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A revision of the Australian carabid subtribe Agonicina

(Coleoptera, Carabidae, Peleciini)

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The species of the Australian subtribe Agonicina of the carabid tribe Peleciini are revised and the following new taxa are described, based partly on the examination of the male genitalia, partly on a number of characters of the external morphology: *Agonica sloanei* from Tasmania; and the following provisional taxa of the genus *Pseudagonica* Moore: *aberrans*, *alpina*, *amblyops*, *incerta*, *latibasis*, *longipennis*, *macrops*, *minuta minuta*, *minuta elongata*, *minuta errimundrae*, *montisfusci*, *nitida gracilior*, *nitida major*, *nitida moorei*, *obscuripes obscuripes*, *obscuripes asetosa*, *orbitalis*, *spinosa*, all from mainland Australia.

Additional records of *Agonica ovalipennis* Sloane, *A. simsoni* Sloane, and *A. victoriensis* Moore are enumerated. A lectotype is designated for *A. nitida orientalis* Moore, 1963. Keys to the species of the genus *Agonica* Sloane and to the taxa of the genus *Pseudagonica* are provided.

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Introduction

During recent visits at several Australian and Tasmanian institutions and collections which were devoted to the preparation of a key to the genera of the Australian Carabidae, I had the opportunity to sort out a number of partly identified, but mostly unidentified specimens of the subtribe Agonicina several of which turned out to belong to undescribed taxa. This paper, therefore, is devoted to describe the putative new species and subspecies, to redescribe the already known species, in particular their male genitalia, and to serve as a provisional revision of this subtribe.

The small carabid subtribe Agonicina (or tribe according to the respective opinions of carabidologists) is confined to south-eastern Australia and Tasmania. It was founded by T. G. Sloane (1920) who described two species of peculiar shape in the genus *Agonica* which both occur in Tasmania. Moore (1960) described one additional species of *Agonica* from Victoria in mainland Australia and one species of the new genus *Pseudagonica,* likewise from Victoria. Later Moore (1963) added a key to the species of the genus *Agonica* and described an additional subspecies of *Pseudagonica nitida* Moore, 1960. Thus, at present the subtribe includes the two genera *Agonica* Sloane, 1920 and *Pseudagonica* Moore, 1960, and altogether four species and one additional subspecies (Moore 1963, Moore et al. 1987).

All species of the subtribe are characterized by more or less ovoid elytra, absence of metathoracic wings, elongate and towards apex incurved, pincer-like mandibles, small but usually protruded eyes, and markedly securiform labial palpi. Certainly the group is related to the Panagaeine lineage within Carabidae, and most probably it is closest related to Peleciini, or even was included in this tribe as a subtribe Agonicina (Straneo & Ball 1989) which opinion is followed in the present paper. These authors also stressed the great number of apparently plesiomorphic character states of the Agonicina, as compared with the related Peleciina (-ini). The phylogenetical status of Agonicina, in combination with their occur-

rence in the southern part of the Australian Region, raises interesting questions about the biogeographic relations of the Panagaeine-Peleciine complex which Straneo & Ball (1989) discussed in detail.

So far specimens of Agonicina were recorded from Tasmania and from south-eastern Australia, i. e. from the Otway Ranges south-west of Melbourne through eastern Victoria to south-eastern New South Wales and the Australian Capital Territory. As far as it was recorded, the members of the subtribe occur in more or less dense forests, commonly in montane regions, where they have been found under logs and in ground litter.

Very little is known about the habits of all Agonicine species and almost nothing about their life histories, and larvae are so far unknown. Their diet may consist of worms and insect larvae, and perhaps also of snails and millipedes. The latter animals are known to represent the main food of those Peleciines of which information about their diet is available. So perhaps Agonicine species likewise feed on this invertebrate group, at least the large ones. The very small taxa of *Pseudagonica*, however, may use also other small animals as food. Specimens of Agonicina, in particular those of the genus *Pseudagonica*, are very rarely collected, but it is unknown, whether this is due to their rarity in nature, whether to specialized habits which render sampling so difficult. Therefore the number of available specimens in collections is very limited.

The present paper should serve as a provisional revision of the subtribe, with special aim to demonstrate its diversity. The most important characters used for the distinction of taxa are shape and structure of the male aedeagus, body size, body shape, in particular shape of pronotum and of its basal angle, shape of the elytra and of its base and apex, degree of striation of elytra, size and shape of the eyes, length of the antenna, presence, or absence of the posterior lateral pronotal seta, and colouration of the legs.

Moore (1963) stressed the remarkable differences in body size within species of both genera. This statement, however, needs some revaluation. The characters referred to above, together with examination of the male genitalia, reveal a considerable number of differently shaped and structured specimens or "populations" within both genera but particularly in the genus *Pseudagonica* that differ as well in certain states of their external morphological characters as in genitalic morphology. Although some of these possess structurally rather similar aedeagi, they differ in certain external characters, but also in size of their aedeagi (even in specimens of similar body size!), and usually minor differences in the structure of either the apex of the aedeagus, either the internal sac, are observed. The majority of these "populations" seems to occupy precinctive and usually also quite restricted ranges. Because the number of available specimens is very small, it is uncertain, however, whether this pattern mirrors the actual distribution, whether it is due to insufficient material supply. To manage this rather confusing situation, those "populations" that share rather similar body size and comparable shape and structure of their aedeagi, are regarded as belonging to the same species but are provisionally described as subspecies, provided that they are not sympatric or even syntopic. Specimens or "populations" with marked differences in body size, as well as in certain other external characters, and in shape and structure of the aedeagus, accordingly are considered separate species.

It should be stressed, however, that this attempt to sort the material into definite taxonomic units is quite provisional, because the material still is very scarce and thus, differences between species or small clusters of specimens which presently seem to share substantial and important similar characters, may prove to be within variation, when more specimens will be at hand in future. Moreover, of a couple of taxa either just single specimens are available, either all specimens are females, so that the taxonomical decisions cannot be verified by males or additional specimens. This applies even to the type series of one already described species, all of which are females. This series includes specimens of very different body size, shape of pronotum, shape and convexity of elytra, and length of antenna.

Nevertheless, this preliminary attempt to sort the material seems justified to me, because the species are flightless and ground living in dense forests, so that they, in particular the very small ones of the genus *Pseudagonica*, most probably are very little vagile and thus, development of local "populations" and consequently of higher taxa is quite probable.

Hence this "revision", which indeed is a revision because types of all described taxa have been examined, is only a provisional attempt to arrange the surprisingly diverse available material into groups which are believed to represent different taxonomic units. Future work using additional material, in particular males from various localities, or additional methods, for example those based on molecular genetics, thus may prove whether the taxonomic units erected in the present paper will continue, whether they have to be revised, either denied, either changed to other taxonomic levels.

If the present attempt will intensify sampling efforts of this group, and thus better knowledge of its taxonomy, phylogenetic relations, and ecology, this attempt has achieved its main purpose.

Methods

For dissection of the genitalia the specimens were relaxed for a night in a jar under moist atmosphere, then the genitalia were removed and subsequently cleaned for a short while in hot KOH.

Measurements were taken using a stereo microscope with an ocular micrometre. Body length was measured from the apex of the labrum to the apex of the elytra which gives a more objective measure of the body size than measurements that include the mandibles. Lengths, therefore, may slightly differ from measurements taken by previous authors. Length of the pronotum was measured along midline. Length of the elytra was measured from the most advanced part of the humerus to the very apex. For measurement of the length of the antenna the 8th antennomere was chosen. Attention was paid to take the measurement at the widest part of the antennomere and to omit the pilosity.

For the decision of presence, or absence, and development of the elytral striae high magnification is needed. I used a Leitz binocular with very high resolution capacity and with up to 160× magnification and two very bright Wild lamps that give natural light and that can be focussed.

The habitus photographs were obtained with a digital camera using ProgRes CapturePro 2.6 and AutoMontage and subsequently were edited with Corel Photo Paint X4.

Even in already described specimens the complete label data are given. This was done in view of the very fragmentary knowledge that is available from this rather odd shaped and structured beetle group. " / " indicates another label, a longer space (" ") indicates a new line on a label.

Abbreviations

AMS	Australian Museum, Sydney
ANIC	Australian National Insect Collection, Canberra (including the collection of B. P. Moore)
CBM	Working Collection M. Baehr in Zoologische Staatssammlung, München
NHM	The Natural History Museum, London
NMV	Museum of Victoria, Melbourne
SAMA	South Australian Museum, Adelaide
TDPI	Tasmanian Department of Primary Industries, Hobart
TFIC	Forestry Tasmania Insect Collection, Hobart
ZMUC	Zoological Museum of the University of Copenhagen
ACT	Australian Capital Territory
NSW	New South Wales
SA	South Australia
TAS	Tasmania
VIC	Victoria
e.	eastern
s.	southern
se.	south-eastern
sw.	south-western
>	larger or longer than
<	smaller or shorter than

Taxonomy

Genus *Agonica* Sloane

Agonica Sloane, 1920: 130. – Csiki 1931: 1022; Moore 1960: 165; Moore: 1963: 22; Moore et al. 1987: 252; Straneo & Ball 1989: 87; Lorenz 2005: 318.

Type species. *Agonica simsoni* Sloane, 1920, by subsequent designation by Moore (1963).

Diagnosis. Head large with convex vertex; frontal sulci well developed; apex of maxillary palpus truncate; apical palpomere of labial palpus remarkably triagonal with straight apex; apex of elytra barely sinuate; elytral striae usually well impressed; mesotibia and metatibia not sulcate on the median surface; internal sac of the aedeagus without denticulate or spinose areas.

So far three species were included in the genus: *A. ovalipennis* Sloane, *A. simsoni* Sloane, and *A. victoriae* Moore. One additional species is described below.

Agonica simsoni Sloane

Figs 1, 14

Sloane 1920: 130. – Csiki 1931: 1022; Moore 1963: 23; Moore et al. 1987: 252; Straneo & Ball 1989: 87; Lorenz 2005: 318.

Examined types. Holotype: ♂, Zeehan / Tribe Agonicini (n.) *Agonica* (n.) *simsoni* Sl. 12.6.19 Id by T. G. Sloane / Holotype *Agonica simsoni* PJD Sl. [red] / I 10806 *Agonica simsoni* Sl Tasmania TYPE (SAMA No. 25-033314).

Diagnosis. A medium sized species with brown legs and comparatively elongate antenna; distinguished from the most similar species *A. ovalipennis* Sloane by slightly larger body size, longer antenna, and at the average slightly longer elytra. The male genitalia, however, are very similar.

Partial redescription

Measurements. Body length: 6.0–8.0 mm; width: 2.1–2.95 mm. Ratios. Length/width of 8th antennomere: 2.2–2.35; length/width of pronotum: 0.96–1.03; length/width of elytra: 1.60–1.68.

Colour. Black, mandibles dark reddish, palpi and antennae pale reddish, legs reddish to brown, tibiae of same colour as femora.

Head. Of average size and shape. Eye small, but laterad well projected.

Pronotum. Dorsally rather convex, relatively elongate, apex and base of similar width or base slightly narrower than apex. Basal impressions very feeble.

Elytra. Ovoid, rather elongate, dorsally convex. 5 or 6 median striae well impressed, 7th and 8th striae feeble. Microreticulation slightly superficial, composed of very transverse meshes.

Male genitalia (Fig. 1). Genital ring large, oval-shaped, asymmetric, with narrow basis and oblique, sharply angulate apex. Aedeagus short and compact, very wide; lower surface strongly concave throughout; apex short and wide, stout, at tip evenly rounded; lower surface on both sides narrowed to apex; orificium very large, situated mainly on the upper surface; internal sac with several folds, some of which are more strongly sclerotized, with an elongate, oblique fold that runs at the bottom from the left side anteriad to the right side. Both parameres large and short, with rounded apex; right paramere not much smaller than left one.

Female gonocoxites (Fig. 14). Gonocoxite 1 very large and wide, with a single, small seta at the apical rim. Gonocoxite 2 short and wide, almost straight, with obtuse apex, with one elongate dorso-median ensiform seta and one elongate ventro-lateral ensiform seta situated about at middle.

Variation. Reasonable variation is noted in body size, length of pronotum and relative width of its base, and relative length of the elytra.

Additional material: **TAS:** 1♀, Waldheim 20.iii. 77 B. P. Moore / *Agonica simsoni* Sl. det. B. P. Moore'86 (ANIC); 2♂♂, 2♀♀, vL. StClaire 2400–4000ft Jan'57 Darlingtons / *Agonica simsoni* Sl. Det. B. P. Moore'61 (ANIC); 1♂, Lake St Clair 3.i.71 B. P. Moore / *Agonica simsoni*, Sl det. B. P. Moore'86 (ANIC); 1♂, SW Tasmania Lower Gordon R. 42.31S 145.45E 42.37S 145.47E Howard, Will / *Agonica simsoni* Sl. det. B. P. Moore'78 (ANIC); 1♂, 43.22S 146.09E Celery Top Islands Bathurst Harbour 15Mar.–15Apr.1991 E.Edwards, J.Berry F.I.T. #2 / F.I.T. ANIC 1180 closed forest (ANIC); 1♂, Tarraleah: Bulters Road area 42.3 S × 146.3596 E Tarraleah WHS fauna proj. Pit # E3 CON Apr 2003 M. MacDonald FT23346 (TFIC); 1♂, Tarraleah: Hornes Dam 42.273 S × 146.3616 E Tarraleah WHS 1.2 Pitfall trap WHS 20-Jan 92 R. Brereton FT21083 / *Agonica simsoni* Sl. Det. K Michaels (TFIC); 1♂, Tarraleah: Hornes Dam 42.329 S × 146.359 E Tarraleah WHS 9.6 Pitfall trap WHS 20-Jul-92 R. Brereton FT22107 / *Agonica ovalipennis* Sl. Det. K Michaels (TFIC); 1♂, Tarraleah: D'Arcys Bluff area 42.19 S × 146.2984 E Tarraleah WHS fauna proj. Pit # 22.1 WHS Apr 2003 M. MacDonald FT23314 (CBM); 1♂, Tarraleah: D'Arcys Bluff area 42.186 S × 146.2976 E Tarraleah WHS fauna proj. Pit # 18.5 WHS Jan2004 M. MacDonald FT24753 (TFIC); 1♂, Tarraleah: Hornes Dam area 42.271 S × 146.3605 E Tarraleah WHS fauna proj. Pit # 3.2 WHS Mar 2003 M. MacDonald FT23039 (TFIC); 1 ♀, Wayatinah, P. B. McQuillan 30.v.1977 / 117181 (TDPI); 1♀, Scotts Peak Road 42.5758 S × 146.222 E Driscoll rainforest patch Pitfall trap site B2C D. Driscoll Mar 2003 FT44094 (TFIC); 1♀, Frankland Range/ South Arthur River Sumac 1990/1991 Bob Mesibov / FT495462 (TFIC); 8Kms. SW Waratah (7915-704066) 28.ix.1990 B. Mesibov / *Agonica simsoni* Sl. det. B. P. Moore'91 / 97104 *Agonica simsoni* Sloane, 1920 TAS AGRICULTURE (TDPI); 1♀, Magnet / genus *Agonica* PJD (SAMA 25-034415); 1♂, J. W. Evans / *Agonica* sp. n. or *simsoni* Sl.? van Emden det. 1951 / F. van Emden Bequest. B.M. 1960-129. (NHM).

