ACTA ENTOMOLOGICA MUSEI NATIONALIS PRAGAE
Published 31.xii.2017 Volume 57(2), pp. 617–644 ISSN 0374-1036
http://zoobank.org/urn:lsid:zoobank.org:pub:1FE73D5D-3D2F-4033-B501-61318528A693
https://doi.org/10.1515/aemnp-2017-0093

Revision of *Epuraea* of New Zealand (Coleoptera: Nitidulidae)

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Abstract. Species of the genus *Epuraea* Erichson, 1845 from New Zealand are revised and redescribed. The New Zealand fauna comprises six species. One new species, *Epuraea glabrata* sp. nov. is described. *Epuraea mayendorfii* (Reitter, 1873) is provided as a valid replacement name for *Nitidula lateralis* (White, 1846), not *Nitidula lateralis* C. R. Sahlberg, 1820. One new synonymy is proposed, *Epuraea mayendorfii* (Reitter, 1873) = *Epuraea zealandica* Sharp, 1878, syn. nov.

Key words. Coleoptera, Nitidulidae, *Epuraea*, taxonomy, new species, new synonymies, key, New Zealand

Introduction

The genus *Epuraea* Erichson, 1843 is found worldwide (Jelínek et al. 2010), and as typical for many widespread beetles, has not been revised globally, though regional comprehensive studies have been completed for parts of Africa (Jelínek 1977, 1992), Asia (Kirejtshuk 1988, Hisamatsu 2016), and Europe (Audisio 1993) and partially revised elsewhere for areas of high diversity – e.g. North America (Parsons 1967, 1969). Species of *Epuraea* currently known from New Zealand were described previously by White (1846), Reitter (1877), Sharp (1878) and Broun (1880), but some valid names were neglected by many subsequent authors, such that some problems in their nomenclature and systematics remained unresolved. For example, the placement of *Omosita scutellaris* Broun, 1880 in *Epuraea* was long known, but not published until Kirejtshuk & Pakaluk (1996).

Members of *Epuraea* are trophically diverse and generally saproxylic. Specimens may be abundant in leaf litter, in decaying wood and plant material including flowers where they may feed on fungi, are saprophagous, or are associated with carcasses and are necrophagous (Jelínek et al. 2010). The New Zealand species are typically found by leaf litter sampling and

other mass collecting methods, or hand-collected in places where there is rotting vegetation and sometimes on flowers, where they may feed on pollen or nectar. Interestingly, passive collecting via flight intercept traps may produce an abundance of specimens, including urban habitats as recorded by KUSCHEL (1990) in his survey of beetles in the Auckland suburb of Lynfield.

We revise the New Zealand species based on examination of type material, redescribe previously known species and describe one new species. The new species is relatively uncommon and may be associated with sooty molds. We also provide a key to facilitate species identification and summarize general biological information.

Material and methods

Examination, dissection and measurements were completed with the use of an Olympus SZX7 stereomicroscope with an ocular micrometer. Body length was measured from anterior margin of clypeus to apex of elytra, body width as maximum width of elytra combined. The following acronyms are used for morphological terms: ANCL – length of antennal club; ANCW – width of antennal club; ANLE – length of antenna; HEAW – width of head across eyes; LELY – length of elytra from the tip of scutellar shield to the tip of elytra; LEPR – length of pronotum along median axis; LFE1 – length of profemur; LFE2 – length of mesofemur; LFE3 – length of metafemur; LTI1 – length of protibia; LTI2 – length of mesotibia; LTI3 – length of metatibia; WELY – maximum width of elytra combined; WFE1 – maximum width of profemur; WFE2 – maximum width of mesofemur; WFE3 – maximum width of metafemur; WPR1 – width of pronotum between posterior angles; WPR2 – maximum width of pronotum; WPR3 – width of pronotum between anterior angles; WTI1 – maximum width of protibia; WTI2 – maximum width of mesotibia; WTI3 – maximum width of metatibia.

Exact label data are cited for type material. Individual labels are separated by a double slash (//), different rows by single slash (/). Additional comments and/or explanatory notes are given in square brackets, and the following abbreviations are used: hw = handwritten, p = printed. The origin of old specimens is often indicated by 'coll.', referring to the collection, but not necessarily to collector. In such cases, the abbreviation 'coll.' is preserved in the specimen data. However, if the collector is known, it is referred to by the abbreviation 'lgt.'. The material examined is listed according to their Crosby codes (CROSBY et al. 1998); not all specimens were recorded from New Zealand collections, for which hundreds exist, though at least one series from each Crosby code was listed to fully document geographic distribution.

Material studied is deposited in the following institutional and private collections:

BMNH The Natural History Museum [formerly British Museum (Natural History)], London, United Kingdom;
LUNZ Lincoln University Insect Collection, Lincoln, New Zealand;
NHMW Naturhistoriches Museum, Wien, Austria;
NMPC National Museum, Prague, Czech Republic;
NZAC New Zealand Arthropod Collection, Auckland, New Zealand;
RSCW private collection of Rudolph Schuh, Wiener Neustadt, Austria.

Taxonomy

Epuraea Erichson, 1843

Epuraea Erichson, 1843: 267. Type species *Nitidula silacea* Herbst, 1784, by subsequent designation by Thomson (1859: 68).

Epuraea species from New Zealand form two distinct groups. The first group, which includes the adventive species *E. imperialis* (Reitter, 1873) and *E. scutellaris* (Broun, 1880), corresponds to the current concept of the subgenus *Haptoncus* Murray, 1864. The remaining species belong to group of New Zealand endemic species and share the following characteristics: oval to oblong oval, moderately convex body; slender antennae and legs; terminal labial palpomere truncate apically; antennal furrows straight, converging posteriad, with outer margin obsolete to indistinct; prosternal process between procoxae narrow and rather strongly longitudinally convex, behind them depressed, strongly dilated with regularly arcuate apex; mesoventrite transversely vaulted, prepectus long, delimited by a fine posterior edge or line broadly interrupted in middle; metaventrite moderately transversely convex with fine, non-impressed discrimen; mesocoxal lines closely bordering mesocoxal cavities, with absent recurrent outer parts; axillary spaces not developed; posterior intercoxal margin arcuately emarginate; outer subapical angle of protibia rounded, all tibiae simple in both sexes; metatarsomeres not bilobed, narrow; tarsal claws simple.

Because the above mentioned characters are likely plesiomorphies, and because the genus *Epuraea* is now an array of many subgenera with unresolved phylogenetic relationships, some of them most probably paraphyletic, we avoid placing the New Zealand species into the present subgeneric classification.

Key to the species of *Epuraea* of the New Zealand

1 (4) Pronotum widest near posterior corners. Generally smaller body size, body length not exceeding 3 mm. Male: meso- or metatibiae modified (Figs 27, 39).

2 (3) Anterior pronotal margin shallowly, almost arcuately emarginated (Figs 9–10). Elytra moderately narrowed posteriorly, at apex obliquely subtruncate. Male: metatibiae abruptly dilated with projecting acute tooth at midlength of inner margin (Figs 9, 39). Brown-yellow, sides of elytra sometimes infuscate, ventral surface to various extent black. Length 1.8–2.3 mm. ..... ***E. scutellaris*** (Broun, 1880)

3 (2) Anterior pronotal margin with a deep trapezoidal emargination (Figs 5–6). Elytra strongly narrowed posteriorly, narrowly separately rounded apically near suture. Male: mesotibiae strongly arcuately curved (Fig. 27). Brown-yellow, pronotum and elytra sometimes with a blackish pattern. Length 2.4–2.8 mm. .... ***E. imperialis*** (Reitter, 1877)

4 (1) Pronotum widest near mid-length, distinctly narrowed both anteriorly and posteriorly. All tibiae simple in both sexes. Generally larger body size, body length 2.4–3.9 mm.

5 (6) Pronotal disc flat, delimited by raised subparallel longitudinal faults, at their outer sides deeply concave in posterior half (Figs 1–2). Posterior corners with blunt raised

oblique ridge. Explanate sides at midlength nearly as wide as scape, not narrowed anteriad. Basal portion of femora usually black. Length 2.4–3.6 mm. .... ***E. antarctica*** (White, 1846)

6 (5) Pronotal disc either regularly transversely convex, or with less pronounced lateral blunt keels only in posterior half (*E. mayendorfii*).

7 (8) Dorsum glabrous (Figs 3–4). Pronotal sides broadly explanate-reflexed, sharply delimited against vaulted disc, at midlength almost as wide as antennal club, gradually narrowed anteriad and dilated posteriad. Base of pronotum wider than base of elytra. Punctures of pronotum markedly smaller than eye-facets, shallow, indistinct, separated by several diameters. Body length 3.4–3.9 mm. ..... ***E. glabrata*** **sp. nov.**

8 (7) Dorsum pubescent. Pronotal sides either more narrowly explanate (at midlength half the width of antennal club), or not explanate. Base of pronotum as wide as base of elytra. Punctures of pronotum well developed, equal in size to eye-facets, mostly separated by less than one diameter.

9(10) Base of pronotum besides posterior angles arcuately emarginate, posterior angles rectangular, projecting posteriad. Explanate sides of pronotum at midlength nearly as wide as scape, strongly dilated both anteriad and posteriad (both anterior and posterior corners flattened). Temples behind eyes arcuate-obtusely angulate. Apex of elytra rounded in both sexes. Black-brown, sides of pronotum and elytra brown-yellow (Figs 7–8). Length 2.4–3.2 mm. ..... ***E. mayendorfii*** (Reitter, 1873)

10 (9) Base of pronotum truncate besides obtuse, not prominent posterior angles. Pronotum simply broadly vaulted with pronotal disc somewhat flattened, sides very narrowly explanate, vaguely delimited against disc, at midlength hardly as wide as antennal flagellum, gradually vanishing anteriorly. Temples straight, converging posteriad. Tips of elytra acuminate in female. Brown, elytra with yellow pattern (Figs 11–12). Length 3.1–3.8 mm. ..... ***E. signata*** Broun, 1880

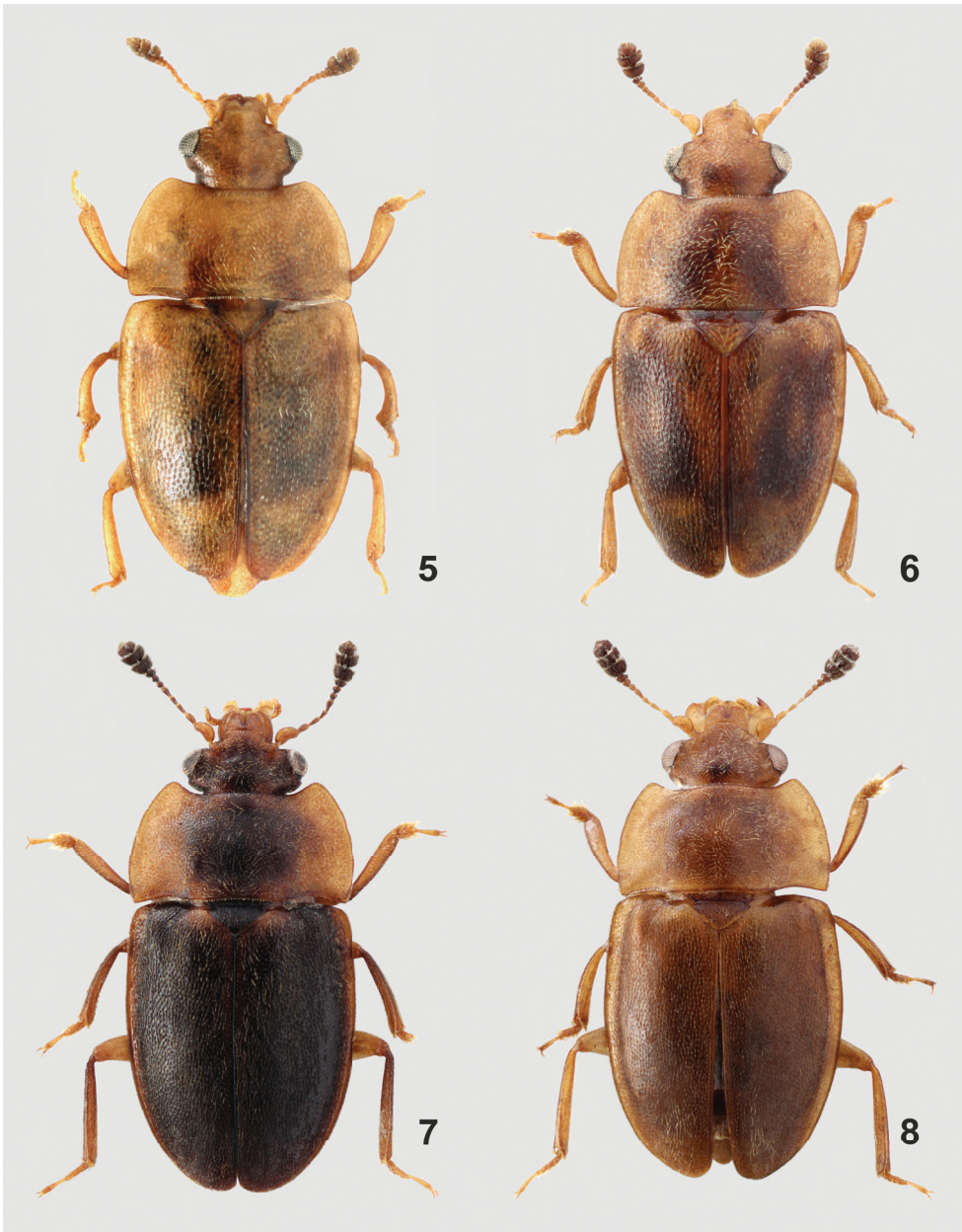
Epuraea antarctica (White, 1846)

