

## Two new species of the genus *Pogonus* Nicolai from Australia

(Insecta, Coleoptera, Carabidae, Pogoninae)

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*Pogonous saskiae*, spec. nov. from South Australia and *P. diplochaetoides*, spec. nov. from Western Australia are described. A revised key to all Australian *Pogonus* is provided. New records of *Pogonus cardiotrachelus* Chaudoir and *P. hypharpagoides* Sloane are dealt with.

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Within a sample of carabids collected by Miss S. A. Hogenhout and Mr. S. Kamoun at salt lakes of South Australia and the southern part of Western Australia in 1994, four *Pogonus* species were recognized. Besides the well known *P. cardiotrachelus* Chaudoir and the apparently rare *P. hypharpagoides* Sloane, two new species were detected, namely a small, elongate, depigmented species that is rather similar to *Pogonus grossi* Moore, and a larger, likewise depigmented species that is not closely related to anyone of the known Australian *Pogonus* species. The new species are described herein and a revised key to all Australian *Pogonus* is provided that includes two species described recently (Baehr 1984, Moore 1991) and replaces the keys given by Moore (1977) and Baehr (1984).

### Measurements

Measurements were taken using a stereo microscope with an ocular micrometer. Length has been measured from apical margin of labrum to apex of elytra, measurements, therefore, may slightly differ from those of other authors. Length of pronotum was taken along the midline, width of base between the posterior angles.

### Location of material

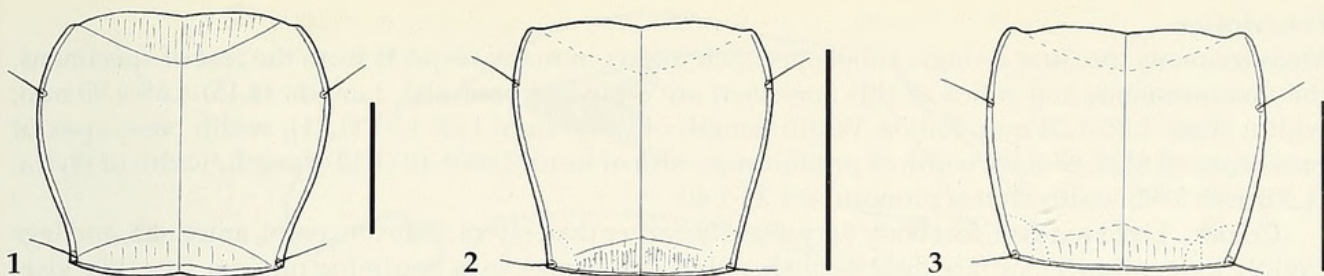
The holotypes of the new species are donated to the Australian National Insect Collection, Canberra (ANIC), some paratypes and voucher specimens are kept in the working collection of author (CBM), the Zoologische Staatssammlung, München (ZSM), the South Australian Museum, Adelaide (SAMA), the Collection R. Sciaky, Milano (CSM), and in the collection of the collectors (CHK).