Distribution. Central and western Tasmania.

Collecting circumstances. Most specimens were sampled in pitfall traps, one in flight intercept trap in "closed forest". This latter record is surprising in view of the wanting flight ability.

Agonica ovalipennis Sloane
Fig. 2

Sloane 1920: 131. – Csiki 1931: 1022; Moore 1963: 23; Moore et al. 1987: 252; Straneo & Ball 1989: 87; Lorenz 2005: 318.

Examined types. Holotype: ♀, 3120 / Lottah / Tribe Agonicini (n.) *Agonica* (n.) *ovalipennis* Sl. 12.6.19 Id by T. G. Sloane / Holotype *Agonica ovalipennis* PJD Sl. [red] / I 10807 *Agonica ovalipennis* Sl Tasmania TYPE (SAMA No. 25-033313).

Diagnosis. A relatively small species with brown legs and moderately elongate antenna; distinguished from the most similar species *A. simsoni* Sloane by slightly lesser body size, shorter antenna, and at the average slightly shorter elytra. The male genitalia, however, are very similar.

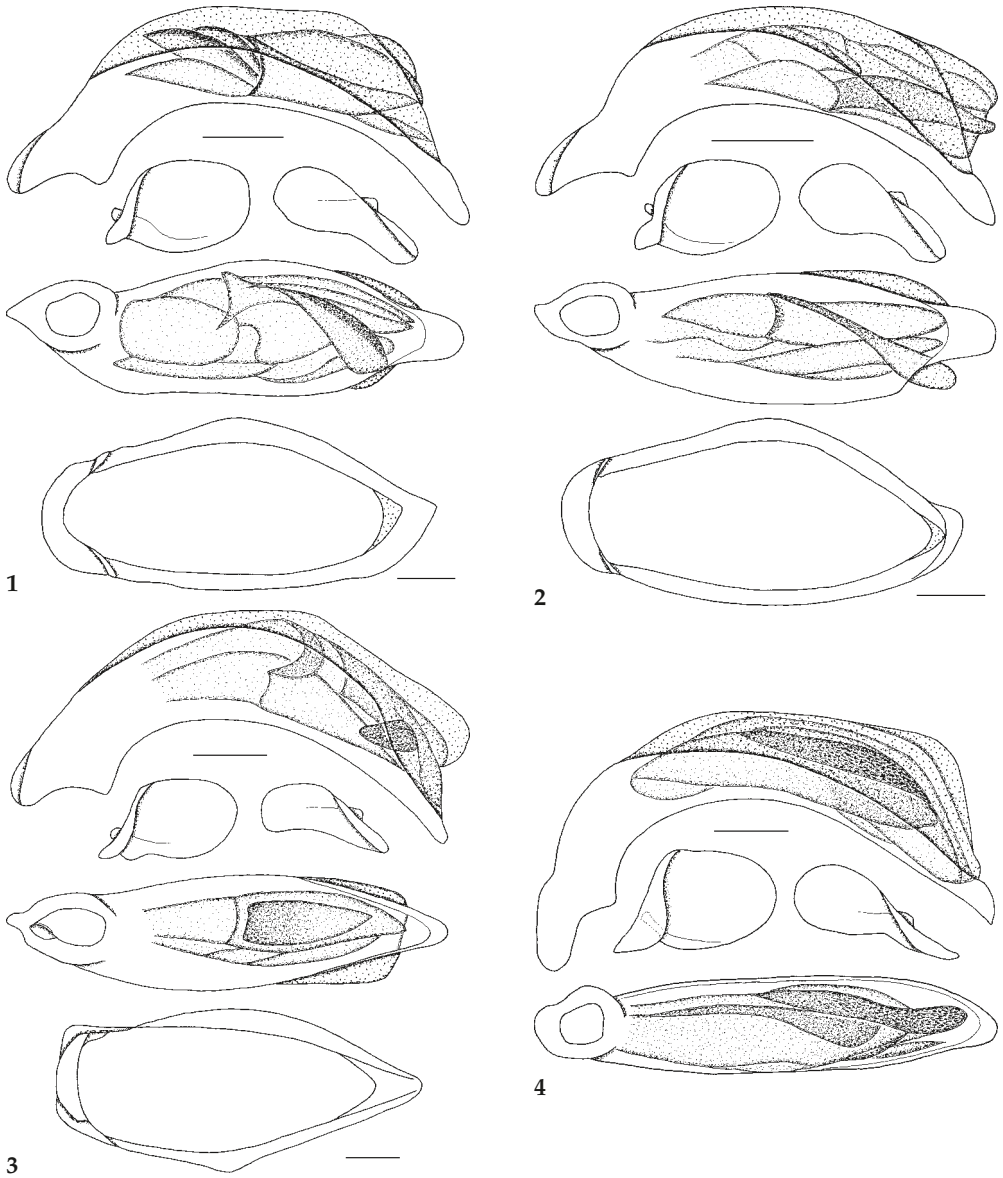
Partial redescription

Measurements. Body length: 4.55–5.8; width: 1.7–2.15 mm. Ratios. Length/width of 8th antennomere: 1.85–2.1; length/width of pronotum: 0.98–1.05; length/width of elytra: 1.53–1.65.

Colour. Black, mandibles dark reddish, palpi and antennae pale reddish, legs reddish to brown, tibiae of same colour as femora.

Head. Of average size and shape. Eye small, but laterad well projected.

Pronotum. Dorsally rather convex, relatively elongate, apex and base of similar width or base



Figs 1- 4. Male genitalia: Aedeagus left side and lower surface, left and right paramere, genital ring. **1.** *Agonica simsoni* Sloane. **2.** *A. ovalipennis* Sloane. **3.** *A. victoriensis* Moore. **4.** *A. sloanei*, spec. nov. Scale bars: 0.25 mm.

slightly narrower than apex. Basal impressions very feeble.

Elytra. Ovoid, rather elongate, dorsally convex. 5 or 6 median striae well impressed, 7th and 8th striae more feeble. Microreticulation rather distinct, composed of transverse meshes.

Male genitalia (Fig. 2). Genital ring large, oval–shaped, asymmetric, with narrow basis and oblique, more or less obtuse apex. Aedeagus short and compact, very wide; lower surface strongly concave throughout; apex short and wide, stout, at tip evenly rounded; orificium very large, situated mainly on the upper surface; lower surface on right side suddenly narrowed to apex; internal sac with several folds, some of which are more strongly sclerotized, with an elongate, oblique fold that runs at the bottom from the left side anteriad to the right side. Both parameres large and short, with rounded apex; right paramere

not much smaller than left one.

Female gonocoxites. Similar to those of *A. simsoni* Sloane.

Variation. Reasonable variation is noted in body size, length of antenna, length of pronotum and relative width of its base, and relative length of the elytra.

Additional material: TAS: 1 ♀, 12 km NE of Corinna 22.iii.77 B.P.Moore / *Agonica simsoni* Sl. det. B. P. Moore'77 (ANIC); 3 ♂♂, SW Tasmania Lower Gordon R. 42.31S 145.45S 42.32S 145.47S Howard, Hill... (ANIC, CBM); 1 ♂, 42.06S 146.23E Frodsham's Pass, 620m 20 Oct. 1999, implicate inner pitfalls (×5) Tube 217, R. Coy (ANIC); 2 ♂♂, Tarraleah: D'Arcys Bluff area 42.187 S × 146.2975 E Tarraleah WHS fauna proj. Pit × 18.4 WHS May 2003 M. MacDonald FT23455 / *Agonica ovalipennis* Sl. Det. K Michaels (TFIC).

Distribution. Central and western Tasmania.

Collecting circumstances. Largely unrecorded; few specimens sampled in pitfall traps.

Agonica victoriensis Moore
Figs 3, 15, 25

Moore 1963: 23. – Moore et al. 1987: 252; Straneo & Ball 1989: 87; Lorenz 2005: 318.

Examined types. Holotype: ♀, WARBURTON, VIC. 26.1.53 C. OKE / *Agonica victoriensis* sp. n type Det. B. P. Moore'61. / Holotype 1992 [red] (NMV). – Paratype: 1 ♂, AUSTRALIA: Mt. Donna Buang Vict. 30.i.60. B. P. Moore / Para- type (ANIC).

Diagnosis. A large species with black legs and rather elongate antenna; distinguished from all species by larger body size, darker legs, less impressed elytral striae, and near apex not sinuate aedeagus.

Partial redescription

Measurements. Body length: 7.2–9.1 mm; width: 2.55–3.4 mm. Ratios. Length/width of 8th antennomere: 2.25–2.4; length/width of pronotum: 1.04–1.22; length/width of elytra: 1.62–1.69.

Colour (Fig. 25). Deep black, mandibles dark piceous to black, palpi and antennae except the scapus reddish, scapus slightly darker, legs black, only the tarsi reddish.

Head. Of average size and shape. Eye moderately small, but laterad not much projected.

Pronotum. Dorsally rather convex, relatively elongate, apex and base of similar width. Basal impressions moderately feeble. Posterior marginal seta situated slightly more basad than in the other three species.

Elytra. Ovoid, elongate, dorsally convex. Striae feebly impressed, only the inner two striae perceptibly impressed and slightly punctate, the lateral striae barely impressed, 6th–8th striae barely recognizable. Microreticulation slightly superficial, composed of slightly transverse meshes

Male genitalia (Fig. 3). Genital ring large, slightly oval-shaped, slightly asymmetric, with narrow, laterally angulate basis and straight, rather narrow, obtusely rounded apex. Aedeagus rather short wide; lower surface very strongly concave throughout; apex short regularly obtusely triangular, at tip shortly obtusely rounded; orificium very large, situated mainly on the upper surface; internal sac with several little sclerotized folds. Both parameres large, with rounded apex; right paramere smaller and longer than left one.

Female gonocoxites (Fig. 15). Gonocoxite 1 very large and wide, apparently without any setae at the apical rim. Gonocoxite 2 short and moderately wide, very slightly curved, with widely rounded apex, apparently without any setae.

Variation. Reasonable variation is noted in body size, and in particular in length of pronotum, less so in relative length of the elytra.

Additional material: VIC: 1♀, 37.51S 146.16E Baw Baw Alpine Res. 0.7km NE Neulynes Mill 1035m, 930 14–26 Feb. 1993 A. Newton & M. Thayer (ANIC); 1♂, Mt. Baw Baw 24.xii.62 B. P. Moore / *Agonica victoriensis* mre det. B. P. Moore '62 (ANIC); 2♂♂, 37.43S 145.38 Myrtle Gully Res. NW Warburton, 1000m, 819 30 Jan.–9 Feb.1987 A. Newton & M. Thayer (ANIC, CBM).

Distribution. A rather restricted area in eastern Victoria.

Collecting circumstances. The specimens from Myrtle Gully were sampled in "*Nothofagus* & *Euc. regnans* Berlese & log litter".

Agonica sloanei, spec. nov.
Fig. 4

Agonica ovalipennis Sloane, 1920 (part). – Moore 1963: 23, fig. 8.

Examined types. Holotype: ♂, Blue Tier c.2000' NE-Tas Darlingtons / *Agonica ovalipennis* Sl Det. B. P. Moore'61 (ANIC).

Etymology. The name is a patronym in honour of the late T. G. Sloane, the unexcelled authority of Australian Carabidae in the early 20th Century.

Note. Moore (1963) noted the type specimen under *A. ovalipennis* and sketched the male genitalia (Moore 1963, fig. 8).

Diagnosis. A relatively small species with brown legs and comparatively short antenna; distinguished from the most similar species *A. simsoni* Sloane and *A. ovalipennis* Sloane by slightly longer pronotum, longer and narrower elytra, and the narrower and near apex not sinuate aedeagus.

Description

Measurements. Body length: 5.9 mm; width: 2.05 mm. Ratios. Length/width of 8th antennomere: 1.8; length/width of pronotum: 1.06; length/width of elytra: 1.69.

Colour. Holotype chestnut brown with slightly darker head. Mandibles, plapi, antenna, and legs pale reddish.

Head. Of average size and shape. Frontal furrows well impressed and regularly curved. Eye rather small though laterad well projected. Antenna comparatively short.

Pronotum. Comparatively elongate, dorsal surface moderately convex. Apex barely excised, finely marginate. Lateral margins regularly but moderately convex, lateral border and sulcus narrow. Basal angles very widely rounded, base slightly narrower than the apex, in middle not bordered. Both marginal punctures and setae located at the same place as in *A. sloanei* and *A. ovalipennis*.

Elytra. Narrow and elongate, ovoid, widest about at middle. Dorsal surface convex but slightly depressed on disk. Six median striae rather well impressed, impunctate, interval slightly convex; 7th and 8th striae feeble. Scutellary stria interrupted and very short. Microreticulation rather distinct, composed of moderately transverse meshes.

Lower surface. Metepisternum quadrate. Apical sternum in male quadrisetose.

Legs. Of average size and shape; in male four basal tarsomeres slightly asymmetricaly squamose.

Male genitalia (Fig. 4). Genital ring unknown. Aedeagus comparatively narrow; lower surface in basal half very strongly concave, in apical half almost straight; apex short and fairly wide, slightly asymmetric, convexly narrowed, at tip obtusely rounded; orificium very large, situated mainly on the upper surface; lower surface convexly and evenly narrowed to apex; internal sac with several remarkably elongate folds, some of which are more strongly sclerotized, with an elongate, sclerotized, slightly oblique fold at bottom. Both parameres large and short, with rounded apex; right paramere not much smaller than left one.

Female gonocoxites. Unknown.

Variation. Unknown.

Distribution. Northern central Tasmania at the northern rim of the Central Plateau. Known only from the type locality.

Collecting circumstances. Little recorded. The holotype was collected at about 650 m.