(Figs 1–2, 13–18)

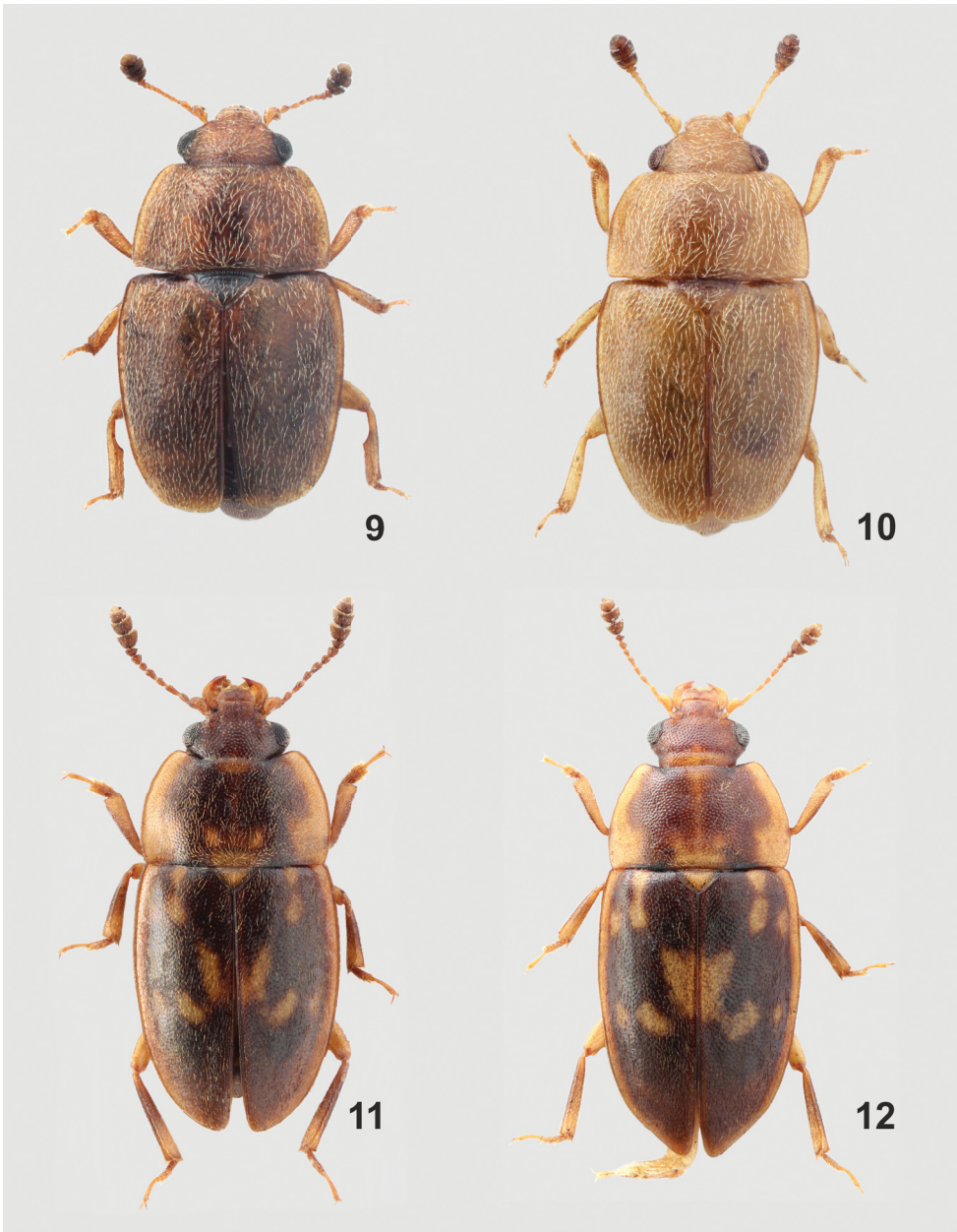
Nitidula antarctica White, 1846: 8 (original description).
Epuraea antarctica: Sharp (1878): 48 (new combination).

Type locality. 'New Zealand (Port Nicholson)'.
Type material. Not studied, depository unknown (see notes below).
Additional material examined. NEW ZEALAND: North Island: AK: Kare Kare, ii. [19]16, A.E. Brookes coll., 2 spec. (NZAC); Takapuna, x.1942, A.E. Brookes coll., 1 spec. (NZAC); Waikatere Ranges, Mt. Donald McLean, 37°00.9′S, 174°32.3′E, 330–390 m, sifting in coastal forest, 1.ii.2016, J. Hájek & P. Hlaváč lgt., 1 spec. (NMPC); Waitakere Ranges, Karekare-Whaitipu Reserve, 37°00.0–00.6′S, 174°28.6–29.0′E, 12 m, 2.i.2016, sand dunes with coastal vegetation, J. Hájek & P. Hlaváč lgt., 1 spec. (NMPC). **BP:** Opotiki, 1.ii.1937, A.E. Brookes coll., 6 spec. (NZAC). **CL:** Mercury Isls, Green Isl., sifted litter, 23.xii.1987, G. Hall lgt., 3 spec. (NZAC). **GB:** Te Urewera NP, Lake Waikaremoana Motorcamp, 38°45.3′S, 177°09.4′E, 600 m, 22.–26.xi.2012, A. Becker, M. Fikáček & J. Hájek lgt., 1 spec. (NMPC). **HB:** Bell Rock, 5.ix.1912, T. Broun coll., 1 spec. (NZAC); Napier, 1927, A.E. Brookes coll., 1 spec. (NZAC). **ND:** Maungaturoto, T. Broun coll., 1 spec. (NZAC). **WA:** Tuhitarata, litter, 19.xii.1983, H. P. McColl lgt., 1 spec. (NZAC). **WN:** Tinakori Hill, Wellington, in lawn clippings, 2.x.1991, J. Nunn, 6 spec. (NZAC). **WO:** Okauia, 19.xii.[19]20, A.E. Brookes coll., 1 spec. (NZAC); same but, 6.ii.[19]21, 1 spec. (NZAC). **South Island: BR:** Buller Gorge, Westland, A.E. Brookes coll., 1 spec. (NZAC); Gorge, Westland, A.E. Brookes coll., 1 spec.

Figs 1–4. Dorsal habitus of New Zealand *Epuraea* species. 1 – *E. antarctica* (White, 1846) ♂, Buller Gorge (3.2 mm); 2 – *E. antarctica* ♀, Mt. Hutt (3.2 mm); 3 – *E. glabrata* sp. nov. ♂, Richmond Forest Park (3.3 mm); 4 – *E. glabrata* sp. nov. ♀, Okauia (3.6 mm).



Figs 5–8. Dorsal habitus of New Zealand *Epuraea* species. 5 – *E. imperialis* (Reitter, 1877) ♂, Auckland (2.3 mm); 6 – *E. imperialis* ♀, Auckland (2.2 mm); 7 – *E. mayendorfii* (Reitter, 1873) ♂, Mt. Earnslaw (3.3 mm); 8 – *E. mayendorfii* ♀, Three Kings (3.2 mm).



Figs 9–12. Dorsal habitus of New Zealand *Epuraea* species. 9 – *E. scutellaris* (Broun, 1880) ♂, Mt. Roskill (2.3 mm); 10 – *E. scutellaris* ♀, Whangarei (2.2 mm); 11 – *E. signata* Broun, 1880 ♂, Titirangi (3.4 mm); 12 – *E. signata* ♀, Titahi Bay (3.8 mm).

(NZAC); Moa Basin, T. Broun coll., 1 spec. (NZAC). **DN:** Otago, T. Broun coll., 1 spec. (NZAC). **MB:** Pelorus Reserve, litter, 15.ix.[19]64, J.I. Townsend lgt., 1 spec. (NZAC). **MC:** Mt. Hutt, 15.ii.[19]13, T. Broun coll., 1 spec. (NZAC); Spreydon, 10.i.[19]39, 2 spec. (NZAC); Arthurs P., Alpine Club Hut, litter under *Nothofagus*, 2420 ft., 10.xi.[19]66, A.K. Walker lgt., 1 spec. (NZAC); Pareora Gorge, Shag Nest, ii.[19]51, L.J. Dumbleton lgt., 3 spec. (NZAC); Banks Peninsula, 4 km E of Little River, Okuti Valley, 43°47.2′S, 172°49.7′E, 85 m, compost sifting, 20.ii.2016, M. Fikáček, J. Hájek & P. Hlaváč lgt., 12 spec. (NMPC). **NN:** Nelson, 20.iv.[19]43, E.E. Walker lgt., 1 spec. (NZAC); Rotoiti, 12.viii.[19]15, T. Broun coll., 2 spec. (NZAC); Rotoiti, 10.iii.[19]16, 1 spec. (NZAC). **SD:** Stephen's Isl., 14.–28.i.[19]33, E.S. Gourlay lgt., 10 spec. (NZAC); Middle Trio Isl., Cook strait, 13.i.[19]52, B.A. Holloway lgt., 2 spec. (NZAC). **SI:** Big S. Cape Isl., SW Stewart I., Moor, 120–200 m, xi.[19]68, J.S. Dugdale lgt., 1 spec. (NZAC). **SL:** West Plains, 1 spec. (NZAC); Dunedin, on cabbage, 3.ii.[19]32, G.M. Thomson lgt., 1 spec. (NZAC). **Offshore Island: CH:** Pitt Isl., 16.–26.i.[19]44, E.S. Gourlay lgt., 1 spec. (NZAC); Limestone Quarry, litter, 11.ii.[19]67, G. Kuschel lgt., 4 spec. (NZAC); South East Isl., 3.xi.1970, J.I. Townsend lgt., 2 spec. (NZAC); Pitt Isl., Flower Pot., 24.ii.67, G. Kuschel lgt., 1 spec. (NZAC). **Unknown:** 68–106, Antarctica, A. Murray coll., 2 spec. (BMNH).

Redescription. ***Male.*** Body oblong oval, moderately convex (Fig. 1). Black, elytra with small brown-yellow round spots adjacent to scutellar shield. Explanate sides of pronotum sometimes brown. Antennae black, basal antennomeres lighter, brown. Legs yellow-brown, basal portion of femora as well as meso- and metatibiae black. Pubescence dense, yellowish, thin and recumbent; setae reaching over base of following ones.

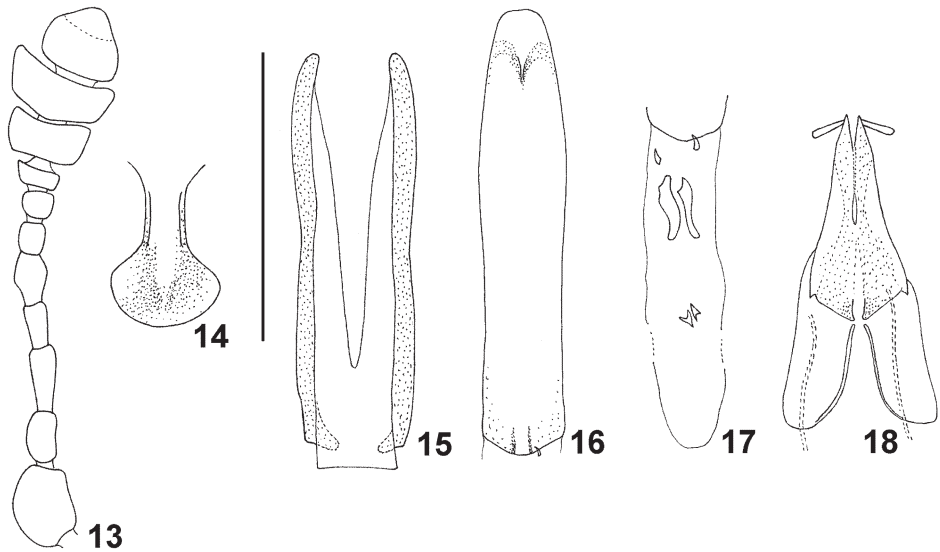
Head transverse, temples converging posteriorly, ventral edge obtusely rounded. Frons moderately convex, depressed beside eyes, shallowly impressed at antennal insertions. Punctures smaller than eye-facets, separated by <1 diameter, interspaces smooth. Antennae slightly longer than width of head across eyes, antennal club oval, occupying almost one third of antennal length, approximately 1.5× longer than wide (Fig. 3).

