

New species and new records of Australian Pseudomorphae. 6th Supplement to the “Revision of the Pseudomorphae of the Australian Region.”

(Insecta, Coleoptera, Carabidae)

Martin Baehr

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As a further supplement to the general revision of the Australian-New Guinean carabid subfamily Pseudomorphae two new species are described which belong to a new species-group each within their genera: *Sphallomorpha plagiata* from central eastern New South Wales and *Adelotopus pulleni* from eastern South Australia. Of *Sphallomorpha multipunctata* Baehr, *S. sculpturata* Baehr, and *Adelotopus atrorufus* Baehr the yet unknown males are described and their genitalia figured, of *Sphallomorpha labralis* Baehr the unknown female. Some new locality records of hitherto rare species are noted.

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Introduction

During a recent visit at the Australian National Insect Collection at CSIRO, Canberra (ANIC), I sorted out and identified a number of pseudomorphine specimens that were recently collected by various collectors and therefore were not included in my pseudomorphine revisions. This sample includes new species, additional new records, and also allow the description of the genitalia of the odd sex of some species that were so far known only from one sex. A specimen collected by me in 2001 but not yet identified now turned out to represent the unknown male of another species. Thus, this paper is regarded a further supplement to my general revision of the Australian-Oriental species of the carabid subfamily Pseudomorphae (Baehr 1992, 1993a,b, 1994b, 1997, 2002, 2004).

Pseudomorphae is a subfamily of strange looking dytisciform or scolytiform carabid beetles of still doubtful relationships which are mainly distributed throughout Australia, but also occur in New Guin-

ea, the southern part of the Oriental region, South Africa, and South and Central America including the southern margin of North America. At the present state of knowledge, the subfamily includes six genera of which *Sphallomorpha* Westwood and *Adelotopus* Hope are the largest. Certainly Australia at present is the centre of diversity of the subfamily, because all six genera occur there and almost 90 percent of the recorded species are Australian. Even when the place of origin of Pseudomorphae is not finally settled, the main taxonomic radiation and further evolution of the subfamily certainly occurred in Australia, where the most plesiotypic genus *Pseudomorpha* Kirby occurs as well as highly evolved genera like *Adelotopus* Hope, *Cainogenion* Notman, and *Paussotropus* Waterhouse. Only the quite aberrant genus *Cryptocephalomorpha* Ritsema seems to have evolved in South Africa or that part of the former supercontinent Gondwanaland from which southern Africa originated. So, in general, Pseudomorphae is a striking example for a group of southern, “Gondwanaland” origin.

Additional information about relationships of the whole group and of the genera, as well as about distribution, biogeography, and habits can be obtained from the comprehensive papers of Baehr (1992, 1994a, 1997, 2002). In these revisions a number of species-groups were erected within the genera *Sphallomorpha* and *Adelotopus* that confidently represent monophyletic units. Due to certain special characters that do not occur together in any other species of *Sphallomorpha* and *Adelotopus*, respectively, separate new species-groups are erected for both new species described in the present paper and are characterized below. Although in *Sphallomorpha plagiata* male genitalia are not yet recorded, the character states mentioned in the diagnosis sufficiently characterize the species and species-group to be described.

Material and Methods

Measurements were taken using a stereo microscope using an ocular micrometer and in the same manner as specified in the revision (Baehr 1992). It should be noted again, however, that length has been measured from apex of labrum to apex of elytra, and length of pronotum was taken along midline.

The habitus photograph was obtained by a digital camera using SPOT Advanced for Windows 3.5 and subsequently was worked with Corel Photo Paint 10.

The holotypes of the new species and most of the material mentioned are stored in Australian National Insect Collection (ANIC), some specimens in the Working Collection M. Baehr at Zoologische Staatssammlung, München (CBM).

As stated in the revision, in the genus *Sphallomorpha* chetotaxy offers very important characters not only distinctive for species but also for the species-groups which have been erected in the revision for postulated monophyletic units. Therefore the important fixed setae are enumerated in the description, and to maintain a comparable style of description, these are abbreviated in the following order:

| | |
|----------|--|
| supraorb | supraorbital seta (either side) |
| preorb | preorbital seta (either side) |
| clyp | clypeal seta (either side) |
| labr | labral setae (common) |
| ment.med | medial mental setae, at base of mental excision or tooth (common) |
| ment.lat | lateral mental setae, on wings of mentum (either side) |
| gloss | glossal setae, on ventral rim of apex of glossa (either side) |
| gul | gular setae, inside of gular suture (either side) |
| postorb | postorbital setae, posteriorly of eye on a conspicuous rim (either side) |
| suborb | suborbital setae, below eye, laterally of gular suture (either side) |

| | |
|-----------|---|
| pron.ant | anterior pronotal setae, near anterior angle of pronotum (either side) |
| pron.post | posterior pronotal setae, near posterior angle of pronotum (either side) |
| proeps | proepisternal setae, longitudinally and transversally on proepisternum (either side) |
| marg | marginal setae, along margin of elytra (either side) |
| st VI | setae on posterior border of sternum VI, the penultimate visible sternite (either side) |
| ♂ st VII | setae of male sternum VII, the terminal visible sternite (either side) |
| ♀ st VII | setae of female sternum VII, the terminal visible sternite (either side) |

Pseudomorpha insignis insignis (Sloane)

Sloane, 1910: 405; Baehr 1997: 44.