## Key to the Australian species of the genus *Pogonus* Nicolai

1. Body completely metallic green or black ..... 2.
- Body entirely or in parts testaceous ..... 4.
2. Smaller (body length 6.3-6.8 mm), body narrower, more convex; pronotum markedly sinuate in front of the acute posterior angles, these being 90° or less; submarginal basal ridge of pronotum scarcely indicated. Southern Australia from Western Australia to Victoria along coast ..... *australis* Chaudoir
- Larger (body length 7.5-8.5 mm), body wider, less convex; pronotum less sinuate, posterior angles more obtuse, c. 100°; submarginal basal ridge of pronotum conspicuous ..... 3.
3. Colour greenish metallic; body narrower, more convex; pronotum less cordiform, widths of base and apex about equal; 6th and 7th striae conspicuously less marked than inner 5 striae; punctures of elytra finer, microreticulation conspicuous. Southern half of Australia along coast and inland ..... *cardiotrachelus* Chaudoir
- Colour shining black; body wider, more depressed; pronotum markedly cordiform, base distinctly narrower than apex; 6th and 7th striae almost similar to inner 5 striae; punctures of elytra very coarse, microreticulation far less conspicuous. Northeastern Queensland, coastal and apparently also inland ..... *nigrescens* Baehr
4. Bicoloured, head and pronotum distinctly darker than elytra ..... 5.
- Completely testaceous or light reddish, head and pronotum not perceptibly darker than elytra (doubtful species under both couplets) ..... 6.
5. Large, convex species (body length 9-11 mm); pronotum not lobate, distinctly sinuate in front of basal angles. Northern Australia from northwestern Queensland to the Kimberleys, coastal and along tidal rivers ..... *variabilis* Moore
- Small, depressed species (body length 6.5 mm); pronotum lobate, barely sinuate in front of basal angles. Lake Eyre Basin in Western Australia and South Australia ..... *zietzi* Sloane
6. Large species (body length 9-11 mm); pronotum distinctly sinuate in front of basal angles **and** base about as wide as apex. Northern Australia from northwestern Queensland to the Kimberleys, coastal and along tidal rivers ..... *variabilis* Moore
- Smaller species (body length <8.5 mm); pronotum either not distinctly sinuate in front of basal angles **or** when distinctly sinuate, then base markedly narrower than apex. Inland in southern half of Australia ..... 7.
7. Elytra broad; pronotum distinctly sinuate in front of basal angles **and** base markedly narrower than apex; left paramere with two apical setae, right paramere with a single apical seta. South Australia, Lake Eyre Basin ..... *gilesi* Moore
- Elytra narrow; pronotum either not distinctly sinuate in front of basal angles **or** base about as wide as apex; left paramere with three, right paramere with two apical setae ..... 8.
8. Large, convex species (body length 7.2-8.2 mm); head large, pronotum dorsally and laterally markedly convex. South Australia, Lake Eyre Basin ..... *hypharpagoides* Sloane
- Smaller, more depressed species (body length <6.5 mm); head smaller, pronotum dorsally more depressed, laterally less convex ..... 9.
9. Pronotum rather quadrate, lateral margin evenly curved from apex to base, widest in middle; elytral striae shallow, only three inner striae distinct, microreticulation conspicuous. Interior of Western Australia ..... *diplochaetoides*, spec. nov.
- Pronotum more narrowed to base than to apex, widest in anterior third, lateral margin not evenly curved; elytral striae deep, at least five inner striae distinct, microreticulation inconspicuous. South Australia, Lake Eyre Basin ..... 10.





**Fig. 1-3.** Pronotum. 1. *Pogonus hypharpagoides* Sloane. 2. *P. saskiae*, spec. nov. 3. *P. diplochaetoides*, spec. nov. Scales: 1 mm.

10. Larger species (body length 5.2-6.4 mm); lateral margin of pronotum convex to base, basal angle obtuse, little projecting. Lake Eyre ..... *grossi* Moore  
 – Smaller species (body length 4.1-4.9 mm); lateral margin of pronotum straight or slightly concave in front of base, basal angle almost right, distinctly projecting. Vicinity of Lake Gairdner and Island Lagoon ..... *saskiae*, spec. nov.

### *Pogonus cardiotrachelus* Chaudoir

Chaudoir, 1871: 24; Moore 1977: 66; Baehr 1984: 171; Moore et al. 1987: 146.

**New records:** 14♂♂♀♀, S.A. 30 km N Policeman's Point, 6 March 1994, S. A. Hogenhout, Dry Lake, under algae (CBM, CHK); 24♂♂♀♀, WA 24, Annean Lake, 40 km s. Meekatharra, 6.-7.11.1987, leg. M. Baehr (CBM, CSM, ZSM).