Key to the species of the genus *Agonica* Sloane

1. Body size major, length > 6.0 mm; antenna longer, ratio l/w of 8th antennomere > 2.2. Mainland of Australia, Tasmania. ..... 2.
– Body size minor, length < 6.0 mm; antenna shorter, ratio l/w of 8th antennomere < 2.1. Tasmania. ..... 3.
2. Legs deep black; pronotum usually longer, ratio l/w > 1.04, usually considerably more; aedeagus regularly narrowed towards apex (Fig. 3). Mainland of Australia. ..... *victoriensis* Moore, 1963
– Legs paler, at most brown; pronotum usually shorter, ratio l/w < 1.03; aedeagus on right side in front of apex distinctly sinuate (Fig. 1). Tasmania. ..... *simsoni* Sloane, 1920
3. Pronotum and elytra slightly shorter and wider, ratio l/w of pronotum < 1.05, l/w of elytra < 1.65; aedeagus wider, on right side in front of apex distinctly sinuate (Fig. 2). .... *ovalipennis* Sloane, 1920
– Pronotum and elytra slightly longer and narrower, ratio l/w of pronotum 1.06, l/w of elytra 1.69; aedeagus narrower, almost regularly narrowed towards apex (Fig. 4). .... *sloanei*, spec. nov.

Tab. 1. Measurements and ratios of the species of *Agonica*. N = number of specimens measured; body length in mm; l/w 8th ant = ratio length/width of 8th antennomere; l/w pron = ratio length/width of pronotum; l/w elytra = ratio length/width of elytra.

	N	body length	l/w 8th ant	l/w pron	l/w elytra
simsoni	9	6.0–8.0	2.2–2.35	0.96–1.03	1.60–1.68
ovalipennis	7	4.55–5.8	1.85–2.1	0.98–1.05	1.53–1.65
victoriensis	6	7.2–9.1	2.25–2.4	1.04–1.22	1.62–1.69
sloanei	1	5.9	1.8	1.06	1.69

Genus *Pseudagonica* Moore

Pseudagonica Moore, 1960: 165. – Moore: 1963: 22; Moore et al. 1987: 252; Straneo & Ball 1989: 87; Lorenz 2005: 318.

Type species. *Pseudagonica nitida* Moore, 1960, by original designation.

Diagnosis. Head smaller than in the genus *Agonica*, with depressed vertex; frontal sulci barely indicated; apex of maxillary palpus acuminate; apical palpomere of labial palpus triagonal with straight apex; apex of elytra more or less distinctly sinuate; elytral striae usually barely perceptible; mesotibia and metatibia sulcate on the median surface; internal sac of aedeagus with denticulate or spinose areas.
So far one species with two subspecies was included in the genus: *P. nitida nitida* Moore and *P. nitida orientalis* Moore. Examination of male and female genitalia and differentiation of several character states of the external morphology, however, reveal the existence of a considerable number of additional populations which in the present paper are described as species or subspecies.

Pseudagonica nitida Moore

Moore, 1960: 166. – Moore 1963: 24; Moore et al. 1987: 252; Straneo & Ball 1989: 87; Lorenz 2005: 318.

Note. According to Moore (1963) this species includes two subspecies, namely the nominate subspecies from south-western Victoria (Otway Ranges), and the subspecies *P. nitida orientalis* Moore, 1963 which is said to occur in south-eastern Victoria. However, this picture needs revaluation, because the number of different taxa within the genus *Pseudagonica* is decidedly greater. Some of these apparently are more closely related one to another than others, hence they are herein provisionally described as subspecies of *P. nitida*, the others as separate species.

Pseudagonica nitida nitida Moore

Examined types. Holotype: ♀, Beech Forest, Vic. 11–19 Jan. 1932. F. E. Wilson. / *Pseudagonica nitida* sp. n. type Det. B. P. Moore / 2571 Type ♂ [red] / F. E. Wilson Collection (NMV). – Paratype: 1♀, Beech Forest, Vic. 11–19 Jan. 1932. F. E. Wilson. / *Pseudagonica nitida* sp. n. paratype Det. B. P. Moore / 2572 Paratype [blue] / F. E. Wilson Collection (NMV).

Note. In spite of the red type label that says that the specimen is a male, the holotype is a female which already Moore (1960) stated in his description.

One specimen from the original type series differs from both, the holotype and the one paratype from Beech Forest, in larger body size, relatively longer and decidedly more depressed elytra, narrower pronotum, longer antennae, and by presence of an elongate, oblique basal impression on the pronotum. For these reasons, it is described as a separate subspecies. Because all specimens of the original type series are females, no further differentiation is possible.

Diagnosis. Medium sized subspecies with short and wide prothorax, short elytra, and definitely paler femora than tibiae. Distinguished from most other subspecies of *P. nitida* by medium body size and rather short antenna; distinguished from *P. nitida orientalis* by more distinct elytral striae and slightly longer antenna.

Partial redescription

Measurements. Body length: 3.8–4.6 mm; width: 1.55–1.9 mm. Ratios. Length/width of 8th antennomere: 1.6–1.65; width/length of pronotum: 1.19–1.23; length/width of elytra: 1.46–1.48.

Colour. More or less dark piceous; clypeus reddish, mandibles, palpi, and antennae more or less pale reddish; femora pale yellow, tibiae reddish, distinctly darker than femora.

Head. Of average size. Eye moderately large, laterad fairly projected, orbit very short. Mandibles rather straight, comparatively little incurved apicad. Antenna moderately elongate.

Pronotum. Of average size and shape but rather short and wide; widest at anterior third; lateral margins oblique but rather convex; basal angles obtusely rounded. Basal marginal seta present, situated in the slightly widened marginal channel at beginning of the basal curvature. Surface depressed, with very superficial traces of transverse microreticulation.

Elytra. Comparatively short and wide, surface rather convex, apex rather deeply sinuate. Basal margin at humerus evenly rounded. At least three median striae recognizable. Microreticulation absent, surface very glossy.

Male genitalia. Unknown.

Female gonocoxites. As in *P. nitida major*, subspec. nov.

Variation. Apart from some differences of body size little variation noted.

Distribution. Cape Otway area, south-western Victoria. Known only from the type locality.

Collecting circumstances. Not recorded.

Pseudagonica nitida orientalis Moore

Moore 1963: 24. – Moore et al. 1987: 252; Straneo & Ball 1989: 87; Lorenz 2005: 318.

Examined types. Lectotype (by present designation): ♀, Kosciusko Raymond A.N.Z. / *Pseudagonica nitida* Moore Det. B. P. Moore '61 / SYNTYPE *P. nitida orientalis* (ANIC). – Paralectotype; 1 ♀, Kosciusko Raymond / 2501 Mt Kosciusko (SAMA No. 25-033819).

Note. Of this subspecies no type specimens have been designated by Moore. However, one specimen noted by Moore (1963) from Mt. Kosciusko bears a partly printed label "SYNTYPE *P. nitida orientalis*" which probably was fixed to the specimen some time after the description.

Of the specimens noted by Moore (1963) those from "Emerald, F. E. Wilson", "Mt. Baw Baw, Darlington", "Mt. Donna Buang, E. T. Smith", and "Kiandra, Moore" have not been found in the respective collections, that from "Bonang, Moore" belongs to a different taxon. So only two old specimens from Mt. Kosciusko with certainty belong to this subspecies. However, because both are females, their status remains unsettled.

Because no males are available which could be reliably alluded to the specimens from Mt. Kosciusko, the actual status of this subspecies cannot be settled now. Therefore it is still classified as a subspecies of *P. nitida*.

Diagnosis. Medium sized subspecies with short and wide prothorax, short elytra, and definitely paler femora than tibiae. Distinguished from most other subspecies of *P. nitida* by medium body size and rather short antenna; distinguished from *P. n. nitida* by less distinct elytral striae and even shorter antenna.

Partial redescription

Measurements. Body length: 3.65–4.15 mm; width: 1.45–1.7 mm. Ratios. Length/width of 8th antennomere: 1.3–1.35; width/length of pronotum: 1.18–1.20; length/width of elytra: 1.48–1.50.

Colour. More or less dark piceous; clypeus reddish, mandibles, palpi, and antennae more or less pale reddish; femora yellow, tibiae pale reddish, distinctly darker than femora.

Head. Of average size. Eye moderately large, laterad fairly projected, orbit very short. Mandibles rather straight, comparatively little incurved apicad. Antenna rather short.

Pronotum. Of average size and shape but rather short and wide, widest at anterior third; lateral margins oblique but rather convex; basal angles obtusely rounded. Basal marginal seta present, situated in the slightly widened marginal channel at beginning of the basal curvature. Surface depressed, with very superficial traces of transverse microreticulation.

Elytra. Comparatively short and wide, surface rather convex, apex moderately sinuate. Basal margin at humerus evenly rounded. Two or three median striae in parts still recognizable. Microreticulation absent, surface very glossy.

Male genitalia. Unknown.

Female gonocoxites. As in *P. nitida major*, subspec. nov.

Variation. Apart from some differences in body size little variation noted.

Distribution. Mt. Kosciusko area, south-eastern New South Wales. Known only from the type locality.

Collecting circumstances. Not recorded.

Pseudagonica nitida major, subspec. nov.

Figs 16, 27, 38

Examined types. Holotype: ♀, AUSTRALIA: Lorne env Vict. 2.i.59 B. P. Moore / *Pseudagonica nitida* n. sp. Paratype Det. B. P. Moore / Para- type (ANIC).

Etymology. The name refers to the larger body size in comparison with the nominate subspecies.

Note. Although the specimen belongs to the type series of the nominate form of *P. nitida*, it differs in a number of characters as well from the other specimens of the type series, as from the type specimens of *P. nitida orientalis*, as from the single specimens of *P. nitida moorei* and *P. nitida gracilior* (see below). Therefore it is removed from the nominate form and provisionally designated a separate subspecies. Discovery of males from all mentioned populations hopefully will further settle these taxonomic problems.

Diagnosis. Rather large subspecies with moderately short and wide prothorax, rather elongate elytra, and definitely paler femora than tibiae. Distinguished from some other subspecies of *P. nitida* by large body size, elongate antenna, and longer elytra; distinguished from *P. nitida moorei* by evenly rounded basal elytral margin and in apical half visible elytral striae, and from *P. nitida gracilior* by shorter, reversely oviform elytra.

Description

Measurements. Body length: 5.5 mm; width: 2.25 mm. Ratios. Length/width of 8th antennomere: 1.8; width/length of pronotum: 1.16; length/width of elytra: 1.55.

Colour (Figs 27, 38). Head and pronotum almost black, elytra very dark piceous; clypeus and mandibles reddish, palpi and antennae pale reddish; femora pale yellow, tibiae reddish, distinctly darker than femora.

Head (Fig. 27). Of average size. Eye large, though laterad but moderately projected, orbit very short. Mandibles rather straight, comparatively little incurved apicad. Antenna moderately elongate.

Pronotum (Fig. 27). Of average size and shape but rather short and wide, widest at anterior third; lateral margins oblique but rather convex; basal angles evenly rounded. Basal marginal seta present, situated in the slightly widened marginal channel at beginning of the basal curvature. Basal impression shallow though distinct, oblique and elongate. Surface depressed, without any traces of microreticulation.

Elytra (Fig. 38). Comparatively elongate, markedly widened apicad, distinctly reversely oviform; surface rather depressed; apex moderately sinuate. Basal margin at humerus evenly rounded. The median striae in apical half slightly impressed and quite well recognizable. Microreticulation absent, surface very glossy.

Male genitalia. Unknown.

Female gonocoxites (Fig. 16). Gonocoxite 1 very large and wide, apparently without any setae at the apical rim. Gonocoxite 2 short and moderately wide, very slightly curved, with obtusely rounded apex, with one elongate ventro-lateral ensiform seta situated slightly below middle, and with two elongate nematiform setae situated on lower surface at some distance from apex.

Variation. Unknown.

Distribution. Area north of Cape Otway, south-western Victoria. Known only from the type locality.

Collecting circumstances. Not recorded.

Pseudagonica nitida moorei, subspec. nov.

Fig. 5

Examined types. Holotype: ♂, AUSTRALIA: Bonang Vict. 22.ii.60 B. P. Moore / *Pseudagonica nitida orientalis* Mre det. B. P. Moore'86 (ANIC).

Etymology. The name is a patronym in honour of B. P. Moore, collector of the holotype and authority of Australian Carabidae.

Note. This specimen from extreme south-eastern Victoria differs as well from both described subspecies of *P. nitida*, as from the single specimen of the western Victorian *P. nitida major*, although in body size and shape both specimens are rather similar.

Diagnosis. Rather large subspecies with moderately short and wide prothorax, short elytra, and definitely paler femora than tibiae. Distinguished from most other subspecies of *P. nitida* by large body size and elongate antenna; distinguished from *P. nitida major* and *P. nitida gracilior* by slightly angulate basal elytral margin and virtually invisible elytral striae.

Description

Measurements. Body length: 5.6 mm; width: 2.3 mm. Ratios. Length/width of 8th antennomere: 1.8; width/length of pronotum: 1.14; length/width of elytra: 1.49.

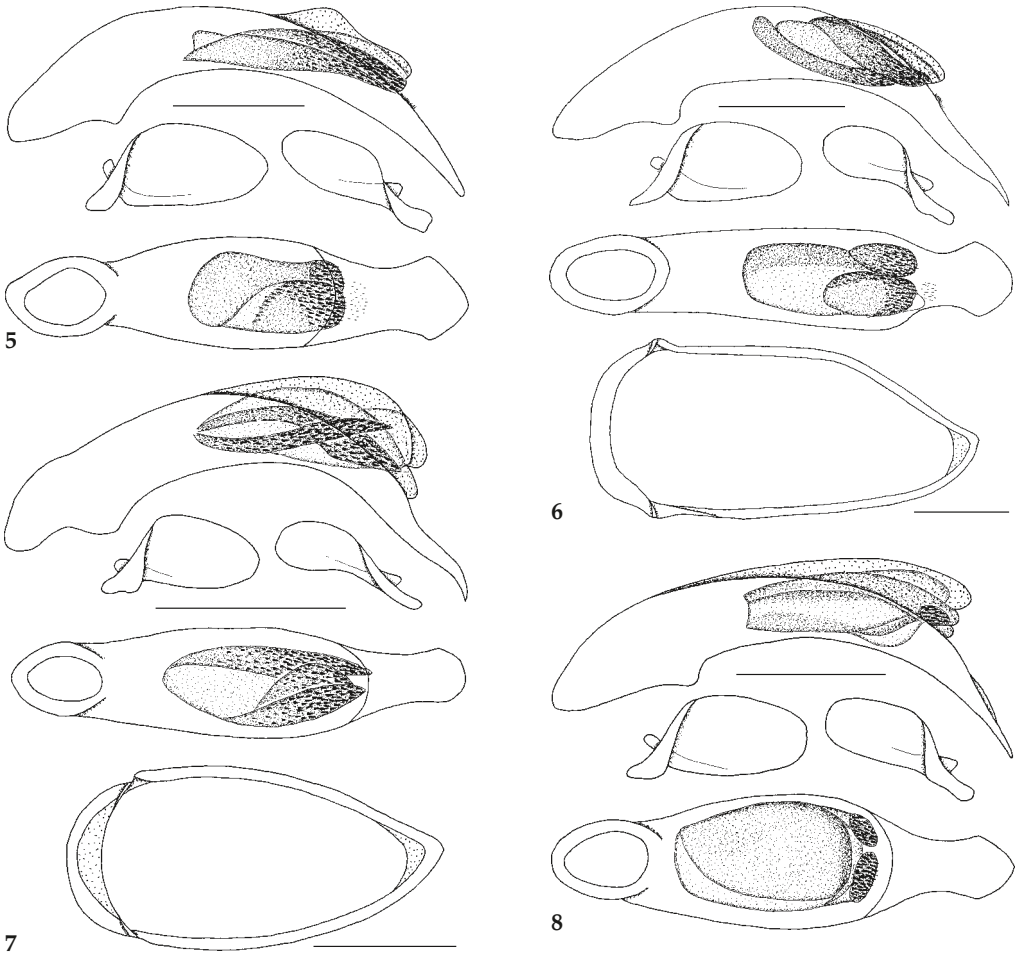
Colour. Dark reddish-brown, margins of pronotum and elytra narrowly paler; clypeus and mandibles reddish, palpi and antennae pale reddish; femora pale yellow, tibiae reddish, distinctly darker than femora.

