 44.

Holotype male 11.1 x 5.4 mm, BMNH: "Type [printed in red circle] / 2047 / Cilibe marginalis [Broun] / NZ, Broun Coll. Brit. Mus. 1922-482 [printed] / Mokohinau [printed] / HOLOTYPE [m.], Cilibe marginalis Broun = Mimopeus elongatus, det. J.C. Watt, 1985."

meridionalis Sharp, 1903, p. 109 *(Cilibe)*

Watt, 1989a, pp. 42, 43.

Lectotype male 11.3 x 5.0 mm, BMNH: "Type [printed, in red circle] / Cilibe meridionalis Type D.S. Waikawa Bay, Schauinsland [Sharp] / Sharp Coll., 1905-313 [printed] / lectotype [m.] Cilibe meridionalis Sharp (= Mimopeus elongatus (Brême)), det. J.C. Watt, 1985."

Note. The lectotype is pale reddish brown in colour, and appears to be teneral.

granulosus Brême, 1842, p. 39, pl. 7 fig. 5 Fig. 30

Watt, 1989a, pp. 59–61.

Lectotype female 11.5 x 5.1 mm, MUTI (no old labels): "Lectotype Cilibe granulosus Brême, det. J.C. Watt, 1985 (Mimopeus)."

Paralectotype female (no old labels) stands over same cabinet label as lectotype. Cabinet labels read: "C. Elongatus De Brême Monog. p. 38, Pl. vii, fig. 6 Nov. Guinea." and "C. granulosus De Brême Monog. p. 39 Pl. vii, fig. 5 Nov. Zelandia." They are on pink paper, indicating the Australasian region. The same geographic colour code is used in the Spinola Collection (see Giachino 1982, p. 14).

— / MC (Banks Pen.) / —

Note. The type series comprises two females, typical Banks Peninsula (probably Akaroa) specimens.

humeralis Bates, 1873, pp. 480–481 *(Cilibe)* Fig. 31

Broun, 1880, p. 373 *(Cilibe)*. –Hudson, 1934, p. 88 *(Cilibe)*. –Watt, 1968, p. 39 *(Mimopeus)*; –1989a, pp. 53–55.

Lectotype male 10.3 x 5.2 mm, BMNH: "lectotype [printed, in purple circle] / NZ / Cilibe humeralis type F. Bates, [m.]? [Bates] F. Bates 81-19 [printed] LECTOTYPE [m.], Cilibe humeralis Bates (Mimopeus) det. J.C. Watt, 1985."

Paralectotypes: 2 females, BMNH, with same original data except "[f.]?"

— / WA, WN (south coast) / —

impressifrons Bates, 1873, p. 485 *(Cilibe)*

Broun, 1880, p. 376 *(Cilibe)*. –Watt, 1968, p. 39 *(Mimopeus)*; –1989a, pp. 64–66.

Lectotype male 14.1 x 6.2 mm, BMNH: "Lectotype [printed, in purple circle] / NEW ZEALD [printed] / Cilibe impressifrons type F. Bates [Bates] / F. Bates 81-19 [printed] / Type [printed, in red circle] / LECTOTYPE [m.], Cilibe impressifrons Bates (Mimopeus) det. J.C. Watt, 1985."

Paralectotypes: 2 females, BMNH, with same original data as lectotype.

— / MK, CO (Alexandra, Cromwell, Mt Pisa, Rough Ridge, Oturahua, etc.) / —

insularis Watt, 1988, pp. 125–128 Fig. 32

Holotype female 19.6–22.8 x 9.3–11.4 mm, AMNZ: "Holotype female Tawhiti Rahi, Poor Knights Islands, Nov. 1945."

Allotype female NZAC, Tawhiti Rahi.

— / ND (Poor Knights Is) / —

johnsi Watt, 1988, pp. 140–141

Holotype male 13.8 x 6.9 mm, CMNZ: "Holotype [m.] Mt Percival, 3500–5200 [feet] / 30 Oct. 1962, P.M. Johns."

Allotype female CMNZ, with same data as holotype.

— / MB–KA (Mt Percival) / —

Note. Known only from the type locality.

lateralis Broun, 1909, p. 408 *(Cilibe)* Fig. 33

Watt, 1968, p. 39 *(Mimopeus)*; –198a9, pp. 57–59.

Lectotype female, BMNH, selected from a series of syntypes designated and labelled as such: "Hanmer Lewis, 2843, Cilibe lateralis, T.B. / B.M. 1922-182."

— / MB, NC (inland) / —

lewisianus Sharp, 1903, p. 108 *(Cilibe)*

Watt, 1968, p. 39 *(Mimopeus)*; –1989a, pp. 66–67.

Lectotype male 14.1 x 6.8 mm, BMNH: "Lectotype [printed, in mauve circle] / Wedderburn, Lewis, 1901 / Cilibe lewisiana Type D.S. [Sharp] Sharp Coll., 1905-313 / Type [printed, in red circle] / LECTOTYPE [m.], Cilibe lewisiana Sharp (Mimopeus), det. J.C. Watt, 1985."

Paralectotypes: 5 males, 10 females, BMNH, with same locality data as lectotype; 2 of these also labelled "Cilibe lewisiana Ind. typ. D.S."

— / CO (Wedderburn) / —

Note. Close to *impressifrons*, but probably a valid species.

neglectus Watt, 1988, pp. 120–124

Holotype male 10.0 x 5.2 mm, C.E. Clarke Coll., AMNZ: "Holotype [m.] Sinclair Head Wellington 25 April, 1942."

Allotype female AMNZ, with same data as holotype.

— / GB, HB, WA, WN (to Red Rocks) / MB (Rarangi, Wairau Bar) / —

Note. Coastal.

opaculus Bates, 1873, pp. 474–475 *(Cilibe)*

Fig. 34a,b

Broun, 1880, pp. 368–369 *(Cilibe)*. –Hudson, 1934, p. 88 *(Cilibe)*. –Watt, 1968, p. 39; –1989a, pp. 46–51 *(Mimopeus;* syn. *major, nitidulus, otagensis, otagensis* var. *grandis, smithianus, tarsalis)*.

Lectotype male 17.8 x 9.5 mm, BMNH: "Type [printed in red circle] / NZ [printed] / Cilibe opacula type F. Bates [m.]? [Bates] / F. Bates 81-19 [printed] / lectotype [m.] Cilibe opacula Bates (Mimopeus) det. J.C. Watt, 1985."

Paralectotypes: 2 females, BMNH, with same original data as lectotype except "[f.]?"

— / CL (islands) to SI / —

Note. Very variable geographically.

nitidulus Bates, 1873, p. 476 *(Cilibe)*

Broun, 1880, p. 370 *(Cilibe)*.

Holotype female 15.8 x 7.8 mm, BMNH: "Type [printed, in red circle] NEW ZEALD. [printed] / Cilibe nitidula type F. Bates [f.]? [Bates] / F. Bates 81-19 [printed] / HOLOTYPE [f.], Cilibe nitidula Bates (= Mimopeus opaculus (Bates)), det. J.C. Watt, 1985."

otagensis Bates, 1873, p. 476 *(Cilibe)*

Broun, 1880, p. 370 *(Cilibe)*. –Hudson, 1934, pp. 87–88, pl. 9 fig. 5, 5a (*Cilibe otagoensis* [sic]; biology, larva)

Lectotype male 15.5 x 7.3 mm, BMNH: "Lectotype [printed, in purple circle] / Otago / Cilibe otagensis type F., Bates [m.]? [Bates] / F. Bates 81-19 [printed] / LECTOTYPE [m.], Cilibe otagensis Bates (= Mimopeus opaculus (Bates)), det. J.C. Watt, 1985."

Paralectotypes: 1 male, 2 females, BMNH, with same original data as lectotype.

grandis Bates, 1873, p. 477 *(Cilibe otagensis* var. *grandis)*

Broun, 1880, p. 371 *(Cilibe otagensis* var. *grandis)*.

Holotype male 19.1 x 8.7 mm, BMNH: "Holotype [m.] [printed, in red circle] / NZ / Cilibe otagensis var. grandis type F. Bates [Bates] / F. Bates 81-19 [printed] / Cilibe otagensis var. grandis Bates (= Mimopeus opaculus (Bates)) det. J.C. Watt 1985."

major Sharp, 1903, p. 106 *(Cilibe)*

Lectotype female 24.2 x 12.3 mm, BMNH: "Type [printed in red circle] Stephens Isd., Schauinsland / Cilibe major Type D.S. [Sharp] / Sharp Coll. 1905-313 [printed] / LECTOTYPE [f.], Cilibe major Sharp (= Mimopeus opaculus (Bates)) det. J.C. Watt, 1985."