Pronotum transverse (ratio WPR2/LEPR: 1.85–2.00), widest at basal third, narrowed both posteriorly and more strongly so anteriorly, ratio WPR1/WPR2: 0.89–0.93, WPR1/WPR3: 1.36–1.41, WPR2/WPR3: 1.45–1.58. Anterior margin broadly arcuately emarginate, nearly as deep as eye width, anterior angles prominent. Lateral margins in anterior half flat, in posterior half more strongly arcuate; explanate sides at midlength nearly as wide as anterior tibia, becoming wider posteriorly. Basal margin truncate in middle, shallowly emarginate beside posterior angles. Posterior angles obtuse, not prominent. Pronotal disc flat, laterally delimited by raised longitudinal blunt keels, accentuated in posterior half by deep groove along outer side. Anterior portion of disc with three shallow impressions along anterior margin. Punctation and pubescence as on frons, punctures in basal portion somewhat rasp-like. Scutellar shield subtriangular with somewhat arcuate lateral margins; punctation similar to pronotum.

Elytra oval, widest at basal third, moderately narrowed towards base and strongly so towards apex, reaching maximum length near suture, narrowly separately rounded apically. Surface somewhat flattened along suture, convex laterally, sides not explanate. Ratio LELY/WELY: 1.07–1.09. Punctures more distinct than on pronotum, separated by one diameter or less.

Pygidium broadly rounded, almost subtruncate apically, surface densely granulate and reticulate, dull. Major part of tergite VIII exposed, semicircular.

Ventral part. Prosternum strongly transversely convex, indistinctly punctate, interspaces with micropunctures, dull. Hypomera flat, separated from lateral portions of prosternum by longitudinal arcuate furrow, densely punctate with intermixed raised granules. Prosternal



Figs 13–18. Details of *Epuraea antarctica* (White, 1846). 13 – antenna; 14 – prosternal process; 15 – tegmen; 16 – median lobe of aedeagus; 17 – armature of endophallus; 18 – ovipositor. Scale bar = 0.5 mm.

process strongly longitudinally convex (in lateral view), narrow, posterior to procoxae almost semicircular (Fig. 4). Mesoventrite transversely convex, somewhat flattened in middle, impunctate, densely microscopically reticulate, dull; prepectus occupying anterior third of mesoventrite, with sparser micropunctures, more shining, posterior border medially interrupted – interruption as wide as distance between mesocoxae. Metaventrite flattened in middle with fine discrimen present along entire length. Median portion (between metacoxae) with punctures somewhat smaller than eye-facets and separated by one diameter or less, interspaces microscopically punctate, lateral portions densely punctate with indistinct shallow punctures. Mesocoxal lines fine, running close to mesocoxal cavities to anterolateral corner of metaventrite, outer recurrent portion not developed. Punctation of abdominal ventrites similar to metaventrite, punctures generally shallower and sparser.

Legs slender, simple in both sexes. Protibia four times longer than wide, outer apical angle rectangular, projecting into minute spine. Protarsomeres I–III bilobed, 0.75× width of tibia. Tarsomere V longer than I–IV combined, tarsal claws simple.

Male genitalia long. Tegmen parallel-sided, lateral lobes gently curved inwards at apex and bluntly pointed (Fig. 15). Median lobe weakly sclerotized, apex truncate (Fig. 16); armature of endophallus as in Fig. 17.

Female. Similar to male, but tips of elytra prolonged and acutely pointed (Fig. 2), ratio LELY/WELY: 1.21–1.30. Pygidium narrowly rounded apically. Ovipositor as in Fig. 18.

Measurements. Body length 2.4–3.6 mm; width 1.4–1.6 mm.

Notes. The two specimens in the BMNH are those mentioned by Sharp (1878: 48): 'White's *Nitidula antarctica* is, I have no doubt, another species of *Epuraea* [than *E. zealandica* Sharp]; I have specimens agreeing with his insufficient description; the species has the peculiarity that in the female the apices of elytra are prolonged and acuminate'. The latter trait, though conspicuous, is not mentioned in White's (1846) description and, because the original number of the specimens was not given, we hypothesize that White (1846) examined only male specimen(s) from the collection of Capt. Parry, who was specified as collector in the description of *Nitidula antarctica*. According to Horn et al. (1990), the Parry collection was sold in 1885, so the specimens studied by Sharp in 1878 may be different from the original syntype(s). Horn et al. (1990), however, did not specify the exact history of the Nitidulidae from the Parry collection and the actual depository of the type specimen(s) of *N. antarctica* remains unknown. Furthermore, there were no *Epuraea* specimens in the National Museum of Natural History, Paris (A. Taghavian, pers. comm. 2016) or in the BMNH that could be attributed to Parry material.

Both specimens from BMNH correspond to the brief description by White (1846) as well as to the current concept of *E. antarctica* and differ from both *E. lateralis* and *E. zealandica*. The synonymy of *E. antarctica* and *E. lateralis* proposed by Reitter (1880) and accepted by Grouvelle (1913) is incorrect. Thus, it is not necessary to designate a neotype for *Nitidula antarctica* White, 1846.

This widespread species has been taken mainly by sifting leaf litter, but has also been collected in window, light, and pitfall traps.

Geographic distribution. North Island: AK, BP, CL, GB, HB, ND, WA, WN, WO. South Island: BR, DN, MB, MC, NN, SD, SI, SL. Offshore Island: CH.

Epuraea glabrata sp. nov.

(Figs 3–4, 19–24)

Type locality. Capleston, Buller, South Island, New Zealand.

Type material. Holotype: ♂ (NZAC), 'NEW ZEALAND [p] BR [hw] / Flowers Ck. / Capleston / 12 Nov 1971 / J.C. Watt [hw] // Fungus / 71/152 [hw] // Beech Forest / Utilization / Project [p] // Epuraea / sp.n. [hw] / det. R.A.Leschen [p] // HOLOTYPUS / Epuraea / glabrata sp. n. / Jelínek, Leschen / et Hájek det. [p, red label]'. Paratypes: **North Island: BP:** 1 ♀, 'Para- / type [p, round label with yellow border] // 4. [?, illegible, hw] // Rotorua [?, illegible, hw] // New Zealand [p, underlined with red] / Broun Coll. / Brit. Mus. / 1922-482 [p] // PARATYPUS [p] / Epuraea / glabrata sp.n. [hw] / Jelínek det. 19 [p] 72 [hw, red label]' (BMNH). **GB:** 3 ♂♂ 2 ♀♀, 'NEW ZEALAND GB / L. Waikaromoana / 3 Mar 1983 / CF Butcher [hw] // bark of / N. menzies. [hw]' (NZAC). **WN:** 1 ♀, 'Day´s Bay / 9.10. [19]38 / G.B.Rawlings [hw] // E. S. Gourlay / Acc. 1970 / Ent.Div. [p] // Epuraea / sp. nov.? [hw] // Entomology Div. / D.S.I.R. /New Zealand [p]' (NZAC); 1 ♂, 'New Zealand WN / Pakuharaki Fork / Kaitoke / 09-Nov-96 [p] // Under flake of bark, / bole of beech tree / with sooty mould [p]' (NZAC). **WO:** 1 ♀, Okauia 29.12.[19]47/ Brookes Fungus [hw] // A.E.Brookes / Collection [p] // Entomology Div. / D.S.I.R. / New Zealand [p]' (NMPC). **South Island: BR:** 2 ♂♂, 'NEW ZEALAND, BR / Flowers Ck / Capleston / 19 Nov 1971 / J. C. Watt // fungus / 71/152 [hw] // Beech Forest / Utilisation / Project [p]' (NZAC). **KA:** 1 ♂, 'NEW ZEALAND, KA, / Mt Fyffe, Hinau Tk, 22 March 2015, / R. Leschen, E. Hilario, sooty mould at night, / 42 21.055 S, 173 34.073 E, 177 m, RL1839 [p]' (specimen in ethanol, NZAC). **NC:** 3 ♂♂, 'NEW ZEALAND NC, Nina / Valley, beech forest / -42.5223, 172.3907 / 14.iii.2014 A. M. Hoover / Hand Coll ex. ant nest [hw]' [two *Prolasius advenus* (Fr. Smith, 1862) ants pointed below 2 spec., one ant pointed below another] (LUNZ). **NN:** 2 ♂♂, 'NEW ZEALAND: S-Isl. NW / Richmond Forest Park / Mt. Beeby Track, 7 km S / Kikiwa // Motupiko River Valley / 9.2.1997 Schuh & Lang / Notofagus leaf litter [p]' (NMPC, RSCW). **SD:** 2 ♂♂, 'Picton, [p] / 30-31 – 3 – 35 [hw] / E. S. Gourlay [p] // E.S.Gourlay [p] // E. S. Gourlay / Acc.

1970/ Ent.Div. [p]' (NZAC); 1 ♂, 'Picton [p] / 24-3-[19]35 [hw] / E.S.Gourlay [p] // E. S. Gourlay / Acc. 1970 / Ent. Div. [p] // Epuraea / sp. nov.? [hw] // Entomology Div. / D.S.I.R. / New Zealand [p]' (NZAC). **SI:** 1 ♀, 'New Zealand SI / Stewart I / Codfish I / Valley Track / 26 Nov 1981 [p] // B. A. Holloway / on tree trunk [hw]' (NZAC). **WD:** 1 ♂: 'NEW ZEALAND, WD, / Gillespies Beach Rd, 22 Mar 2017, / C. Carlton, R. Leschen, B. Owens, RL1944, / sifting, 43 25.40S,169 53.11E [p]' (specimen in ethanol, NZAC). **Unknown:** 1 ♀, 'Para- / type [p, round label with yellow border] // sp. [hw] // 21-4-[19]16 // New Zealand [underlined with red] / Broun Coll. / Brit. Mus. / 1922-482 [p] // PARATYPUS [p] / Epuraea / glabrata sp.n. [hw] / Jelínek det. 19 [p] 72 [hw, red label]' (BMNH); 1 ♀, 'Para- / type [p, round label with yellow border] // New Zealand [underlined with red] / Broun Coll. / Brit. Mus. / 1922-482 [p] // PARATYPUS [p] / Epuraea / glabrata sp.n. [hw] / Jelínek det. 19 [p] 72 [hw, red label]' (BMNH); 1 ♀, 'near / 303 [hw] // 2.4.[19]16 [hw] // T. Broun / Collection [p] // A. E. Brookes / Collection [p] // Epuraea / sp. nov.? [hw] // Entomology Div. / D.S.I.R. / New Zealand [p]' (NZAC).

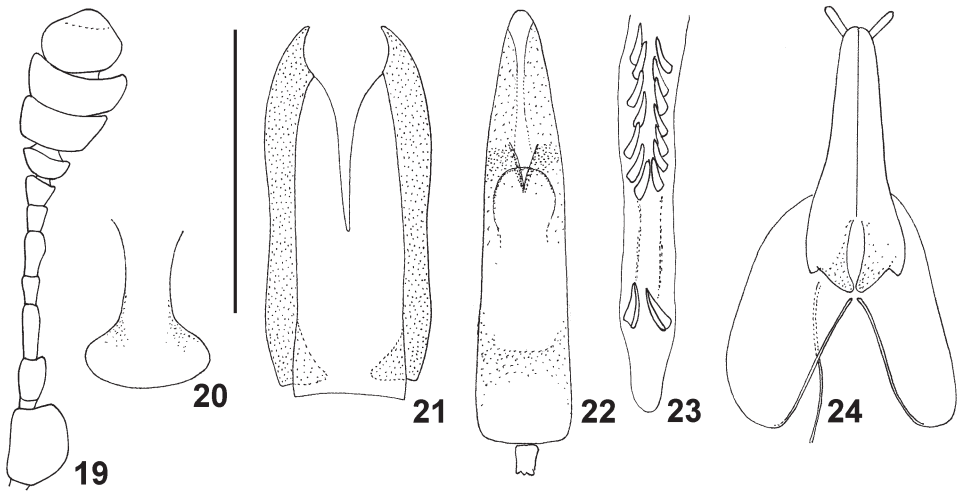
Description. ***Male holotype.*** Oblong oval, convex with broadly explanate sides, apparently smooth and shining (Fig. 3). Unicolorous, yellow brown. Pubescence light, recumbent, thin and short, indistinct; particular setae not reaching base of following ones.

Head narrower than anterior margin of pronotum (ratio WPR3/HEAW: 1.18). Clypeus moderately convex, anterior margin truncate, not bordered. Frons flat with pair of round impressions above antennal insertions. Eyes small, regularly convex, temples rectilinear, converging posteriad. Punctures of frons markedly smaller than eye-facets, separated by 1–2 diameters, interspaces obsoletely alutaceous (magnification 50×), shining. Antennae almost as long as width of head across eyes (ratio ANLE/HEAW: 0.94), antennal club occupying approximately 1/3 of antenna length, oval, approximately 1.25× longer than wide (Fig. 19). Ratio length/width of antennomeres I–XI: 1.43 : 1.48 : 2.40 : 1.11 : 1.48 : 1.00 : 0.66 : 0.43 : 0.45 : 0.66, respectively.