Note. The nominate subspecies of this rare species was so far known only from very few specimens collected in northwestern Victoria. The new record now extends the range into adjacent South Australia, and it may also demonstrate why this species is so rare: The small series was sampled in Malaise traps which means that the specimens were caught during flight. Even with the new record, therefore, the habits of this species still remain unknown apart from that it flies and also very rarely comes to light.

New record (6 ex.). Brookfield Con. Pk., SA, 34.21S, 139.31E, 20.Oct.-3.Nov.1991 and 2.Dec.91-2.Jan.1992, E. Edwards, S. Shattuck and J. Stalman, S. Williams (ANIC, CBM).

Sphallomorpha sculpturata Baehr

Figs 1a-f

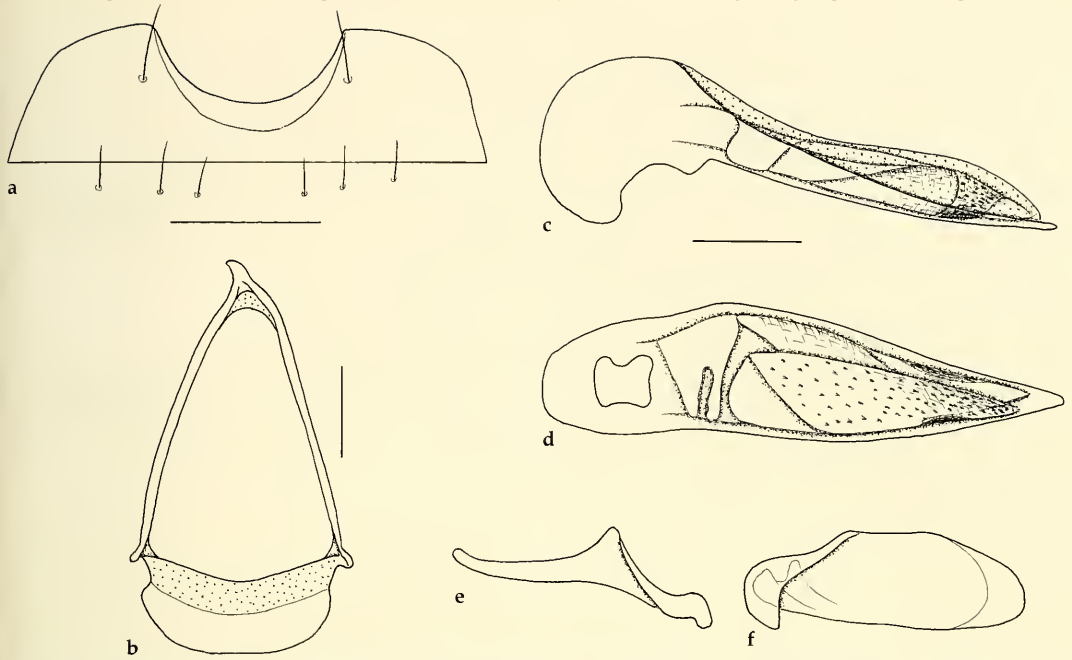
Baehr, 1992: 152.

Note. This species was so far known only from two females, therefore the group affiliation was only tentatively. Because in the *semistriata*-group in the sense of Baehr (1992) the male genitalia are in particular important for species differentiation, these are described below.

Supplementary description

Chetotaxy. ♂ st VII: 1.

Male genitalia (Figs 1a-f). Sternum VII moderately wide, with very deep excision and a single seta on either side. Genital ring moderately wide, almost regularly triangular, basal margin feebly convex, lateral angles prominent, lateral border with distinct incision below base of arms, basal plate very wide,



Figs 1a-f. *Sphallomorpha sculpturata* Baehr. Male genitalia. a. ♂ sternum VII. b. ♂ genital ring. c. Lateral view of aedeagus. d. Lower surface of aedeagus. e. Right paramere. f. Left paramere. Scales: a: 1 mm; b-f: 0.5 mm.

anteriorly widely, triangularly excised, arms almost straight, apex very narrow. Aedeagus depressed, tapering towards apex, slightly sinuate laterally in apical half, lower border very gently convex, apex narrow, rather acute, feebly curved up. Orifice very elongate. Internal sac at bottom rather microtrichiate, in apical part laterally and ventrally darker than rest, for pattern see figs 1c, d. Both parameres very elongate, right one also with very elongate, attenuate and remarkably upturned apex. Left paramere rather narrow and elongate, widely rounded at apex.

New record. 1♂, Australia, QLD01/28, Davies Ck. NP, 20 km e. Mareeba, 10.4.2001, M. Baehr (CBM).

Remarks. This species is rather easily identified by the very dense and rugose microreticulation of the elytra, the markedly convex intervals that are only developed in the apical two thirds of the elytra, and by the low number of marginal elytral pores (11-13). The single male is slightly smaller than both known females and the intervals are slightly less convex, but I have no doubt that it belongs to this species which is so far known only from Atherton Tableland in northeast Queensland, where the mentioned male specimen was likewise collected. This species differs from all known species of the *semistriata*-group by

the deep excision of male sternum VII and the presence of a single seta only.