Paralectotypes: 1 male, 2 females, BMNH, with same locality data as lectotype.

tarsalis Sharp, 1903, pp. 107–108 *(Cilibe)*

Holotype male 19.5 x 9.8 mm, BMNH: "Cilibe tarsalis Type D.S. [m.], Albury, NZd [Sharp, on card] Type [printed, in red circle] / Cilibe opacula Bates, Albury [Sharp] / Sharp Coll., 1905-313 [printed] / HOLOTYPE [m.], Cilibe tarsalis Sharp (= Mimopeus opaculus (Bates)), det. J.C. Watt, 1985."

smithianus Broun, 1909, pp. 409–411 *(Cilibe)*

"Lectotype Broun [m.] 17. 8.8 mm NZAC" (Watt 1989).

otagoensis Hudson, 1934, p. 87, pl. 9 fig. 5, 5a (misspelling of *otagensis*)

parallelus Watt, 1988, pp. 138–139 Fig. 35

Holotype male 10.4 x 5.6 mm, NZAC: "Holotype [m.] Glen Alton, Clarence Valley 10 Mar. 1961 J.C. Watt."

Allotype female NZAC, with same data as holotype.

— / MB / —

parvus Watt, 1988, pp. 128–132

Holotype male 9.8 x 4.9 mm, AMNZ: "Holotype male Molesworth, Awatere River, 25 Dec. 1943, C.E. Clarke."

Allotype female BMNH, with same data as holotype.

— / MB–KA (Molesworth, Wairau, Mt Percival) / —

pascoei Bates, 1873, pp. 479–480 *(Cilibe)* Fig. 37

Broun, 1880, p. 372 *(Cilibe)*. –Watt, 1968, p. 39; –1989a, pp. 44–46.

Holotype male 13.4 x 7.0 mm, BMNH: "Type [printed in red circle] / Pitt Is. [unknown hand] / Cilibe pascoei type F. Bates [Bates] / Traversii Pasc. [unknown hand] / F. Bates 81-19 [printed] / HOLOTYPE [m.], Cilibe pascoei Bates (Mimopeus), det. J.C. Watt, 1985."

— / Chatham Is (Pitt, Southeast, Mangere) / —

rugosus Bates, 1873, pp. 483–484 *(Cilibe)* Fig. 36

Broun, 1880, pp. 375–376 *(Cilibe)*. –Watt, 1968, p. 32 *(Mimopeus)*; –1989a, pp. 69–71.

Holotype male 11.9 x 5.1 mm, BMNH: "Type [printed, in red circle] / 16 / NEW ZEALD [printed] / Cilibe rugosa type F. Bates [Bates] / F. Bates 81-19 [printed]."

— / CO (Mt Ida, Rough Ridge, etc.), DN (Oamaru) / —

Note. Holotype agrees best with specimens from Oamaru.

subcostatus Sharp, 1903, p. 107 *(Cilibe)*

Broun, 1909c, p. 149 *(Cilibe)*. –Watt, 1968, p. 39 *(Mimopeus;* syn. *saragoides)*; –1989a, pp. 61–62.

Lectotype male 12.5 x 6.0 mm, BMNH: "Cilibe subcostata Type D.S. [m.] Chatham Island, Schauinsland [Sharp on card – genitalia and terminal sclerites mounted beside specimen] / Type [printed in red circle] / Chatham Isld. [?Schauinsland] / Sharp Coll. 1905-313 [printed] / LECTOTYPE [m.], Cilibe subcostata Sh. (Mimopeus), det. J.C. Watt, 1985."

Paralectotypes: 5 males, 1 female, BMNH, labelled "Chatham Isld [?Schauinsland] / Sharp Coll. 1905-313 [printed BMNH]."

— / Chatham Is (Chatham, Pitt, Sisters) / —

saragoides Broun, 1908, p. 148 *(Cilibe)*

Holotype female (?; abdomen missing) 11.6 x 5.7 mm, BMNH: "19 / Chatham Is., Broun Coll., B.M. 1922-482 [printed] / Saragoides, Pitt's Id. [Pascoe] / Cilibe saragoides [Broun] HOLOTYPE [m.]?, Cilibe saragoides Broun (= Mimopeus subcostatus Sh.), det. J.C. Watt, 1985."

thoracicus Bates, 1873, p. 481 *(Cilibe)*

Broun, 1880, pp. 373–374 *(Cilibe)*. –Watt, 1968, p. 39 *(Mimopeus;* syn. *brevipennis);* – 1989a, pp. 55–57.

Holotype female 11.4 x 5.6 mm, BMNH: "Type [printed, in red circle] / Cilibe thoracica type [m.]? F. Bates [Bates] / F. Bates 81-19 [printed] / HOLOTYPE [f.], Cilibe thoracica Bates (Mimopeus), det. J.C. Watt, 1985."

— / KA, NC, MC, SC / —

Note. Mostly coastal.

brevipennis Bates, 1873, p. 482 *(Cilibe)*

Broun, 1880, p. 374 *(Cilibe).*

Lectotype female 12.1 x 6.1 mm, BMNH: "LECTOTYPE [printed in purple circle] / NZ [printed] / Cilibe brevipennis type F. Bates [Bates] / F. Bates 81-19 [printed] / LECTOTYPE [f.], Cilibe brevipennis Bates (= Mimopeus thoracicus (Bates), det. J.C. Watt, 1985."

Paralectotypes: 1 male, 1 female, BMNH, with same data as lectotype.

tibialis Bates, 1873, p. 484 *(Cilibe)*

Broun, 1880, p. 376 *(Cilibe).* –Watt, 1968, p. 39 *(Mimopeus;* syn. *velox);* –1989a, pp. 67–69.

Lectotype male 12.3 x 5.9 mm, BMNH: "lectotype [printed, in purple circle] / Ch:Ch / NZ / Cilibe tibialis type F. Bates [Bates] / C.M. Wakefield, Ch:Ch / NZ [Wakefield] / F. Bates 81-19 [printed]."

Paralectotypes: 3 females, Bates Coll., BMNH, with same Bates determination label; 1 male, Sharp Coll., BMNH, with same Bates label.

— / MC, SC / —

velox Sharp, 1903, p. 18 *(Cilibe)*

Holotype male 12.6 x 5.5 mm, BMNH: "Holotype [printed, in red circle] / Cilibe velox Type D.S. [m.], Christchurch / Christchurch [Sharp] / Sharp Coll. 1905-313 [printed] / HOLOTYPE [m.], Cilibe velox Sharp (= Mimopeus tibialis (Bates) det. J.C. Watt, 1985)."

Note. Differs from holotype of *M. tibialis* and other Christchurch (MC) specimens in much finer punctation of pronotum and somewhat finer elytral punctation. Specimens from Fairlie (SC) show a trend in this direction. However, I have not been able to match the holotype of *velox*. Its type locality is most unlikely to be Christchurch, as published; it could hardly be an individual variant of the population known from that area.

turbotti Watt, 1988, pp. 124–125

Holotype male AMNZ: "Great Island, Three Kings Islands 3 May, 1946."

Allotype female 12.2 x 5.8–8.2 mm, AMNZ, with same data as holotype.

— / Three Kings Is / —

vallis Watt, 1988, pp. 132–136

Holotype male 9.4 x 4.8 mm, NZAC: "Holotype male Jordan, Awatere Valley, 8 Mar. 1961. J.C. Watt."

Allotype female NZAC, with same data as holotype.

— / MB (lower and middle Awatere Vly) / —

Tribe Opatrini

• ***Gonocephalum*** Chevrolat, 1845, p. 274

Seidlitz, 1894, pp. 409, 418, 435. –Kaszab, 1952, pp. 416–426.

Type species *Gonocephalum fuscum* (= *rusticum;* not a New Zealand species).

elderi Blackburn, 1892, pp. 39–40 *(Hopatrum)*

Blackburn, 1907, p. 287 *(Hopatrum).* –Gebien, 1910, p. 323 *(Gonocephalum).*

Holotype SAMA (not seen).

— / MC (Christchurch, Spencerville) / —

Note. Introduced from Australia.

Tribe Tenebrionini

• ***Tenebrio*** Linnaeus, 1758, p. 417

Seidlitz, 1896, p. 628.

