New genera and species of rare New Zealand endemic carabids. (Coleoptera: Carabidae)

P. M. JOHNS
Research Fellow
Canterbury Museum
Christchurch New Zealand

Abstract

Seven very poorly known and rare species of high conservation interest are described. Some also present taxonomic or nomenclatural problems which are resolved by creating new genera or species names: *Anomalobroscus seclusus* new genus & species, *Mecodema puiakium* new species, *Plocamostethus scribae* new species, *Megadromus speciosus* new species, *Megadromus omaramae* new species, *Zeopoecilus caperatus* new species and *Onawea,* new genus for *Argutor pantomelas* Blanchard, 1843.

Key words Carabidae, Broscini, Pterostichini, *Anomalobroscus, Mecodema, Plocamostethus, Megadromus, Zeopoecilus, Onawea*

Introduction.

The known described and undescribed New Zealand carabid fauna is fast approaching 500 species and it is thought that it may well reach over 600 when the Psydrinae, Migadopini, Zolini, Trechini, Licinini and Platynini are revised. For the country's area this is without doubt a rich fauna and about 95% of the species and most genera are endemic (Larochelle and Lariviere 2001, 2005). Many species are highly localised at either the species or population levels. Restrictions on the distribution of species may be the result of plate movements and vulcanism, pleistocene glaciations and subsequent amelioration of the environment, or recently the consequences of human landscape modification (Johns 2003b, 2005). Many large species are seldom seen in the field, even by specialists and their conservation status is consequently doubtful (Johns, 2005). A personal estimate has 70 for the number of endangered species though most of the 52 so far listed are designated "data deficient" (McGuinness, 2001, Hitchmough, 2002). In New Zealand law it is easier for conservation purposes to have species formally named while other scientific considerations are subsidiary.

This paper formalises a number of "tag" names or numerals designating species, used in McGuinness (2001), Johns (2005) and a number of internal memos and databases of the Department of Conservation and whose usage may have appeared inadvertently in formal conservation literature. As data come to hand, especially new site records for these and other New Zealand endemics, notes and distribution maps will be added to www.nzbiodiversity.com

Carabidae: Broscini

Anomalobroscus seclusus Johns new genus and species.

Genus and species diagnosis.
Broscini, normally with mandibular scrobal seta; single seta above the eye; vertex punctate; 4th antennomere pilose in distal half, others beyond fully pilose; mentum with rather broad triangular tooth, weakly bifid at apex, and adjacent pair of pits; thorax elongate-cordate with long sinuation and square hind angles, three lateral setae, none in hind angles; foveae long, shallow; deep median groove, lateral surfaces strongly convex; anterior and posterior margins punctate; elytra elongate-oval, shoulders sharply convex and slightly raised; epipleural fold fully internal; metepimeron greatly reduced and fused with metepisternum; wings absent; elytra weakly convex; 1st, 2nd and 3rd intervals almost flat, some lateral intervals incomplete or absent, striae lacking punctures; 3rd, 4th, 5th and 6th striae irregularly fused, margin with weak channel, the entire surface with distinct isodiametric microsculpture; 1(very rarely), 2, or 3-5 (usually) setae on ventral ridges of front and middle femora; no dorso-apical process/spine on the front tibia; no dorso-apical ridge/spine on middle tibia, no specialised cleaning organ/setae at apex of middle tibia; posterior seta on hind coxal lobe present, no specialised setae on undersurface of male tarsomeres 1 & 2 of front tarsi; 2 setae on abdominal sternites 3-5, 2 pairs on sternite 6.

Colour: black. Length (holotype): 16.5 mm; length range: 16-18 mm

Material examined
holotype male, paratypes 1♂, 5 ♀ . "The Gut", Secretary Island, Fiordland National Park. Johns, P.M., 28.xi.-2.xii.81 under stones in rock slump, within forest. (CMNZ & 2 ♀ NZAC)
non-type material: 1 ♀ , Lake Roe near Lake Manapouri, Fiordland National Park. Tattle, D -.ii.67 (CMNZ), 1 ?♂ Lake Sutherland, Fiordland National Park. Tattle, D. 24.xi.66. mossy logs in forest (CMNZ).

Etymology: *anomalos* (Greek) uneven, irregular; *broscus* genus name of this family subgroup; *seclusus* Latin (adj.) secluded/ remote.

Remarks
This is the "new genus new species" figured on page 47 of Johns (2005). The habitus photo is of the holotype. The Lake Sutherland specimen and Lake Roe specimens may well represent another species due to the slightly less irregular striae and 5 ventral setae on the fore and middle femora. It is the only species among the New Zealand Broscini that has prominent, square, hind angles on the pronotum. It shares the absence of tibial processes with both *Diglymma* and *Oregus*, and the presence of mentum pits with *Diglymma*. The species is immediately recognised by its relatively elongate habitus, and may be distinguished from *Diglymma* by its thoracic shape, markedly different irregular elytral striae and intervals with their prominent isodiametric microsculpture, and front and middle femoral setation. It has been found in very wet (2000-8000mm rain per annum) forests of Fiordland mountains (see also remarks under *Plocamostethus scribae* below).