Head. Of average size. Eye large, laterad rather well projected, orbit very short. Mandibles rather straight, comparatively little incurved apicad. Antenna moderately elongate.

Pronotum. Of average size and shape but comparatively elongate, widest at anterior third; apex comparatively deeply excised; lateral margins oblique but rather convex; basal angles evenly rounded. Basal marginal seta present, situated in the slightly widened marginal channel at beginning of the basal curvature. Basal impression shallow and irregular. Surface depressed, here and there with finest traces of microreticulation.

Elytra. Comparatively short, surface rather convex, apex moderately sinuate. Basal margin at humerus obtusely angulate. Striae virtually not impressed, recognizable as extremely inconspicuous rows of finest punctures. Microreticulation absent, surface very glossy.

Male genitalia (Fig. 5). Genital ring unknown. Aedeagus moderately short and wide, slightly widened in middle; lower surface evenly concave throughout; apex elongate but wide, spoon-shaped, laterally deeply concave and with distinctly angulate lateral angles, tip triangular and slightly convex; apex basally on the upper surface with a shallow depression and a field of very short and small denticles within; orificium large, situated mainly on the upper surface; internal sac anteriorly with two smaller densely denticulate folds, posteriorly with a larger, only partly denticulate fold. Both parameres large and elongate, with triangularly rounded apex; right paramere slightly smaller and even longer than the left one.



Figs 5- 8. Male genitalia: Aedeagus left side and lower surface, left and right paramere, genital ring. **5.** *Pseudagonica nitida moorei*, subspec. nov. **6.** *P. nitida gracilior*, subspec. nov. **7.** *P. minuta minuta*, spec. nov. **8.** *P. minuta errimundrae*, subspec. nov. Scale bars: 0.25 mm.

Female gonocoxites. Unknown.
Variation. Unknown.

Distribution. Extreme eastern Victoria. Known only from the type locality.

Collecting circumstances. Not recorded.

Pseudagonica nitida gracilior, subspec. nov.
Figs 6, 28, 39

Examined types. Holotype: ♂, Brown Mountain on Rutherford Creek, N. S. W. 9.I.68 in rainforest M. Upton / *Pseudagonica nitida* Mre. det. B. P. Moore'83 (NHM).

Etymology. The name refers to narrower body size in comparison with both, *P. nitida major* and *P. nitida moorei*.

Diagnosis. Rather large subspecies with rather short and wide prothorax, elongate elytra, and definitely paler femora than tibiae. Distinguished from some other subspecies of *P. nitida* by large body size, elongate antenna, and longer elytra; distinguished from *P. nitida moorei* by evenly rounded basal elytral margin, in apical half visible elytral striae, and by the obtuse apex of the aedeagus; and from *P. nitida major* by longer, oval-shaped elytra.

Description

Measurements. Body length: 5.3 mm; width: 2.1 mm. Ratios. Length/width of 8th antennomere: 1.75; width/length of pronotum: 1.17; length/width of elytra: 1.59.

Colour (Figs 28, 39). Very dark piceous; clypeus and mandibles reddish, palpi and antennae yellowish; femora yellow, tibiae reddish, distinctly darker than femora.

Head (Fig. 28). Of average size. Eye large, laterad well projected, orbit very short. Mandibles rather straight, moderately incurved apicad. Antenna moderately elongate.

Pronotum (Fig. 28). Of average size and shape but rather short and wide, widest at anterior third; lateral margins rather convex throughout; basal angles evenly rounded. Basal marginal seta present, situated in the slightly widened marginal channel at beginning of the basal curvature, moderately removed from base. Basal impression barely recognizable, transverse sulcus absent. Surface depressed, here and there with finest traces of very superficial transverse microreticulation.

Elytra (Fig. 39). Elongate, barely widened apicad, oval shaped, widest in middle; surface rather convex; apex moderately sinuate. Basal margin at humerus evenly rounded. The median striae just visible as not impressed, very fine lines. Microreticulation absent, surface very glossy.

Male genitalia. (Fig. 6). Genital ring large, in basal half laterally straight, slightly asymmetric, with short, wide basis and obliquely angulate apex. Aedeagus comparatively narrow, very slightly widened in middle; lower surface slightly bisinuate; apex elongate but wide, depressed, spoon-shaped, laterally deeply concave and with distinctly angulate lateral angles, tip obtuse; apex basally on the upper surface with a shallow depression and on the right side with a field of very short and small denticles within; orificium large, situated mainly on the upper surface; internal sac anteriorly with two smaller densely denticulate folds, posteriorly with a larger, only partly denticulate fold. Both parameres large and elongate, with triangularly rounded apex; right paramere slightly smaller and shorter than the left one.

Female gonocoxites. Unknown.

Variation. Unknown.

Distribution. Brown Mountain, south-eastern New South Wales. Known only from the type locality.

Collecting circumstances. Little recorded, the holotype was collected "in rainforest".

***Pseudagonica incerta*, spec. nov.**

Fig. 17

Examined types. Holotype: ♀, 37.43S 145.42E VIC Cement Creek, 625m N. of Warburton 814, 27 Jan.–11 Feb.1987 A. Newton & M. Thayer / *Euc.regnans-Noth.cunn.* FMHD #87-234 Berlesate leaf & log litter (ANIC).

Etymology. Latin "incerta" means "uncertain" and refers to the uncertain systematic position of the single female specimen.

Note. The single specimen is rather similar to *P. nitida orientalis* but differs in body proportions and length of the antenna. Because it is a female like the specimens of *P. nitida orientalis*, the relationships remain doubtful. In view of the morphological differences and the apparently wide distribution gap between both populations, the specimen is provisionally described as a separate species.

Diagnosis. Medium sized species with short and wide prothorax, short elytra, and definitely paler femora than tibiae. Distinguished from the most similar *P. nitida orientalis* by wider pronotum, slightly shorter and apical distinctly widened elytra, and longer antenna.

Description

Measurements. Body length: 3.95 mm; width: 1.6 mm. Ratios. Length/width of 8th antennomere: 1.5; width/length of pronotum: 1.22; length/width of elytra: 1.46.

Colour. Almost black, lateral margins of the elytra narrowly paler; clypeus, mandibles palpi, and antennae reddish; femora pale reddish, tibiae light brown, distinctly darker than femora.

Head. Of average size. Eye large, laterad rather well projected, orbit very short. Mandibles rather straight, comparatively little incurved apicad. Antenna moderately short.

Pronotum. Of average size and shape but comparatively wide, widest at anterior third; apex comparatively deeply excised; lateral margins oblique but rather convex; basal angles very slightly obtusely rounded. Basal marginal seta present, situated relatively basad in the slightly widened marginal channel at beginning of the basal curvature. Basal impression very shallow and irregular. Surface depressed, only at apex and base with finest traces of microreticulation.

Elytra. Short and apically markedly widened, surface moderately convex, apex moderately sinuate. Basal margin at humerus evenly rounded. Striae not impressed, but rather well recognizable as rows

of fine punctures. Microreticulation absent, surface very glossy.

Male genitalia. Unknown.

Female gonocoxites (Fig. 17). Gonocoxite 1 very large and wide, without any setae at the apical rim. Gonocoxite 2 short and moderately wide, very slightly curved, with obtusely rounded apex, with one elongate ventro-lateral ensiform seta situated well below middle, and with two elongate nematiform setae situated on lower surface at some distance from apex.

Variation. Unknown.

Distribution. Eastern Victoria, near Warburton. Known only from the type locality.

Collecting circumstances. Holotype collected from "leaf and log litter" in *"Eucalyptus regnans/Nothofagus cunninghami"* forest.

Pseudagonica minuta minuta, spec. nov.

Figs 7, 18

Examined types. Holotype: ♂, 37.43S 145.38E VIC Myrtle Gully Res.NW Warburton, 1000m, 819 30 Jan.–9 Feb.1987 A. Newton & M. Thayer / *Noth. cunn.* & *Euc. regnans* FMHD #87-249 Berl.leaf&log litter (ANIC). – Paratypes: 1♂, same data (ANIC); 2♂♂, 37.45S 145.35E Cumberland Ck. 13 km ESE of Marysville 18 Jan.1978 v. Lawrence & Weir (ANIC); 1♂, 1♀, 37.44S 145.43E VIC Warburton 2.2km NE on Acheron way, 320m 15 Feb.1993, 931 A. Newton & M. Thayer / *Euc. regnans* forest w/*Ac.regnans* FMHD #93-101 berl. leaf & log litter (ANIC, CBM); 2♀♀, 37.43S 145.37E VIC Ben Cairn, NE slope NW Warburton, 960m 830, 30 Jan.–11 Feb.1987 A. Newton & M. Thayer / wet scler. *Noth. cunn.* FMHD #87-252 Berl. leaf & log litter (ANIC); 1♀, 37.43S 145.42E VIC Cement Creek, 670m N. of Warburton 812, 26 Jan.–11 Feb.1987 A. Newton & M. Thayer / *Euc. regnans-Noth.cunn.* FMHD #87-224 Berlesate leaf & log litter (ANIC); 1♂, 37.34S 145.42E Cement Ck. 5km N of Warburton V. 17 Jan.1978 Lawrence & Weir (ANIC).

Etymology. The name refers to the very small body size of most specimens of this species.

Diagnosis. Small to rather small species with variably shaped prothorax, moderately short elytra, and definitely paler femora than tibiae. Distinguished from other species of similar size by the shape of the aedeagus and of its apex; from *P. minuta errimundrae* by the bisinuate lower surface of the aedeagus, and from *P. minuta elongata* by the much shorter and wider elytra.

Description

Measurements. Body length: 2.6–3.8 mm; width: 1.1–1.35 mm. Ratios. Length/width of 8th antennomere: 1.25–1.40; width/length of pronotum: 1.11–1.19; length/width of elytra: 1.49–1.53.

Colour. Dark piceous to almost black, lateral margins of the elytra in some specimens narrowly paler; clypeus, mandibles, palpi, and antennae more or less pale reddish; femora yellow to pale reddish, tibiae reddish to light brown, distinctly darker than femora.

Head. Of average size. Eye large, laterad rather well projected, orbit very short. Mandibles rather straight, comparatively little incurved apicad. Antenna short.

Pronotum. Of average size and shape but of various width, wider in large specimens, widest at anterior third; apex comparatively deeply excised; lateral margins oblique and more or less convex; basal angles more or less obtusely rounded, lateral parts of base moderately oblique. Basal marginal seta present, situated relatively basad in the slightly widened marginal channel at beginning of the basal curvature. Basal impression very shallow and irregular. Surface depressed, only at apex and base in some specimens with finest traces of microreticulation.

Elytra. Rather short and apically slightly widened, surface moderately convex, apex moderately sinuate. Basal margin at humerus evenly rounded. Striae not impressed, but median striae more or less recognizable as rows of fine punctures. Microreticulation absent, surface very glossy.

Male genitalia (Fig. 7). Genital ring large, laterally gently convex, slightly asymmetric, with narrow, wide basis and obliquely convex apex. Aedeagus moderately elongate, but rather wide, barely widened towards middle; lower surface concave in basal half, then slightly convex, near apex again concave; apex elongate and moderately wide, spoon-shaped, with barely recognizable lateral angles, at tip evenly convex; apex basally on the upper surface with a slight depression but without denticles; orificium large, situated mainly on the upper surface; internal sac anteriorly with two smaller densely denticulate folds, posteriorly with a larger, only partly denticulate fold. Both parameres rather large, moderately elongate, with rounded apex; right paramere slightly smaller than the left one.

Female gonocoxites (Fig. 18). Gonocoxite 1 very large and wide, without any setae at the apical rim. Gonocoxite 2 moderately short and wide, almost straight, with obtuse apex, with one very small ventro-lateral ensiform seta about at middle, and with two rather elongate nematiform setae on the ventral surface at some distance to apex.

Variation. Considerably variation is noted in body size and in shape of the pronotum which in large specimens is wider than in most small ones. The basal angles usually are faintly obtuse, but in some specimens more evenly rounded.

Distribution. Eastern Victoria.

Collecting circumstances. Most specimens collected by Berlese extraction of "leaf and log litter in mixed *Nothofagus cunninghami/Eucalyptus regnans* forest".

Pseudagonica minuta elongata, subspec. nov.

Examined types. Holotype: ♂, ACT. Black Mt. S. slope, 600m. (lake road) 3.vi.1970 I. C. Taplin (ANIC).

Etymology. The name refers to the narrow and elongate elytra of the holotype.

Diagnosis. Small subspecies with moderately wide prothorax, elongate elytra, and definitely paler femora than tibiae. Distinguished from other species of similar size by the shape of the aedeagus and of its apex; from the nominate subspecies by the definitely longer and narrower elytra, and from *P. minuta errimundrae* by the bisinuate lower surface of the aedeagus.

Description

Measurements. Body length: 2.7 mm; width: 1.0 mm. Ratios. Length/width of 8th antennomere: 1.2; width/length of pronotum: 1.16; length/width of elytra: 1.58.

Colour. Very dark piceous; clypeus, mandibles, palpi, and antennae more or less pale reddish; femora reddish, tibiae light brown, distinctly darker than femora.

Head. Of average size. Eye moderately large, but laterad well projected, orbit very short. Mandibles rather straight, comparatively little incurved apicad. Antenna very short.