A widespread species throughout the southern half of Australia, occurring in coastal and inland saline habitats. Both mentioned samples were collected under exactly the same circumstances, namely under dry algae at the shores of dry or drying inland lakes.

### *Pogonus hypharpagoides* Sloane

Fig. 1

Sloane, 1895: 26; Moore 1977: 63, 66; Moore et al. 1987: 146.

**New record:** 1♂, 4♀♀, S.A. Lake Frome, 21 March 1994, S. A. Hogenhout, Dry salt Lake (CBM, CHK, ZSM).

This species was so far recorded from Lake Callabonna and Lake Eyre in South Australia. The new record from Lake Frome is close to the recorded range and this species seems to be restricted to the eastern part of the Lake Eyre basin proper.

Differing from the figure in Moore (1977, fig. 7), the specimens from Lake Frome have the lateral margin of the pronotum distinctly excised near base, and hence, the basal angles are laterally perceptibly projecting (Fig. 1). This difference, however, may be rather a local variation.

### *Pogonus saskiae*, spec. nov.

Figs 2, 4

**Types.** Holotype: ♂, AUSTRALIA: S.A., Eucolo Creek, 30 km W. Pimba, 13 March 1994, S. A. Hogenhout, Dry Salt Lake, at light (ANIC). – Paratypes: 2♂♂, 7♀♀, same data (CBM, CHK, SAMA, ZSM); 1♀, AUSTRALIA: S. A., 17 km S. Kingoonya, 15 March 1994, S. A. Hogenhout, Dry desert bush (CHK).

**Diagnosis.** Small, elongate, uniformly reddish "syndeniform" species, distinguished from related *P. grossi* Moore by lesser size, distinctly sinuate lateral margin of pronotum near base, almost rectangular basal angles of pronotum, and more regularly curved lower surface of aedeagus.



## Description

Measurements (because a single small specimen differs in many respects from the rest of specimens, the measurements and ratios of this specimen are added in brackets). Length: (4.15) 4.65-4.90 mm; width: (1.40) 1.50-1.55 mm. Ratios. Width/length of pronotum: 1.07-1.11 (1.21); width base/apex of pronotum: (0.85) 0.87-0.88; width of pronotum/width of head: 1.03-1.10 (1.12); length/width of elytra: (1.90) 1.96-1.98; width elytra/pronotum: 1.29-1.40.

Colour. Light reddish, forebody very slightly darker than elytra. Labrum, palpi, antennae, and legs slightly lighter. Lower surface light reddish, apical half of abdomen becoming piceous. Eyes blackish, mandibles dark brown.

Head. Almost as wide as pronotum. Eyes rather small, laterally not much projecting, though posteriorly not enclosed. Mandibles rather short, apex moderately incurved. Antennae rather short, slightly surpassing base of pronotum. Clypeus and frons in middle convex, frontal furrows shallow, sinuate, curved inward and slightly deepened at position of anterior supraorbital seta. Surface medially of anterior half of eye with a low, convex ridge. Surface glossy, impunctate, with very fine, highly superficial traces of isodiametric microreticulation only.

Pronotum (Fig. 2). Slightly wider than long, cordiform, widest in anterior quarter about at position of anterior lateral seta. Apex slightly produced beyond anterior angles, in middle slightly excised. Anterior angles rounded off. Lateral border shortly rounded behind apex, then feebly convex to almost straight, faintly sinuate in front of the rectangular basal angles. Marginal channel narrow, slightly widened but not explanate towards base. Base in middle almost straight, laterally slightly oblique, margined. Anterior transverse sulcus wide, shallow, median line distinct, narrow, basal transverse sulcus deep, base irregularly punctate-striolate. Basal grooves rather deep. Surface with finest and highly superficial traces of microreticulation only, extremely finely punctulate and striolate, highly glossy.