Pronotum transverse, widest behind its midlength (ratio WPR2/LEPR = 2.00), distinctly narrowed both anteriorly and posteriorly (ratio WPR1/WPR2 = 0.90; WPR2/WPR3 = 1.70), at base distinctly wider than base of elytra. Anterior margin with deep trapezoidal emargination, not bordered. Anterior angles broad, prominent, obtusely rounded with indistinct tips. Lateral margins arcuate, with indistinct rim and with inconspicuous fringe of dense short setae; sides broadly explanate-reflexed, at midlength almost as wide as antennal club, gradually narrowed anteriad and dilated posteriad. Basal margin in front of scutellar shield subtruncate, not bordered, besides posterior angles broadly and shallowly arcuately emarginate; posterior angles obtuse, not prominent. Pronotal disc transversely convex. Punctures similar to those of frons, separated by 2–3 diameters; interspaces on disc with obsolete rudiments of microsculpture, shining, on explanate sides densely microscopically punctate, dull. Scutellar shield subtriangular with rounded apex, punctures separated by 1.0–1.5 diameters, interspaces microscopically punctate.

Elytra ovate, widest near basal fourth, gradually narrowed both anteriad and – more strongly so – posteriad; elytral apex rounded. Ratio LELY/WELY = 1.04. Base distinctly narrower than that of pronotum, ratio WELY/WPR2: 1.00; humeral angles obtusely rounded, sides explanate-reflexed, approximately as wide as explanate pronotal sides near anterior angles, lateral margins broadly arcuate, finely rimmed and fringed like on pronotum. Punctures and microsculpture similar to pronotum.

Pygidium broadly truncate apically, with rudimentary pubescence and fine distinct punctures separated by about one diameter, interspaces smooth, shining. Tergite VIII exposed, large, broadly rounded apically.



Figs 19–24. Details of *Epuraea glabrata* sp. nov. 19 – antenna; 20 – prosternal process; 21 – tegmen; 22 – median lobe of aedeagus; 23 – armature of endophallus; 24 – ovipositor. Scale bar = 0.5 mm.

Ventral part. Postmentum flat, microscopically alutaceous, dull with widely spaced shallow indistinct punctures. Antennal furrows straight, broad, with distinct outer margins, converging posteriad, widely separated in middle. Genae (ventral side) densely shallowly punctate and microscopically punctate, dull, with long recumbent setae.

Prosternum transversely convex with indistinct shallow and obsolete punctures, feebly shining. Prosternal process strongly longitudinally convex between procoxae (in lateral view), posterior to procoxae depressed, almost semicircular (Fig. 20). Broad flat hypomera with dense micropunctures, dull, with indistinct obsolete and widely spaced punctures. Mesoventrite transversely convex, obsoletely punctate and feebly shining like prosternum, posterior margin of prepectus obsolete, broadly interrupted in middle. Elytral epipleura concave, in basal portion as wide as mesocoxa, sharp rim of inner margin ends abruptly at 5/7 of elytral length.

Metaventrite flattened in middle, with fine, not-impressed discrimen present. Punctures small and shallow, separated by approximately 1.0–1.5 diameters, interspaces microscopically punctate, feebly shining. Anterior intercoxal margin subtruncate, posterior one arcuately emarginate. Mesocoxal lines running close to posterior mesocoxal margins and ending in anterolateral corners of metaventrite, recurrent lateral portions not developed, axillary spaces absent.

Punctuation and sculpture of abdominal ventrites similar to metaventrite. Abdominal ventrite I as long as metaventrite along median axis, metacoxal lines closely bordering metacoxal cavities. Abdominal ventrites II–IV subequal, combined length shorter than I. Hypopygium broadly rounded, more distinctly microscopically punctate and duller than preceding ventrites.

Distances between pro-, meso- and metatibiae as 1.00 : 1.50 : 3.75. Femora slender, oblong oval, inner margin shallowly concave in distal third. Mesofemur longer than profemur (ratio

LFE1/LFE2: 0.90), meso- and metafemur subequal. Ratios LFE1/WFE1: 3.0, LFE2/WFE2: 3.33, LFE3/WFE3: 3.40. Tibiae straight, slender, simple, outer subapical angle rounded, inner one with pair of short subequal spurs. Ratio LTI1/WTI1: 4.0, LTI2/WTI2: 5.37, LTI3/WTI3: 6.87. Protarsomeres I–III dilated, bilobed, 0.5× width of protibia; protarsomere V as long as I–IV combined; tarsal claws simple. Meso- and metatarsomeres I–III narrower, 0.5× width of tibia, moderately bilobed.

Male genitalia. Lateral lobes of tegmen with sickle-shaped tips curved inwards (Fig. 21), median lobe gradually narrowed towards bluntly pointed apex (Fig. 22). Conspicuous armature of endophallus consists of two parallel series of strong acute spines (Fig. 23).

Female. Same as male, except as follows. Yellow-brown, disc of pronotum and of each elytron infuscate to black-brown, legs and antennae brown-yellow (Fig. 4). The difference between the width of pronotum and elytra less conspicuous than in male, but distinct (ratio WELY/WPR2: 1.03–1.05 in males, 1.01–1.03 in females). Elytra comparatively longer, reaching their maximum length at suture; ratio LELY/WELY: 1.17–1.19. Apex of pygidium broadly rounded apically. Ovipositor as depicted in Fig. 24.

Measurements. Body length 3.2–3.9 mm (holotype 3.2 mm), width 1.7–1.8 mm (holotype 1.7 mm). Ratio WPR1/WPR2: 0.89–0.92; WPR2/WPR3: 1.63–1.71; WPR2/LEPR: 1.87–2.00.

Differential diagnosis. With oblong oval and moderately convex body form, broadly truncate terminal labial palpomere, transversely oval prosternal process posterior to procoxae, axillary spaces on metaventrite absent, slender legs and antennae simple (not bilobed) metatarsomeres I–III and acute/acuminate tips of female elytra, the new species is apparently similar to the endemic New Zealand species *E. antarctica* and *E. signata*, from which it differs in the broadly and abruptly explanate-reflexed sides of pronotum, pronotal base distinctly wider than base of elytra, punctures of dorsal surface hardly distinct and separated by several diameters, and rudimentary dorsal pubescence which is short and indistinct.

Etymology. Latin adjective *glabratus, -a, -um* (= somewhat smooth, glabrate), referring to the rudimentary punctation and pubescence of dorsal surface.

Notes. The broadly explanate body form distinguishes *E. glabrata* sp. nov. from the remaining species in New Zealand, and due to its sparse collecting records from across much of the country, it is possible that this species has a rather specialized life history. Most specimens have been taken from *Nothofagus* bark, and often in association with sooty molds. The specimens collected by J. C. Watt with collection number '71/152' have additional information contained in the NZAC litter logbook with the following information: '4½ SE of Capleston, sooty fungus on trunk of *Nothofagus fusca*'. The association of *E. glabrata* with beech trees, though, is not consistent, because specimens have been collected in areas where *Nothofagus* presently does not exist, like parts of Westland and Stewart Island, though sooty molds are widespread and occur on other tree hosts, like tea tree (genus *Leptospermum*). Many associates of sooty molds tend to be rather common, like *Hisparonia hystrix* (Sharp, 1876) (Carlton & Leschen 2007), and the single collection made from ants does not affirm inquilinism, a rare behavior in New Zealand beetles (Nomura & Leschen 2015). Additional collecting observations and gut content analyses are needed to clarify the exact habitat association, diet, and biology of *E. glabrata.*

Distribution: North Island: BP, GB, WN, WO. South Island: BR, KA, NC, NN, SD, SI, WD.

Epuraea imperialis (Reitter, 1877)

(Figs 5–6, 25–30)

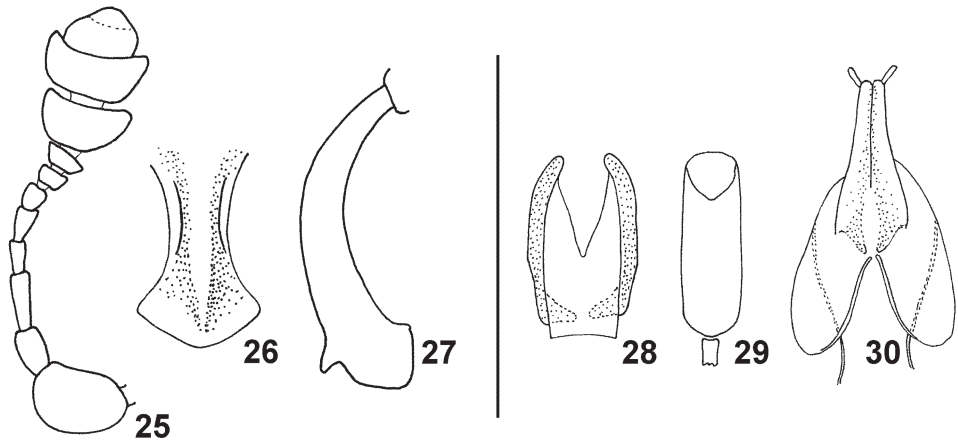
Haptoncura imperialis Reitter, 1877: 128 (original description).
Epuraea imperialis: Grouvelle (1905): 242 (new combination).

Type locality. Australia.
Type material. National Museum of Natural History, Paris; not studied.
Additional material examined. Material from New Zealand and elsewhere was published in a recent paper by Jelínek et al. (2016), and here we list additional specimens not previously mentioned: **North Island: AK**: Takapuha, under garden refuse, xii.1942, A.E. Brookes coll., 3 spec. (NZAC); Auckland, decaying rock melon, 26.iii.1941, D. Spiller lgt., 1 spec. (NZAC). **BP:** Lottin Pt Rd, Waenga Bush, litter, 24.xi.1992, G. Hall lgt., 1 spec. (NZAC). **CL:** Little Barrier Isl., Pahutakawa Flat, litter, 6.xii.1978, B.M. May lgt., 7 spec. (NZAC). **HB:** Hastings, Malaise trap, iii–iv.2001, P. Lo lgt., 5 spec. (NZAC). **ND:** Whangarei, 12.iv.1929, E. Fairburn coll., 4 spec. (NZAC); Puketi Forest, 100 m, Waipapa River Track, 18.ii.1997, R. Schuh lgt., 2 spec. (RSCW). **RI:** Taihape, litter, 2.xii.[19]65, L.P. Marchant lgt., 1 spec. (NZAC). **WA:** SH 53/Kahutara Rd Junction, in litter of bush remnant, 29.vii.1995, J. Nunn lgt., 1 spec. (NZAC). **WN:** Tinakori Hill, Wellington, in lawn clippings. 21.x.1991, J. Nunn lgt., 1 spec. (NZAC). **South Island: DN:** Owaka, 15.i.[19]59, E.S. Gourlay lgt., 1 spec. (NZAC). **MB:** Onamalutu, Domain, litter, 12.v.[19]65, N.R. Walker lgt., 1 spec. (NZAC). **MC**: Christchurch, 16.–18.xii.[19]59, E.S. Gourlay lgt., 1 spec. (NZAC); Appleby Res. Orchard., ex fermenting apples, 6.x.[19]71, W. Thomas & J.C.Watt lgt., 1 spec. (NZAC); Christchurch, Riccarton Bush, 15.iv.[19]36, E.S. Gourlay lgt., 1 spec. (NZAC); Canterbury, Mt. Algidus, moss, 1219 m, 17.iii.[19]65, G.W. Ramsay & J.I. Townsend lgt., 1 spec. (NZAC); Banks Peninsula, 4 km E of Little River, Okuti Valley, 43°47.2′S, 172°49.7′E, 85 m, compost sifting, 20.ii.2016, M. Fikáček, J. Hájek & P. Hlaváč lgt., 2 spec. (NMPC). **NN:** Nelson, 29.xi.[19]67, 6 spec. (NZAC); Nelson, ii.1943, E.E. Walker lgt., 1 spec. (NZAC); Nelson, 17.iii.[19]21, 1 spec. (NZAC); Ruby Bay, 15.vi.[19]68, G. Kuschel lgt., 1 spec. (NZAC); Wakefield, litter, 19.ix.[19]64, J.I. Townsend lgt., 1 spec. (NZAC); Wakefield, leaf litter, 27.v.[19]65, J.I. Townsend lgt., 2 spec. (NZAC); Riwaka, 7.i.[19]42, A. Hamilton lgt., 1 spec. (NZAC). **OL:** South Mavora Lake, in moss on Nothofagus log, 17.xii.2013, J. Nunn lgt., 1 spec. (NZAC). **Offshore Island: KE:** Raoul Isl., in fermenting oranges, 10.xii.[19]66, J.C. Watt lgt., 4 spec. (NZAC); Raoul Isl., Denham Bay track, baited pittrap, 1350 ft., 23.xii.[19]66, J.C. Watt lgt., 2 spec. (NZAC); Raoul Isl., Denham Bay track, baited pittrap, 1200 ft., 23.xii.[19]66, J.C. Watt lgt., 4 spec. (NZAC); Kermadec Isl., Mt. Moumoukai, litter under *Rhopalostylis cheesemanii*, 1400 ft., 23.i.[19]67, J.C. Watt lgt., 3 spec. (NZAC); Raoul Isl., baited pitfall trap, 8.xii.[19]66, J.C. Watt lgt., 1 spec. (NZAC).