Type species *Tenebrio molitor* Linnaeus.

molitor Linnaeus, 1758, p. 417

Figured on p. 6 (larvae: 'yellow mealworm')

Hutton, 1904, p. 352. –Thomson, 1922, p. 296. –Hudson, 1934, p. 201. –Archibald & Chalmers, 1983, p. 382.

Type data not available.

obscurus Fabricius, 1792, p. 111

Fig. 38

Hutton, 1904, p. 352. – Archibald & Chalmers, 1983, p. 382.

Type data not available.

obscurans Thomson, 1922, p. 295 (misspelling)

Hudson, 1934, p. 201.

Tribe Titaenini

• ***Artystona*** Bates, 1873, p. 472

Bates, 1874, pp. 104–105. –Broun, 1880, p. 384. –Watt, 1974, p. 415 (larvae). –Gnanasunderam *et al.*, 1981, pp. 889–894 (defensive secretions).

Type species *Titaena erichsoni* White.

erichsoni White, 1846, p. 12 *(Titaena)*

Bates, 1873, p. 473; –1874, p. 105 (syn. *interrupta*). –Broun, 1880, pp. 384–385. –Hudson, 1934, p. 90. –Watt, 1982, p. 304.

Lectotype female 10.4 x 4.5 mm (estimate; elytra spread), BMNH: "Lectotype [f.]: Titaena erichsonii White, Zool. Ereb. Terr. [White] / titaena erichsoni White type [F. Bates] / Artystona erichsoni White. F. Bates (interrupta Redten.) [F. Bates] 81-19 [printed]."

Paralectotype female, BMNH, labelled "New Zeald [printed] / Titaena erichsonii White type [F. Bates] / Titaena interrupta Redten. [F. Bates] / Compared with type by Dr Rogenhofer [F. Bates] / Artystona erichsoni White. F. Bates (interrupta Redten.) [F. Bates] / F. Bates 81-19 [printed]."

— / ND, AK, CL, BP, TK, RI, WN / SD, NN, BR, MB / —

Note. The type specimens agree well with material from Wellington.

interrupta Redtenbacher, 1868, pp. 128–129

Note. Syntype in NHMW examined by me in 1985, and synonymy with *A. erichsoni* confirmed.

lata new species Fig. 39

Pronotum about 1.5x as broad as long. In dorsal view eyes strongly convex, projecting laterally well beyond canthus. Punctures of pronotum and elytra dense and coarse, confluent on parts of pronotum, some as large as facets of eyes or larger. Elytral shoulder angulate. Size range 7.6–9.6x3.5–4.3 mm.

Holotype male 7.6 x 3.6 mm, NZAC: "Holotype [m.] Artystona lata Watt det. J.C. Watt, 1989 [red label] / Mt John 3900 [feet] Te Kapa Canterbury 11 Jan. 71 / Under stones."

— / MK (Mt John, McKenzie Pass) / —

obscura Sharp, 1886, p. 411

Broun, 1893a, p. 1154.

Lectotype male 10.4x3.9 mm, BMNH: "Lectotype [m.]: Bealey, Helms, 1884, Artystoma [sic] obscura Type D.S. [Sharp, written on card] / Type [printed, in red circle] / Sharp. Coll. 1905-313 [printed]."

Paralectotypes: 3 males, BMNH, with same data as lectotype except for word "Type" and red type label.

— / MB, NC, MC, MK, DN, SL / —

Note. Variable, possibly a complex of species.

collaris Sharp, 1886, p. 412

Broun, 1893a, p. 1155

Holotype female 12.5 x 4.3 mm, BMNH: "Artystona collaris Type D.S., Dunedin, G. Copland, 1883 [Sharp, written on card] / Type [printed in red circle] / Sharp Coll. 1905-313 [printed]."

obsoleta Sharp, 1886, p. 412

Broun, 1893a, pp. 1154–1155.

Holotype female 11.3 x 4.1 mm, BMNH: "Artystona obsoleta Type D.S., Castle Hill, Enys [Sharp, written on card] / Type [printed in red circle] / Sharp Coll., 1905-313 [printed]."

tinctella Sharp, 1886, p. 411

Holotype female 11.2 x 4.4 mm, BMNH: "3102 / West Plains, Southland / Artystona tinctella [Broun] / NZ, Broun Coll., Brit. Mus. 1922-482 [printed]."

vicina Sharp, 1886, p. 411

Holotype female 10.6 x 4.0 mm (estimate; elytra spread), BMNH: "Holotype [f.]: 3103 / Artystona vicina [f.] [Broun] / Otago / NZ, Broun Coll., 1922-482 [printed]."

philpotti Broun, 1910, pp. 45–46

Lectotype male 10.2 (head deflexed) x 4.0 mm (estimate; elytra spread), NZAC: "Lectotype [m.]: Artystona philpotti / 3101 / Invercargill [Broun] / T. Broun Collection / A.E. Brookes Collection [printed]."

Paralectotypes: 2 males, 1 female, BMNH, with same Broun handwritten labels as lectotype; 2 males, 1 female, NZAC, with same data as lectotype.

richmondiana new species

Pronotum about 1.2x as broad as long. Eyes in dorsal aspect moderately convex, projecting laterally about as far as canthus. Pronotum and elytra with punctures relatively sparse and fine, not confluent, smaller than the facet of an eye. Elytral shoulder rounded off. Size range 9.5–12.3 x 3.7–4.8 mm.

Holotype male 10.0x4.0 mm, NZAC: "Holotype [m.] Artystona richmondiana Watt det. J.C. Watt, 1989 [red label] / Mt Johnson 5200 [feet] Richmond Ra. 13 Mar. 69 J.C. Watt / under dry stones in a rock pile."

— / MB (Mt Johnson and Ben Nevis, Richmond Ra., above 1500 m) / —

Note. Adults and larvae were found under a pile of loose, rough, lichen-covered stones; like other members of the genus they possibly feed on lichens at night.

rugiceps Bates, 1874, p. 105

Broun, 1880, p. 385. –Hudson, 1934, pp. 89–90, pl. 9 fig. 6, 6a (incl. larva).

Lectotype female 9.1 x 3.5 mm, BMNH: "Type [printed, in red circle] / Artystona rugiceps type F. Bates [Bates] / F. Bates 81-19."

Paralectotypes: 2 males, 2 females, BMNH, with same data as lectotype except "type" label and in addition "NEW ZEALD [printed]"; 1 female, CMNZ, with same data as other paralectotypes.

— / ND, AK, CL, HB, WI, WA, WN / SD, NN, MB, KA, NC, MC, SC, MK, CO, DN / —

Note. The type specimens agree well with material from Christchurch, but less well with examples from Banks Peninsula. *A. rugiceps* is variable, especially in southern South Island localities; it is possibly a complex of species.

porcatus Allard, 1877, pp. 260–261 *(Catomus)*

Gebien, 1910, p. 551 *(Helops)*.

Type material MNHN.

wakefieldi Bates, 1874, p. 105

Broun, 1880, p. 385.

Lectotype male 11.4 x 4.2 mm (estimate; elytra slightly spread), BMNH: "Type [printed, in red circle] / NEW ZEALD. [printed] / Artystona wakefieldi type F. Bates [Bates] / F. Bates 81-19 [printed]."

Paralectotypes: sex unknown (abdomen missing), BMNH, with same data except "Type" label; 1 male, CMNZ, with Bates's determination label.

— / ND, AK, BP, WA, WN / NN, BR, MB, MC, OL / —

Note. The type specimens agree well with material from MC (Christchurch, Peel Forest, etc.).

• ***Cerodolus*** Sharp, 1886, pp. 410–411

Broun, 1893a, p. 1161.

Type species *Cerodolus chrysomeloides* Sharp.

arthurensis new species

Colour black or dark brown. Strial punctures not foveate; hind slope of elytra not tuberculate. Elytra less broad than pronotum. Form narrowly oval. Pronotum with deep lateral basal impressions. Surface shining; microsculpture weak, scarcely visible at x25 magnification.

Holotype male(?) 6.4 x 3.0 mm, NZAC: "holotype Cerodolus arthurensis Watt det J.C. Watt 1989 [red label] / Mt Arthur 1500 m Nelson 16 Nov. 69 J.I. Townsend under Celmisia traversii / Cerodolus n.sp. 1 det. J.C. Watt 1974."

— / NN (Mt Arthur) / —

Note. Known only from the holotype.

chrysomeloides Sharp, 1886, p. 411, pl. 13 fig. 6

Fig. 40

Broun, 1893a, pp. 1161–1162.