Mecodema puiakium Johns & Ewers new species

Colour: dark sepia to black; shining though elytral intervals dulled by fine microsculpture.
Length (holotype) 37 mm, thorax 8 mm x 11 mm, elytra 20 mm x 13 mm; length range: 35-40 mm.
Mandibles long, strongly curved in apical third, and sharp; vertex with deep transverse groove with numerous punctures; prosternum smooth, its episternum with a few shallow punctures; pronotum strongly cordate, 13-17 marginal setae; margins distinct, the hind margin narrow, angles small but square; elytra ovoid, lacking any indication of shoulder by a change in curvature; intervals 3, 5 & 7 slightly broader and raised above others, 7th with 5-8 regularly spaced setae, 9th with up to 17 setae somewhat concentrated anteriorly; margins narrow, slightly reflexed; interval surfaces with fine dense but irregular microsculpture; shallow pits are present in all striae but only regularly spaced in striae 1 & 2; anterior surfaces of intervals 3, 5 & 7 usually much shinier than others.

Types: Holotype male, paratypes 2 ♀ Poulter-Thompson confluence, left bank, Arthurs Pass National Park. P. M. Johns, 13 Feb. 1962. (CMNZ). Paratypes:1 ♂ 1 ♀ Arthurs Pass Nat. Park, Andrews Stream mouth, river terrace Graham, K.J. 18.ii.68 (MONZ). 1 ♂ 1 ♀ Arthurs Pass Nat. Park, Andrews Stream, East bank area Johns, P.M. 20.xi.61 (CMNZ). 1 Arthurs Pass Nat. Park, Casey-Casey Saddle streams confluence area Johns, P.M.; Williams, M. 21.xi.61 elytra only, logs (CMNZ). 1 ♂ Arthurs Pass Nat. Park, Hawdon River, west bank Johns, P.M. 16.x.58 logs (CMNZ). 1 ♀ Arthurs Pass Nat. Park, Klondyke Corner, Johns, P.M. 11.x.94 logs by streamlet (CMNZ). 1 ♀ Arthurs Pass Nat. Park, Poulter River, Cox River Merton, JM 1.i.80 (CMNZ). 1 ♂ 1 ♀ Arthurs Pass Nat. Park, Poulter-Thompson confluence, top of roche moutonne Burrows, C.J. 13.ii.62 (CMNZ). 2 ♂ 2 ♀ Arthurs Pass Nat. Park, Thompson Stream Johns, P.M. 13.ii.62 logs (CMNZ). 1 ♂ 4 ♀ Arthurs Pass Nat. Park, Thompson-Worsely confluence, Poulter River Johns, P.M. 13.ii.62 logs (CMNZ, 1 ♂, 1 ♀ in NZAC).
Non-type material: 1 ♂ Lewis Pass, MOW Camp Clark, W.C. 7.vii.83 (dissected and nematodes removed) logs (CMNZ). 1 ♀ Lewis Pass, MOW Camp Johns, P.M.; Boag, B 10.xi.03 logs (CMNZ). 1 ♀ Lewis Pass, Trovatore Ridge Burrows, C.J. 24.i.64 (4000-5000ft) (CMNZ).1 ♂ Maruia Springs, 1 mile Creek Johns, P.M. 10.ix.63 logs (CMNZ). 1 ♂ Maruia Springs, 1 mile Creek Johns, P.M. 7.vii.62 logs (CMNZ). 1 adult Rakaia Valley, Mathias River, west branch anon 17.xi.87 riverbed scrub (CMNZ).

Etymology: *puiaki*, Maori adjective equivalent to "rare" or "precious", and here used in the sense of precious treasure (with latinised ending).

Remarks
This is the *Mecodema* "dense Nothofagus" figured on page 20 of Johns (2005). The habitus photo is of the holotype and is one of the largest species in New Zealand. This species has been known to many entomologists over many years. The late E. S. Gourlay may have prepared a description in the 1950's as there is a "type" series (in NZAC) bearing his unpublished name. It seems confined to high rainfall, dense Nothofagus forest (primarily *N. fusca*, but also *N. menziesii* and in the southern portion of its distribution, *N. solandri* var. *cliffortioides*). It is generally found under logs at the litter-soil/log interface. Nothing is known of its phenology although adults have been taken in all four seasons. It is

surprisingly different from other New Zealand broscines. On size and general facies its looks much like a member of the *M. costellum* group or *M. laterale* group but lacks setae on the anterior surface and lower margin of the front femur, a feature that is possibly unique in *Mecodema*, and the elytral microsculpture separate it from these and at least 20 other species of *Mecodema*. On size alone it differs from all other species.