Redescription. ***Male.*** Body ovate, moderately convex (Fig. 5). Yellow-brown, pronotal disc as a rule black, each elytron sometimes with oblong oval spot embracing yellow-brown center, sometimes more or less interrupted at outer side, antennae beginning from distal end of antennomere III gradually infuscate, antennal club or antennomeres VIII–IX black-brown. Pubescence golden, sparse and recumbent, some setae barely reaching bases of following ones.

Frons almost flat with pair of shallow impressions near antennal insertions, temples flatly convex, converging posteriorly, not angulate behind eyes. Punctures of frons nearly equal in size to eye facets, separated by one diameter, becoming gradually smaller on clypeus; interspaces more or less dull, without distinct microsculpture. Antennae somewhat shorter than width of head, antennal club oblong oval, occupying one third of antenna length (Fig. 25).

Pronotum widest behind midlength, distinctly narrowed both anteriorly and posteriorly, twice as wide as long (LEPR/WPR2: 0.50); anterior margin with trapezoidal emargination nearly as deep as eye width, nor bordered; anterior angles obtuse, almost rounded; lateral margins arcuate, narrowly explanate, explanate sides anteriorly nearly as wide as length of pedicellus, becoming gradually wider posteriad; posterior angles obtuse, not projecting posteriad. Punctures of pronotum slightly larger than eye facets, shallow, separated by one diameter



Figs 25–30. Details of *Epuraea imperialis* (Reitter, 1877). 25 – antenna; 26 – prosternal process; 27 – male mesotibia; 28 – tegmen; 29 – median lobe of aedeagus; 30 – ovipositor. Scale bar = 0.5 mm.

or less, interspaces dull, without distinct microsculpture. Setae inconspicuous, recumbent, reaching base of following ones.

Elytra nearly as long as their combined width, widest at basal fifth, twice as long as and slightly wider than pronotum, gradually narrowed posteriad, reaching maximum length at suture. Distinctly explanate sides nearly as wide as length of antennomere II in basal portion, gradually narrowed posteriad. Punctures smaller and shallower than those on pronotum, separated by 1.0–1.5 diameters, becoming closer along suture and at apex of each elytron; interspaces smooth, moderately shining. Vestiture similar to pronotum, rather sparse, yellow, recumbent.

Pygidium densely finely punctate, subtruncate apically, tergite VIII exposed, rounded.

Ventral part. Postmentum flat, distinctly punctate, punctures smaller than eye-facets, separated by less than one diameter, sometimes almost confluent, interspaces smooth and shining. Antennal furrows converging posteriad, at their apex interconnected by transverse impression, at bottom with few widely spaced indistinct punctures, interspaces with dense microscopic punctures.

Prosternum bluntly roof-shaped, finely rugosely punctate. Hypomera isodiamerically reticulate with widely spaced, shallow and indistinct punctures. Prosternal process longitudinally arcuate (in lateral view) and finely bordered between procoxae, posterior to procoxae depressed and broadly rounded (Fig. 26). Mesoventrite broadly convex, bluntly medio-longitudinally carinulate, microscopically isodiametrically reticulate, in front of mesocoxae broadly arcuately canaliculate; posterior intercoxal process between mesocoxae broadly shallowly concave. Metaventrite in middle flattened, faint discrimen present, punctures smaller than eye-facets, shallow, but well defined, separated by l–2 diameters; interspaces in middle smooth, at sides reticulate. Abdominal ventrites finely punctate, punctures finer than on metaventrite, becom-

ing finer laterally; interspaces smooth in middle, reticulate at sides. Pygidium densely finely punctate, subtruncate apically, tergite VIII exposed, rounded.

Mesotibia strongly arcuate along entire length, with inner subapical angle extended inwards, obtusely rounded (Fig. 27). Protarsomeres I–III strongly dilated, reaching approximately 2/3 of tibia width. Metatarsi narrow, simple.

Male genitalia. Lateral lobes of tegmen curved inwards, bluntly pointed apically (Fig. 28). Median lobe approximately 2.5× longer than wide, subparallel-sided, broadly truncate apically (Fig. 29).

Female. Habitus as in male (Fig. 6). Pro- and mesotibiae somewhat curved at base, otherwise simple. Tarsi narrower than in male. Pygidium simple, narrowly rounded apically. Ovipositor as in Fig. 30.

Measurements. Body length 2.4–2.8 mm, width 1.0–1.2 mm.

Notes. *Epuraea imperialis* is an invasive species introduced to New Zealand in the 1920's (Kuschel 1990), and subsequently introduced in Europe after 2000. A more detailed redescription and additional distributional information is given by Jelínek et al. (2016). This widespread species has been collected by sifting leaf litter, using window, light, and pitfall traps, and occasionally also from rotten fruit and mushrooms on the forest floor. Though it may be taken in rotten wood, fallen *nīkau* palm leaves (*Rhopalostylis sapida*), may be one of its preferred habitats (Watt 1960, 1962).

Geographic distribution. North Island: AK, BP, CL, HB, ND, RI, WA, WN. South Island: DN, MB, MC, NN, OL. Offshore Island: KE. Native to Australia; introduced also to Europe: Belgium, France, Italy, Portugal, Spain (Jelínek et al. 2016).

Epuraea mayendorfii (Reitter, 1873)

(Figs 7–8, 31–36)

Nitidula lateralis White, 1846: 8 (original description); primary junior homonym, not *N. lateralis* C. R. Sahlberg, 1820: 77 = *Cryptarcha strigata* (Fabricius, 1787).

Nitidula mayendorfii Reitter, 1873: 44 (new substitute name for *N. lateralis* White, 1846).

Epuraea zealandica Sharp, 1878: 48 (original description), **syn. nov.**

Epuraea lateralis: Grouvelle (1913): 109 (as synonym of *E. antarctica* (White, 1846)).

Epuraea mayendorfi [sic!]: Grouvelle (1913): 109 (as synonym of *E. antarctica* (White, 1846)).

Type locality. *Nitidula lateralis*: 'New Zealand (Kandy Wood)'. *Epuraea zealandica*: 'Tairua' [Coromandel].

Type material examined. *Nitidula lateralis*: Holotype: ♀ (BMHN), 'Type [p, red circle] // N. Zeal [hw, circular label] // Nitidula lateralis.White / Zool. Erebus &Terror [hw]'.

Epuraea zealandica: Lectotype: ♂ (BMNH) by present designation, mounted on same label with ♀ paralectotype, bearing handwritten inscription: 'Epuraea zealan- / dica / Types. D.S. [David Sharp] / Tairua, Broun // Type / H.T. [p, red circle] // Tairua / New Zealand / Broun [p] // Sharp Coll. / 1905-313 [p] // Paralectotypus Epuraea / ♀ zealandica / Broun [sic!] / design. Kirejtshuk, 1993 / Lectotypus Epuraea / ♂ zealandica / Broun [sic!] / design. Kirejtshuk, 1993 [double red label, partly hand-written]'.

Additional material examined. NEW ZEALAND: North Island: AK: Titirangi, 20.iii.[19]13, A.E. Brookes coll., 1 spec. (NZAC); Waiwera, 7.xii.[19]61, G. Kuschel lgt., 1 spec. (NZAC); Whangaparapara [Great Barrier Island], 17.–29.i.[19]30, A.E. Brookes coll., 1 spec. (NZAC); Cosseys Cr., ex Nikau, 21.v.[19]60, J.C. Watt lgt., 1 spec. (NZAC); Waitakere Ranges, Karekare-Whaitipu reserve, 37°00.0–00.6′S, 174°28.6–29.0′E, 12 m, 2.i.2016, sand dunes with coastal vegetation in brackish coastal pools, J. Hájek & P. Hlaváč lgt., 1 spec. (NMPC). **BP:** Papatea, Malaise trap, 4.xii.1992–5.ii.1993, J. S. Dugdale lgt., 2 spec. (NZAC). **CL:** Mt. Te Aroha, 975 m, under rotten bark *Pseudopanax colensoii*, 23.x.[19]67, J.C. Watt lgt., 1 spec. (NZAC); Coromandel Pen., Kopu Rd., leaf litter,

17.iii.[19]67, R.A.Cumber lgt., 1 spec. (NZAC). **GB:** Te Urewera NP, Lake Waikaremoana Motorcamp, 38°45.3′S, 177°09.4′E, 600 m, 22.–26.xi.2012, A. Becker, M. Fikáček & J. Hájek lgt., 17 spec. (NMPC); Te Urewera NP, Lake Waikaremoana, Black Beech Track, 38°45.2′S, 177°09.7′E, 600 m, 22.–26.xi.2012, A. Becker, M. Fikáček & J. Hájek lgt., 11 spec. (NMPC). **ND:** Unuwhao, 2000 ft., 3.xi.[19]67, *Freycinetia* fruit, J.McBurney, 2 spec. (NZAC); Spirits Bay, Waipuna Sth, ex Nikau [= *Rhopalostylis sapida*], xi.[19]67, J.I. Townsend lgt., 3 spec. (NZAC); Spirits Bay, Rd. to Tom Bowling Bay, *Rhopalostylis sapida*, 17.i.[19]66, A.K. Walker lgt., 1 spec. (NZAC); Waipoua Beach, at light, 13.x.[19]67, J.C. Watt lgt, 1 spec. (NZAC); same data, but 12.x.[19]67, 1 spec. (NZAC); Waipoua S.F., camp at night, x.[19]67, J.S. Dugdale lgt., 1 spec. (NZAC); Waipoua S.F., dead nikau [= *Rhopalostylis sapida*] 'fronds', 7.–16.vi.[19]66, J.C. Watt & J.I. Townsend, 9 spec. (NZAC); Waipu, i.[19]14, A.E. Brookes coll., 1 spec. (NZAC); Hope, 23.ii.[19]14, T. Broun coll., 2 spec. (NZAC); Mt. Manau, Whangarei Heads, *Vitex lucens* litter, 14.iii.[19]70, B.M. May lgt., 1 spec. (NZAC). **TO:** Ruapehu, Tk to Silica springs, 4200 ft., on Silver tussock, 23.ii.[19]65, L.P. Marchant lgt., 2 spec. (NZAC); Kaimanawa Forest Park, Te Iringa Track, 38°95614–96031°S, 176.22031–22234°E, 785–850 m, 23.–25.xi.2016, M. Fikáček & M. Seidel lgt., 4 spec. (NMPC). **WN:** Orongorongo Field Station, 450 ft., on mossy trunks at night, 20.–21.v.[19]69, 1 spec. (NZAC); Tarauna Forest Park, Waiohine Gorge, Lower Waiohine Tk., 40.993–995°S, 175.388–389°E, 180 m, 28.–30.xi.2016, Fikáček & Seidel lgt., 1 spec. (NMPC). **WO:** Okauia, Matamata, infesting cockfoot seed, iii.1924, A.E. Brookes coll., 1 spec. (NZAC); Okauia, 1.ii.[19]25, A.E. Brookes coll., 1 spec. (NZAC); Okauia, Brooks, Fungus, 29.xii.[19]47, A.E. Brookes coll., 3 spec. (NZAC). **South Island: BR:** Punakaikai, 1.iv.[19]34, E.S. Gourlay lgt., 4 spec. (NZAC); Matakitaki Road, 20.8 km S of Murchinson, 41.98669°S, 172.33959°E, 390 m, 3.–9.xii.2016, M. Fikáček & M. Seidel lgt., 1 spec. (NMPC). **CO:** Piano Flat, 45°33.02′S, 169°1.16′E, 220 m, 2.–9.ii.2016, M. Seidel, V. Sýkora & M. Fikáček lgt., 5 spec. (NMPC); Springvale, 45°08.17′S, 169°25.2′E, 362 m, 17.ii.2016, M. Seidel lgt., 1 spec. (NMPC). **DN:** Owaka, 15.i.[19]59, E.S. Gourlay lgt., 2 spec. (NZAC); Paparoa National Park, Pororari River Valley, E Punakaiki, 6.ii.1997, Schuh & Lang lgt., 2 spec. (NHMW). **FD:** Routeburn, A.E. Brookes coll., 1 spec. (NZAC); Paekakariki, 12.viii.[19]22, J.G.M., 1 spec. (NZAC); West Arm, Lake Manapouri, light trap, i.[19]70, A.C. Eyles lgt., 2 spec. (NZAC); West Arm, Manapouri, light trap, i.[19]70, A.C. Eyles lgt., 3 spec. (NZAC); Borland Road, 0.8 km of its end at Lake Manapouri, 45°35.52′S, 167°22.07′E, 170 m, 24.–27.i.2016, M. Seidel, V. Sýkora & M. Fikáček lgt., 1 spec. (NMPC); Borland Walk at Borland Lodge, 45°46.35′S, 167°32.18–25′E, 180 m, 23.–28.i.2016, M. Seidel & M. Fikáček lgt., 1 spec. (NMPC). **MB:** Kenepuru Sd, 3.viii.[19]67, F. Alack lgt., 1 spec. (NZAC). **MC:** Algidus, 9.x.[19]13, A.E. Brookes coll., 1 spec. (NZAC); Algidus, 14.x.[19]13, T. Broun coll., 1 spec. (NZAC); Mt. Hutt, Awa Awa Rata Reserve, 400–700 m, 26.i.1997, Schuh & Lang lgt., 1 spec. (RSCW); Marlborugh Hammer Forest Park, Upper part of Waterfall Track, 42.49552°S, 172.84073°E, 640 m, 7.–9.xii.2016, M. Fikáček & M. Seidel lgt., 10 spec. (NMPC). **NN:** Mount Arthur, T. Broun coll., 1 spec. (NZAC); W. Nelson, S. Island, leaf mould, vii.[19]44, A.A. Prouse coll., 1 spec. (NZAC); Oparara, 13.–19.xi.[19]57, E.S. Gourlay lgt., 1 spec. (NZAC); Whangamoa, 700 ft., Neopana arboretum, 29.xi.[20]03, G. Kuschel lgt., 1 spec. (NZAC); Whangapeka Vall., 25.ii.34, E.S. Gourlay lgt., 1 spec. (NZAC); Whangamoa Ridge, 1 m. Sth of Saddle, 335 m, 21.ix.[19]71, J.I. Townsend lgt., 2 spec. (NZAC); Whangamoa, under bark *Nothofagus fusca* logs, 1.ix.[19]66, J.C. Watt lgt., 1 spec. (NZAC); Mt. Earnslaw, 9.i.[19]45, E.S. Gourlay lgt., 1 spec. (NZAC); Nelson, 18.v.[19]24, E.S. Gourlay lgt., 1 spec. (NZAC); Kaihoka lakes, 12.i.[19]66, A.K. Walker lgt., 3 spec. (NZAC); Nelson, Paturau R., on *Rhopalostylis sapida*, 21.i.[19]72, G. Kuschel lgt., 8 spec. (NZAC); Nelson, Karamea, ex dead *Rhopalostylis sapida* sheath, 14.x.[19]71, J.C.Watt lgt., 2 spec. (NZAC). **OL**: Makarora, Haast Pass, 300–500 m, malt trap, 21.–24.i.1978, S. & J. Peck lgt., 5 spec. (NZAC). **SD:** Orr Hill, French Pass, Nikau, 25.iv.[19]63, G. Kuschel lgt., 2 spec. (NZAC); Forsyth Isl., 8.xi.[19]49, E.S. Gourlay lgt., 3 spec. (NZAC); Ft. Mt. Stokes, Kanepuru Snd., beating, 10.x.[19]67, J.I. Townsend lgt., 1 spec. (NZAC); Ship Cove, 27.–30.i. [19]72, G. Kuschel lgt., 1 spec. (NZAC). **SI:** 0.4 km SE of Fred's Camp Hut, 46°55.93′S, 167°58.51′E, 10 m, 18.–22.i.2016, M. Seidel, V. Sýkora & M. Fikáček lgt., 2 spec. (NMPC); Northwest Circuit Tk., 3.2 km W of Oban, 46°53.80′S, 168°5.18′E, 95 m, 17.–21.i.2016, M. Seidel & M. Fikáček lgt., 1 spec. (NMPC); Main Road 1 km W of Oban, 46°53.77′S, 168°6.96′E, 45 m, 16.–18.i.2016, M. Seidel & M. Fikáček lgt., 9 spec. (NMPC). **SL:** Forest Hill Scenic Res., 23 km NNE of Invercargill, 29.i.1997, Schuh & Lang lgt., 1 spec. (NHMW). **WD:** Waiho, 31.iii.[19]34, E.S. Gourlay lgt., 1 spec. (NZAC); Lake Paringa, 6.–10.xii.[19]60, J.I. Townsend & P.R. Kettle lgt., 10 spec. (NZAC); Porarai R., leaf mould, 22.iii.[19]53, A.E. Brookes coll., 1 spec. (NZAC); Roaring Billy Falls at Roaring Billy Walk, 43°36.34′S, 169°17.11′E, 45 m, 19.ii.2016, sifting polypore fungus, M. Seidel, V. Sýkora & R. Leschen lgt., 3 spec. (NMPC). **Offshore Island: TH:** Three Kings, Great Isl., 3.i.[19]63, E.S. Gourlay lgt., 4 spec. (NZAC).