Lectotype male 6.5 x 3.2 mm, BMNH: "Cerodolus chrysomeloides Type D.S., Greymouth, NZ, Helms [Sharp, on card] / Type [printed, in red circle] / Sharp Coll. 1905-313 [printed] LECTOTYPE [m.], Cerodolus chrysomeloides Sharp det. J.C. Watt, 1985."

Paralectotype male, BMNH: "Cerodolus chrysomeloides, Greymouth, NZ, 1882 [Sharp on card] / Sharp Coll. 1905-313 [printed]."

— / NN, BR, WD, NC, SL / —

Note. The SL material – 1 male, 1 female, Broun Coll., BMNH, labelled "Hakapoua, Southland, 1 May 11, Philpott" – differs markedly (see key, p. 22), and is considered to be a geographical variant.

aeneus Broun, 1893a, p. 1162

Lectotype female 6.1 x 3.2 mm, BMNH: "2060 / Boatman's, Reefton / Cerodolus aeneus [Broun] / NZ, Broun Coll. Brit. Mus. 1922-482 [printed]."

Paralectotypes: 1 male, BMNH, with same data; 1 male, NZAC, labelled "LECTOTYPE [f.] Cerodolus aeneus Broun. det. J.C. Watt, 1985 - Chrysomel Cerodolus aeneus / Boatman's, Reefton [Broun] / T. Broun Collection / A.E. Brookes Collection [printed]."

curvellus Broun, 1912, pp. 437–438

Holotype male 8.2 x 3.6 mm (including dome-shaped convexity on left elytron), BMNH: "Holotype [m.]: 3255 / Advance Peak, Otago – Oliver / Cerodolus curvellus [Broun] NZ Broun coll. Brit. Mus. 1922-48 [printed] / holotype [m.], Cerodolus curvellus Broun, det. J.C. Watt, 1985."

— / OL (Advance Peak) / —

Note. See *C. sinuatus*, below.

genialis Broun, 1893a, p. 1162

Lectotype male 7.1 x 3.5 mm, BMNH: "2059 / Cerodolus genialis [Broun] / Mount Arthur / NZ, Broun Coll., Brit. Mus. 1922-482 [printed] / LECTOTYPE [m.] Cerodolus genialis Broun, det. J.C. Watt, 1985."

Paralectotype female (mounted on its back, "much mutilated" as described by Broun), BMNH, labelled "2059 [Broun] / NZ, Broun Coll. Brit. Mus. 1922-482 [printed]."

— / NN, BR / —

sulcisternus Broun, 1917, p. 396

Lectotype female 6.7 x 3.3 mm, NZAC: "Gordon's 15-11-14 / 3856 / Cerodolus sulcisternus [Broun] / T. Broun Collection / A.E. Brookes Collection [printed] / LECTOTYPE [f.], Cerodolus sulcisternus Broun, det. J.C. Watt, 1985 [on red card]."

Paralectotypes: 2 females, Broun Coll., BMNH, with same locality label as lectotype and the number "3856."

manepouricus new species

Like *C. tuberculatus* but lacking tubercles on hind slope of elytra.

Holotype female 8.5 x 4.0 mm, NZAC: "Holotype [f.] Cerodolus manepouricus. Watt det. J.C. Watt, 1989 [red label] / Wolfe Flat 110 m. Turret Ra. Manepouri Exp. 70 I. Townsend / Cerodolus n.sp. 3 det. J.C. Watt 1984."

— / FD (Turret Range, Wilmot Pass) / —

sinuatus new species Fig. 41

Microsculpture of pronotum weak, not visible at x10 magnification. Sides of pronotum slightly sinuate in front of acute posterior angles. Punctures of striae numerous (13–15 on disc in stria 1 in 2.5 mm). Size range 6.7–7.8 x 2.9–3.7 mm.

Holotype male 7.4 x 3.3 mm, NZAC: "Holotype [m.] Cerodolus sinuatus Watt det. J.C. Watt, 1989 [red label] / Barrier Camp Red S Barrier VFD 2 Feb. 75 J.S. Dugdale / At night on rocks along bush margin."

— / OL, FD, SL / —

Note. Wrongly identified earlier as *C. curvellus* (q.v.). Possibly there are two close species here; if so, one is in OL and FD and the other in SL on Hump Ridge and the Longwood Range.

tuberculatus Broun, 1917, p. 395

Lectotype male 6.8 x 3.3 mm, BMNH: "3854 / Moa Basin, 3 Dec. 1913 / Cerodolus tuberculatus [Broun] / NZ, Broun Coll. Brit. Mus. 1922-482 [printed] LECTOTYPE [m.], Cerodolus tuberculatus Broun, det. J.C. Watt, 1985."

Paralectotypes: 2 females, BMNH (1 mounted on its back), with same data as lectotype.

— / BR (Paparoa Range, Lewis Pass, Craigieburn, Mt Algidus / —

Note. This truly alpine species may be a *Pseudhelops*.

• ***Partystona*** new genus

Close to genus *Artystona*, but colour metallic, prosternum with intercoxal process relatively flat from front to rear and either angularly projecting behind coxae or depressed between coxae, and form usually broadly oval.

Type species *P. metallica* n.sp.

metallica new species Fig. 42

Form elongate; colour metallic. Elytral striae strongly impressed, with marginal channels relatively broad and deep. Most of eye above canthus. Size range 8.4–9.7 x 3.3–3.8 mm.

Holotype female 8.9x3.6 mm, NZAC: "Holotype [f.]. Partystona metallica Watt det. J.C. Watt, 1989 [red label] / Castaway Camp / Three Kings Is. Great I. Nov. 70 NZ Ent. Div. Exp / G. Kuschel."

— / Three Kings Is / —

• ***Pseudhelops*** Guérin–Méneville, 1841, pp. 120–128

Enderlein, 1909, pp. 361–528.

Type species *Pseudhelops tuberculatus* Guérin-Méneville.

antipodensis Watt, 1971, pp. 218–219, fig. 36
new status (from ssp. of *tuberculatus*)

Holotype male 7.6 x 3.3. mm, NZAC: "Holotype [m.] Pseudhelops tuberculatus antipodensis J.C. Watt, 1971 [red label] / Central Plateau Antipodes Is. 1000 [feet]. P.M. Johns 22.II 69 lichens in crevices."

— / Antipodes Is / —

capitalis Broun, 1917, pp. 395–396 *(Cerodolus)*

Watt, 1970, pp. 72–75 (redescription).

Holotype female 7.5x3.6 mm, BMNH: "Holotype [printed, in red circle] / New Zealand, Broun Coll, Brit. Mus. 1922-482 [printed] / 3855 / Stewart Island, W. Traill - 1913 / Cerodolus capitalis [Broun] HOLOTYPE [f.], Pseudhelops capitalis (Brn)., det. J.C. Watt, 1970."

— / SI (Big South Cape) / —

chathamensis new species

Like *P. quadricollis*, but pronotum shining, and without microsculpture visible at x25 magnification. Elytral striae 5 and 6 running into a longitudinal elevation posteriorly. Slope of anterior face of mesosternum steep.

Holotype (?sex) 6.4 x 2.0 mm, BMNH: "Holotype Pseudhelops chathamensis J.C. Watt 1990 [red label] / Pseudhelops n. sp. aff quadricollis det. J.C. Watt 1984 / under rocks / Sister I. Chatham Is. 12 Feb. 74 A. Wright."

— / Chatham Is (Sisters) / —

clandestinus Watt, 1971, p. 221 new status (from ssp. of *liberalis*)

Holotype male 7.7 x 3.3 mm, NZAC: "Holotype [m.]. Pseudhelops liberalis clandestinus J.C. Watt 1971 [red label] / Central Plateau Antipodes Is. 1000 [feet] P.M. Johns 22 II. 69. lichens in crevices."

— / Antipodes Is / —

liberalis Watt, 1971, pp. 219–221, fig. 32, 42, 43, 54, 56, 58, 59, 64

Holotype male 10.7 x 4.6 mm, NZAC: "Holotype [m.] Pseudhelops liberalis ss J.C. Watt 1971 [red label] / Bounty Is. 12 Jan. 1968 M.M. Danby 'Magga Dan' / In guano-feathers 'soil' amongst colonies of Diomedea salvini and Eudyptes sclateri."

— / Bounty Is / —

posticalis Broun, 1909b, p. 107 new status (from ssp. of *tuberculatus*)

Brookes, 1951, p. 43. –Kaszab, 1964, pp. 398–399 (syn. *interruptus*). – Skopin, 1964, pp. 401–405 (larva). –Watt, 1971, pp. 217–218 (syn. *nodosus, substriatus*).