Pronotum. Of average size and shape but moderately wide, widest at anterior third; apex moderately excised; lateral margins oblique and moderately convex; basal angles slightly obtusely rounded, lateral parts of base moderately oblique. Basal marginal seta present, situated moderately removed from base in the slightly widened marginal channel at beginning of the basal curvature. Basal impression very shallow and irregular. Surface depressed, without traces of microreticulation.

Elytra. Elongate and rather narrow, widest about in middle, surface moderately convex, apex little sinuate but rather oblique. Basal margin at humerus evenly rounded. Striae not impressed, barely recognizable. Microreticulation absent, surface very glossy.

Male genitalia. As in the nominate subspecies.

Female gonocoxites. Unknown.

Variation. Unknown.

Distribution. Australian Capital Territory. Known only from the type locality.

Collecting circumstances. Little recorded. The holotype was collected at rather high altitude on the south slope of Black Mountain within the city of Canberra.

Pseudagonica minuta errimundrae, subspec. nov.

Fig. 8

Examined types. Holotype: ♂, 37.17S 148.57E VIC Errimundra NP, 1020m Coast Range Roads 8.8km E.jct.Gunmark Rd.925 11 Feb. 1993 A. Newton & M. Thayer / cool temperate rainf. FMHD #93-84 berl. leaf & log Litter (ANIC).

Etymology. The name refers to the type locality, Errimundra National Park.

Diagnosis. Moderately small subspecies with rather narrow prothorax, moderately elongate elytra, and definitely paler femora than tibiae. Distinguished from other species of similar size by the shape of the aedeagus and of its apex, and from both other subspecies of *P. minuta* by the evenly concave lower surface of the aedeagus.

Description

Measurements. Body length: 3.6 mm; width: 1.45 mm. Ratios. Length/width of 8th antennomere: 1.35; width/length of pronotum: 1.12; length/width of elytra: 1.54.

Colour. Almost black; clypeus, mandibles, palpi, and antennae reddish, scapus slightly darker; femora yellow, tibiae light brown, distinctly darker than femora.

Head. Of average size. Eye large, laterad well projected, orbit very short. Mandibles rather straight, comparatively little incurved apicad. Antenna rather short.

Pronotum. Of average size and shape but moderately wide, widest at anterior third; apex rather deeply excised; lateral margins little oblique, moderately convex, base relatively wide, wider than apex; basal angles evenly rounded, lateral parts of base rather oblique. Basal marginal seta present, situated moderately removed from base in the slightly widened marginal channel at beginning of the basal curvature. Basal impression very shallow

and irregular. Surface depressed, here and there with finest traces of microreticulation.

Elytra. Moderately elongate, slightly widened apical, widest slightly behind middle, surface moderately convex, apex little sinuate but rather oblique. Basal margin at humerus evenly rounded. Two median striae on disk very slightly impressed, well recognizable. Microreticulation absent, surface very glossy.

Male genitalia (Fig. 8). Genital ring as in the nominate subspecies. Aedeagus moderately elongate, but rather wide, markedly widened in middle; lower surface evenly concave throughout; apex elongate and moderately wide, spoon-shaped, laterally concave and with distinct lateral angles, at tip triangularly convex; apex basally on the upper surface with a slight depression but without denticles; orificium large, situated mainly on the upper surface; internal sac anteriorly with two smaller densely denticulate folds, posteriorly with a larger, only partly denticulate fold. Both parameres large, elongate, almost parallel-sided, with rather transverse, slightly rounded apex; right paramere slightly smaller than the left one.

Female gonocoxites. Unknown.

Variation. Unknown.

Distribution. Far eastern Victoria. Known only from the type locality.

Collecting circumstances. The holotype was collected by Berlese extraction of "leaf and log litter" in "cool temperate rainforest".

Pseudagonica orbitalis, spec. nov.

Figs 19, 29

Examined types. Holotype: ♀, 35.35 S 148.47 E ACT, Snowy Flat Crk. 0.5km NE of Mt. Gingera 28 June 1988 A. A. Calder (ANIC).

Etymology. The name refers to the comparatively large orbit.

Diagnosis. Moderately small subspecies with rather wide prothorax, fairly short elytra, and definitely paler femora than tibiae. Distinguished from other species of similar size by reddish colour, large orbits which are visible laterally of the eye, and the basal marginal seta well removed from base.

Description

Measurements. Body length: 3.5 mm; width: 1.35 mm. Ratios. Length/width of 8th antennomere: 1.25; width/length of pronotum: 1.19; length/width of elytra: 1.51.

Colour (Fig. 29). Head and pronotum reddish to pale brown, elytra slightly darker, castaneous; clypeus, mandibles, palpi, and antennae pale reddish; femora yellow, tibiae dark reddish, distinctly darker than femora.

Head (Fig. 29). Of average size. Eye comparatively small, laterad less projected than in similarly sized species, orbit comparatively large, well visible laterally of the eye when seen from above. Mandibles rather straight, comparatively little incurved apicad. Antenna very short.

Pronotum (Fig. 29). Of average size and shape but rather wide, widest at anterior third; apex deeply excised; lateral margins oblique, moderately convex; basal angles almost evenly rounded, lateral parts of base very oblique. Basal marginal seta present, situated far removed from base in the slightly widened marginal channel at beginning of the basal curvature. Basal impression barely recognizable. Surface depressed, here and there with fine traces of microreticulation.

Elytra. Rather short, slightly widened apicad, widest slightly behind middle, lateral margins rather convex; surface moderately convex, apex little sinuate but rather oblique. Basal margin at humerus evenly rounded. 2nd and 3rd striae on disk very slightly impressed, well recognizable. Microreticulation absent, surface very glossy.

Male genitalia. Unknown.

Female gonocoxites (Fig. 19). Gonocoxite 1 very large and wide, without any setae at the apical rim. Gonocoxite 2 moderately short and wide, slightly curved, with rounded apex, with one stout and elongate ventro-lateral ensiform seta about at middle, and with two rather elongate nematiform setae on the ventral surface at some distance to apex.

Variation. Unknown.

Distribution. Australian Capital Territory. Known only from the type locality.

Collecting circumstances. Not recorded, but the holotype most probably was collected at rather high altitude.

Pseudagonica macrops, spec. nov.

Fig. 30

Examined types. Holotype: ♀, Belgrave, V. F. E. Wilson 16.4.26 / Fallen leaves / F. E. Wilson Collection / *Pseudagonica nitida* Moore eastern form Det. B. P. Moore'60 (NMV).

Etymology. The name refers to the large eye of this species.

Diagnosis. Small species with rather wide prothorax, elongate elytra, and definitely paler femora than tibiae. Distinguished from other species of similar size by the large and laterad far projected eye and extremely small orbit.

Description

Measurements. Body length: 3.1 mm; width: 1.2 mm. Ratios. Length/width of 8th antennomere: 1.45; width/length of pronotum: 1.18; length/width of elytra: 1.60.

Colour (Fig. 30). Pale brown, specimen not fully sclerotized; clypeus, mandibles, palpi, and antennae yellow; femora pale yellow, tibiae reddish, distinctly darker than femora.

Head (Fig. 30). Of average size. Eye large and laterad far projected, orbit very small, barely recognizable. Mandibles rather straight, comparatively little incurved apicad. Antenna moderately short.

Pronotum (Fig. 30). Of average size and shape but rather wide, widest at anterior third; apex moderately excised; lateral margins oblique, moderately convex; basal angles almost evenly rounded, lateral parts of base moderately oblique. Basal marginal seta present, situated moderately removed from base in the slightly widened marginal channel at beginning of the basal curvature. Basal impression shallow, basal transverse impression distinct. Surface depressed, here and there with fine traces of microreticulation.

Elytra. Elongate and narrow, barely widened apicad, widest about at middle, lateral margins moderately convex; surface fairly convex, apex little sinuate but rather oblique. Basal margin at humerus evenly rounded. Striae apparently barely impressed, but elytra somewhat damaged. Microreticulation absent, surface very glossy.

Male genitalia. Unknown.

Female gonocoxites. Damaged.

Variation. Unknown.

Distribution. Eastern Victoria, at the eastern outskirts of Melbourne. Known only from the type locality.

Collecting circumstances. The holotype was collected from "fallen leaves".

***Pseudagonica aberrans*, spec. nov.**
Figs 9, 31

Examined types. Holotype: ♂, 35.22 S 148.50 E Blundells Ck.3km E of Picadilly Circus, 850m, ACT 7 Sept.1986 J. F. Lawrence (ANIC).

Etymology. Latin "aberrans" means "deviating" and refers to the apex of the aedeagus which differs from that of the similarly sized *P. minuta*.

Diagnosis. Medium sized species with wide prothorax, elongate elytra, and definitely paler femora than tibiae. Distinguished from other species of similar size by the large and laterad far projected eye, the combination of wide prothorax and elongate elytra, and the parallel-sided, not arrow-shaped apex of the aedeagus.

Description

Measurements. Body length: 3.6 mm; width: 1.4 mm. Ratios. Length/width of 8th antennomere: 1.4; width/length of pronotum: 1.20; length/width of elytra: 1.58.

Colour (Fig. 31). Black; clypeus, mandibles, and antenna reddish, palpi pale reddish; femora yellow, tibiae dark reddish, distinctly darker than femora.

Head (Fig. 31). Of average size. Eye large and laterad far projected, orbit small. Mandibles rather straight, comparatively little incurved apicad. Antenna moderately short.

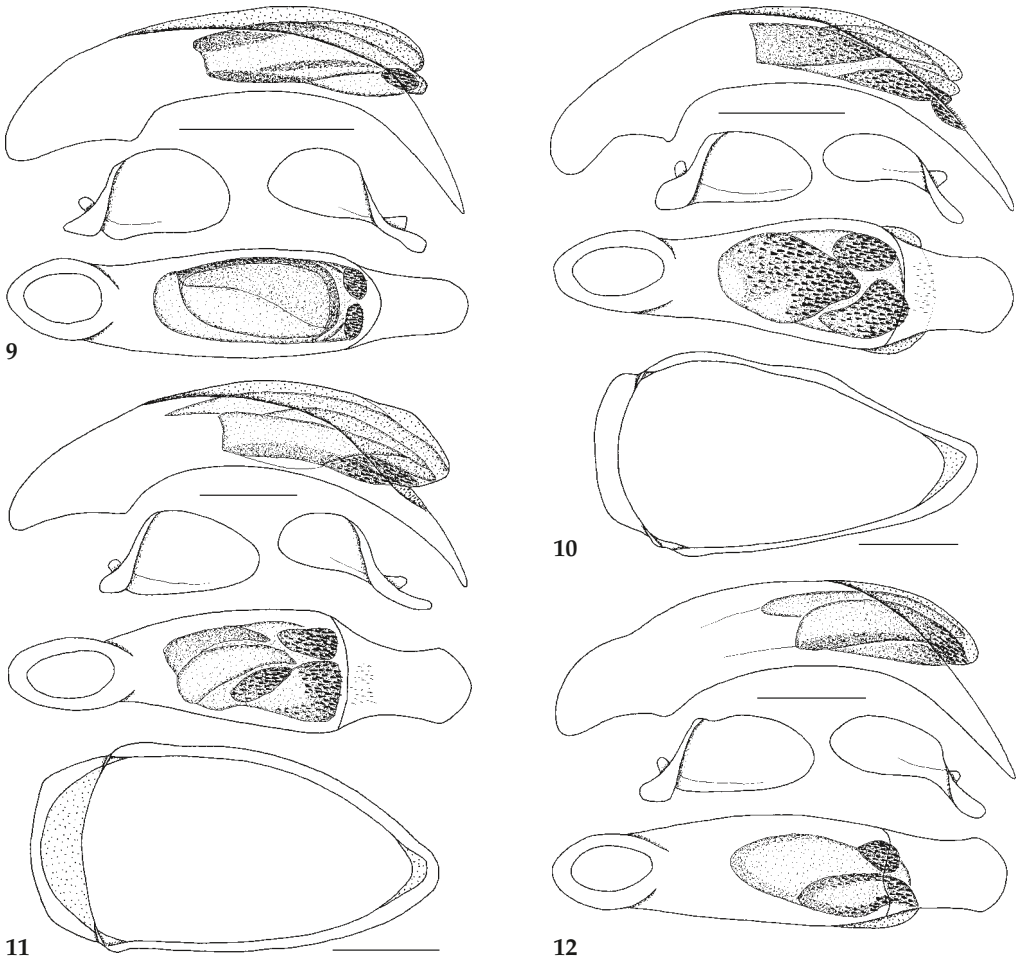
Pronotum (Fig. 31). Of average size and shape but wide, widest at anterior third; apex deeply excised; lateral margins oblique but markedly convex; basal angles almost evenly rounded, lateral parts of base moderately oblique. Basal marginal seta present, situated moderately removed from base in the slightly widened marginal channel at beginning of the basal curvature. Basal impression shallow but distinct, about circular, basal transverse impression absent. Surface depressed, without traces of microreticulation.

Elytra. Rather elongate and narrow, barely widened apicad, widest about at middle, lateral margins moderately convex; surface fairly convex, apex little sinuate but rather oblique. Basal margin at humerus evenly rounded. Striae virtually not recognizable. Microreticulation absent, surface very glossy.

Male genitalia (Fig. 9). Genital ring unknown. Aedeagus moderately elongate and wide, barely widened towards middle; lower surface gently concave in basal half, in the apical third distinctly bent down; apex elongate and moderately short and wide, spoon-shaped, parallel-sided, at tip evenly convex; apex basally on the upper surface with a slight depression but without denticles; orificium large, situated mainly on the upper surface; internal sac anteriorly with two smaller densely denticulate folds, posteriorly with a larger, only partly denticulate fold. Both parameres large, rather short, with rounded apex; right paramere slightly smaller than the left one.

Female gonocoxites. Unknown.

Variation. Unknown.



Figs 9- 12. Male genitalia: Aedeagus left side and lower surface, left and right paramere, genital ring. **9.** *P. aberrans*, spec. nov. **10.** *P. obscuripes obscuripes*, spec. nov. **11.** *P. obscuripes asetosa*, subspec. nov. **12.** *P. longipennis*, spec. nov. Scale bars: 0.25 mm.

Distribution. Australian Capital Territory. Known only from the type locality.

Collecting circumstances. Little recorded. The holotype was collected at high altitude (850 m).

Pseudagonica montisfusci, spec. nov.

Figs 20, 32

Examined types. Holotype: ♀, Brown Mtn. N.S.W. c.3000ft. 9.xii.67 rainforest Taylor, Brooks / ANIC Berlesate No. 42 leafmould (ANIC). – Paratype: 1♀, same data (CBM).