Elytra. Elongate, subparallel, depressed, almost twice as long as wide. Humeri slightly projecting, almost rounded off. Lateral margin slightly widened towards anterior fourth, then almost straight. Lateral channel narrowed between 3rd and 4th anterior marginal pore. Disk distinctly depressed. Striation complete, striae distinct, coarsely punctate. 3rd interval near 3rd stria with 4-5 setiferous punctures, occasionally also 5th interval in middle with a single puncture. Submarginal pores consisting of 5 pores in anterior group, 6 in posterior group. Surface with rather superficial microreticulation. Wings fully developed.

Legs. Rather short, especially tarsi short, 1st tarsomere of metatarsus little more than 2 × longer than wide.

♂ genitalia (Fig. 4). Genital ring wide, triangular. Aedeagus short and compact, slightly asymmetric, lower surface regularly curved, apex rounded, slightly turned to right side. Internal sac with a triangular, sclerotized plate near base. Right paramere narrow, slightly smaller than left, left paramere large, triangular, suddenly narrowed to apex, both with two elongate and one short apical setae, the short seta situated below the longer ones.

Variation. There is one very small specimen collected together with others that differs by unusual small size, comparatively wide pronotum, short elytra, and deeper and coarser puncturation of elytral striae. Since the aedeagus does not differ significantly, I think it represents an intraspecific variation rather than a distinct taxon.

**Habits.** Largely unknown, though type series collected at light near dry salt lake. A halophile, presumably mainly nocturnal species.

**Distribution.** Western part of Lake Eyre Basin in central South Australia, near Lake Gairdner and Island Lagoon. Known only from two localities.

**Relationship.** Certainly, this little species is closely related to *P. grossi* Moore from Lake Eyre. Further better exploration of the halophile fauna of the salt lake belt of South Australia may settle the actual relationships of both species, in particular, whether intermediate populations exist.

**Etymology.** Named in honour of the collector of this and several other halophile species, Miss Saskia Hogenhout.



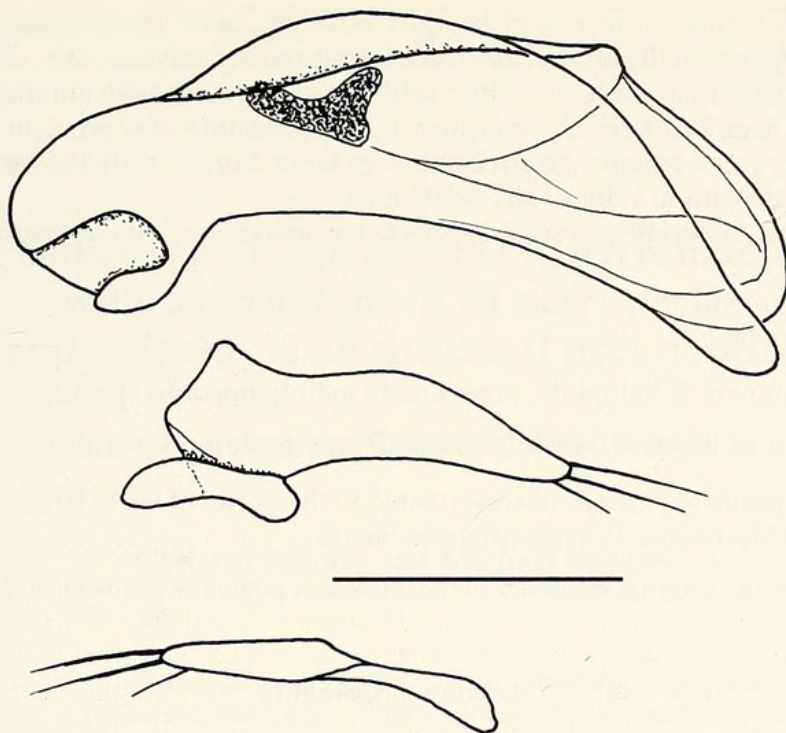


Fig. 4. *Pogonus saskiae*, spec. nov. ♂ genitalia. Scale: 0.25 mm.