Holotype female 7.5 x 3.5 mm, BMNH: "30 / Campbell I. / Pseudhelops posticalis [Broun] Subantarctic Is., Broun Coll. B.M. 1922-482 [printed] / HOLOTYPE [f.] Pseudhelops posticalis Broun, J.C. Watt vide, 1970 [Watt, on red card]."

— / Campbell I. / —

interruptus Broun, 1909b, p. 108

Brookes, 1951, p. 43.

Holotype male 7.2 x 3.3 mm, BMNH: "31 / Campbell Island / Pseudhelops interruptus [Broun] / Subantarctic Is., Broun Coll. B.M. 1922-482 [printed] – Comp. with type, Pseudhelops t. posticalis (Brn.) [m.] det. J.C. Watt, 1970 [Watt]."

substriatus Broun, 1910, p. 47

Lectotype male 6.5 x 2.8 mm (estimate; elytra spread), BMNH: "Syntype [printed, in blue circle] / New Zealand, Broun Coll., Brit Mus. 1922-482 [printed] 3104 / Southland – H. Philpott / Pseudhelops substriatus [Broun] / LECTOTYPE [m.], Pseudhelops substriatus det. J.C. Watt, 1970."

Paralectotypes: 1 male, NZAC, and 1 female, BMNH, each with same data except "Philpott".

nodosus Broun, 1910, pp. 47–48

Holotype female 7.4 x 3.5 mm, BMNH: "Holotype [printed, in red circle] / New Zealand, Broun Coll., Brit. Mus. 1922-482 [printed] / 3105 / Southland / Pseudhelops nodosus [Broun] / Pseudhelops tuberculatus posticalis (Broun), det. J.C. Watt, 1970."

quadricollis Broun, 1909b, p. 107

Watt, 1971, pp. 221–223 (redescription, larva)

Holotype female 6.6 x 3.3 mm, BMNH: "29 / Snares, Nov. 1908 / Pseudhelops quadricollis [Broun] / Subantarctic Is. Broun Col. BM 1922-482 [printed] / HOLOTYPE [f.], Pseudhelops quadricollis Brn, J.C. Watt vide 1970 [on red card]."

— / The Snares / —

tuberculatus Guérin-Méneville, 1841, p. 125

White, 1846, p. 11. –Blanchard, 1853, p. 175. –Lacordaire, 1859, p. 441. –Kiesenwetter & Kirsch, 1877, p. 156. –Enderlein, 1909, p. 503. –Broun, 1909b, p. 106. –Hudson, 1934, p. 202 (syn. *substriatus*, in error). –Gourlay, 1950, p. 194 (syn. *substriatus* and *nodosus*, in error). –Brookes, 1951, p. 40. –Watt, 1971, pp. 209–217, fig. 33–35, 38, 39–41, 45, 47, 48, 50, 53, 55, 57, 60, 62, 63 (redescription, larva; syn. *wenhami, eastoni*).

Lectotype female [dimensions not available; range 6.8–9.2 x 3.3–4.1 mm], MNHN.

Note. Distribution unknown, possibly Auckland Is.

wenhami Brookes, 1951, p. 41, fig. 8

Holotype male 9.5 x 3.8 mm, NMNZ: "Below Mt Dick, Adams I – 300 [feet], Auckland Is. Coll. H.J. Wenham 20-2.45 / Pseudhelops Wenham, identified by Brookes, holotype."

Paratype male 9.0 x 3.8 mm, NZAC.

eastoni Brookes, 1951, pp. 42–43, fig. 9

Holotype male 9.5 x 4.0 mm, NMNZ.

Tribe Triboliini

• ***Tribolium*** Macleay, 1825, p. 47

Seidlitz, 1894, pp. 578–579. –Hinton, 1948, pp. 25–26.

Type species *Colydium castaneum* Herbst (cited by Lucas 1855).

Note. Refer to Hinton's (1948) revision of *Tribolium*.

castaneum Herbst, 1797, p. 282, pl. 112 fig. 13E *(Colydium)* Fig. 43

Macleay, 1825, p. 47 *(Tribolium;* type species). –Blair, 1913, pp. 222–223. –Uytten Boogaart, 1934, pp. 23–24. –Gebien, 1940, pp. 763–764. –Belton, 1950, p. 44. –Hinton, 1950, p. 29. –Somerfield *et al.*, 1980, p. 84.

Note. A cosmopolitan pest of stored products and an important laboratory insect in the field of genetics, population studies, and pest management. Long known as *Tribolium castaneum,* but examination of the type specimen of *Dermestes navalis* Fabricius, 1775, collected on Cook's first voyage, revealed this to be a senior synonym of *Tribolium castaneum.* The specific name *navalis* suggests that the specimen may have been collected on the ship 'Endeavour', where no doubt this species was infesting stored food. The poorly known name *navalis* has been suppressed, and the name *castaneum* conserved; see Pope & Watt (1986, p. 363).

navalis Fabricius, 1775, no. 9 *(Dermestes)*

Fabricius 1781, p. 65 *(Dermestes)*; –1787, p. 35 *(Dermestes)*; –1792, p. 504 *(Lyctus)*; –1801, p. 155 (supposed synonym of *Trogosita ferruginea* Fabricius, 1781). –Seidlitz, 1898, pp. 583–585 *(Tribolium).* –Reitter, 1911, p. 343. –Portevin, 1934, p. 28.

Lectotype male 3.4 x 1.1 mm (estimate; elytra spread), Banks Coll., BMNH: "Lectotype [m.] (has setiferous patch on femur): recorded by E.A. Waterhouse, Jan. 5 1912 / LECTOTYPE [m.], Dermestes navalis Fabr. (= T. castaneum) det. J.C. Watt, 1985."

Paralectotypes: 2 (sex not determined), 1 Banks Coll., BMNH, labelled "chinensis? [unknown hand] / PARALECT. Dermestes navalis Fabricius = castaneum, det. J.C. Watt, 1985", 1 (sex not determined) Hunterian Collection, Glasgow, labelled "PARALECT. Dermestes navalis Fabricius = castaneum, det. J.C. Watt, 1985 (stands over the name of [Dermestes] navalis)."

Note. The two BMNH specimens stand over the name "[Dermestes] chinensis?" in the hand of C.O. Waterhouse.

ferruginea in the sense of Fabricius, 1801, p. 155, not Fabricius, 1781 *(Trogosita;* syn. *navalis testacea* – misidentification)

Sturm, 1807, pp. 228–230, pl. 47 fig. d, D *(Tenebrio;* syn. *navalis, testacea, castaneum).* –Duftschmid, 1812, pp. 204–205 *(Tenebrio).* –Macleay, 1825, p. 47 *(Tribolium;* syn. *castaneum).* –Gebien, 1911, pp. 394–395 (for usage after 1812). –Hutton, 1904, p. 352. –Hudson, 1934, p. 200.

Type material. None.

Note. The first usage of the name *ferruginea* in this sense is attributed to Herbst (1797); however, it is clear that his description of *Trogosita ferruginea* is no more than a translation of Fabricius' own descriptions. Olivier (1795) clearly refers to the true Fabrician species.

confusum du Val, 1868, p. 181

Hinton, 1948, p. 27. –Belton, 1950, p. 44. –Archibald & Chalmers, 1983, p. 383.

Type material not located.

Tribe Ulomini

• ***Aphtora*** Bates, 1872, pp. 265–266

Type species *Aphtora rufipes* Bates.

Apthora of authors (misspelling)

rufipes Bates, 1872, p. 266 Fig. 44

Broun, 1880, p. 367 *(Apthora).* –Hudson, 1934, p. 87 (biology) *(Apthora).*

Holotype female 4.5x2.3 mm, BMNH: "NZ, Aphtora rufipes type F. Bates 81-19 [printed]. Holotype [f.] [printed, in red circle] / NZ / Aphtora rufipes type F. Bates [Bates] / F. Bates 81-19 [printed] / Holotype [f.] Aphtora rufipes Bates, Vide J.C. Watt, 1972 [on red card]."

— / ND, AK, BP, WO, RI, WN / NN, MC, SL / —

• ***Uloma*** Dejean, 1821, p. 67

Latreille, 1829, p. 29. –Lacordaire, 1859, p. 332. –Broun, 1880, pp. 365–366 (syn. *Prioscelida*). –Kaszab, 1955, pp. 479–480. –Spilman, 1972, pp. 32–34. –Melville, 1975, pp. 136–138 (*Tenebrio culinaris* Linnaeus, 1758 designated as type species). –Kaszab, 1982b, pp. 233–235.