Carabidae: Pterostichini

Plocamostethus scribae Johns new species

Description.
Length: holotype male 22 mm, range 22- 24 mm. Colour: black, shining, with much reduced isodiametric microsculpture; mandibles long, thin, gently curved, right with a large basal tooth, the cutting edge well developed; labral edge straight; vertex smooth, frontal depressions shallow; eyes large, convex; postocular bulge large, almost the same length as eye; supraocular groove deep, straight, reaching to posterior ocular seta; very small postocular pits or none; pronotum subquadrate to slightly elongate (greatest width: midlength: width hind margin 1.37- 1.44:1:1.10-1.17); the margins gently curved to square hind angles; marginal groove narrow, broader posteriorly, shallow, with two pairs setae; median line deeply impressed, with weak linear depressions extending to lateral foveae; foveae deep, broad; a small groove mesad of the hind corner seta parallel to hind margin, weakly separated from fovea; prosternum with 0-6 setae; proepisternum smooth; mesepisternum and mesepimeron sparsely punctate; elytra elongate oval (length: greatest width 1.31-1.35:1) shoulders broader than pronotal hind margin (ratio 1.10:1.14:1); humeral tooth small but prominent, sharp, slightly recurved in female margins gently rounded; marginal groove narrow anteriorly, broad posteriorly and reaching beyond plica to tip of 3rd interval; apices gently rounded from the plica; intervals broad, subequal, gently rounded; strial bases obsolete the basal margin behind the shoulder smooth; striae fine, distinctly and regularly punctate; no discal setae; margin with 20-25 setae.
Male: foretarsal articles not modified, lacking elongate setae and palmate setae and thus similar to mid and hind tarsi and female foretarsi, femora not swollen; mid and hind tibiae without spines; midtibial cleaning organ with 6-7 coarse setae not arranged in a regular, even row: left paramere quadrate with prominent, thin lobe at lower apex; right paramere elongate, thin, cylindrical, thickened at the tip; penis elongate, the tip elongate, thin and slightly recurved.
Female: midtibial comb with 4 coarse setae: styles narrow, elongate, tapering gradually to a round tip, single inner spine midway; vaginal entrance lacking field of spines but with small, partly sclerotised median pocket; vagina saccate, the posterior half longitudinally plicate; common oviduct broad, tubular; spermatheca arising midway its base weakly differentiated from elongate, cylindrical spermatheca; spermathecal gland globular its duct very short and slightly swollen, this and 5 accessory ducts joining spermatheca at a small lobe (fig. 1). Some of these ducts bifurcate.

Material examined.
Holotype male, ridge above “The Gut” at 1000m, Secretary Island, Fiordland National Park, Johns, P.M. 29-30.xi.81, tussock and stones (CMNZ); paratype 1 ♂, same site, 915m, 1.xii.81, Bremner, G., pitfall trap in tussock (NZAC); paratype 1 ♀, Secretary Island, 6.iii.84. anon. (CMNZ).

Etymology: *scriba* Latin (n), a secretary (in genitive case).