Redescription. ***Male.*** Body oval, moderately convex (Fig. 7). Yellow-brown, frons, both pronotal and elytral disc and scutellar shield dark, brown to black, extent and intensity of dark pigmentation variable. Sometimes entire elytra black except for narrow periscutellar area and lateral margins. Ventral surface yellow-brown, sometimes median portion of metaventrite, metanepisterna and abdominal ventrites dark. Antennomeres from antennomere V onwards gradually darkened, antennal club black. Pubescence of normal length, grey-yellow, thin, recumbent, inconspicuous.

Head transverse, frons convex in middle, depressed besides eyes, with pair of round impressions above insertions of antennae. Temples obtusely rounded, converging posteriorly. Punctures nearly equal in size to eye-facets, separated by one diameter or less, interspaces smooth and shining. Antennae nearly as long as width of head across eyes, antennal club occupying approximately one third of antenna length, oblong oval, approximately 1.5× longer than wide (Fig. 31).

Pronotum transverse (ratio WPR2/LEPR: 1.94–2.10, widest behind its midlength, narrowed both anteriorly and posteriorly (ratio WPR1/WPR2: 0.92–0.95; WPR1/WPR3: 1.41–1.52, WPR2/WPR3: 1.50–1.60). Anterior margin in middle truncate, anterior angles subrectangular, prominent. Lateral margins regularly arcuate, sides broadly explanate, in middle nearly as wide as antennomere II, becoming wider both anteriorly and posteriorly. Basal margin truncate in middle, broadly arcuately emarginate besides posterior angles, those subrectangular, moderately projecting backwards. Pronotal disc moderately convex, shallowly transversely impressed both along anterior and posterior margins; punctuation similar to frons, punctures separated mostly by less than one diameter, interspaces smooth and shining.

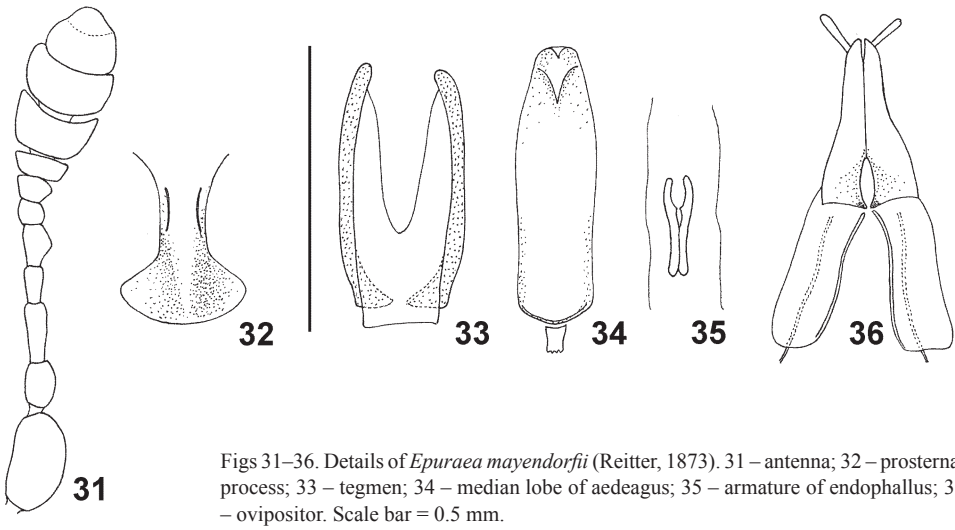
Scutellar shield triangular, densely shallowly punctate, interspaces with micropunctures.

Elytra oval, widest before midlength, longer than combined width (ratio LELY/WELY: 1.06–1.17), reaching maximum length near suture; sutural angles rounded. Lateral margins broadly arcuate, more strongly so in apical fourth, sides narrowly explanate, at base approximately as wide as antennomere VIII, becoming gradually narrower posteriorly. Surface of elytra convex, punctate like pronotum.

Pygidium densely punctate similar to tips of elytra, truncate; tergite VIII exposed, convex, rounded apically.

Postmentum flat, with shallow punctures smaller than eye-facets, separated by one diameter or less, interspaces smooth and shining. Antennal furrows converging posteriorly, at bottom with microscopic grains, their inner margins raised, sharp, moderately arcuate. Apices of furrows interconnected by shallow transverse impression.

Prosternum transversely convex, with micropunctures or grains, hypomera broadly concave, very densely punctate with widely spaced shallow indistinct punctures. Prosternal process longitudinally convex (in lateral view), narrow between procoxae, dilated and transversely oval posterior to procoxae, apically rounded (Fig. 32). Mesoventrite transversely convex with fine and low mediolongitudinal carina, densely finely grainy, moderately shining. Metaventrite broadly flatly convex with fine discrimen present along its entire length. Median portion (between metacoxae) smooth and shining with punctures smaller than eye-facets and separated by 1.5–2.0 diameters, lateral portions densely punctate-granulate, similarly to hypomera, with widely spaced indistinct shallow punctures. Mesocoxal lines fine, running



Figs 31–36. Details of *Epuraea mayendorfii* (Reitter, 1873). 31 – antenna; 32 – prosternal process; 33 – tegmen; 34 – median lobe of aedeagus; 35 – armature of endophallus; 36 – ovipositor. Scale bar = 0.5 mm.

close to mesocoxal cavities to anterolateral corner of metaventrite, outer recurrent portion not developed. Punctation of abdominal ventrites similar to that of metaventrite, but punctures in median portion of ventrites shallower, interspaces microscopically punctate. Metacoxal lines without outer recurrent portion.

Legs long and slender, simple in both sexes. Protibia approximately 5× longer than wide, outer subapical angle obtuse, not prominent. Protarsomeres I–III bilobed, 0.6× width of tibia. Protarsomere V longer than I–III combined, tarsal claws simple. Mesotibia approximately 4.7× longer than wide, inner margin feebly arcuate, finely and sparsely crenulate. Mesotarsomeres I and II bilobed, 0.4× width of tibia. Metatibia approximately 7× longer than wide, metatarsomeres I–III simple, narrow.

Male genitalia. Tegmen approximately 3× longer than wide, lateral lobes straight, narrow, acutely pointed (Fig. 33). Median lobe approximately 5× longer than wide, subparallel-sided in basal half, in distal half gradually narrowed towards narrowly truncate apex (Fig. 34); armature of endophallus as in Fig. 35.

Female. Habitus generally corresponding to male, with pygidium apex bluntly rounded (Fig. 8). Ovipositor as in Fig. 36.

Measurements. Body length 2.4–3.2 mm, width 1.3–1.7 mm.

Notes. This species has been referred to in New Zealand literature incorrectly as *Epuraea zealandica* (e.g., Hutton 1904, Hudson 1923). *Nitidula mayendorfii* was proposed by Reitter (1873) as a new substitute name for *Nitidula lateralis* White, 1846 (not *Nitidula lateralis* C. R. Sahlberg, 1820; = *Cryptarcha strigata* (Fabricius, 1787)). Subsequently Reitter (1880), referring to the striking sexual dimorphism of *N. antarctica*, considered *N. lateralis* as the other sex, and hence a synonym of *N. antarctica*. Reitter omitted his name *N. mayendorfii* and classified both nominal taxa in *Nitidula*, even though *N. antarctica* was already transferred

in *Epuraea* by Sharp (1878). We believe that Reitter's (1880) consideration was wrong, because the female holotype of *Nitidula lateralis*, which corresponds in morphology to the brief original description by White (1846), differs from the females of *N. antarctica*, which have strongly acuminate tips of elytra. Meanwhile, *N. lateralis* is conspecific with the types of *Epuraea zealandica* Sharp, 1878, a synonymy that has gone unnoticed by prior workers, for example, Grouvelle (1913) who followed Reitter (1880) by listing both *Epuraea mayendorfii* and *E. lateralis* as synonyms of *E. antarctica*.

Nitidula lateralis White, 1846 is a primary junior homonym of *Nitidula lateralis* C. R. Sahlberg, 1820, which is junior synonym of *Cryptarcha strigata* (Fabricius, 1787). The two nominal taxa currently are members of different genera, while *Nitidula lateralis* C. R. Sahlberg has not been used since Gyllenhal (1827). Furthermore, *Epuraea lateralis* (White, 1846) has not been used frequently enough to meet the conditions of priority in Article 23.9.1 of ICZN (1999). *Nitidula mayendorfii* was explicitly proposed as replacement name for *Nitidula lateralis* White by Reitter (1873) and we formally prioritize this name over *Epuraea zealandica*. Lastly, the lectotype of *E. zealandica* was selected by Kirejtshuk in 1993 (see above), but this act has not been published and is formalized here.

Geographic distribution. North Island: AK, BP, CL, GB, ND, TO, WN, WO. South Island: BR, CO, DN, FD, MB, MC, NN, OL, SD, SI, SL, WD. Offshore Island: TH.