Type species *Tenebrio culinaris* Linnaeus.

Prioscelida White, 1846, p. 11

Lacordaire, 1859, p. 732.

Type species *Prioscelida tenebrionoides* White.

tenebrionoides White, 1846, p. 11 *(Prioscelida)*

Broun, 1880, p. 366. –Hudson, 1934, pp. 86–87, 200 (syn. *laevicostata*), pl. ix fig. 4, 4a (larva).

Lectotype male 14.2 x 5.3 mm, BMNH: "SYNTYPE [printed, in blue circle] / Type [printed, in red circle] / N. ZEAL. – 45 / 30 [White; top and bottom of circular label] / Waikouaiti, ground, sand [White] Prioscelis tenebrionoides White, Zool. Erebus & Terror [White] LECTOTYPE [m.] Prioscelida tenebrionoides White (Uloma), det. J.C. Watt, 1985."

Paralectotype male, BMNH, labelled "New Zealand – 44 / 3 [White; top and bottom of circular label] / Prioscelis tenebrionoides White [White] under stones, Hook. [unknown hand]. PARALECT. [f.], Prioscelida tenebrionoides White (Uloma) det. J.C. Watt, 1985."

— / North I. / —

Note. The published type locality and habitats are both wrong. *Prioscelis* was preoccupied by *Prioscelis* Hope, 1840, hence no doubt the change to *Prioscelida* when published. The lectotype was originally pinned through the prothorax (now double-mounted, with a short pin through the card, as also is the paralectotype). The lectotype, which is somewhat teneral, agrees well with specimens from Wellington, but there is very little geographical variation in this species. Both adults and larvae occur frequently in and under rotten logs of both native and exotic trees.

laevicostata Blanchard, 1853, p. 165, pl. 11 fig. 6

Type data not recorded(?), MNHN.

tenebrionides Lacordaire, 1859, p. 732 *(Prioscelida)* (misspelling)

Kaszab, 1982b, p. 252.

nitens Redtenbacher, 1868, pp. 125–126

Type data not available.

tenebrioides Gebien, 1910, p. 404 (misspelling; syn. *nitens*)

Gebien, 1940, p. 775. –Kulzer, 1957, p. 222 (Guam, Mariana Is). –Kaszab, 1982b, pp. 252–253, fig. 15, 18, pl. 3 fig. 9.

Type data not recorded on card.

• ***Ulomotypus*** Broun, 1886, p. 841

Type species *Ulomotypus laevigatus* Broun.

laevigatus Broun, 1886, pp. 841–842 Fig. 45

Holotype male 11.5 x 4.8 mm (elytra divergent), BMNH: "1496 Uloma laevigatus, [m.] (script) / New Zealand Broun. Coll. Brit. Mus. 1922-482 (printed) / Holotype [m.], Ulomotypus laevigatus Brn., Vide J.C. Watt, 1972 [on red card]."

— / NN, BR, MB / —

Note. No Broun specimen bears the type locality label (Wangapeka Valley). The one labelled by me as holotype (out of 2 BMNH and 1 NZAC) agrees best with Broun's description, especially "occiput quite smooth." The NZAC specimen bears only Broun's species number (1496). Other BMNH specimens seen: 1 male with same data as holotype; 1 female (teneral), labelled "1496, Boatman's Reefton"; 3 (teneral), C.E. Clarke Coll., labelled "Mackay's Bluff, Nelson, 16 Mar. 47, E.S. Gourlay."

glabritarsis Sharp, 1886, p. 408 *(Apthora)*

Holotype male 12. 1 x 4.4 mm, BMNH: "Apthora glabritarsis Type DS, Picton N. Zd. / Helms [Sharp, on card] / type [printed in red circle] / Sharp Coll. 1905-313 [printed] / Holotype [m.] Aphtora glabritarsis Sh. [Watt on red card] / = Ulomotypus laevigatus Brn, det. J.C. Watt, 1972."

Tribe uncertain

• ***Demtrius*** Broun, 1895, p. 243

Type species *Demtrius carinulatus* Broun.

carinulatus Broun, 1895, pp. 243–244

Lectotype (sex undetermined) 5.9 x 2.0 mm, BMNH: "2845 / Demtrius carinulatus [Broun] / Southland / New Zealand, Broun Coll., Brit. Mus. 1922-482 [printed] / LECTOTYPE, Demtrius carinulatus Broun, Det. J.C. Watt, 1985."

Paralectotype (mutilated; Mt Arthur) not found.

— / RI / NN, SL / —

Subfamily ZOLODININAE

• ***Zolodinus*** Blanchard, 1853, p. 159

Lacordaire, 1859, pp. 380–381. –Bates, 1873, p. 474. –Broun, 1880, p. 379. –Seidlitz, 1898, p. 624. –Gebien, 1938, p. 659. –Watt, 1974, p. 402.

Type species *Zolodinus zelandicus* Blanchard.

zelandicus Blanchard, 1853, p. 160, pl. 11 fig. 7 *(Zolodinus)*

Broun, 1880, pp. 379–380. –Hudson, 1934, pp. 88–89, pl. 5 fig. 6, 6a (larva). –Watt, 1974, pp. 402–404, fig. 1–13 (larva, pupa).

Lectotype male 16.2 x 5.3 mm, MNHN: "MUSEUM PARIS, NOUV ZÉLANDE, AKAROA, ARNOUX & LATOUR 4-47 / 4 47 [on circular label] TYPE [printed on red label] / Zolodinus zelandicus BL [Blanchard] LECTOTYPE Zolodinus zelandicus Blanchard, det. J.C. Watt, 1985."

Paralectotypes: 2 males, MNHN, with same data as lectotype except determination label.

— / AK, BP–GB, HB, RI, WN / SD, NN, NC, MC / —

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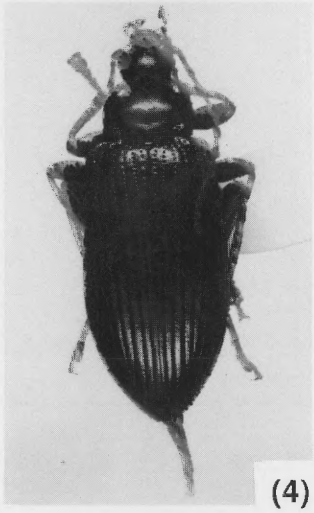

ILLUSTRATIONS

Photographs and scanning electron micrographs of New Zealand Tenebrionidae; not to same scale.

Fig. 1–4 Alleculinae: (1) *Omedes substriatus*, North Canterbury. (2) *Tanychilus metallicus*, Tawharanui, AK. (3) *Xylochus triregius*, Tasman Vly, Three Kings Is. (4) *Zomedes borealis*, Tasman Vly, Three Kings Is.

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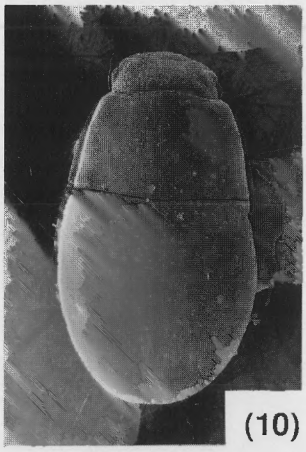

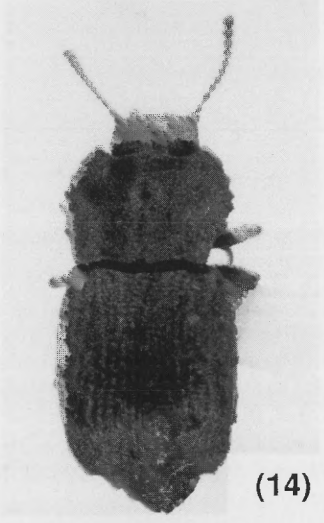

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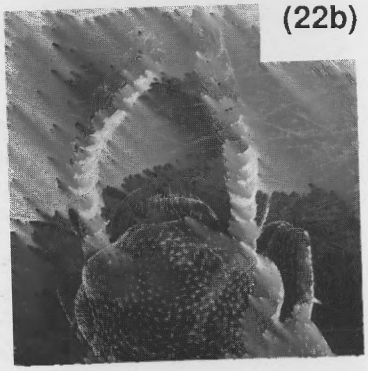

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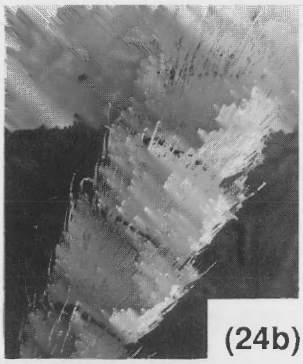

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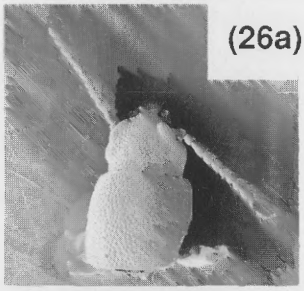

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Fig. 27 Phrenapatinae: *Archaeoglenes costipennis*, L. Hauroko, FD.