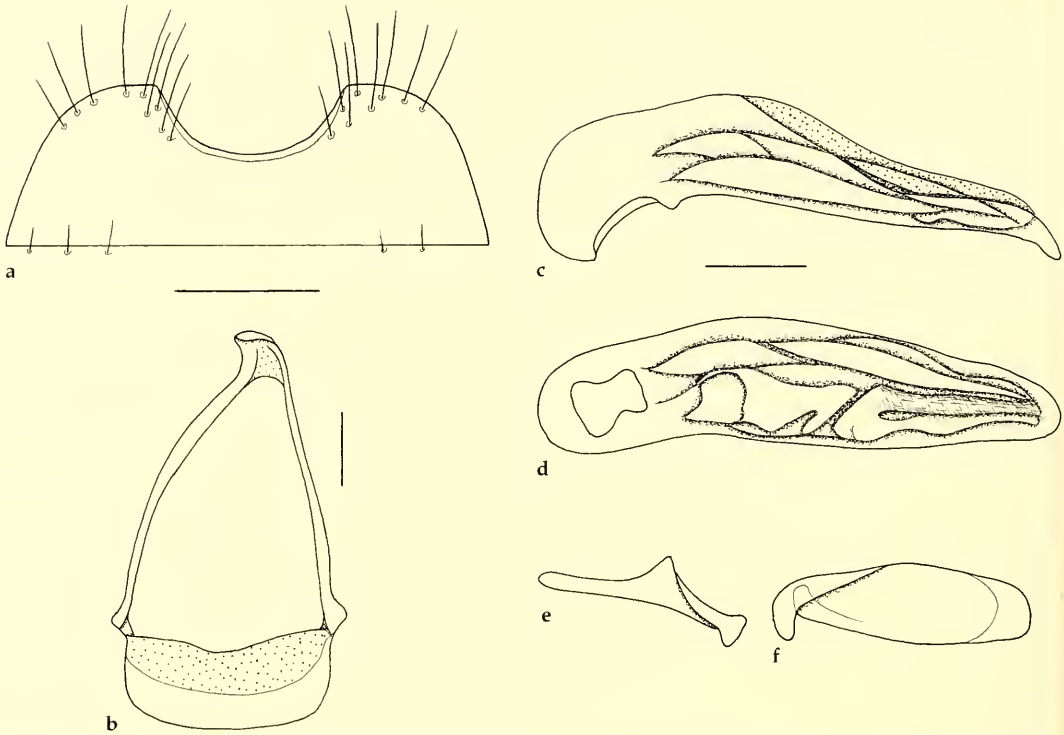
The male specimen was caught from below loose bark of a gum-type eucalypt in open sclerophyll forest.

Recognition. The key to the species in Baehr (1992: pp. 30-51) leads to caption 74 which has to be completed by the following sentence: "♂ sternum VII with a single seta only; aedeagus tapering, with acute apex; right paramere with remarkably elongate, upturned apex." Accordingly caption 74 – has to be completed by: "♂ sternum VII with at least 3 setae; aedeagus usually less tapering, with rather obtuse apex; right paramere usually with short, rarely elongate, in latter case, apex not upturned."

Sphallomorpha multipunctata Baehr
Figs 2a-f

Baehr, 1992: 160.

Note. This species was so far known only from the female. Because in the *ovalis*-group in the sense of Baehr (1992) the male genitalia are in particular important for species differentiation, these are described below.



Figs 2a-f. *Sphallomorpha multipunctata* Baehr. Male genitalia. a. ♂ sternum VII. b. ♂ genital ring. c. Lateral view of aedeagus. d. Lower surface of aedeagus. e. Right paramere. f. Left paramere. Scales: a: 1 mm; b-f: 0.5 mm.

Supplementary description

Chetotaxy: ♂ st VII: 8-9.

Male genitalia (Figs 2a-f). Sternum VII moderately wide, with moderately deep excision and a quite large number of setae on either side. Genital ring wide, triangular, basal margin feebly convex, lateral angles prominent, though rounded, lateral border without incision below base of arms, basal plate very wide, anteriorly widely, triangularly excised, arms gently convex, apex fairly wide. Aedeagus fairly depressed, slightly sinuate laterally in apical half, lower border very gently bisinuate, apex widely rounded, feebly curved down. Orifice very elongate. Internal sac moderately microtrichiate, left part not much darker than rest, for pattern see figs 2c, d. Both parameres very elongate, right one also with very elongate, but not attenuate apex. Left paramere narrow, widely rounded at apex.

New record. 2♂♂, 11.45S 142.35E Heathlands, QLD, 15-26 Jan 1992, T. A. Weir, I. D. Naumann at light (ANIC, CBM).

Remarks. Because thus far only females were known from this species, its status was somewhat uncertain.

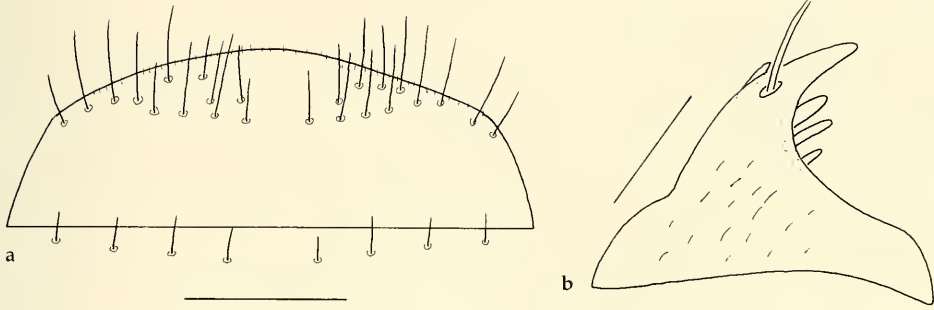
The male genitalia now corroborate it as a separate species close to *S. polita* (Macleay), but with different aedeagus and less numerous setae on sternum VII in both sexes. The new record is well within the recorded range.