fig. 1 *Plocamostethus scribae* female genital system

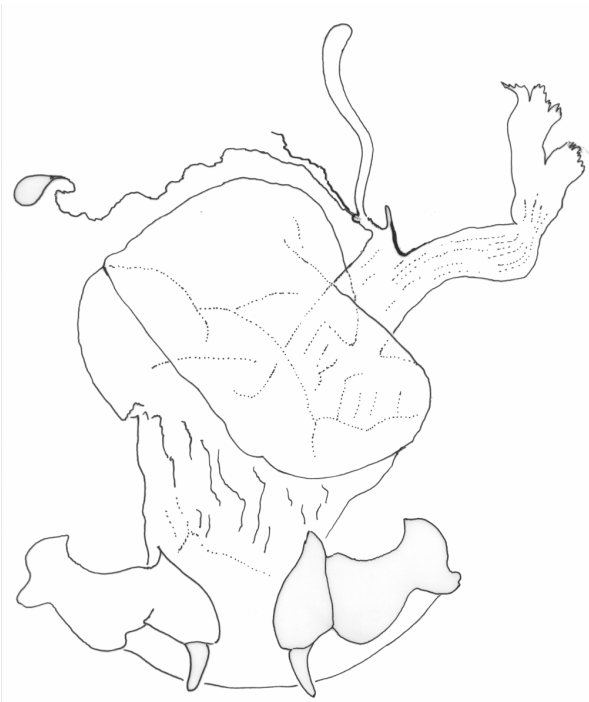

fig. 2 *Megadromus speciosus* female genital system

Remarks
This is the *Plocamostethus* "fiordland" figured on page 57 of Johns (2005). The habitus photo is of the holotype. This rare species is unique among related New Zealand carabids in the complete lack of the two rows of highly specialised setae on the underside of the male front tarsus. The tarsi are also unexpanded – identical to the female. These features are so unusual that the species could be separated into its own genus. It shares its island with *Anomolobroscus seclusus* (see above) but not its habitat. Judging from the few specimens available *A. seclusus* is a wet forest dweller (2000-8000mm rain/year) whereas *P. scribae* is in the subalpine shrub/rock outcrop habitat that has an even higher rainfall, and certainly a snow cover of about 4-5 months, though probably a lesser long-term saturation of the shallow soils and litter due to the steep nature of the terrain. Its sister species, *P. planiusculus* is common in the forests of Nelson, Marlborough Sounds and the southern part of the North Island. In Nelson-Marlborough area its boundary is sharply defined by the Great Alpine Fault (Johns 2005). This fault has riven the South Island so that corresponding rock types and these sister species are separated on each side of the fault line and about 420 kms from each other. Although this pattern is obvious, the inference that geological process determined the distribution is simplistic as the entire southern area was heavily glaciated during the later stages of the Pleistocene. The two *Plocamostethus* species differ from all other New Zealand genera, and Australian genera so far examined, by the multiple ducts arising from the spermathecal gland (fig. 1).

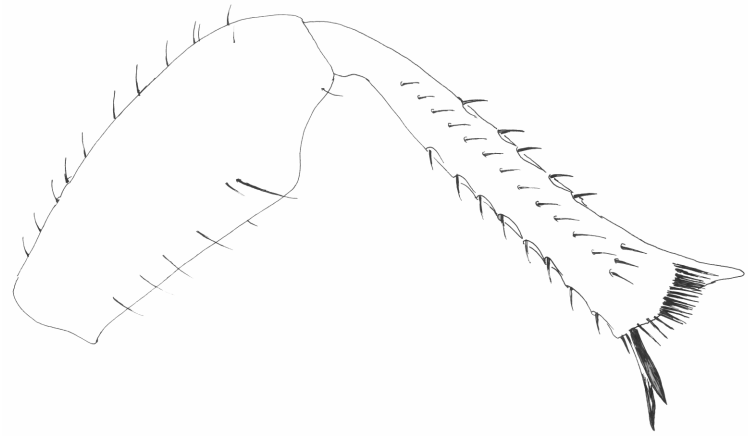

fig. 3 *Megadromus antarcticus* male middle leg (prolateral view)

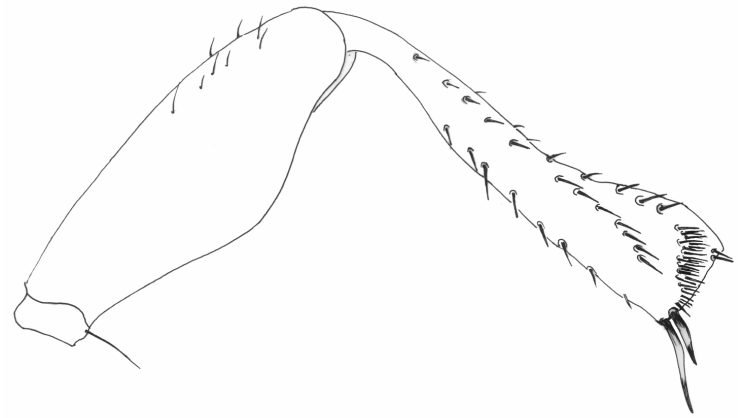

fig. 4 *Megadromus lobipes* male middle leg (prolateral view)

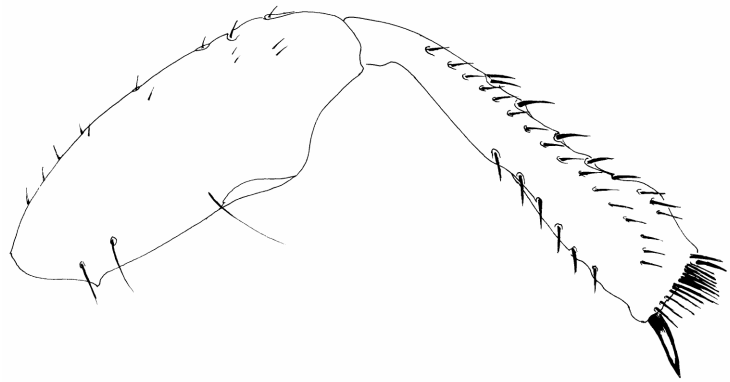

fig. 5 *Megadromus vigil* male middle leg (prolateral view)

fig. 6 *Megadromus speciosus* male middle leg (prolateral view)