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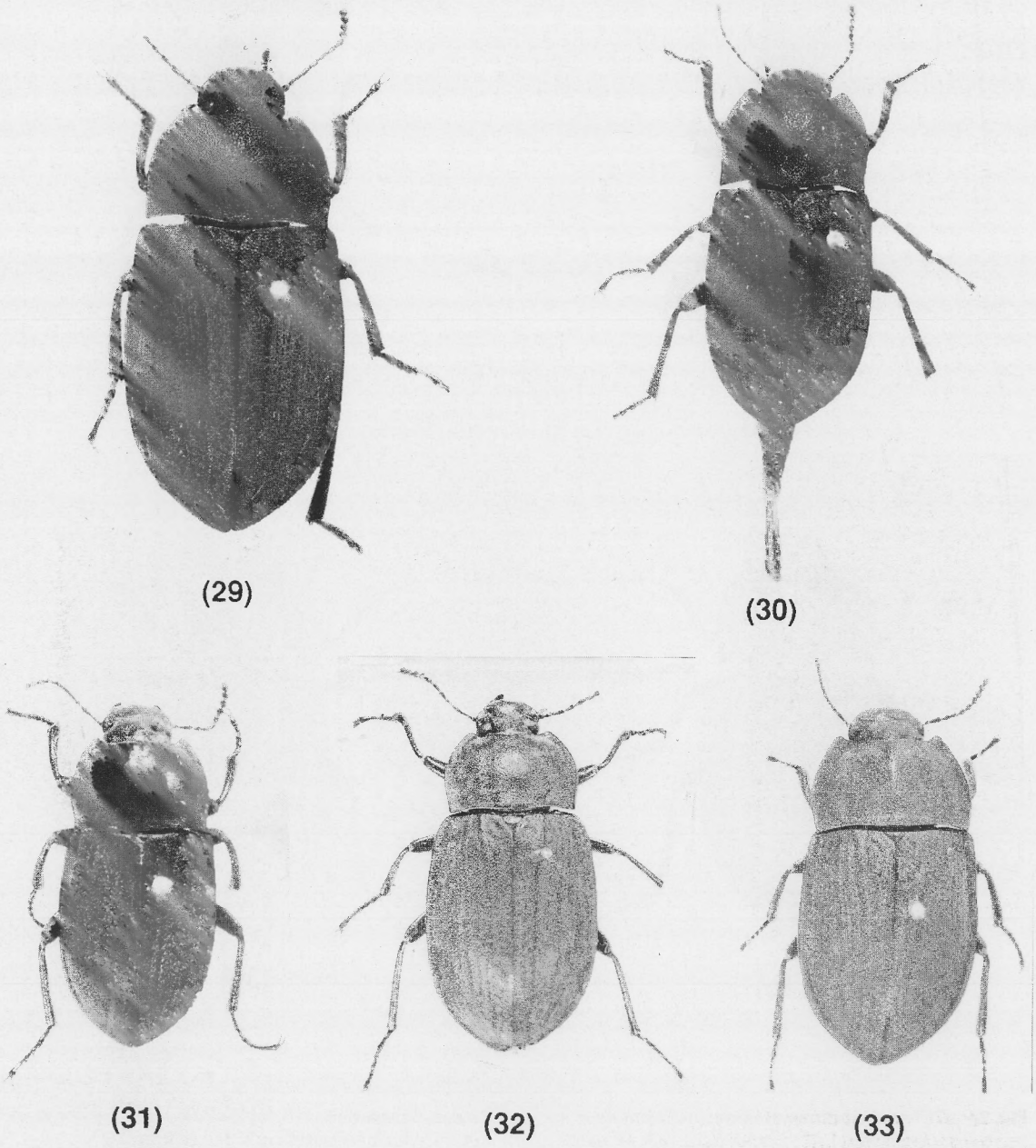

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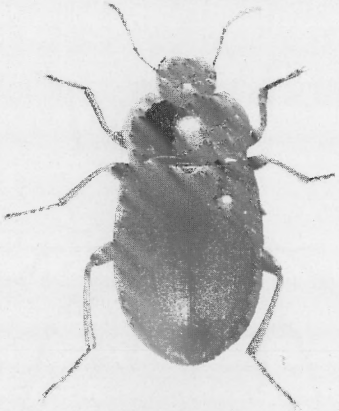

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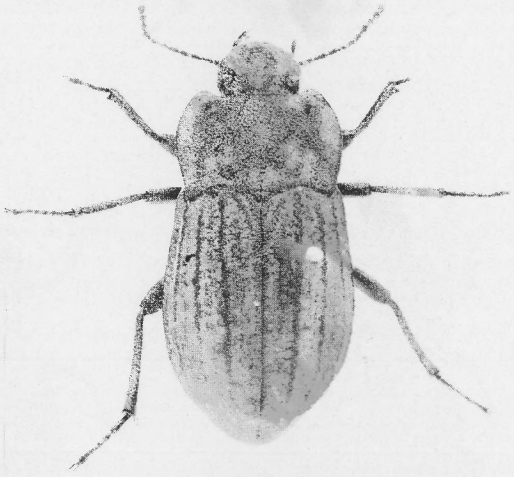

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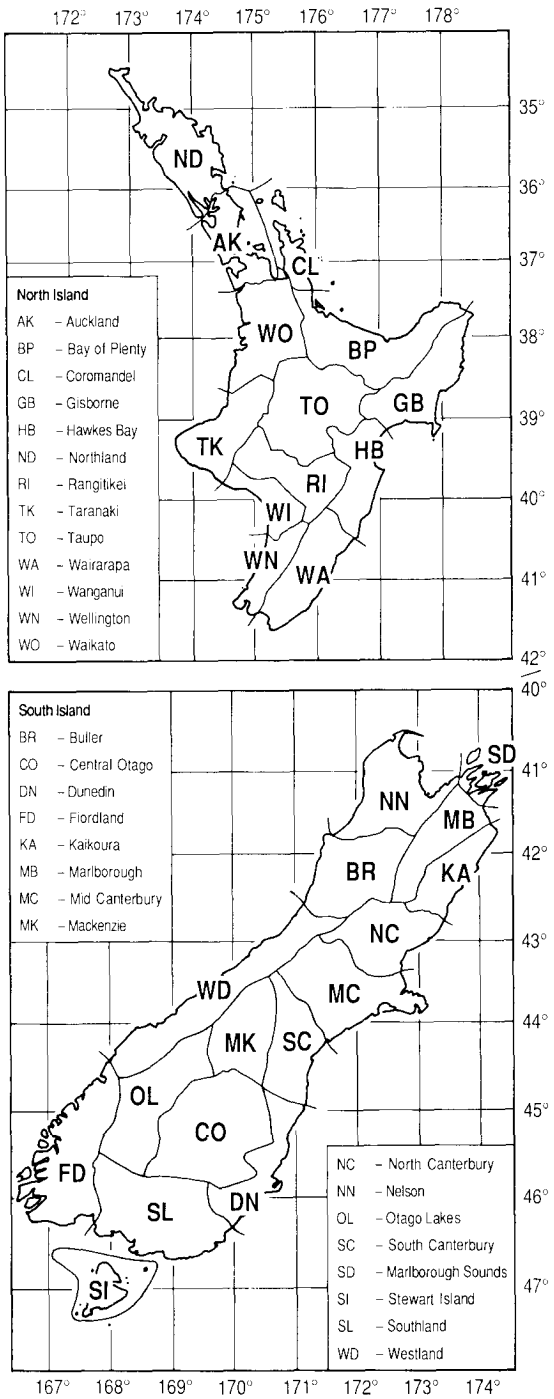