*Pogonus diplochaetoides*, spec. nov.

Fig. 3

**Types.** Holotype: ♀, AUSTRALIA: W.A., 17 km S. Wiluna, near (N.W.) Lake Way, 8 April 1994, S. A. Hogenhout, Dry salt lake, at light (ANIC).

**Diagnosis.** Moderately small, rather elongate, uniformly reddish species, distinguished from all other depigmented Australian species by the rather quadrate pronotum and the weak striation and distinct microreticulation of the elytra.

**Description**

**Measurements.** Length: 6.25 mm; width: 2.1 mm. Ratios. Width/length of pronotum: 1.22; width base/apex of pronotum: 1.04; width of pronotum/width of head: 1.23; length/width of elytra: 1.82; width elytra/pronotum: 1.20.

**Colour.** Body, including all appendages, yellowish. Only eyes blackish and apex of mandibles piceous.

**Head.** Large, rather massive, though distinctly narrower than pronotum. Eyes rather small, laterally little projecting, posteriorly slightly enclosed by oblique orbits. Mandibles moderately elongate, apex rather incurved. Antennae moderately elongate, well surpassing base of pronotum. Clypeus and frons in middle convex, frontal furrows behind clypeus obsolete, medially of eye without ridge. Surface laterally behind eyes with some coarse punctures, highly glossy, almost without traces of microreticulation, impunctate.

**Pronotum** (Fig. 3). Distinctly wider than long, rather quadrate with base as wide as apex, widest slightly in front of middle, behind position of anterior lateral seta. Apex very faintly produced beyond anterior angles, in middle slightly excised. Anterior angles rounded off, slightly produced beyond lateral parts of apex. Lateral border evenly rounded throughout, basal angles almost rectangular. Marginal channel narrow, slightly widened towards base, but not explanate. Base faintly convex, margined. Anterior transverse sulcus very indistinct, almost obsolete, median line distinct, narrow, basal transverse sulcus deep, base longitudinally striolate. Basal grooves rather deep, with a longitudinal stria in bottom. Surface almost without traces of microreticulation, impunctate, highly glossy.

**Elytra.** Rather elongate, fairly convex. Humeri slightly projecting, angulate. Lateral margin slightly widened towards anterior fourth, once more irregularly widened shortly behind, then lightly rounded. Marginal channel almost interrupted at position of 4th submarginal pore. Surface moderately convex.



Striation incomplete, behind humeri and laterally obsolete, only inner two striae well impressed, outer striae becoming gradually lighter. Two inner striae moderately coarsely, outer striae lightly and more superficially punctate. 3rd interval with 3 setiferous punctures, both anterior punctures near 3rd stria, posterior pore near 2nd stria. Submarginal pores consisting of 4 pores in anterior group, 6 in posterior group, 4th pore of anterior group being very large. Surface with distinct though superficial, isodiametric microreticulation. Wings fully developed.

Legs. Rather short, especially tarsi fairly short, 1st tarsomere of metatarsus little more than 2 × longer than wide.

♂ genitalia. Unknown.

Variation. Unknown.

**Habits.** Largely unknown. A halophile, presumably mainly nocturnal species.

**Distribution.** Interior of Western Australia. Known only from type locality.

**Relationship.** This species is perhaps nearest related to the group of fairly large, depigmented species that include *P. gilesii* Moore and *P. hypharpagoides* Sloane.

**Etymology.** Named for the external similarity to the American pogonine genus *Diplochaetus*.

### Acknowledgements

My sincere thanks are due to Miss Saskia Hogenhout and Mr. Sophien Kamoun, Leiden, who kindly submitted for identification the very interesting sample of halophile carabids collected by themselves. I also thank Dr. Eric Matthews (Adelaide) for the kind loan of types of *Pogonus grossi* Moore for comparison.

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