Etymology. Latin "fuscus" means "brown" and refers to the type locality "Brown Mountain".

Diagnosis. Fairly large species with rather narrow prothorax, moderately elongate elytra, and definitely paler femora than tibiae. Distinguished from similar species by large body size, the narrow pronotum, and the virtually invisible elytral striae.

Description

Measurements. Body length: 4.6–4.95 mm; width: 1.8–1.95 mm. Ratios. Length/width of 8th antennomere: 1.4–1.5; width/length of pronotum: 1.10; length/width of elytra: 1.53–1.54.

Colour (Fig. 32). Dark chestnut brown to almost black; clypeus, mandibles, palpi, and antenna yellow to pale reddish; femora yellow, tibiae more or less dark reddish, distinctly darker than femora.

Head (Fig. 32). Of average size. Eye large and laterad well projected, orbit small. Mandibles rather straight, comparatively little incurved apicad. Antenna moderately short.

Pronotum (Fig. 32). Of average size and shape but rather narrow, widest at anterior third; apex moderately excised; lateral margins oblique but convex; basal angles slightly obtusely rounded, lateral parts of base moderately oblique. Basal marginal seta present, situated moderately removed from base in the slightly widened marginal channel at beginning of the basal curvature. Basal impression barely recognizable, basal transverse impression absent. Surface depressed, here and there with slightest traces of microreticulation.

Elytra. Moderately elongate, slightly widened apicad, widest about at or slightly behind middle, lateral margins moderately convex; surface fairly convex, apex rather sinuate and comparatively little oblique. Basal margin at humerus evenly rounded. Striae virtually not recognizable. Microreticulation absent, surface very glossy.

Male genitalia. Unknown.

Female gonocoxites (Fig. 20). Gonocoxite 1 very large and wide, without any setae at the apical rim. Gonocoxite 2 moderately short and wide, almost straight, with widely rounded apex, with one elongate ventro-lateral ensiform seta about at middle, and with two rather elongate nematiform setae on the ventral surface at some distance to apex.

Variation. Little variation noted except for colour, because the holotype is darker than the paratype.

Distribution. Extreme south-eastern New South Wales. Known only from the type locality.

Collecting circumstances. Collected from leafmould in high altitude rainforest at >900 m.

Pseudagonica obscuripes, spec. nov.

Note. This comparatively large species includes two populations, one occurring in the Australian Capital Territory, the other in extreme south-eastern New South Wales. They differ in the presence, or absence, of the posterior marginal seta of the pronotum and in the shape of the apex of the aedeagus. Because in other characters they are very similar, they are provisionally regarded as subspecies.

Pseudagonica obscuripes obscuripes, spec. nov.

Figs 10, 21, 26

Examined types. Holotype: 1♂, 3 km N of Mt. Aggie ACT 1-21 Feb. 79 D. Rentz / *Pseudagonica nitida* Mre det. B. P. Moore'82 (ANIC). – Paratypes: 1♀, same data (ANIC); 1♂, 3 km N of Mt. Aggie ACT 1-21 Feb. 1978 Gutter trap D. C. Rentz (CBM); 1♂, AUSTRALIA: Mt. Gingera A.C.T. 6.ii.64 B. P. Moore (ANIC); 2♀♀, 35.22 S 148.50 E ACT: Brindabella, Blundells Creek 3 Dec. 1988 M. Hansen (CBM, ZMUC); 1♂, Lees Ck. A.C.T. 25 Oct 1979 Litter (AMS K255338).

Etymology. The name refers to the dark legs of this species.

Diagnosis. Large species with rather wide prothorax, moderately elongate elytra and uniformly brown legs. Distinguished from similarly sized species by proportions and shape of the aedeagus. From *P. obscuripes asetosa* distinguished by presence of the posterior pronotal seta and the rounded apex of the aedeagus.

Description

Measurements. Body length: 5.1–6.8 mm; width: 1.95–2.7 mm. Ratios. Length/width of 8th antennomere: 1.75–2.15; width/length of pronotum: 1.14–1.18; length/width of elytra: 1.51–1.55.

Colour (Fig. 26). Dark piceous to black; clypeus, mandibles, and antenna dark reddish, palpi pale reddish; legs dark reddish to piceous, if very dark, tibiae even slightly paler than femora.

Head (Fig. 26). Of average size. Eye large and laterad well projected, orbit very small. Mandibles rather straight, comparatively little incurved apicad. Antenna elongate.

Pronotum (Fig. 26). Of average size and shape but rather wide, widest at anterior third; apex little excised; lateral margins oblique but convex; basal angles rounded or very slightly obtuse, lateral parts of base moderately oblique. Basal marginal seta present, situated moderately removed from base in the slightly widened marginal channel at beginning of the basal curvature. Basal impression barely recognizable, basal transverse impression absent. Surface depressed, without perceptible microreticulation except at apex.

Elytra (Fig. 26). Moderately elongate, slightly widened apicad, widest slightly behind middle, lateral margins moderately convex; surface rather convex, apex little sinuate, moderately oblique. Basal margin at humerus evenly rounded. Striae virtually not recognizable. Microreticulation absent, surface very glossy.

Male genitalia (Fig. 10). Genital ring large, irregularly triangular, slightly asymmetric, with very narrow, wide basis and obliquely convex apex. Aedeagus rather short and wide, widened towards middle; lower surface evenly concave throughout; apex elongate but wide, spoon-shaped, with barely recognizable lateral angles, at tip evenly convex; apex basally on the upper surface with a shallow depression and a field of very short and small denticles within; orificium very large, situated mainly on the upper surface; internal sac anteriorly with two smaller densely denticulate folds, posteriorly with a larger, only partly denticulate fold. Both parameres rather large, elongate, with rounded apex; right paramere slightly smaller and even longer than the left one.

Female gonocoxites (Fig. 21). Gonocoxite 1 very large and wide, without any setae at the apical rim. Gonocoxite 2 rather short and wide, convexly triangular and slightly curved, with obtuse apex, with one elongate dorso-median ensiform seta and one elongate ventro-lateral ensiform seta, both situated about at middle.

Variation. Considerable variation in body size noted, also some variation present in relative shape of prothorax, elytra, and in length of the antenna which in small specimens is relatively shorter than in the large ones.

Distribution. Australian Capital Territory.

Collecting circumstances. One specimen sampled in "Gutter trap", two specimens in "leaf litter"; most specimens probably at rather high altitude.

Pseudagonica obscuripes asetosa, subspec. nov.
Fig. 11

Examined types. Holotype: ♂, AUSTRALIA: Clyde Mtn N.S.W. 25.i.81 B. P. Moore / *Pseudagonica nitida orientalis* Mre det. B. P. Moore'81 (ANIC).

Etymology. The name refers to the absence of the posterior marginal seta of the prothorax.

Diagnosis. Large species with moderately wide prothorax, moderately elongate elytra and uniformly brown legs. Distinguished from similarly sized species by proportions and shape of the aedeagus. From the nominate subspecies distinguished by absence of the posterior pronotal seta and the rather triangular apex of the aedeagus.

Description

Measurements. Body length: 6.5 mm; width: 2.55 mm. Ratios. Length/width of 8th antennomere: 2.15; width/length of pronotum: 1.14; length/width of elytra: 1.52.

Colour. Almost black; clypeus, mandibles, and antenna dark reddish, palpi pale reddish; legs brown, tibiae not paler than femora.

Head. As in the nominate subspecies.

Pronotum. Much as in the nominate subspecies, but basal angles evenly rounded and basal marginal puncture and seta absent.

Elytra. As in the nominate subspecies

Male genitalia (Fig. 11). Genital ring as in the nominate subspecies. Aedeagus rather similar to that of the nominate subspecies but apex laterally more sinuate and with more distinct lateral angles. Both parameres slightly shorter and more triangular than in the nominate subspecies.

Female gonocoxites. Unknown

Variation. Unknown.

Distribution. Extreme south-eastern New South Wales. Known only from the type locality.

Collecting circumstances. Not recorded.

Pseudagonica longipennis, spec. nov.
Figs 12, 33

Examined types. Holotype: ♂, AUSTRALIA: Bonang Vict. 26.ii.60 B. P. Moore (ANIC).

Etymology. The name refers to the comparatively elongate elytra.

Diagnosis. Large species with remarkably narrow prothorax, elongate elytra, and uniformly pale brown legs. Distinguished from similarly sized species by body proportions, the basal marginal seta of the prothorax which is far removed from base, and the rather parallel-sided aedeagus with wide, on the upper surface not denticulate apex.

Description

Measurements. Body length: 6.6 mm; width: 2.5 mm. Ratios. Length/width of 8th antennomere: 2.25; width/length of pronotum: 1.05; length/width of elytra: 1.60.

Colour (Fig. 33). Unicolourous reddish-brown, including clypeus, mandibles, and antenna; palpi pale reddish; legs dark reddish.

Head (Fig. 33). Of average size. Eye large and laterad well projected, orbit very small. Frontal impressions unusually deep. Mandibles rather straight,

comparatively little incurved apicad. Antenna elongate.

Pronotum (Fig. 33). Of average size and shape but narrow, widest at anterior third; apex moderately excised; lateral margins oblique and rather little convex; basal angles rounded, lateral parts of base very oblique. Basal marginal seta present, situated far removed from base in the slightly widened marginal channel at beginning of the basal curvature. Basal impression very shallow, basal transverse impression barely recognizable. Surface moderately depressed, without perceptible microreticulation except near apex and base.

Elytra. Elongate, barely widened apicad, widest about at middle, humerus wide, lateral margins only slightly convex, in middle almost straight; surface rather convex, apex comparatively deeply sinuate, rather oblique. Basal margin at humerus evenly rounded. Striae barely recognizable, median striae indicated as extremely fine, punctate-striate lines. Microreticulation absent, surface very glossy.

Male genitalia (Fig. 12). Genital ring unknown. Aedeagus rather short and moderately wide, barely widened towards middle; lower surface concave, even more in apical half; apex elongate but wide, spoon-shaped, with barely recognizable lateral angles, at tip evenly convex; apex basally on the upper surface with a shallow depression but without denticles; orificium large, situated mainly on the upper surface; internal sac anteriorly with two smaller densely denticulate folds, posteriorly with a larger, only partly denticulate fold. Both parameres rather large, very elongate, rather parallel-sided, with triangularly rounded apex; right paramere slightly smaller and even longer than the left one.

Female gonocoxites. Unknown.

Variation. Unknown.

Distribution. Extreme south-eastern Victoria. Known only from the type locality.

Collecting circumstances. Not recorded.

Pseudagonica amblyops, spec. nov.

Figs 22, 34

Examined types. Holotype: ♀, 36.37 S 149.55 E NSW: Monga S.F. 3km E of Monga 14 Dec. 1988 M. Hansen / *Pseudagonica* Michael Hansen det. (ZMUC).

Etymology. Greek "amblys" means "obtuse" or "blunt" and the name refers to the depressed eye of this species.

Diagnosis. Medium sized species with rather narrow prothorax, moderately short elytra and rather dark brown legs. Distinguished from similarly sized species by body proportions, absence of the basal marginal seta of the prothorax, and the elongate female gonocoxite 2 which bears a remarkably elongate ventral ensiform seta situated close to the base.

Description

Measurements. Body length: 4.9 mm; width: 1.95 mm. Ratios. Length/width of 8th antennomere: 1.75; width/length of pronotum: 1.09; length/width of elytra: 1.52.

Colour (Fig. 34). Black; clypeus, mandibles, and antenna reddish; palpi pale reddish; legs dark reddish with the basal three fourth of the femora piceous.

Head (Fig. 34). Of average size. Eye large but laterad remarkably little projected, orbit very small. Frontal furrows shallow. Mandibles rather straight, comparatively little incurved apicad. Antenna rather elongate.

Pronotum (Fig. 34). Of average size and shape but rather narrow, widest at anterior third; apex moderately excised; lateral margins oblique and moderately convex; base rather wide, basal angles rounded, lateral parts of base rather oblique. Basal marginal puncture and seta absent. Basal impression very shallow, basal transverse impression not recognizable. Surface moderately depressed, without perceptible microreticulation.

Elytra. Moderately short, widened apicad, widest slightly behind middle, humerus moderately wide, lateral margins convex; surface moderately convex, apex feebly sinuate, comparatively little oblique. Basal margin at humerus evenly rounded. Three median striae in apical half very slightly impressed, other striae barely recognizable, indicated as extremely fine, punctate-striate lines. Microreticulation absent, surface very glossy.

Male genitalia. Unknown.

Female gonocoxites (Fig. 22). Gonocoxite 1 very large and wide, without any setae at the apical rim. Gonocoxite 2 comparatively elongate, almost straight, with obtusely rounded apex, with one very elongate ventro-lateral ensiform seta situated at basal fourth, and with two rather elongate nematiform setae on the ventral surface at some distance to apex, but not at the same level.

Variation. Unknown.

Distribution. Extreme south-eastern New South Wales. Known only from the type locality.

Collecting circumstances. Not recorded.

Pseudagonica alpina, spec. nov.
Fig. 35

Examined types. Holotype: ♀, AUST. ALPS, V Jan. 1940 C. OKE (NMV).

Etymology. The name refers to the occurrence of this species in the "Australian Alps".

Diagnosis. Medium sized species with moderately wide prothorax, moderately elongate elytra and unicolourous pale reddish legs. Distinguished from similarly sized species by combination of body proportions and presence of the basal marginal seta of the prothorax.

Description

Measurements. Body length: 4.7 mm; width: 1.85 mm. Ratios. Length/width of 8th antennomere: 1.6; width/length of pronotum: 1.14; length/width of elytra: 1.54.

Colour (Fig. 35). Black; clypeus, mandibles, antenna, and legs pale reddish; palpi yellow.

Head (Fig. 35). Of average size. Eye moderately large, laterad moderately projected, orbit small. Frontal impressions wide and fairly deep. Mandibles rather straight, comparatively little incurved apicad. Antenna moderately elongate.

Pronotum (Fig. 35). Of average size and shape, moderately wide, widest at anterior third; apex moderately excised; lateral margins oblique and moderately convex; base rather wide, basal angles rounded, lateral parts of base rather oblique. Basal marginal puncture and seta present, moderately removed from base. Basal impression very shallow, basal transverse impression not recognizable. Surface moderately depressed, here and there with finest traces of transverse microreticulation.

Elytra. Moderately elongate, slightly widened apicad, widest slightly behind middle, humerus moderately wide, lateral margins convex; surface rather convex, apex barely sinuate, rather oblique. Basal margin at humerus evenly rounded. Virtually no striae recognizable. Microreticulation absent, surface very glossy.

Male genitalia. Unknown.

Female gonocoxites. Unknown, genitalia eaten away.