Epuraea scutellaris (Broun, 1880)

(Figs 9–10, 37–42)

Omosita scutellare [sic!] Broun, 1880: 173 (original description).
Omosita scutellaris: Grouvelle (1913): 106 (catalogue).
Epuraea scutellaris: Kirejtshuk & Pakaluk (1996): 140.
Haptoncus californicus Gillogly, 1946: 22 (original description); Kirejtshuk & Pakaluk (1996): 140 (synonymy).

Type localities. *Omosita scutellaris*: 'near Whangarei Heads' [Northland]. *Haptoncus californicus*: 'San Marino, California' [USA].

Type material examined. *Omosita scutellaris*: Lectotype: ♀ (BMNH) designated by Kirejtshuk & Pakaluk (1996: 140), 'Type / H.T. [p, red-bordered circle] // 311 [p, pale bluish paper] // Parua [hw] // New Zealand / Broun Coll. / Brit.Mus. / 1922-482 [p] // Omosia / scutellare [hw, sic!] // Lectotypus [p] Epuraea / scutellaris Broun [hw] / design. [p] Kirejtshuk 1993 [hw, red label]'.

Haptoncus californicus: Paratype: ♀ (NMPC), 'San Marino / Calif III-11-[19]42 [hw] // ♀ [hw]// orange [p] // L. R. Gillogly / Collector [p] // PARATYPE [hw, yellow label] // Haptoncus / californicus / Gillogly [hw]'.

Additional material examined. NEW ZEALAND: North Island: AK: Auckland, reared from mumified peaches, viii.[19]40, K. Harrow lgt., 1 spec. (NZAC); Epsom, x.1911, T. Broun coll., 1 spec. (NZAC); Epsom, xii.1911, T. Broun coll., 1 spec. (NZAC); Epsom, 10.ix.[19]48, A.E. Brookes coll., 1 spec. (NZAC); Epsom, 15.ix.[19]48, A.E. Brookes coll., 2 spec. (NZAC); Mt. Roskill, 28.iii.1947, 1 spec. (NZAC); Owairaka, ex decaying corn-cob, 12.v.[19]40, D. Spiller lgt., 4 spec. (NZAC); Grafton Gully, ex decayed acorn, 3.v.[19]40, D. Spiller lgt., 3 spec. (NZAC); Owairaka, 15.iii.[19]42, D. McKenzie lgt., 5 spec. (NZAC); same data, but 29.iii.[19]42, 2 spec. (NZAC); same data, but 10.iii.[19]43, 1 spec. (NZAC); Owairaka, D. Spiller lgt. 12.v.[19]41, 1 spec. (NZAC); same data, but 9.vi.[19]41, 2 spec. (NZAC); Henderson, fleshy fungi, 10.v.[19]41, D. Spiller lgt., 2 spec. (NZAC); Te Irirangi, 12.iv.[19]42, M.W.Carer lgt., 1 spec. (NZAC); Orakei, compost heap, 30.iii.[19]42, D. McKenzie lgt., 11 spec. (NZAC). **GB:** Gray's Bush, Gisborne Flats, litter, 20.viii.1976, A.R. Ferguson lgt., 2 spec. (NZAC). **ND:** Ruakaka, pit trap in *Pennisetum clandestinum* pasture (kikuyu), 4.xii.1976, C.F. Butcher lgt., 6 spec. (NZAC). **WN:** N.W. Side Lake Wairarapa, beach litter, 1.ix.[19]65, J.I. Townsend lgt., 1 spec. (NZAC). **WO:** Okauia, fungus, 29.xii.[19]47, A.E. Brookes lgt., 2 spec. (NZAC). **South Island: MB:** Pelorus Reserve, litter, 2.x.[19]63, 1 spec. (NZAC).

MC: Appleby Res Orchard, ex fermenting apples, 6.x.[19]71, W. Thomas & J.C. Watt lgt., 1 spec. (NZAC); Banks Peninsula, 4 km E of Little River, Okuti Valley, 43°47.2′S, 172°49.7′E, 85 m, compost sifting, 20.ii.2016, M. Fikáček, J. Hájek & P. Hlaváč lgt., 19 spec. (NMPC). **NN:** Nelson, 17.iii.[19]21, 1 spec. (NZAC); Nelson, 10.viii.[19]41, E.S. Gourlay lgt., 1 spec. (NZAC); Riwaka Valley, 28.i.[19]49, A.E. Brookes coll., 1 spec. (NZAC); Kaihoka Lake, West Hayen, moss by bush, 28.x.[19]60, J.I. Townsend lgt., 1 spec. (NZAC); Maori Pa., Cable Bay, litter, 23.vii.[19]64, J.I. Townsend lgt.; 1 spec. (NZAC); Botanic Reserve, litter, 20.v.[19]66, A.C. Eyles lgt., 1 spec. (NZAC); Maitai V., litter, 20.v.[19]66, A.C. Eyles lgt., 1 spec. (NZAC); Ruby Bay, 15.vi.[19]68, G. Kuschel lgt., 2 spec. (NZAC); Botanical Hill, 26.x.[19]68, J.I. Townsend lgt., 2 spec. (NZAC); Nelson, vegetable refuse, 7.iii.1965, G.J.H. lgt., 1 spec. (NZAC).

Redescription. ***Male.*** Body oval, convex (Fig. 9). Red-brown, pronotal disc and posterolateral area of elytra sometimes more or less infuscate, legs and antennae brown-yellow, antennal club blackish. Ventral surface more or less black, hypomera, elytral epipleura and terminal abdominal ventrites brown-yellow. Pubescence of normal length, recumbent, yellowish, rather dense and distinct.

Head across eyes narrower than anterior pronotal margin, ratio WPR3/HEAW: 1.05–1.12. Temples subangulate, converging posteriorly, not projecting behind eyes. Frons flatly convex, separated from clypeus by shallow transverse impression. Punctures of frons nearly equal in size to eye-facets, separated by less than one diameter, sometimes almost contiguous. Interspaces somewhat tuberculate, smooth and shining. Antennae nearly as long as width of head, ratio ANLE/HEAW: 0.95–1.00 (Fig. 37).

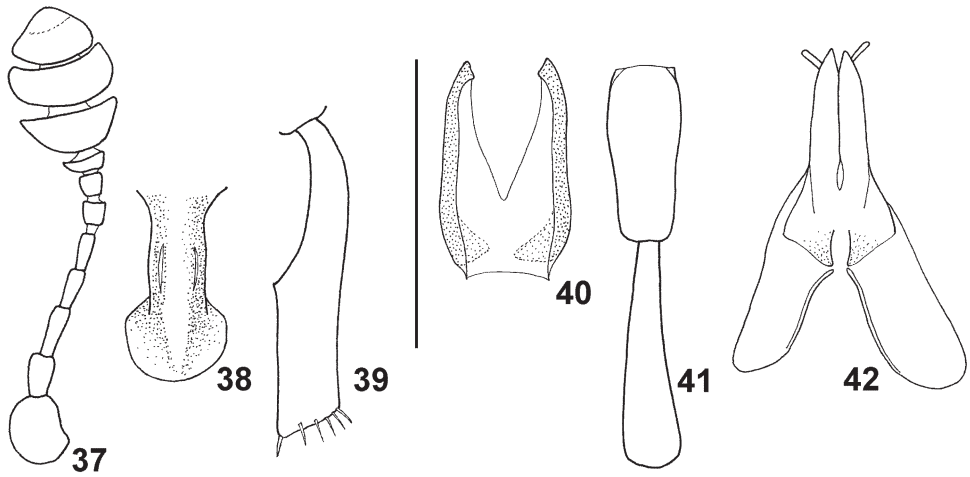
Pronotum transverse, widest behind midlength (ratio WPR2/LEPR: 1.83–1.94), slightly narrowed posteriorly and, more strongly so, anteriorly (ratio WPR1/WPR2: 0.94–0.97, WPR1/WPR3: 1.57–1.66, WPR2/WPR3: 1.52–1.65). Anterior margin in dorsal view only shallowly subarcuately emarginate, anterior angles obtusely rounded. Lateral margins broadly arcuate, narrowly explanate, nearly as wide as antennal flagellum. Basal margin truncate in middle, flatly obliquely concave laterally, posterior angles subrectangular to obtuse. Pronotal disc moderately convex, punctures well defined, equal in size to eye-facets, separated by one diameter or less, interspaces smooth and shining, at sides with obsolete traces of reticulation. Scutellar shield triangular, punctate.

Elytra widest at basal third, more strongly narrowed posteriorly than anteriorly, at apex obliquely subtruncate, reaching maximum length near suture. Ratio LELY/WELY: 0.87–0.97. Humeral angles obtuse, not prominent. Disc of elytra strongly transversely convex, lateral margins just visible simultaneously from above in their entirety, sides narrowly canaliculate.

Pygidium truncate apically with exposed tergite VIII; densely punctate, interspaces densely microreticulate, dull, setae short, semirecumbent, reaching nearly base of following ones.

Postmentum flat, trapezoidal, punctures smaller than eye-facets, separated by less than one diameter, interspaces reticulate, dull. Antennal furrows broad, well defined, converging posteriorly besides eyes, posterior to eyes curved outwards and subparallel.

Prosternum with anterior margin distinctly bordered, transversely impressed along anterior margin; punctures shallow, equal in size to eye-facets, separated by less than one diameter, interspaces reticulate, dull. Prosternal process longitudinally convex (in lateral view), its apex posterior to procoxae not depressed, angulate (Fig. 38). Hypomera with indistinct punctures, reticulate, dull. Mesoventrite roof-shaped, impunctate, reticulate, prepectus completely bordered. Metaventrite flattened in middle, discrimen present in posterior two thirds.



Figs 37–42. Details of *Epuraea scutellaris* (Broun, 1880). 37 – antenna; 38 – prosternal process; 39 – male metatibia; 40 – tegmen; 41 – median lobe of aedeagus with apodeme; 42 – ovipositor. Scale bar = 0.5 mm.

Punctures smaller than eye facets, separated by 1.0–1.5 diameters, interspaces smooth and shining. Mesocoxal lines closely bordering coxal cavities, axillary spaces not developed. Punctation of abdominal ventrite I similar to metaventrite, length of ventrites II–IV combined shorter than I, more finely and densely punctate. Hypopygium densely punctate and pubescent, rounded apically.

Metatibia at inner side abruptly dilated and dentate at its midlength (Fig. 39). Tarsomeres I–III of all tarsi bilobed, tarsal claws simple.

Male genitalia as in Figs 40–41; apodeme of median lobe of aedeagus exceptionally broad (Fig. 41).

Female. Habitus similar to male (Fig. 10). Legs simple. Pygidium broadly rounded apically. Ovipositor as in Fig. 42.

Measurements. Body length 1.8–2.3 mm, width 1.0–1.2 mm.

Notes. By its habitus, especially the pronotum slightly narrowed posteriorly and subtruncate elytral apices, *E. scutellaris* resembles a small species of the Asian *Epuraea reticulata* species-group, but its conspicuously broad truncate terminal labial palpomere suggests its placement in the subgenus *Haptoncus*. The species can be distinguished from other species of *Haptoncus* by its convex body, obliquely subtruncate elytral tips, and the male having a peculiar metatibial modification.

Epuraea scutellaris was first recorded in New Zealand by Broun (1880), as his new species *Omosita scutellare*, which was recognized as conspecific with *Haptoncus californicus* Gillogly, 1946 by Kirejtshuk & Pakaluk (1996). The species was reported under the latter name from Australia and Hawaii by Gillogly (1982) and Kirejtshuk & Pakaluk (1996).

The synonymy of *Haptoncus californicus* Gillogly, 1946 with *Epuraea scutellaris*, first established by Kirejtshuk & Pakaluk (1996), is supported by the figure of the characteristic male metatibia provided by Gillogly (1982) and material compared to one paratype of *Haptoncus californicus* in the NMPC. Specimens of this species have been collected from leaf litter, rotten fruit, and in compost.

Geographic distribution. North Island: AK, GB, ND, WN, WO; South Island: MB, MC, NN. Australia, California, Hawaii (Gillogly 1982).

Epuraea signata Broun, 1880

(Figs 11–12, 43–47)

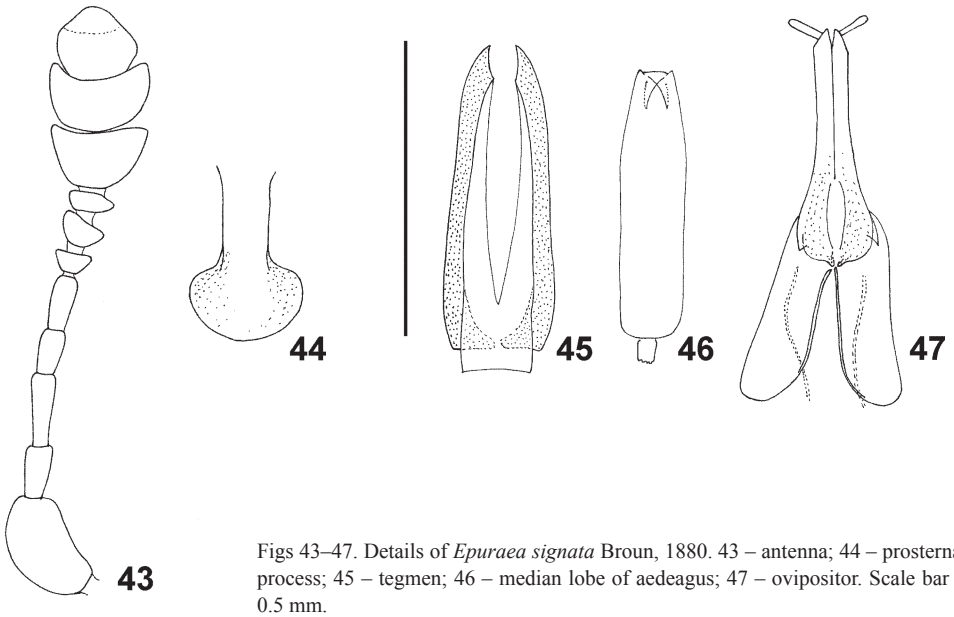
Epuraea signatum [sic!] Broun, 1880: 169 (original description).
Epuraea signata: Grouvelle (1913): 123 (catalogue).