Recognition. The key to the species in Baehr (1992: pp. 30-51) leads to caption 82 which has to be completed by the following sentence: "right paramere with very elongate, but not attenuate apex". Accordingly caption 82 – has to be completed by: "right paramere with shorter, rarely elongate apex, in latter case apex attenuate."

Sphallomorpha labralis Baehr Figs 3a,b

Baehr, 1992: 174.

Note. This species was so far known only from males. Because female stylomeres, but also the terminal sternite are of some importance for species differentiation, these are described and figured below.



Figs 3a,b. *Spallomorpha labralis* Baehr. Female genitalia. **a.** ♀ sternum VII. **b.** stylomere 2. Scales: a: 1 mm; b: 0.5 mm.

Supplementary description

Chetotaxy. ♀ st VII: 12-13.

Female genitalia (Figs 3a,b). Sternum VII wide, apical border gently convex, with many elongate setae arranged in 2-3 rows, and with several short hairs along margin. Stylomere 2 short and wide, apex rather elongate and acute, with 3 short ves of different size and shape, with a short des and with 2 elongate nematiform setae arising from a groove far below apex.

New record. 1♀, 11.45S 142.35E Heathlands, QLD, 15-26 Jan 1992, T. A. Weir, I. D. Naumann at light (ANIC).

Remarks. This species is easily distinguished from all other Australian species of the *ovalis*-group in the sense of Baehr (1992) by the bisinuate, medially protruded apical margin of the labrum. It occurs in northernmost Queensland right up to the tip of Cape York Peninsula, where the mentioned female specimen was caught.

Recognition. The key to the species in Baehr (1992: pp. 30-51) leads to caption 89 which has to be completed by the following sentence: "♀ sternum VII 12-13 setae." Accordingly caption 89 – has to be changed to: "♀ sternum VII with 9-12 setae."

plagiata-group

Diagnosis. Rather small, wide, moderately convex species with a very large, anteriorly convex, yellow sutural spot; elytral striae absent; supraorbital and preorbital setae present; labrum wide, anteriorly straight, symmetric, 4-setose; mental tooth absent, though with rather well developed, apically transverse prominence; mental setae present; gular sutures almost evenly curved; 2 gular setae present; glossa deeply excavate, 7-8-setose; galea narrow, attenuate; palpi and antenna rather short; eyes de-

pressed; basal angles of pronotum obtusely rounded; prosternal process with 4 elongate setae; elytra with 11-12 marginal setae; ♀ sternum VII wide, 4-5-setose; stylomere 2 very short with rather elongate apex, with 2 dorsal nematiform setae, one stout dorso-median ensiform seta, and 3 stout latero-ventral ensiform setae of different shape; base of stylomere 2 not concealed. Male genitalia so far unknown.

Distribution. A single species recorded from central eastern New South Wales.

Relationships. According to the combination of characters, in particular chetotaxy of head and shape of female sternum VII, the systematic position of this species-group probably is near the *wilgae*- and *centroplagiata*-groups of the revision (Baehr 1992), though the exact position will remain doubtful, until the male genitalia have been examined.

Spallomorpha plagiata, spec. nov.

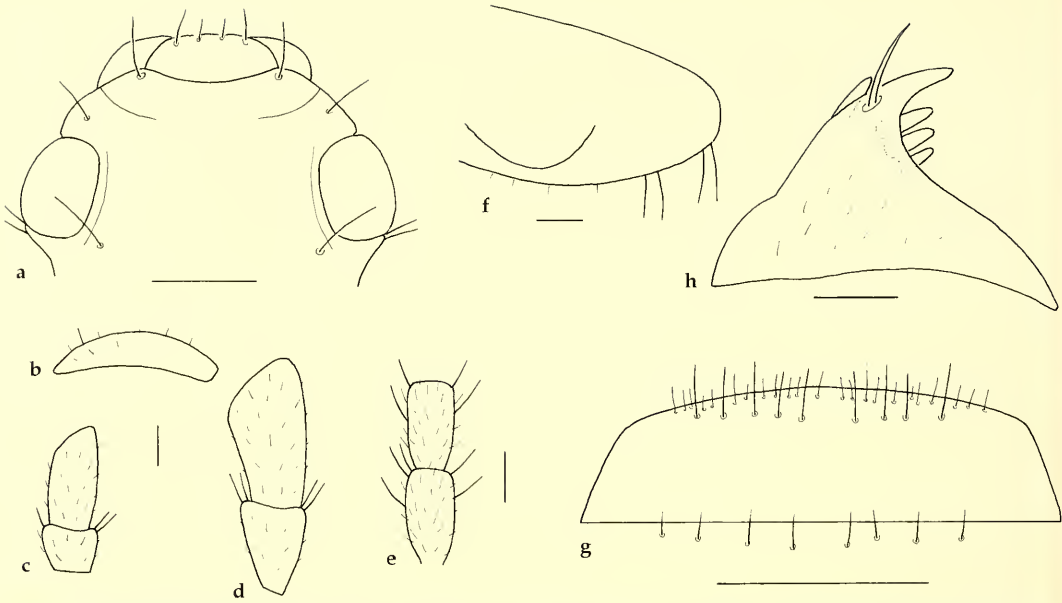
Figs 4a-k, 7

Types. Holotype: ♀, Starr's Ck Lansdowne SF NSW 23 XII 90 / S. G. Watkins Collection Donated 2001 (ANIC).