Variation. Unknown.

Distribution. Eastern Victoria, without distinct locality.

Collecting circumstances. Not recorded, but perhaps a montane species.

Pseudagonica latibasis, spec. nov.
Figs 23, 36

Examined types. Holotype: ♀, 37.43S 145.41E VIC Mt. Donna Buang, 1200m N. of Warburton 810 26Jan.–11Feb.1987 A. Newton & M. Thayer / wet scler.-*Noth.cunn.* FMHD #87-218 Berlesate leaf & log litter (ANIC).

Etymology. The name refers to the remarkably wide base of the wide pronotum.

Diagnosis. Medium sized species with remarkably wide prothorax, rather elongate elytra and unicolourous piceous-brown legs. Distinguished from similarly sized species by body proportions, remarkably wide base of the prothorax, presence of the basal marginal seta of the prothorax, wide base of the elytra, and the short female gonocoxite 2 which has the nematiform setae situated close to the median border and closely adjacent.

Description

Measurements. Body length: 4.55 mm; width: 1.8 mm. Ratios. Length/width of 8th antennomere: 1.6; width/length of pronotum: 1.20; length/width of elytra: 1.56.

Colour (Fig. 36). Black; clypeus piceous, mandibles and antenna brown, palpi dirty yellow; legs piceous-brown.

Head (Fig. 36). Of average size. Eye moderately large, laterad moderately projected, orbit small. Frontal impressions wide and fairly deep. Mandibles rather curved even in basal half. Antenna moderately elongate.

Pronotum (Fig. 36). Of average size and shape, very wide with remarkably wide base, widest behind anterior third; apex moderately excised; lateral margins moderately convex and only in basal half oblique; base very wide, basal angles obtusely rounded, lateral parts of base remarkably little oblique. Basal marginal puncture and seta present, little removed from base. Basal impression very shallow, basal transverse impression not recognizable. Surface rather depressed, here and there with finest traces of transverse microreticulation.

Elytra. Rather elongate, with wide base, little widened apicad, widest about at middle, lateral margins rather little convex; surface rather convex, apex well sinuate, rather oblique. Basal margin at humerus almost evenly rounded. Two median striae very fine, but just visible in apical half. Microreticulation absent, surface very glossy.

Male genitalia. Unknown.

Female gonocoxites (Fig. 23). Gonocoxite 1 very large and wide, without any setae at the apical rim.

Gonocoxite 2 comparatively short, slightly curved, with obtusely rounded apex, with one rather short ventro-lateral ensiform seta situated at middle, and with two rather elongate adjacent nematiform setae on the ventral surface at some distance to apex and close to the median border.

Variation. Unknown.

Distribution. Mt. Donna Buang, eastern Victoria. Known only from the type locality.

Collecting circumstances. Holotype collected at high altitude by Berlese extraction of "leaf and log litter" in Wet Sclerophyll/*Nothofagus cunninghami* forest.

Pseudagonica spinosa, spec. nov.

Figs 13, 24, 37

Examined types. Holotype: ♂, 37.50S 146.16E VIC Baw Baw Alpine Res. 1km WNWAlpine Vill. 1420m, 817 29 Jan.–10 Feb.1987 A. Newton & M. Thayer / *Euc.pauciflora* woodl. FMHD #87-243 Berl. leaf & log litter (ANIC). – Paratypes: 1♀, 37.51S 146.15E VIC Baw Baw Alpine Res. 1.2km NE Neulynes Mill, 1145m, 816 29 Jan.–10 Feb.1987 A. Newton & M. Thayer / wet scler. *Noth.cunn.* FMHD #87-240 Berl. leaf & log litter (CBM); 1♂ (defect, head and prothorax missing), 1♀, 38.17S 146.00E VIC Mt. Worth NP, 300m Trevorrows Mill, 815 28 Jan.–10 Feb.1987 A. Newton & M. Thayer / wet sclero. forest FMHD #87-237 Berl. leaf & log litter (ANIC); 1♀, Vic. 1060 m, Mt. Donna Buang wet. sclero, 5 Nov.1970 / R. W. Taylor R. J. Bartell Berlesate ANIC. 299 (ANIC); 1 ♀, 37.07S 146.28E VIC Mt.Stirling,Circuit Rd.S.of Telephone Box Jct.1270m,936 18 Feb.1993 A. Newton & M. Thayer / *Euc.delegatensis* grassy forest FMHD #93-115 berl. leave & log litter (ANIC).

Note. Unfortunately only two males are represented in this putative species that is distinguished from most of the taxa of small body size by the dark femora. Both males posses a similar aedeagus with markedly spinose internal sac, although in certain characters of their external morphology they are rather different (e.g. striation of elytra, excision of the apex of the elytra, size of eyes). The females from nearby localities are mainly alluded to this species by virtue of their dark legs. Future examination of males from the mentioned localities should prove this taxonomic decision.

Etymology. The name refers to the strongly spinose folds in the internal sac of the aedeagus.

Diagnosis. Rather small species with fairly wide prothorax, moderately short elytra and unicolourous brown legs. Distinguished from similarly sized and coloured species by lesser body size, presence of the basal marginal seta of the prothorax, the remarkably spinose inner sac of the aedeagus, and the small female gonocoxite 2 with a rather small ventral ensiform seta situated about in middle.

Fig. 13. *P. spinosa*, spec. nov. Male genitalia: Aedeagus left side and lower surface, left and right paramere, genital ring. Scale bars: 0.25 mm.

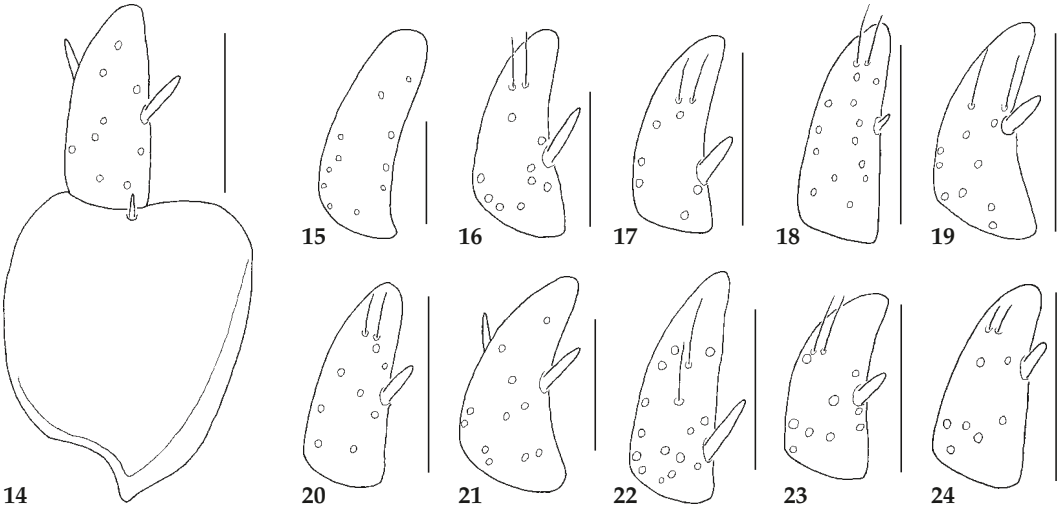
Description

Measurements. Body length: 3.45–4.0 mm; width: 1.45–1.6 mm. Ratios. Length/width of 8th antennomere: 1.5; width/length of pronotum: 1.14–1.16; length/width of elytra: 1.50–1.53.

Colour (Fig. 37). Dark piceous to black; clypeus, mandibles, antenna, and legs reddish-brown, palpi dirty yellow.

Head (Fig. 37). Of average size. Eye moderately large, laterad rather projected, orbit small. Frontal impressions wide and fairly shallow. Mandibles rather straight, comparatively little incurved apicad. Antenna rather short.

Pronotum (Fig. 37). Of average size and shape, rather wide, widest at anterior third; apex moderately excised; lateral margins moderately convex and oblique; basal angles evenly rounded, lateral parts of base rather oblique. Basal marginal puncture and seta present, moderately removed from base. Basal impression very shallow, basal transverse impression not recognizable. Surface rather depressed, here and there with finest traces of transverse microreticulation.



Figs 14- 24. Female gonocoxites (in Figs 15–24 only gonocoxite 2 figured). **14.** *Agonica simsoni* Sloane. **15.** *A. victoriensis* Moore. **16.** *Pseudagonica nitida major*, subspec. nov. **17.** *P. incerta*, spec. nov. **18.** *P. minuta minuta*, spec. nov. **19.** *P. orbitalis*, spec. nov. **20.** *P. montisfusci*, spec. nov. **21.** *P. obscuripes obscuripes*, spec. nov. **22.** *P. amblyops*, spec. nov. **23.** *P. latibasis*, spec. nov. **24.** *P. spinosa*, spec. nov. Scale bars: 0.1 mm.

Elytra. Moderately short, rather widened apicad, widest behind middle, lateral margins evenly convex; surface rather convex, apex well sinuate, rather oblique. Basal margin at humerus evenly rounded. Median striae very fine, more or less easily visible in apical half. Microreticulation absent, surface very glossy.

Male genitalia (Fig. 13). Genital ring large, slightly oval-shaped, almost symmetric, with very narrow, wide basis and convexly triangular apex. Aedeagus rather short and wide; lower surface very slightly concave except for the basal fourth; apex fairly elongate, markedly spoon-shaped and with angulate lateral angles, at tip evenly convex; orificium very large, situated mainly on the upper surface; internal sac with several elongate folds which are densely furnished with remarkably elongate spines. Both parameres rather large, with rounded apex; right paramere slightly smaller and longer than the left one.

Female gonocoxites (Fig. 24). Gonocoxite 1 very large and wide, without any setae at the apical rim. Gonocoxite 2 comparatively short and wide, almost straight, with obtusely rounded apex, with one rather small ventro-lateral ensiform seta situated about at apical third, and with two short nematiform setae on the ventro-lateral surface at some distance to apex. Variation. Some variation noted in striation of elytra, excision of the apex of the elytra, and in the size of the eyes.

Distribution. Mountains of eastern Victoria.

Collecting circumstances. Most specimens were collected by Berlese extraction from "leaf and log litter" in montane Wet Sclerophyll Forest, at some localities mixed with the Southern Beech *Nothofagus cunninghami*. One specimen was sampled at high altitude (1270 m) in "grassy *Eucalyptus delegatensis* forest".

Key to the taxa of the genus *Pseudagonica* Sloane

1. Femora yellow, considerably paler than tibiae. ..... 2.
– Femora reddish to piceous, not perceptibly paler than tibiae. ..... 14.
2. Very small, elongate species, body length 3.1 mm; ratio length/width of elytra 1.60; eye remarkably protruded (Fig. 30); aedeagus unknown. Belgrave, eastern outskirts of Melbourne, s.VIC. ... . *macrops*, spec. nov.
– Usually larger species, when small, elytra decidedly shorter and wider, or eye less protruded. ..... 3.
3. Body length >5.0 mm; antenna longer, ratio length/width of 8th antennomere 1.75. ..... 4.
– Body length <5.0 mm, commonly less; antenna shorter, ratio length/width of 8th antennomere <1.65. ..... 6.

4. Elytra longer, ratio length/width >1.55; striae fine though in apical half visible; basal elytral margin at humerus evenly convex; aedeagus either with obtuse apex (Figs 6–9), or unknown. ..... 5.

– Elytra shorter, ratio length/width <1.50; striae virtually not visible; basal elytral margin at humerus very slightly angulate; aedeagus with triangular apex (Fig. 5). Bonang, extreme sw.VIC. ..... *nitida moorei*, subspec. nov.

5. Elytra shorter and reversely oviform, markedly widened apicad, widest well behind middle; striae more distinct (Fig. 38); aedeagus unknown. Lorne, sw.VIC. ..... *nitida major*, subspec. nov.

– Elytra longer and oval shaped, barely widened apicad, widest in middle; striae less distinct (Fig. 39); aedeagus with obtuse apex (Fig. 6). Brown Mt., se.NSW. .... *nitida gracilior*, subspec. nov.

6. Larger species, body length >4.6 mm **and** elytra longer, ratio length/width >1.53 **and** elytral striae not visible **and** pronotum narrow and elongate, ratio width/length 1.10; aedeagus unknown. Brown Mt., se. NSW. .... *montisfusci*, spec. nov.

– Smaller species, body length <4.6 mm; if rather large species, pronotum shorter and wider **and** elytra shorter **and** elytral striae visible; aedeagus variously shaped, or unknown. ..... 7.

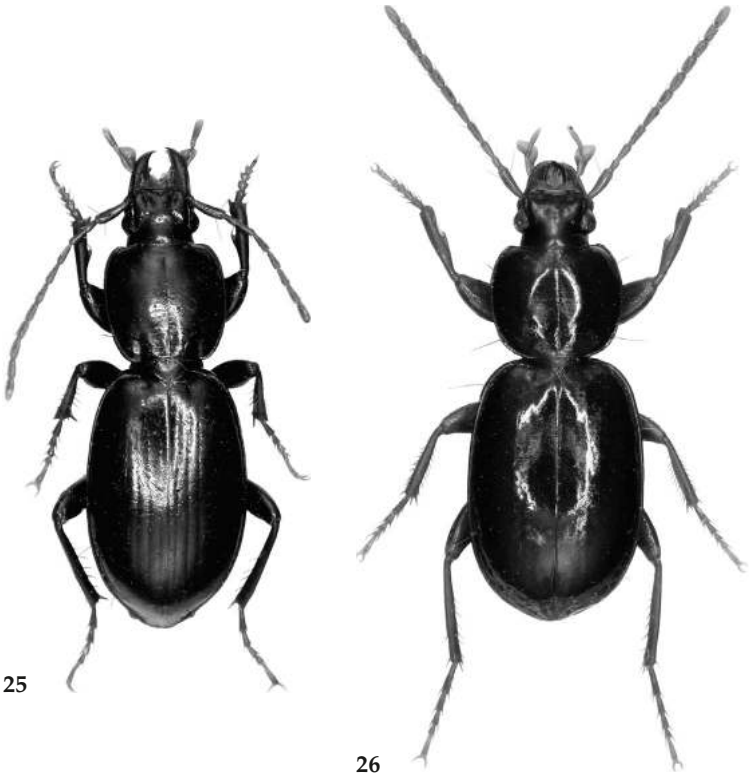
7. Orbit large, recognizable below eye when seen from above; basal marginal seta of pronotum removed rather far from base, basal margin laterally very oblique (Fig. 29) **and** antenna very short, median antennomeres c. 1.25× as wide as long **and** two median elytral striae visible and slightly impressed on disk **and** colour reddish to reddish-piceous; aedeagus unknown. ACT. .....*orbitalis*, spec. nov.