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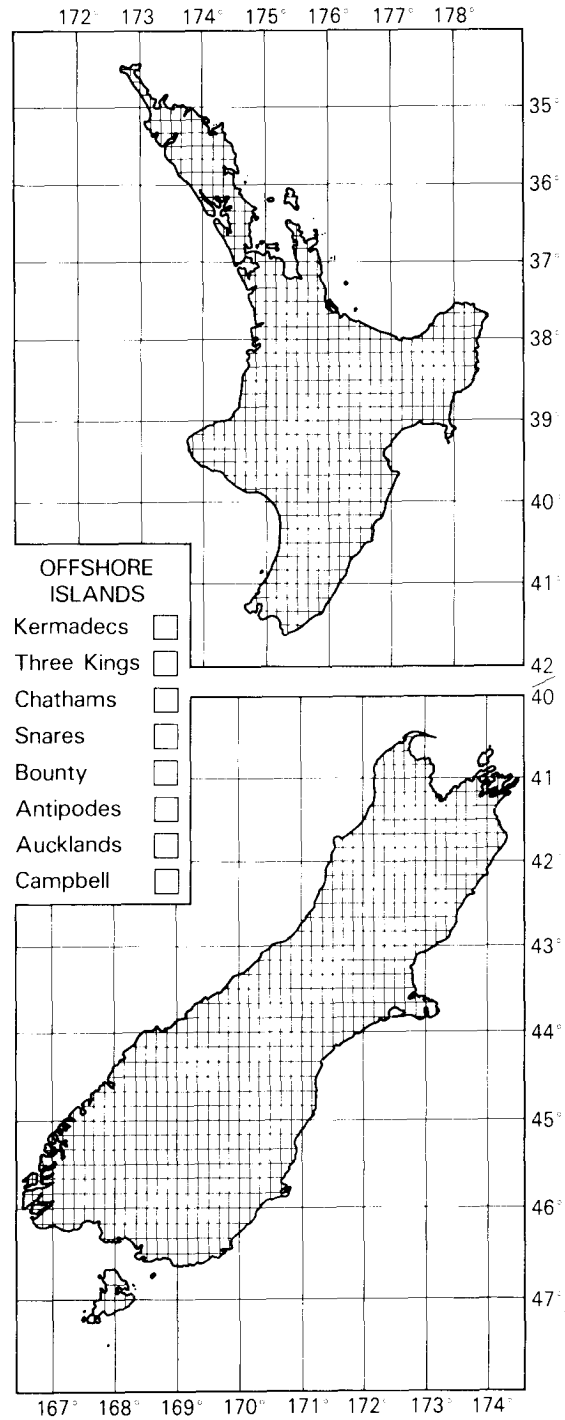

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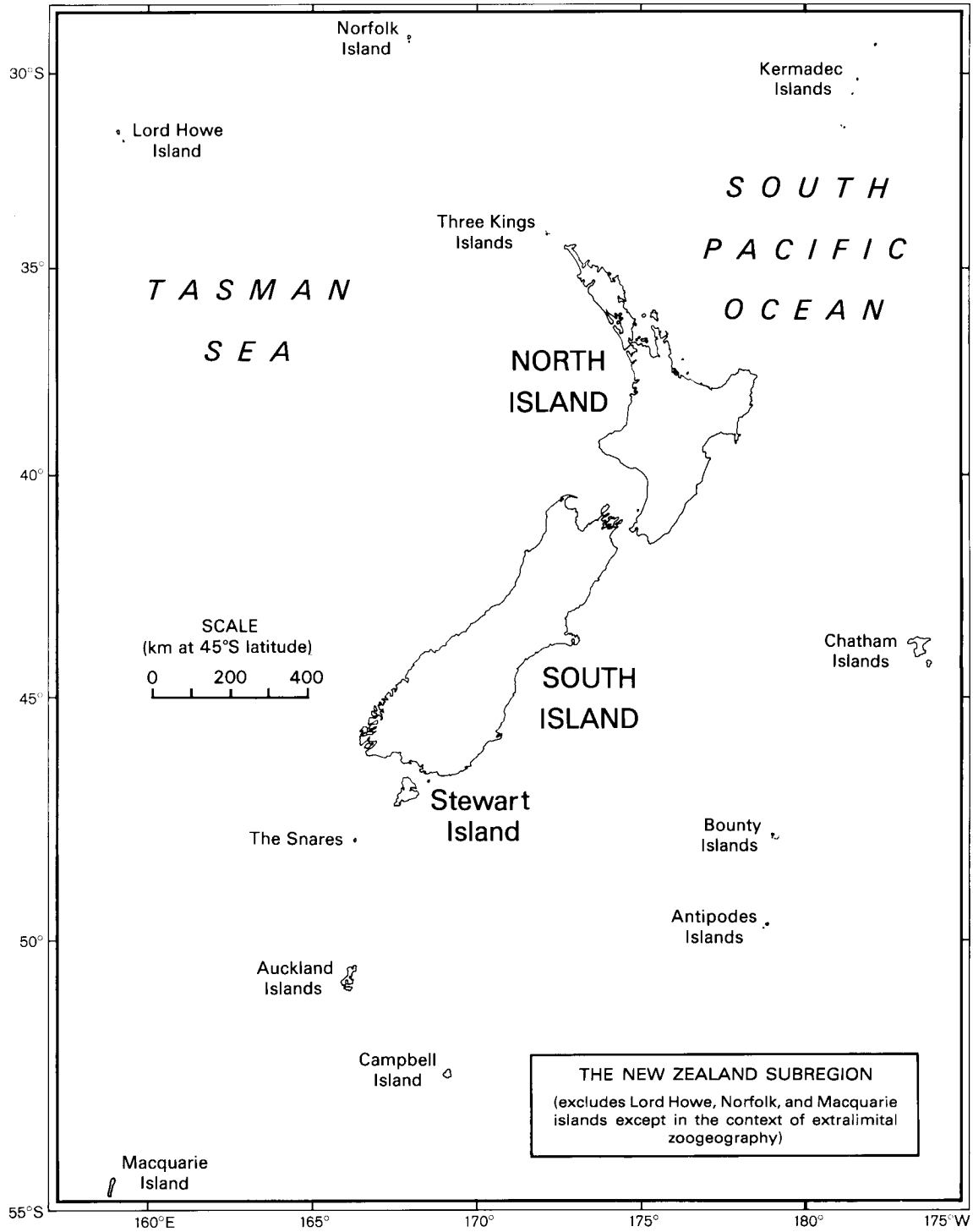
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Kermadec Islands
Lord Howe Island
SOUTH PACIFIC OCEAN
Three Kings Islands
TASMAN SEA
NORTH ISLAND
SCALE
(km at 45°S latitude)
0 200 400
SOUTH ISLAND
Chatham Islands
Stewart Island
The Snares
Bounty Islands
Antipodes Islands
Auckland Islands
Campbell Island
THE NEW ZEALAND SUBREGION
(excludes Lord Howe, Norfolk, and Macquarie islands except in the context of extralimital zoogeography)
Macquarie Island
30°S
35°
40°
45°
50°
55°S
160°E
165°
170°
175°
180°
175°W

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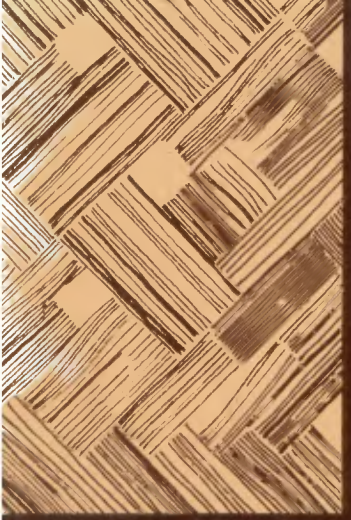
(Insecta: Coleoptera): catalogue of types and keys to taxa

J. C. Watt



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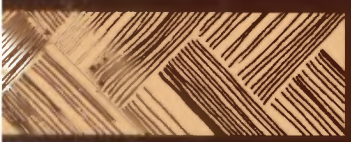

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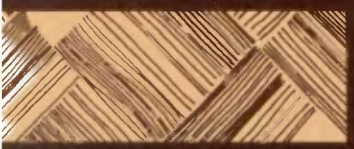

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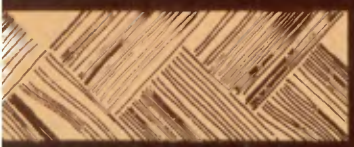

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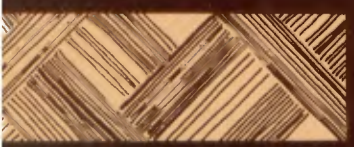

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