Diagnosis. Recognized by the combination of a very large, anteriorly convex, light elytral spot, comparatively small body size, presence of supraorbital and preorbital setae but absence of posterior pronotal seta, presence of but two gular setae on either side, and wide and at apex little convex female sternum VII.

Description

Measurements. Length: 7.1 mm; width: 3.7 mm. Ratios: Width pronotum/head: 1.77; width elytra/pronotum: 1.06; width/length of pronotum: 2.46;



Figs 4a-h. *Spallomorpha plagiata*, spec. nov. Details of head, prosternum, and female genitalia. **a.** Dorsal surface of head. **b.** Galea. **c.** Terminal palpomeres of labial palpus. **d.** Terminal palpomeres of maxillary palpus. **e.** 5th and 6th antennomeres. **f.** Prosternal process. **g.** ♀ sternum VII. **h.** stylomere 2. Scales: a,g: 0.5 mm; b-g: 0.1 mm, h: 0.25 mm.

length/width of elytra: 1.23; length elytra/pronotum: 3.20.

Colour (Fig. 7). Upper surface of head and elytra dark piceous, of pronotum slightly lighter. Lower surface reddish to reddish-piceous, head laterally darker. Apical margin of clypeus and lateral borders of pronotum and elytra ill delimited reddish. Labrum, mandibles, palpi, lower mouth parts, antennae, and scutellum light reddish. Elytra with very large, cordiform though elongate light reddish sutural spot that occupies most of elytra. Femora light reddish, tibiae and tarsi slightly darker.

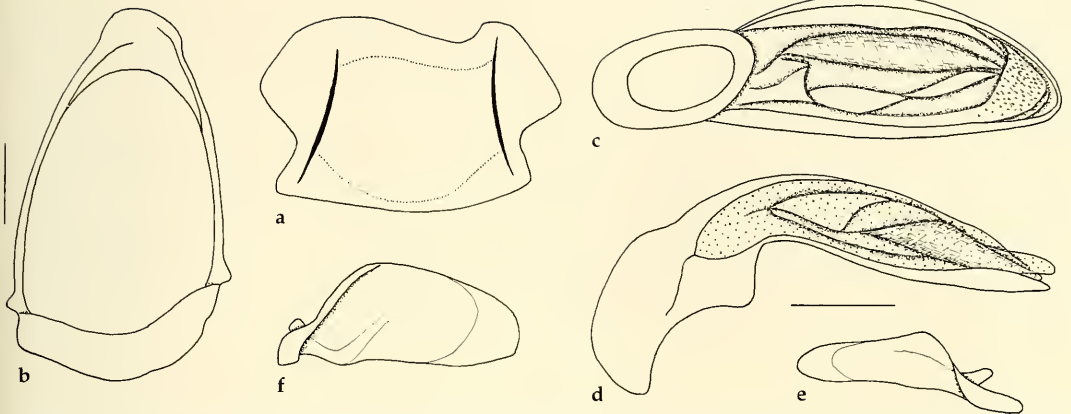
Chetotaxy (Figs 4a,g). Supraorb: 1; preorb: 1; clyp: 1; labr: 4; ment.med: 2; ment.lat: 3-4 short; gloss: 7-8; gul: 2; postorb: 2; suborb: 5-6; pron.ant: 1 short; pron.post: -; proeps: 3; marg: 11-12; st VI: 3-4; ♂ st VII: ?; ♀ st VII: 4-5.

Head (Figs 4a-e). Moderately wide, rather short, convex, frontal impressions absent. Clypeus moderately concave, clypeal sutures feebly impressed, rather indistinct, incomplete. Lateral border of head convex, very slightly incurved in front of eyes, eyes slightly produced over outline of head. Labrum moderately transverse, slightly convex in middle, symmetric, laterally obliquely convex. Mentum with distinct, at apex transverse prominence. Wings of mentum short, wide, apex evenly rounded, subapically slightly convex, medially almost straight. Apex

of glossa rather deeply excised, border moderately sharp. Dorsal part much surpassing ventral part, deeply sinuate in middle, laterally convex, with some minute hairs. Terminal labial palpomere rather elongate, not securiform, terminal maxillary palpomere fairly small, short, attenuate. Galea attenuate. Median antennomeres c. 1.8× as long as wide. Microreticulation of surface fine, distinct though in middle somewhat superficial, isodiametric. Surface with relatively dense, moderately fine punctures, impilose, moderately dull. Palpi sparsely pilose. Galea with few short hairs on anterior border. Gula with scattered short hairs.

Pronotum (Fig. 7). Rather wide, dorsally moderately convex. Apex deeply excised, excision straight. Anterior angles prominent, acute. Sides evenly, though moderately convex, widest immediately at posterior angles. Base very gently bisinuate, rather incurved to the obtuse though quite marked basal angles. Lateral margins with very fine border line. Discal impressions extremely shallow, circular, difficult to detect. Microreticulation fine though distinct, consisting of isodiametric meshes. Punctuation rather dense, fine, surface without pilosity, moderately dull.

Elytra (Fig. 7). Fairly wide, moderately elongate, fairly convex, laterally very gently rounded, widest slightly behind humeri. Apex wide, gently oblique.



Figs 5a-f. *Adelotopus atrorufus* Baehr. Male genitalia. a. ♂ sternum VII. b. ♂ genital ring. c. Lower surface of aedeagus. d. Lateral view of aedeagus. e. Right paramere. f. Left paramere. Scales: 0.25 mm.