Megadromus speciosus Johns new species

Description.
Length: (holotype) 29 mm, thorax 7.5 x 8 mm, elytra 17 x 10 mm. length range: 28-31 mm
Colour: sepia to black, with bright green shining reflections on head and pronotum, and strong coppery red and green tinges on the elytra that are slightly dulled by fine isodiametric microsculpture.
Mandibular scrobes long, symmetrical; pronotum quadrate; margins slightly convex, weakly notched before square or slightly obtuse hind angles; marginal groove broad, 3-5 setae in anterior half and one in hind angle; median line fine; lateral foveae simple, shallow, not joined with lateral grooves; prosternum bare, mesepisternum finely punctate; elytra gently convex, margins slightly curved, shoulder knobs small and blunt; marginal groove broad and distinct the edge

slightly reflected, striae 9 & 10 fused; intervals even, gently convex, 3rd with 1-3, 5th with 1-3 apical, 7th with 7-10 setae set in depressions close to striae; striae even, distinct, finely punctured.
Male: midfemur swollen, with short, deep, apical ventral groove asymmetrically bordered by short lobes; midtibiae swollen distally, with ventral surface with shallow transverse notch, the notch fitting the ventral femoral groove; dorsal apex with prominent ridge which tapers distally and even row of spinous setae forming the cleaning brush (fig. 6); right paramere with broad terminal hook and short, thin, subterminal spine; tip of penis very short, just a thick rim around edge of ostium.
Female: midtibial apex with broad, shallow, obliquely transverse groove: 6th ventrite with 4 marginal setae; 8th ventrite partially sclerotised and with two, short, submedian grooves on margin; styles gently curved, sides subparallel, the tip rounded, almost spatulate, one large outer spinous seta and one small inner spinous seta: vulva broad guarded dorsally by a small field of setae; vaginal sac very large and expanded ventrally, the ventral surface weakly sclerotised; anterior and dorsal walls partly infolded, the anterior section of the vagina arising from the deepest part of this fold slightly to left; vaginal tube short (fig. 2) and finely plicate near the entrance of the spermathecal complex; spermatheca and accessory gland very long, and with a further fine spermathecal gland duct arising from their common junction.

Material examined
Holotype male, paratypes 2 ♀ Picton-Port Underwood Saddle Johns, P.M. 21.vii.68 in Nothofagus forest on steep slope (CMNZ). 1 ♂ Picton-Port Underwood Saddle Cranfield, R.S. 8.i.72 logs (CMNZ). 3 ♂ 1 ♀ Picton-Port Underwood Saddle Townsend, J.I. 11.ix.68 in forest on steep slope (NZAC). 1 ♂ Picton-Port Underwood Saddle, ridge to north. Townsend, J.I. 3.xii.68 (NZAC). 1 ♀ Picton-Port Underwood Saddle, TV station road. Cranfield, R.S. 9.ii.77 logs (CMNZ).

Etymology: *speciosus* Latin (adj.), showy, splendid or handsome.

Remarks.
This is the very striking *Megadromus* "eastern sounds" figured on page 50 of Johns (2005). The habitus photo is of the holotype. It is subject to a recovery plan and assessment of a population that is present on Arapawa Island. As only ten specimens of this species are available little can be said about its biology. These specimens, and 1 elytra, were found within an area of one hectare on four separate occasions. They were under stones in very dry conditions on a steep, stony slope at the forest edge. The forest is of *Nothofagus- Dysoxylum- Weinmannia- Podocarpus* with borders of *Leptospermum* and *Cassinia*. The forest was once very extensive in the area but it has been reduced by burning and is now confined to the higher, steep ridges. The shrubby regrowth is on land once cleared for sheep farming. It shares with *M. lobipes* and *M. vigil* a similarly lobed middle tibia and swollen middle femur (figs 4, 5, 6), whereas other species lack any process or have a spinous ridge (*M. antarcticus* fig. 3). The aedeagal complex of *M. speciosus* and *M. vigil* are almost identical. It may be confused with the slightly smaller species *Zeopoecilus calcaratus* that is much more widespread in the Marlborough Sounds. That species is less brilliant.

Megadromus omaramae Johns new species.

length (holotype): 18 mm; length range: 16-19 mm
Colour: black, shining, the microsculpture reduced; mandibular scrobes about 0.5x length of mandible, right scrobe with slightly broader lower shelf than left scrobe; pronotum quadrate, the foveae and midline sharply enscribed; elytral striae and intervals very even with faint punctation, intervals almost flat and shining, very faint close to shoulder ridge; lacking setae on 3rd and 5th intervals; 5-7 setae on 7th; mid tibial comb of 11-12 setae set in a short straight line; male mid tibia lacking a spine on inner apex (fig. 7); male aedeagal tip short and rounded, paramere narrow for entire length and with a very small, sharp apical hook.