Type locality. 'near Whangarei Heads' [Northland].
Type material. Syntypes in BMNH; not studied.
Additional material examined. NEW ZEALAND: North Island: AK: Titirangi, 20.iii.[19]13, A.E. Brookes coll., 1 spec. (NZAC); Titirangi, [19]14, T. Broun coll., 1 spec. (NZAC); Titirangi, 30.ii.[19]15, A.E. Brookes coll., 2 spec. (NMPC, NZAC); Waitete, T. Broun coll., 2 spec. (NZAC). **BP:** Te Aroha, litter, 24.ix.[19]64, G. Kuschel lgt., 1 spec. (NZAC). **CL:** Kauaeranga Vall., Thames, 16.-20.i.[19]60, J.I. Townsend & R. Zondag lgt., 2 spec. (NZAC). **GB:** Motu River, iii.1928, A.E. Brookes lgt., 2 spec. (NZAC). **ND:** Waipoua SF, 26.xi.1980, G. Kuschel lgt., 1 spec. (NZAC). **TO:** Kaiangaroa, 19.iii.[19]18, T. Broun coll., 3 spec. (NZAC); Owhango, Whakapapa River, Ohinetonga Scenic Res., 350 m, 14.ii.1997, Schuh & Lang lgt., 2 spec. (NHMW, NMPC). **WI:** Palmerston North, Ballantae, light trap in hill country pasture, 27.i.1975, J.M. Esson lgt., 12 spec. (NZAC). **WN:** Titahi Bay, 18.ix.[19]10, 1 spec. (NZAC); Wellington, 1 spec.; Flora R., 14.i.[19]22, A. Philpott lgt., 1 spec. (NZAC). **WO:** Pirongia, 2.xii.1909, T. Broun coll., 1 spec. (NZAC). **South Island: BR:** Big River Rd Tawhai SF, Reefton, 24.i.1973, J.S. Dugdale lgt., 1 spec. (NZAC). **DN:** Waipori Gorge, in moss and lichen on dead beech branch, 19.v.2002, J. Nunn lgt., 4 spec. (NZAC). **MB:** Pelorus Bridge, 20.ix.[19]67, J.C. Watt lgt., 1 spec. (NZAC); Pelorus Bridge, Marlborough, 25.vii.[19]67, under loose bark Tawa [= *Beilschmiedia tawa*] log, J.C. Watt lgt.,1 spec. (NZAC). **NN:** Whangamoa, 1.ix.[19]66, J.C. Watt lgt., 1 spec. (NZAC); Nelson, Paturau R., on *Rhopalostylis sapida*, 21.i.[19]72, G. Kuschel lgt., 1 spec. (NZAC). **OL/WD:** Haast Pass west of summit, 550 m, 24.i.1978, G. Kuschel lgt., 2 spec. (NZAC). **SI:** Big S. Cape Isl., beating, xi.[19]68, G. Kuschel lgt., 1 spec. (NZAC). **Offshore Island: CH**: Awatotara, 450 ft., ex dead *Myrsine chathamica*, 21.ii.[19]67, 1 spec. (NZAC); Limestone Quarry, litter, 11.ii.[19]67, G. Kuschel lgt., 1 spec. (NZAC).

Redescription. ***Male.*** Oblong oval, moderately convex (Fig. 11). Black, explanate sides of pronotum and elytra, small transverse spot at anterior pronotal margin, three more or less confluent spots at base of pronotum in front of scutellar shield, scutellar shield, longitudinal (sometimes interrupted) spots at inner margin of humeral bulge and pair of C-shaped spots interconnected at suture at midlength of elytra brown-yellow. Pubescence yellowish, thin, recumbent, inconspicuous.

Head transverse, frons flat, punctures smaller than eye-facets, rasp-like, separated by one diameter or less, interspaces microscopically punctate. Antennae longer than eye-facets (HEAW/ANLE: 0.75), ANCL/ANLE: 0.32), antennal club oblong oval, almost twice as long as wide (Fig. 43).

Pronotum transverse (ratio WPR2/LEPR: 1.68–1.83), widest at basal third, more strongly narrowed anteriorly than posteriorly. Ratio WPR1/WPR2: 0.91–0.94, WPR1/WPR3: 1.36–1.50, WPR2/WPR3: 1.50–1.63. Anterior margin with subtrapezoidal emargination nearly as deep as eye-width. Anterior angles obtuse, prominent. Lateral margins broadly arcuate, sides



Figs 43–47. Details of *Epuraea signata* Broun, 1880. 43 – antenna; 44 – prosternal process; 45 – tegmen; 46 – median lobe of aedeagus; 47 – ovipositor. Scale bar = 0.5 mm.

not explanate except for broadly depressed posterior corners. Basal margin truncate in middle, slightly concave besides posterior angles, those obtuse, not prominent. Pronotal disc flattened in middle, moderately convex laterally. Punctures smaller than eye-facets, separated by one diameter or less, interspaces smooth. Scutellar shield triangular, with dense shallow punctures.

Elytra oval, widest before their midlength, strongly narrowed posteriorly, reaching their maximum length near suture, narrowly separately rounded apically. Ratio LELY/WELY: 1.10–1.17. Lateral margins broadly arcuate, sides not explanate. Surface flattened along suture, moderately convex laterally; punctuation similar to pronotum, interspaces with indistinct traces of reticulation.

Pygidium narrowly truncate apically, finely and densely granulate-punctate; punctures separated by one diameter or less, interspaces reticulate. Tergite VIII exposed.

Postmentum flat, with punctures smaller than eye-facets separated by about one diameter, interspaces with micropunctures. Antennal furrows converging posteriorly, broad and short, their margins less pronounced than in other species.

Prosternum flatly vaulted in middle, densely micropunctate-reticulate with widely dispersed indistinct shallow punctures, lateral portions with oblique wrinkles. Hypomera shallowly concave with sculpture similar to prosternum. Prosternal process longitudinally convex (in lateral view), strongly dilated, almost semicircular posterior to procoxae (Fig. 44). Metaventrite flattened in middle, discrimen vanishing in anterior fourth, punctuation and microreticulation similar to prosternum. Recurrent outer portions of mesocoxal cavities not developed. Punctation of abdominal ventrites similar, generally less distinct than on metaventrite.

Protibia less than 4× longer than wide, outer apical angle rectangular. Protarsomeres I–III bilobed, 0.7× width of protibia. Protarsomere V longer than I–IV combined. Tarsal claws simple. Mesotarsomeres I–III bilobed, 0.5× width of mesotibia.

Male genitalia as in Figs 45–46; tips of lateral lobes of tegmen acutely pointed with shallowly concave inner edges, median lobe in distal third gradually narrowed towards narrowly truncate apex.

Female. Generally similar to male (Fig. 12). Tips of elytra moderately acuminate, ratio LELY/WELY: 1.22–1.25. Pygidium narrowly rounded apically. Ovipositor as in Fig. 47.

Measurements. Body length 3.1–3.8 mm, width 1.3–1.7 mm.

Notes. *Epuraea signata* is easily distinguished from other *Epuraea* species by its somewhat elongate body form and patterned elytra present in most specimens. The species is not as commonly collected as other native species, and seems to occur rarely in leaf litter and may be saproxylic (e.g., Kuschel 1990). In addition to the one leaf litter record, as well as in branch, Malaise and light traps, *E. signata* has been collected by beating vegetation and hand collecting from rotten wood, *Nothophagus* branches, and low growing ferns.

Geographic distribution. North Island: AK, BP, CL, GB, ND, TO, WI, WN, WO. South Island: BR, DN, MB, NN, OL/WD, SI. Offshore Island: CH.

Discussion

Modern fauna of *Epuraea* of New Zealand is rather isolated in the context of the neighbouring faunas. As mentioned above, it consists of two distinctive elements: (i) two species – *E. imperialis* and *E. scutellaris*, attributable to the subgenus *Haptoncus*, and (ii) four endemic species, *E. antarctica*, *E. glabrata* sp. nov., *E. mayendorffii* and *E. signata.*

Subgenus *Haptoncus*, including also *Haptoncurina* Jelínek, 1977 synonymized by Kirejtshuk (2008), comprises almost all *Epuraea* species currently known from the Pacific area (Gillogly 1962, 1982) and eastern Indonesia, but the delimitation of the subgenus is somewhat questionable. Species undoubtedly congeneric with the type species *Epuraea ocularis* Fairmaire, 1849, such as e.g. *E. luteola* Erichson, 1843 or *E. literata* (Reitter, 1880) are characterized – apart from generally smaller body size – by temples acutely pointed behind eyes, terminal labial palpomere broad, flat, semicircular, broadly truncate apically and cribriform spiracles on abdominal terga III–VI (J. Jelínek, unpublished observation). However, other species currently placed in *Haptoncus* differ from this combination of characters and, in spite of the effort of Gillogly (1982) and Kirejtshuk (1998), a revision of the whole subgenus is badly needed.

As the species of *Haptoncus* are saprophagans frequenting fruits and other decaying vegetal substrates, we can suppose that they have been dispersed by man for centuries, beginning from the migrations of ancient native people between the islands of Southeast Asia and Pacific and ending with contemporaneous global trade. It is therefore difficult, if not impossible, to establish the original ranges of some species. Australian *E. imperialis* was in 1920's introduced to New Zealand (Kuschel 1990) and after 2000 also in Europe (Jelínek et al. 2016). *Epuraea scutellaris* was originally described from New Zealand, but as it is currently known also from Australia, Hawaii and California (Gillogly 1982), its New Zealand origin is somewhat questionable.

In Australia, *Epuraea* is represented almost exclusively by species of the subgenus *Blackburnea* Kirejtshuk & Kvamme, 2001, which may be related to *Haptoncus* and differs markedly from any New Zealand species. Some species of this subgenus are known also from other islands of western Pacific: *E.* (*B.*) *gilloglyi* Kirejtshuk & Kvamme, 2001 (= *E. brunnea* (Gillogly, 1982), non Wiedemann, 1825) is known from New Hebrides, Samoa and New Caledonia, and *E.* (*B.*) *montrouzieri* Grouvelle, 1903 (= *E. magnoculi* (Gillogly, 1982)) occurs in New Caledonia. The latter species was published by Gillogly (1982) also from Borneo and Loyalty Island, but these records need further corroboration (Kirejtshuk & Kvamme 2001).

Apart from subgenera *Haptoncus* and *Blackburnea*, *Epuraea* is represented in New Caledonia by the subgenus *Strophoraea* Kirejtshuk & Kvamme, 2001 containing only *E.* (*S.*) *notatipennis* Kirejtshuk & Kvamme, 2001, which resembles rather some ancestral taxa of Epuraeinae and markedly differs from any New Zealand species.

Endemic species of New Zealand thus represent an isolated lineage/lineages, the origin and affinities of which cannot be established under the present state of our knowledge of the genus. The apparent morphological diversity of the four endemic *Epuraea* species may be the result of adaptive radiation that is characteristic of insular faunas.

Possible valuable information may result from future study of *Epuraea* from New Guinea, which remains essentially unknown.

Acknowledgements

It is our pleasure to express our thanks to M.V.L. Barclay and R. Booth (The Natural History Museum, London, UK), M.A. Jäch and R. Schilhammer (Museum of Natural History, Vienna, Austria) and Mr. R. Schuh (Wiener Neustadt, Austria) for the loan of material and to Mrs. A. Taghavian (National Museum of Natural History, Paris, France) for information on *Epuraea antarctica* in MNHN. M. Fikáček and M. Seidel (National Museum, Prague, Czech Republic) kindly made preferentially accessible the Nitidulidae from their recent collecting trips to New Zealand. We are obliged also to P. Audisio (Sapienza University of Rome, Italy) and A. R. Cline (California Department for Food and Agriculture, Sacramento, California, USA) for valuable comments to the manuscript. The work of JJ and JH was supported by the Ministry of Culture of the Czech Republic (DKRVO 2017/14, National Museum, 00023272). RL was supported in part by Core funding for Crown Research Institutes from the Ministry of Business, Innovation and Employment's Science and Innovation Group.

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