Inner four striae very vaguely indicated, at least in basal half, outer striae barely visible. Intervals absolutely depressed. Series of marginal pores slightly spaced in middle. Microreticulation distinct though somewhat superficial, consisting of isodiametric to slightly transverse meshes. Surface with moderately dense, fairly coarse punctures, moderately glossy. Posterior wings present.

Lower surface (Fig. 4f). Prosternal process moderately elongate, wide, apex convex, rounded to ventral surface, with two terminal and two subterminal setae on surface. Metepisternum c. 1.5 × as long as wide.

Legs. Moderately elongate. Metatarsus slightly shorter than metatibia. Tarsi sparsely pilose. Basal tarsomere of metatarsus about as long as 2nd and 3rd tarsomeres together.

Male genitalia. Unknown.

Female genitalia (Figs 4g,h). Sternum VII short and wide, apical border but very gently convex, with 4-5 elongate setae and a fringe of relatively elongate hairs along and near border. Stylomere 2 rather short and wide, with fairly short though acute apex, with 3 stout ves situated close to apex, with an elongate des and with 2 elongate nematiform setae arising from a groove far below apex.

Variation. Unknown.

Distribution. Central eastern New South Wales. Known only from type locality.

Collecting circumstances. Unrecorded. Certainly this is a corticolous species, though it is unknown, in which sort of habitat it occurs, either rain forest or open sclerophyll forest.

Etymology. The name refers to the large, conspicuous, light spot on the elytra.

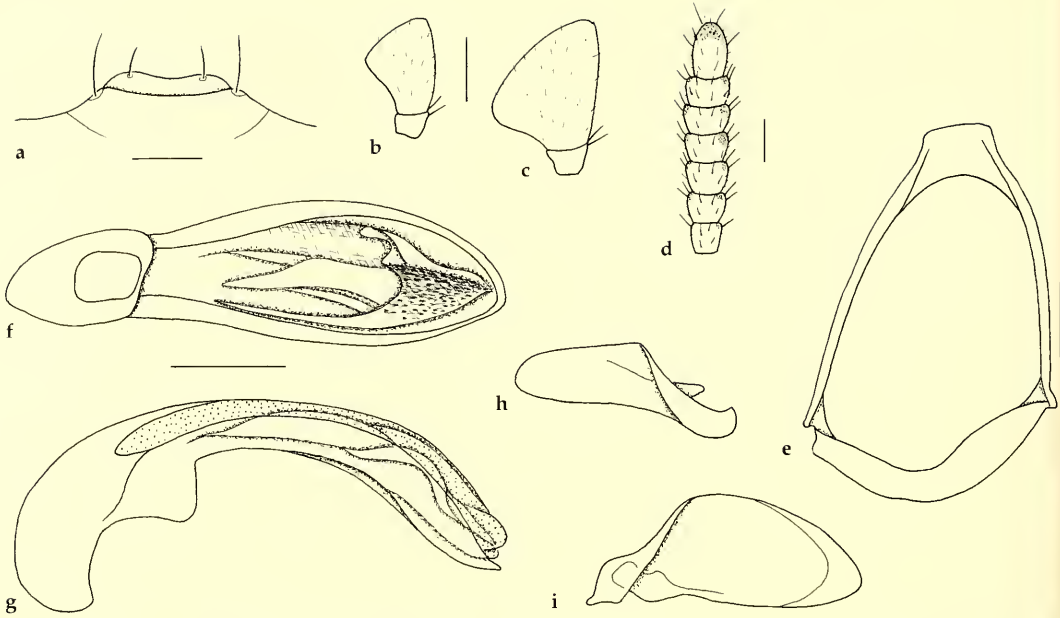
Recognition. The key to the species-groups in Baehr (1992: pp. 25-29) easily leads to caption 44 – from where the key does not work properly, because chetotaxy of prosternal process and of head in the *plagiata*-group does not fit the key, and, obviously, the elytral pattern is unique.

When using the key to the species (Baehr 1992: pp. 30-51), caption 165 is easily reached from where the key does not work further properly, because chetotaxy of prosternal process and of head in *S. plagiata* does not fit the key, and, obviously, the elytral pattern is unique. From here, comparison of the characters of chetotaxy and elytral pattern used in the key with those of *S. plagiata* will demonstrate its unique status.

***Adelotopus atrorufus* Baehr**
Figs 5a-f

Baehr, 1997: 122.

Note. This attractive species was so far known only from the female holotype that was collected in southwestern New South Wales. During a faunistic survey conducted by staff of ANIC at Calperum Homestead near Renmark in eastern South Australia a fine series of 8 specimens was captured that includes some males. Thus, the male genitalia can be now described and figured for the first time. All specimens apparently were captured in flight intercept traps.



Figs 6a-i. *Adelotopus pulleni*, spec. nov. Details of head and male genitalia. a. Labrum. b. Lower surface of terminal palpomeres of maxillary palpus. c. Lower surface of terminal palpomeres of labial palpus. d. 5th-11th antennomeres. e. ♂ genital ring. f. Lower surface of aedeagus. g. Lateral view of aedeagus. h. Right paramere. i. Left paramere. Scales: a,e-i: 0.25 mm, b-d: 0.1 mm.