Material examined
Holotype male, paratype 1 ♀ Omarama, Quailburn. Johns, PM; Evans, AS. 16.x.03. under logs and stones in Nothofagus forest, 780m. Paratype 1 ♂, same locality Johns, PM. pit traps in Nothofagus 16-31.x.03; paratype 1 ♂ same locality, Johns, P.M. 31.x.03; paratype 1 ♂ same locality Johns, P.M., Johns, M. 14-29.xii.03 pit traps; paratypes 2 ♂ same locality Johns, PM 31.xi.-14.xii.03 pit traps (CMNZ); paratypes 3 ♂, 3 ♀ same locality Smith, C.M., 7.v.77 (NZAC); paratype ♂ same locality Johns, P.M., Nicholls, D. 29.xii.03-14.i.04 pittrap; paratype ♂ same locality Johns, P.M., Evans, A.S. 4.ii.03, stones; paratype 1 ♂ Omarama, Sawyers Creek, Johns, P.M., Johns, M. 15.xii.03, logs in *Nothofagus* (CMNZ).

Etymology: Omarama, a township close to the type locality (Maori, place of shining light), noun, latinised with genitive ending.

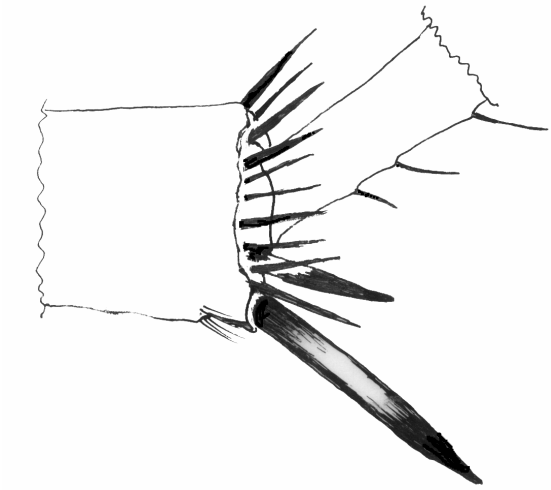

fig. 7 *Megadromus omaramae* male hindtibial apex (retrolateral view)

fig. 8 *Megadromus alternus* male hindtibial apex (retrolateral view)

Remarks
This is the *Megadromus* "omarama" figured on page 52 of Johns (2005) and subject of a survey of its habitat (Johns, 2003a). The habitus photo is of the holotype. This species is easily distinguished from its neighbour *M. alternus* by it smoothness, the faintness of striae close to the shoulder ridge and absence of setae on the 3rd interval. It also lacks the male hind tibial spine that is so obvious in the neighbouring *M. alternus* (figs 7, 8). *M. alternus* has a very sharp, slightly twisted tip to the aedeagus and a very broad and prominently hooked paramere. *M. omaramae* is confined to a small patch ca 5 ha, of very dry *Nothofagus solandri* var. *cliffortioides* forest in a sharply defined rocky gully. The forest has survived burning of surrounding vegetation and the appropriation of the flatter land for sheep farming. Although there is now no farming on that surrounding land the regenerating shrubby native vegetation and rocky areas are occupied by *M. alternus.* The two species apparently do not mix and the border appears to be the sharp margin of the gully; the gap between the two species came as low as 10 metres! One specimen was found in another small patch of forest 11 km distant.

Zeopoecilus caperatus Johns new species

Length (holotype) 22 mm; length range: 22-23 mm.
Colour: black with extensive coppery reflections; pronotum with deep median groove, broad lateral foveae and square hind angles; elytra dull, with very fine isodiametric microsculpture; intervals parallel, convex, but distinctly undulating, the striae moderately deep but only finely punctate; male hind tibia with prominent, evenly narrowed, sharp spine, slightly shorter than adjacent inner spur, hind metatarsus slightly excavated on inner surface.

Material examined
Holotype male, track between Lewis and Heaphy huts, Heaphy Valley, western Nelson. Johns, PM 24.xi.74 (CMNZ).
Paratypes 2 ♂"The Castles" Aorere, Gourlay, E.S. 1.xi.37 (NZAC)

Etymology: *caperatus* Latin (adj.) wrinkled

Remarks
This is the *Zeopoecilus* "heaphy" figured on page 58 of Johns (2005). The habitus photo is of the holotype. *Z. caperatus* differs markedly from its congeners by the nature of its elytral structure, and in a greater or lesser degree by the shape of its hind tibial spur and metatarsal structure. Two further species in the genus await description.

Onawea Johns new genus

Type species *Argutor pantomelas* Blanchard, 1843.