– Orbit smaller, not recognizable below eye when seen from above; basal marginal seta of pronotum usually situated closer to base, and basal margin laterally less oblique **or** antenna longer **or** elytral striae not impressed on disk **or** colour dark piceous to black; aedeagus varied or unknown. ..... 8.

8. Comparatively large species, body length always >3.5 mm, commonly larger **and** elytra short, ratio length/width <1.50 **and** pronotum rather short and wide, ratio width/length >1.18 **and** elytral striae distinct; aedeagus unknown. .... 9.

Tab. 2. Measurements and ratios of the species of *Pseudagonica*. N = number of specimens measured; body length in mm; l/w 8th ant = ratio length/width of 8th antennomere; w/l pron = ratio width/length of pronotum; l/w elytra = ratio length/width of elytra.

	N	body length	l/w 8th ant	l/w pron	l/w elytra
nitida nitida	2	3.8–4.6	1.6–1.65	1.19–1.23	1.46–1.48
nitida orientalis	2	3.65–4.15	1.3–1.35	1.18–1.20	1.48–1.50
nitida major	1	5.5	1.8	1.16	1.55
nitida moorei	1	5.6	1.8	1.14	1.49
nitida gracilior	1	5.3	1.75	1.17	1.59
incerta	1	3.95	1.5	1.22	1.46
minuta minuta	10	2.6–3.8	1.25–1.40	1.11–1.19	1.49–1.53
minuta elongata	1	2.7	1.2	1.16	1.58
minuta errimundrae	1	3.6	1.35	1.12	1.54
orbitalis	1	3.5	1.25	1.19	1.51
macrops	1	3.1	1.45	1.18	1.60
aberrans	1	3.6	1.4	1.20	1.58
montisfusci	2	4.6–4.95	1.4–1.5	1.10	1.53–1.54
obscuripes obscuripes	7	5.1–6.8	1.75–2.15	1.14–1.18	1.51–1.55
obscuripes asetosa	1	6.5	2.15	1.14	1.52
longipennis	1	6.6	2.25	1.05	1.60
amblyops	1	4.9	1.75	1.09	1.52
alpina	1	4.7	1.6	1.14	1.54
latibasis	1	4.55	1.6	1.20	1.56
spinosa	5	3.45–4.0	1.5	1.14–1.16	1.50–1.53



Figs 25- 26. Habitus, body length in brackets. **25.** *Agonica victoriensis* Sloane (8.5 mm). **26.** *Pseudagonica obscuripes obscuripes*, spec. nov. (6.2 mm).

– Commonly smaller species, body length < 3.8 mm, commonly smaller; if species > 3.5 mm, elytra longer, ratio length/width > 1.54; elytral striae indistinct or barely recognizable; aedeagus variously shaped. ..... 11.

9. Elytral striae slightly more distinct; antenna slightly longer, ratio length/width of 8th antennomere > 1.6. Otway Ranges, sw.VIC. .... *nitida nitida* Moore, 1960

– Elytral striae slightly less distinct; antenna slightly shorter, ratio length/width of 8th antennomere < 1.5. e.VIC, se.NSW. ..... 10.

10. Pronotum slightly narrower, ratio width/length < 1.20; elytra slightly longer, ratio length/width > 1.48; antenna slightly shorter, ratio length/width of 8th antennomere < 1.35. se. NSW: Mt. Kosciusko. ..... *nitida orientalis* Moore, 1963

– Pronotum slightly wider, ratio width/length 1.22; elytra slightly shorter, ratio length/width 1.46; antenna slightly longer, ratio length/width of 8th antennomere 1.5. e.VIC: near Warburton. ..... *incerta*, spec. nov.

11. Elytral striae barely visible; comparatively large species, body length 3.6 mm; pronotum short and wide, ratio width/length 1.20; apex of aedeagus parallel-sided, not triangular (Fig. 9). ACT. ..... *aberrans*, spec. nov.

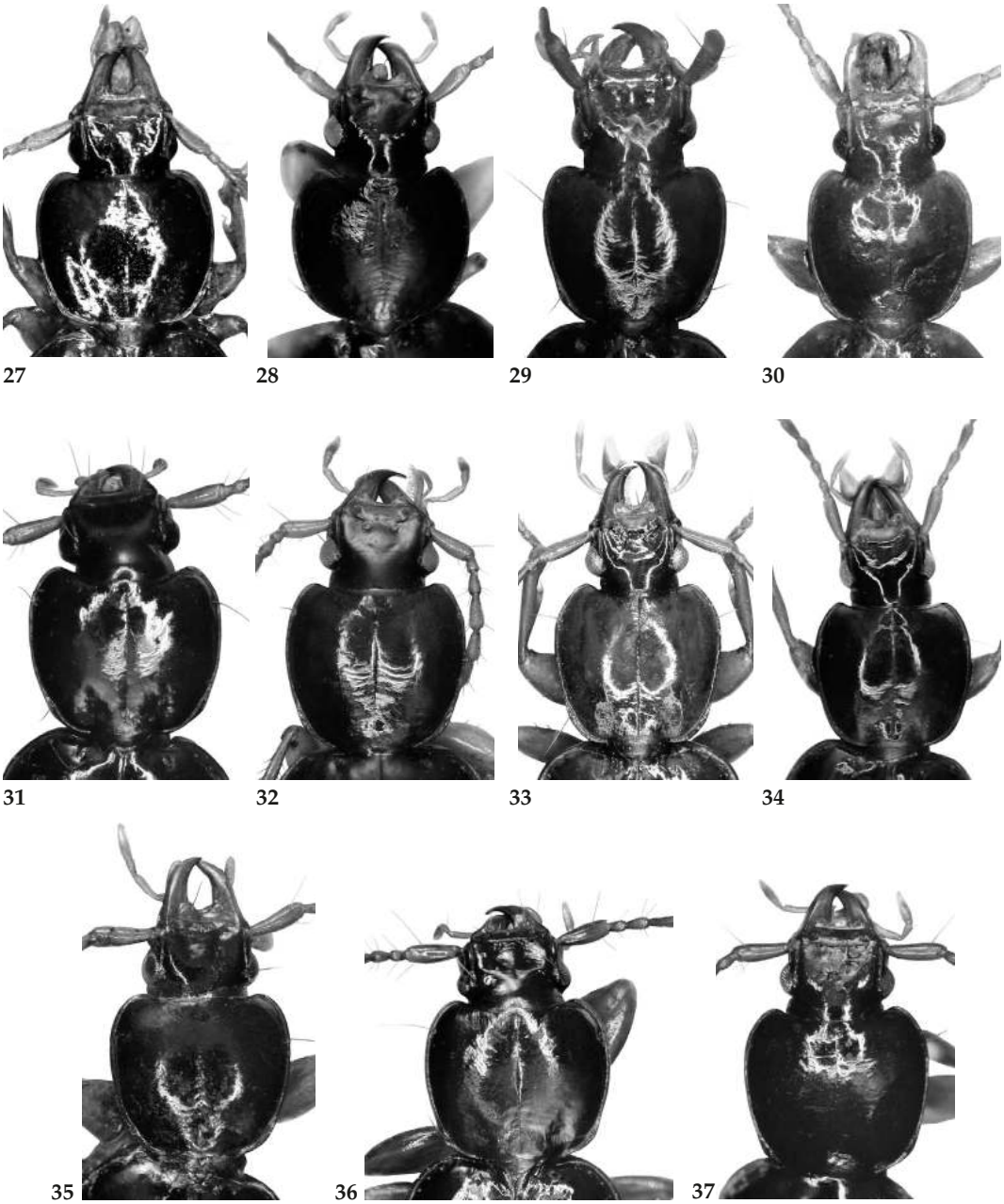
– Elytral striae indistinct but visible; very small to comparatively large species, body length 2.7–3.8 mm; pronotum variously shaped; apex of aedeagus distinctly triangular (Figs 7, 8). e.VIC, ACT. ..... 12.

12. Apex of aedeagus not sinuate in lateral view, markedly triangular (Fig. 8). Errimundra NP, se. VIC. ..... *minuta errimundrae*, subspec. nov.

– Apex of aedeagus sinuate in lateral view, less distinctly triangular (Fig. 7). e. VIC, ACT. ... 13.

13. Elytra shorter, ratio length/width <1.54. e.VIC. ..... *minuta minuta*, spec. nov.

– Elytra longer, ratio length/width 1.58 ACT. .... *minuta elongata*, subspec. nov.



Figs 27- 37. Head and pronotum. **27.** *Pseudagonica nitida major*, subspec. nov. **28.** *P. nitida gracilior*, subspec. nov. **29.** *P. orbitalis*, spec. nov. **30.** *P. macrops*, spec. nov. **31.** *P. aberrans*, spec. nov. **32.** *P. montisfusci*, spec. nov. **33.** *P. longipennis*, spec. nov. **34.** *P. amblyops*, spec. nov. **35.** *P. alpina*, spec. nov. **36.** *P. latibasis*, spec. nov. **37.** *P. spinosa*, spec. nov.

14. Elytra elongate, ratio length/width 1.60; pronotum narrow and elongate, ratio width/length 1.05; posterior lateral seta of pronotum far removed anteriad (Fig. 33); eye very strongly projected laterad; apex of aedeagus triangular, at base without tiny denticles on the upper surface (Fig. 12). Bonang, se.VIC. .... *longipennis*, spec. nov.

38

39

Figs 38- 39. Elytra. **38.** *Pseudagonica nitida major*, subspec. nov. **39.** *P. nitida gracilior*, subspec. nov.

– Elytra shorter, ratio length/width <1.57; pronotum usually wider and shorter, ratio width/length usually >1.14 (only in *P. amblyops* 1.09, but in this species the eye is markedly depressed); posterior lateral seta of pronotum if present less removed anteriad (Figs 26, 32, 35–37); eye far less projected laterad; apex of aedeagus triangular, at base with tiny denticles on the upper surface (Figs 10, 11), or internal sac with elongate spines (Fig. 13), or aedeagus unknown. ..... 15.

15. Body size larger, length >5.0 mm, usually much larger; elytra barely sinuate at apex, striae barely visible; eye convex and well produced laterad; aedeagus with wide, elongate apex, folds of internal sac shortly denticulate (Figs 10, 11). ..... 16.

– Body size smaller, length <5.0 mm, commonly smaller; elytral striae usually inconspicuous but visible; eye less convex and less produced laterad; aedeagus with narrow, short apex, folds of internal sac with conspicuous, very elongate spines (Fig. 13), or unknown. ..... 17.

16. Posterior lateral seta of prothorax present; apex of aedeagus moderately triangular, at tip rounded (Fig. 10). ACT. .... *obscuripes obscuripes*, spec. nov.

– Posterior lateral seta of prothorax absent; apex of aedeagus decidedly triangular, at tip obtusely triangular (Fig. 11). extreme se. NSW. ... . *obscuripes asetosa*, spec. nov.

17. Body size smaller, length <4 mm; antenna slightly shorter, ratio length/width of 8th antennomere <1.5; eye more projected laterad (Fig. 37); apex of aedeagus short and narrow, markedly triangular, internal sac with conspicuous, very elongate spines (Fig. 13). e.VIC. .... *spinosa*, spec. nov.

– Body size larger, length >4.5 mm; antenna slightly longer, ratio length/width of 8th antennomere >1.6; eye more depressed and less projected laterad (Fig. 34–36); aedeagus unknown. ..... 18.

18. Pronotum shorter and wider, ratio width/length 1.20, with remarkably wide base and distinctly obtuse basal angle (Fig. 36); elytra less ovoid, wider at humerus. e.VIC. .... *latibasis*, spec. nov.

– Pronotum longer and narrower, ratio width/length <1.14, with narrower base (Figs 34, 35); elytra more ovoid, narrower at humerus. .... 19.

19. Posterior lateral seta of pronotum absent; pronotum longer and narrower, ratio width/length 1.09 (Fig. 34); antenna slightly longer, ratio length/width of 8th antennomere 1.75; eye large but markedly depressed (Fig. 34). Extreme se.NSW. ..... *amblyops*, spec. nov.

– Posterior lateral seta of pronotum present; pronotum shorter and wider, ratio width/length 1.14 (Fig. 35); antenna slightly shorter, ratio length/width of 8th antennomere 1.6; eye smaller and less depressed (Fig. 35). e.VIC. .... *alpina*, spec. nov.

Remarks

The species of the Australian Agonicine genera *Agonica* and *Pseudagonica* in general are remarkably similar in shape and structure and in many character states of their external morphology. Therefore, Moore (1960, 1963) mentioned a great variability of body size within the few species that were distinguished at that time. More scrutinized examination, however, reveals a much greater number of different taxa, species or subspecies, which, however, still are very similar. The question, why most Agonicina exhibit so little morphological differences, is not easy to answer to, but it may be the mode of life on the ground and in litter, as well as a putative specialized mode of nourishment, that account for the high grade of similarity.

Whereas most species of the genus *Agonica* possess rather wide ranges, the taxonomic units of *Pseudagonica* which in the present paper are provisionally described as species and subspecies, respectively, seem to be extremely localized. At the present state of the, still quite restricted, knowledge this difference may be related to the commonly much smaller body size of most taxa of *Pseudagonica* and their apparent generally montane habits which perhaps render range extensions even more difficult than in the larger *Agonica* species. The occurrence in the montane areas of southern and eastern Victoria, southern New South Wales, and the Australian Capital Territory also may account for the dissection of ranges, because most of the mountains and tablelands in this area are grown with dense Wet Sclerophyll Forest or Temperate Rainforest, but are separated by deep valleys and stretches of open Dry Sclerophyll Forest and grassland. Hence, at least at present, vagility of the Agonicine species is very restricted.

Another problem is the apparent rarity of most, if not all species, in collections. It is unknown, whether the species are rare in nature, whether their apparent rarity is due to ineffective sampling efforts or methods. As ground and litter inhabiting beetles Agonicines probably are best sampled by sifting or Berlese extraction of ground litter. Whether pitfall trapping is a successful method, or not, is unknown, and the success of this method would depend on the vagility, or running activity, of the species. As centipede or perhaps also snail hunters, Agonicines may not be very vagile, but, in any case, pitfall trapping has not been extensively used in areas where Agonicines are believed to occur.

If, however, Agonicini are rare in nature, then the question arises, why this is so. Could restricted food resources be responsible for the rarity, or which other reasons? It would be an interesting task, not only to further enlighten the diversity and distribution of the Australian Agonicina, their ecology and their mode of life and reproduction, but also the reasons for their apparent rarity. In future, collectors working on the mountains of south-eastern Australia and in Tasmania should bear in mind this strange and very interesting carabid group and should try to practise appropriate sampling methods.

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