Supplementary description

Male genitalia (Figs 5a-f). Genital ring short and wide, convex, slightly asymmetric, with short, wide, apex, and with slightly asymmetric, rather short, fairly excised base. Sternum VII rather wide, apically convex, with moderately deep excision, base gently convex, basal angles obtusely rounded, lateral parts fairly elongate. Aedeagus short and wide, fairly depressed, in middle rather widened, moderately asymmetric, left side convex, right side almost straight. Basal part long, moderately bent. Lower surface gently convex, not striate. Apex wide, evenly rounded off, slightly asymmetric. Orifice very elongate, internal sac complexly folded, with a distinct oblique fold near apex. Both parameres large, elongate, right comparatively narrow, with rounded apex, left paramere considerably larger than right, somewhat tapering towards apex, apex widely rounded.

Distribution. Southwestern New South Wales, adjacent eastern South Australia, perhaps also in adjacent northwestern Victoria. This is probably a species of semiarid country.

New record (8 ex.). Calperum HS, 32 km NNW Renmark, SA, 33.53S 140.44.E, 9.11.1995-25.1.1996, K. Pullen (ANIC, CBM).

pulleni-group

Diagnosis. Medium-sized, rather convex, uniformly black species. Labrum bisetose; glossa c. 10-setose; lateral margin of pronotum slightly explanate, basal angle obtusely angulate; basal border line of elytra abbreviated, about as long as half of base; scutellar pore absent; lateral margin of elytra without elongate setae behind shoulders; series of lateral pores with 6 subhumeral pores only; surface of elytra densely microreticulate; abdominal sterna without ambulatory seta each side; sternum VI unknown; tibiae, especially metatibia depressed; mesofemur and metafemur rather wide and depressed, profemur less wide; aedeagus very strongly curved and with remarkably large sclerotized lateral margins, therefore orificium narrowed towards base; internal sac of aedeagus complexly folded, with oblique fold near apex.

Larvae. Unknown.

Distribution. So far a single species recorded: *A. pulleni*, spec. nov. from eastern central New South Wales.

Relationships. This species does not fit into one of the species-groups described by Baehr (1997), but is probably nearest related to the *brevipennis*-group,

mainly because of the abbreviated basal margin, the distinct microreticulation, and the number and arrangement of the marginal pores of the elytra, though shape and structure of aedeagus is quite different.

Adelotopus pulleni, spec. nov.

Figs 6a-i, 8

Types. Holotype: ♂, 33.31S 140.24E SA. 79 km NNW Renmark, 6 Sept.-12 Oct. 1995, Flight intercept/pitfall trap, K. R. Pullen / Calperum Station / Bookmark Biosphere Reserve Invertebrate Survey (ANIC).

Diagnosis. As for species-group.

Description

Measurements (because the elytra are spread, measurements and ratios related to elytra are somewhat arbitrary). Length: 6.1 mm; width: c. 3.0 mm. Ratios: Width/length of pronotum: 1.55; width base/apex of pronotum: 1.41; width pronotum/head: 1.52; length/width of elytra: c. 1.35; length elytra/pronotum: 2.66.

Colour. Upper and lower surfaces, including labrum, mandible and palpi deep black. Antennae basally dark reddish, piceous in apical half. Legs piceous, femora basally even darkened.

Head (Figs 6a-d). Short and rather wide, moderately depressed. Anterior border gently convex, lateral angle widely rounded off, laterally slightly projecting, lateral borders oblique. Clypeal suture semicircular, highly superficial, in middle widely interrupted. Labrum narrow, apex concave. Antennal groove laterally sharply bordered, latero-posteriorly with carinate area. Mental tooth triangular, rather short, apex acute. Wings of mentum wide, laterally rounded, apex rectangular. Glossa wide, tongue-like, apically widely rounded, ventrally with distinct keel, at border with c. 10 elongate setae and additional pilosity on upper and lower surface and along border. Terminal palpomere of maxillary palpus moderately wide, slightly securiform. Terminal palpomere of labial palpus very wide, markedly securiform. Antenna short, 8th-9th antennomeres $>1.5\times$ as wide as long. Microreticulation of surface fine, though dense and distinct, regular, punctuation barely recognizable, surface with a shallow sulcus medially of eyes only, apparently impilose, very smooth, though fairly dull. Ventrolaterally of eyes with a row of short setae. Suborbital field at least laterally faintly punctate and setose. Both palpi rather sparsely setose, gula almost aetose.

Pronotum (Fig. 8). Moderately wide, convex, base comparatively narrow. Apical angles moder-



Fig. 7. Habitus of *Sphallomorpha plagiata*, spec. nov. Length: 7.1 mm.

ately produced, fairly acute, slightly surpassing posterior border of eyes. Apex rather deeply, rectangularly excised, rather convex in excision, finely bordered. Sides curved throughout, widest in basal third incurved to base. Margins not bordered, little explanate. Basal angles c. 120° , at apex obtusely rounded, not produced backwards. Base in middle slightly produced, laterally oblique, in middle finely bordered. Surface without any transverse subbasal impression. Microreticulation fine, though distinct, punctuation fine and rather dense, moderately distinct, surface with several short, irregular striae, apparently impilose, rather dull.