A genus with general pterostichine facies. Mentum deeply emarginate its sides subparallel, the median tooth distinctly bifid, latero-basally smooth and slightly depressed; paraglossae narrow, glabrous; antennae moniliform, the three basal segments glabrous, scape cylindrical, with prominent dorsal seta; 3rd article laterally compressed, the flattened area slightly concave; following articles weakly compressed, the median lateral areas bare, the fine pilosity concentrated on the dorsal and ventral surfaces; head glabrous, with distinct preocular fronto-clypeal grooves; supraorbital ridge small, the adjacent groove narrow and shallow; subantennal flange broad and smooth; eyes prominent, hemispherical; pronotum broad gently convex, with fine median line, laterally bisetose, hind angles obtuse; two short, narrow, shallow grooves on each side; prosternum without setae; mesepimeron clearly delineated; elytra fused, gently convex but sharply declinate at seventh elytral interval especially near shoulder; striae fine without discal setae or punctures; scutellar striole short, or absent, punctured at base but without seta; shoulders broad, weakly dentate; apex not contorted, the inner, locking ridge simple; wings vestigial; male anterior tarsi with three basal segments broad and with biserial rows of squamate setae beneath; midtibia at outer apex with 5 setae not forming a special cleaning organ; aedeagus strongly curved, its tip spatulate, weakly pointed to right, orifice on dorsum long, slightly to the right, no internal armature; right paramere styloid, very weakly falcate; left paramere elongate-conchoid and weakly produced at ventral corner.

Etymology: Onawe. The Maori name for a peninsula that juts into Akaroa Harbour and an important Maori tribal centre. Members of the French Sud Pole Expedition landed nearby during their visit to Akaroa in 1840. For euphony the feminine gender is taken.

Onawea pantomelas (Blanchard, 1843) new combination

Argutor pantomelas Blanchard, 1843. Voyage au Pole Sud. pl 2, fig 6
Omaseus sylvaticus Blanchard, 1843. Voyage au pole Sud. pl 2, fig 5
Argutor pantomelas Blanchard, 1853. Voyage au Pole Sud. 4:27
Omaseus sylvaticus Blanchard, 1853. Voyage au pole Sud. 4:29
Platysma (Holcaspis) pantomelas: Tschitscherine, 1901. Rev. russe d'Ent. 1:47.
Holcaspis pantomelas: Britton, 1940. Trans. roy. Soc. N.Z. 69(4):478

Diagnosis.
Length 8-10 mm; colour black. Mentum bifid; thorax broad, gently convex, margin weakly sinuate, with seta at anterior third and at hind corner; hind corner obtuse, posterior area with two shallow linear grooves equidistant from the posterior corner and each other, the inner broader and longer than the other, those of the female less distinct than those of male, marginal groove narrow but distinct; elytra gently convex, sharply declinate at seventh interval; striae fine, distinct, very finely and indistinctly punctured, 15-20 along margin; intervals flat, with very fine isodiametric microsculpture; shoulders broad, with broad faces fitting the thorax margin and corners slightly produced; no discal setae; mesosternum and mesepisternum punctate anterior to and above coxae; metepimeron large, semicircular, extending well beyond line of coxal margin; midtibial comb weakly defined the 6-8 setae of irregular length and unaligned; intermediate abdominal sternites each with a pair of submedian setae, the terminal one with 2-6 setae.
Male: aedeagus long, strongly curved, with circular opening at base; dorsal orifice long, slightly to the right; tip short, weakly spatulate rounded and slightly pointed to the right; right paramere elongate, its tip simple, weakly falcate, its point quite blunt; left paramere conchoid with slight ventro-distal point ;
Female styles elongate, gently curved with 3-4 outer stout spines; dorsum of vulva with field of short spines; vagina short, saccate; common oviduct with spermatheca arising at left near base and twisted ventrad of it; spermatheca long, tubular, with spermathecal gland attached near base, gland attached midway.

Material examined.
Holotype female: *Argutor pantomelas* Blanchard labelled 1. *Argutor pantomelas* astr. (handwritten). 2. Museum Paris Nouv. -Zelande Akaroa Jacquinot 1841 (printed). 3. type (handwritten). 4. *Holcaspis sylvaticus* Blanchard Tschitscherin det.
Holotype male: Omaseus sylvaticus Blanchard labelled: 1. Omaseus sylvaticus astrol. (handwritten ? by Blanchard) 2. type (handwritten) 3. Museum Paris Nouv.-Zelande: Akaroa Jacquinot 1841 4. *Platynus* subg. *Holcaspis* Chd. Tschitscherin det. 5. 709.41
1 ♀ labelled: 1. N'elle Zealande Otago Le Guillou 1841. 2. feronia Potellii Otago Le Guillou. (this label and especially the name Potellii is almost unreadable, = perhaps Bonelli). 3. *Holcaspis sylvaticus* Blanch. Tschitscherin det.
1 ♂ labelled: 1. Mus. Paris Nouv.-Zelande Tavai-Pounamou Hombron 1841. 2. *Holcaspis sylvaticus* Blanch. Tschitscherin det.
Three other unlabelled specimens are held in the general collection of the Museum Nationale d'Histoire Naturelle, Paris.