Elytra (Fig. 8). Rather elongate, convex throughout, basally almost parallel, then gently narrowed to apex. Apex rather wide, slightly oblique, truncature apparently faintly concave, apical angles rounded off. Shoulders rounded off, basal margin slightly oblique, without setae behind shoulders. Marginal channel very narrow, completely visible from above. Basal border incomplete, reaching only to about middle of base, ending abruptly. Lateral margin aetose. Series of umbilical pores consisting of 6 pores behind shoulder. Setae very short. Striae including sutural stria extremely superficial, indicated

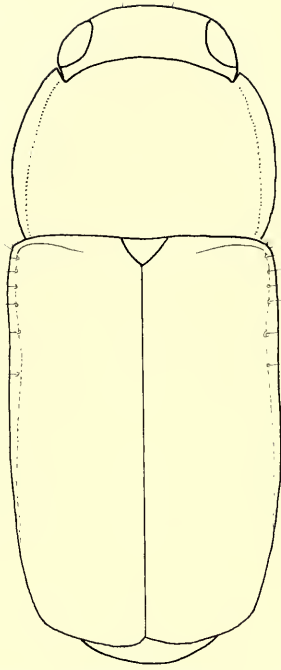


Fig. 8. Outline of *Adelotopus pulleni*, spec. nov. Length: 6.1 mm.

only by series of extremely fine punctures. Microreticulation fine though distinct, irregularly isodiametric, punctuation fine though distinct, rather dense. Surface impilose, moderately dull, somewhat silky.

Lower surface. Prosternal process rather elongate, narrow, straight, anteriorly depressed, laterally strongly bordered, surface behind coxae concave, apex narrow, straight, rectangular, very shortly setose. Metepisternum elongate, c. $2 \times$ as long as wide, posteriorly not constricted nor hollowed. Abdominal sterna with one or two setae near apical border, sternum VI without setae. Lower surface apparently impilose.

Legs. Moderately elongate, 1st tarsomere of protarsus about as long as wide, tibial groove of profemur deep, anterior plate distinctly overlapping the groove for some distance from apex, posterior border of groove sharp. Femur rather wide. Metatibia rather elongate, c. $5 \times$ as long as wide, 1st tarsomere of metatarsus slightly $> 2 \times$ as long as wide. δ protarsus barely widened.

Male genitalia (Figs 6e-i). Genital ring short and wide, highly asymmetric, left arm straight, right convex, with rather narrow, asymmetric base and short and wide, at tip transverse apex. Sternum VII partly destroyed, because the specimen apparently was somewhat damaged during capture. Aedeagus

short and wide, fairly depressed, in middle rather widened, slightly asymmetric, left side more convex than right one. Basal part long, moderately bent. Lower surface on basal half remarkably concave, towards apex slightly convex, not striate, but surface in middle concave. Apex wide, evenly rounded off, slightly asymmetric. Sclerotized lateral borders unusually wide. Orifice very elongate, narrowed towards base, internal sac complexly folded, with a distinct oblique fold near apex. Both parameres large, elongate, right comparatively large, with rounded apex, left paramere considerably larger than right, somewhat tapering towards apex, apex obtusely rounded.

Female genitalia. Unknown.

Variation. Unknown.

Distribution. Eastern South Australia. Known only from type locality.

Collecting circumstances. The holotype was captured in a flight intercept trap. Certainly this is a corticolous species that probably lives in semiarid Mallee country.

Etymology. The name honours the collector of this and several other species during the Calperum faunal reserve survey, Kim Pullen, collection manager at ANIC.

Recognition. The key to the species-groups in Baehr (1997: pp. 58-60) leads to caption 27 from where the key does not work properly, because the combination of characters of chetotaxy and microreticulation of elytra is different from those of the *multipunctatus*- and *obsoletus*-groups and, moreover, shape and structure of aedeagus are unique.

When using the key to the species (Baehr 1997: pp. 60-76), caption 89 is reached, but from here the key does not longer work properly, because the combination of characters in *A. pulleni* does not fit in either of both resulting captions.

Adelotopus virgatus Baehr

Baehr, 1997: 225.

Note. This is one of the many extremely similar reddish species that are distributed throughout the arid belt of southern Australia. At Calperum Homestead in eastern South Australia, this species occurs together with the rather common and widespread *A. rubiginosus* Newman and *A. laticollis* Baehr.

New records (2 ex.). SA, 34.00S, 140.47E, 19 km N. Renmark, 14.12.1995-25.1.1996, K. R. Pullen (ANIC); SA, 33.53F, 140.44E, 32 km NNW Renmark, 12.12.1995-25.1.1996, K. R. Pullen (ANIC).

Adelotopus nr. *ooldeae* Baehr

References

Baehr, 1997: 244.

Note. This species was so far known only from the female holotype that was captured almost hundred years ago in southwestern South Australia. The single specimen from Calperum Homestead likewise is a female that in shape and surface structure is very near to the holotype of *A. ooldeae*. To be sure of the identity, however, males should be sampled at the type locality, because in the very speciose *rubiginosus*-group in the sense of Baehr (1997) male genitalia are the best, in many species the single way for species differentiation. Therefore, the mentioned specimen is only tentatively alluded to *A. ooldeae*.

New records. 1♀, SA, 34.00S, 140.47E, 19 km N. Renmark, 14.12.1995-25.1.1996, K. R. Pullen (ANIC).

Cainogenion glabratum Baehr

Baehr, 1997: 364.

Note. This rare species was so far known only from the female holotype collected probably in 19th Century in a short distance south of Flinders Range, central South Australia. The new record, again a single specimen, was recently collected not far from the first record right within Flinders Range.

New record (1 ex.). ♀, Australia, SA, Brachina Gorge, Flinders Rge., 1.1.2004, M. Baehr (CBM).

Remarks. The single specimen of this apparently very rare species, again a female like the holotype, was collected from under the bark of a large river gum in a Gorge of Flinders Range. According to the available records this species seems to be restricted to a semiarid area in central South Australia within and south to Flinders Range. However, the recent specimen was captured near a small watercourse.

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