1 ♂, Armstrong Reserve, Akaroa. 15.x.77. P.M. Johns (CMNZ); 1 ♀, Ahuriri Scenic Reserve, Coopers Knob, Banks Peninsula, 8.vii.64. P.M. Johns. 1 ♂, same locality, 25.v.74. P.M. Johns. (CMNZ); same locality, collected by M. R. Butcher in pitfall traps: 1 ♂ 2.ii.77, 1 ♂ 2.xi.77, 2 ♀ 8.xii.77, 1 ♂, 1 ♀ 19.i.78, 1 ♀ 8.vi.78 LUNZ)

Remarks.
Although recorded, *Onawea pantomelas* has been in taxonomic limbo since its description (Tschitscherine, 1901; Britton, 1940).
The type locality of *Argutor pantomelas* Blanchard is recorded as the Auckland Islands in the text, but on the plates as Akaroa. That of *Omaseus sylvaticus* is recorded as having been collected at Akaroa. The holotype labels confirm that both were collected at Akaroa by Jacquinot, the Commander of the Zelee, the second ship of the Sud Pole Expedition. The expedition was in Akaroa Harbour for a time during April, 1840. It had anchored there on the 8th April and members were ashore on the 9th and 11th. Jacquinot visited the head of the harbour on the 11th and remarked upon the forest and the tongue of land, Onawe Peninsula, nearby. It is likely that the specimens came from this area. It is endemic to Banks Peninsula. The types are held in the Chaudoir Collection, Museum Nationale d'Histoire Naturelle, Paris. Tschitscherine, as first reviser, chose page sequence of Blanchard (1853) rather than the figure sequence (Blanchard 1843) in synonymising the names. The specimen recorded from Otago has attached to it an indecipherable name and there is nothing similar that is published. The French Expedition visited both Otago and Akaroa harbours and there is already a case of mislabelling of material from the second site as coming from the first; ie *Megadromus guerinii* which is also endemic to Banks Peninsula.
It has long been known that the species requires a new genus (Butcher & Emberson 1981, Lariviere &Larochelle 2000) not only to separate it from its present Northern Hemisphere genus but also from other New Zealand genera. One key feature is the very poorly developed, even absence of a mid-tibial cleaning organ (*cf* well developed in New Zealand pterostichines). This species has the general appearance of a very small *Holcaspis* from which it is distinguished, not only be size and cleaning organ, but also the absence of mental pits and discal setae on the elytra.

Habitat
Very little forest is now left on Banks Peninsula and the remnants are confined mainly to scenic and other reserves (Kelly, 1972). The original collection site at Akaroa would have been in coastal broadleaf-podocarp forest of which nothing is now left. Modified broadleaf-podocarp forest, depleted of podocarp trees by milling, is present in some upper parts of isolated valleys and the species has been found in one such reserve, the Ahuriri Scenic Reserve close to Christchurch. The only other presently known locality is at the opposite end of the Peninsula, above Akaroa, where the species was found at the edge of a remnant area of broadleaf-podocarp-*Nothofagus* forest. Many other sites have been searched but as yet no further specimens have been found.
The specimens were taken during general collecting and in a series of pitfall traps and as there are so few it is difficult to determine the specific habitat of the species. The area where most were collected, the Ahuriri Scenic Reserve, at 430m on the Port Hills some 10 km from Christchurch, has a modified broadleaf-podocarp forest (Butcher & Emberson 1981). The trees are primarily mahoe (*Melicytus ramiflorus*), fuchsia (*Fuchsia excorticata*), and various shrubs of secondary growth after milling of the podocarps. A few podocarp trees emerge through the 6-8 m canopy, mainly matai (*Podocarpus spicatus*) or kahikatea (*Podocarpus dacrydioides*). There are considerable patches of ferns and coprosma (*Coprosma* spp), but the understory is not dense. The ground is a well drained gentle to moderate slope to the north and the watershed is only a few tens of metres away. The soil is shallow, very stony and dries quickly. It was under stones that the first two specimens were collected. The other specimens were taken from several pitfall traps of a series set in a line down the slope through the forest and into the adjacent grassland. The specimens were taken only in those traps set where the leaf-litter was moderately thick and that litter was derived mainly from *Melicytus* sp, *Pittosporum* sp and *Podocarpus spicatus*. None was taken in the areas of fern, *Fuchsia* or grassland. It shares these habitats with a number of other arthropod species that are also endemic to Banks Peninsula.

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Depository abbreviations.

CMNZ Canterbury Museum, Christchurch, New Zealand
LUNZ Lincoln University, Lincoln, New Zealand
MONZ Museum of New Zealand/ Te Papa Tongarewa, Wellington, New Zealand
NZAC National Arthropod Collection, Landcare Research, Auckland, New Zealand

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