

A new species of the genus *Nornalupia* from the Stirling Range Nature Park, Western Australia (Coleoptera: Carabidae: Harpalini)

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Nornalupia impuncta sp. n. is described from the Stirling Range Nature Park, Western Australia, and new data about distribution of *N. megacephala* Kataev, 2003 are provided.

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The genus *Nornalupia* Kataev, 2003 belonging to the subtribe Anisodactylina of the tribe Harpalini has been erected for one apterous species, *N. megacephala* Kataev, 2003, which has been described from a series collected in the Nornalup-Walpole Nature Park, South-Western Australia. The genus is very distinct in habitus and easily distinguished not only from other Australian anisodactylines but also from all other Australian harpalines by the very large head, which is longer and only slightly narrower than pronotum. The heights of head and pronotum are almost equal. Some other characteristics of the head are also very remarkable: genae wide, eyes very small, tempora long and very convex, and fronto-clypeal suture deepened and continuing to rather deep clypeo-ocular prolongations reaching supraocular furrows. Imagines live in forest litter and seem to be spermatophagous feeding on seeds. The large size of head of *Nornalupia* is probably associated with such a mode of life.

In 2006, I examined the collections of Harpalini in the Field Museum of Natural History, Chicago, and found in these additional specimens of the genus *Nornalupia* from South-Western Australia, among them a new species captured in the Stirling Range Nature Park, apart from all the known localities of *N. megacephala*. The description of the new species and new data about distribution of *N. megacephala* are provided below.

Material and methods

The following abbreviations are used for the depositories of the examined specimens:

ANIC – Australian National Insect Collection, Canberra, Australia; FMNH – Field Museum of

Natural History, Chicago, USA; MNHN – Muséum National d'Histoire Naturelle, Paris, France; ZISP – Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia.

Measurements were taken as follows: body length from anterior margin of clypeus to elytral apex; width of head as maximum linear distance across head, including compound eyes (WHmax), and as minimum linear distance across neck constriction just behind eyes (WHmin); length of pronotum along its median line; length of elytra from basal ridge in scutellar region to apex of sutural angle; maximum width of pronotum (WPmax) and elytra in their broadest point; minimum width of pronotum (WPmin) in its narrowest point near hind angles; length and width of metepisterna along their inner and apical margins, respectively.

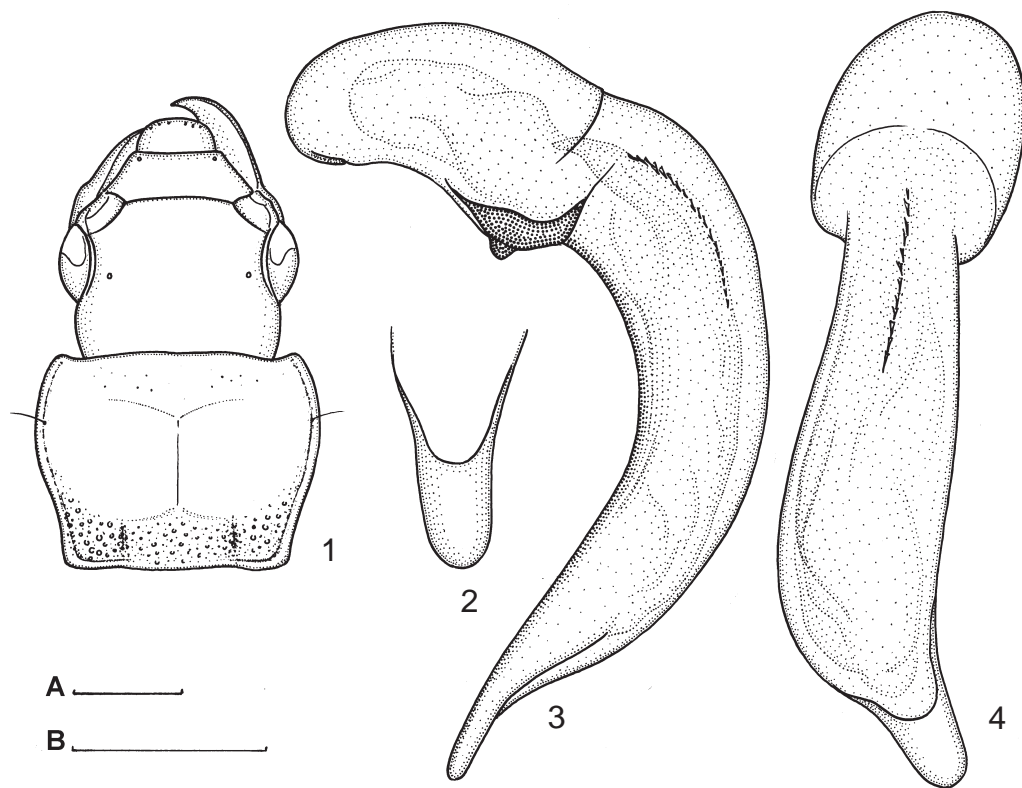
Nornalupia impuncta sp. n. (Figs 1-5)

Holotype. ♂, **Australia**, W Australia, 83 km NE Albany, Stirling Range Nature Park, Toolbrunup peak (800 m), 27.XII.1975, FMHD: 76-536, litter under Mani & *Chorilaena querci*, tall at edge of lava talus, J. Kethley leg. (ANIC).

Paratypes. 4 ♀, same data as holotype (ANIC, FMNH, ZISP); 1 ♀, same data but FMHD: 76-537, litter at streamedge under marri, below 1st tallus, J. Kethley leg. (FMNH); 2 ♀, same data but FMHD: 76-535, litter under *Banksia solandri*, J. Kethley leg. (FMNH).

Description. Colour and morphological character states as in *N. megacephala*, but differing or limited as follows.

Body length in male 8.2 mm, in female 8.0-8.4 mm, width 3.2 and 3.1-3.3 mm, respectively.



Figs 1-4. *Nornalupia impuncta* sp. n. (holotype). **1**, head and pronotum; **2**, terminal lamella of median lobe of aedeagus, dorsal aspect; **3**, median lobe of aedeagus, lateral aspect; **4**, same, dorsal aspect. Scales: A = 1.0 mm (Fig. 1), B = 0.5 mm (Figs 2-4).

Head large ($WH_{max}/WP_{max} = 0.84$ in male and $0.83-0.87$ in female; $WH_{min}/WP_{max} = 0.69$ in male and $0.70-0.71$ in female; $WH_{max}/WH_{min} = 1.22$ in male and $1.18-1.21$ in female), with eyes very small, a little smaller than in *N. megacephala*. Surface of head impunctate, even laterally. Dorsal microsculpture very fine but clearly visible at $50\times$ magnification on frons and vertex; meshes more or less isodiametric.

Pronotum (Fig. 1), on average, narrower than in *N. megacephala*, $1.35-1.41$ times as wide as long, with sides in all examined specimens sinuately converging in basal half ($WP_{max}/WP_{min} = 1.23-1.33$). Basal angles slightly greater than right ones and only very narrowly rounded at apices. Basal foveae small but distinct, narrow, moderately deepened and separated from lateral furrows on each side by small convexity. Punctuation coarse, restricted to base; several much finer punctures usually present also at apical margin and occasionally in lateral furrows, mainly in their basal portions. Microsculpture visible at $50\times$ magnification at least along sides, often also on disc; meshes very fine, transverse.

Elytra, on average, slightly longer than in *N. megacephala*, in male 1.48 times as long as wide, 2.45 times as long and 1.23 times as wide as pronotum; in female these indices $1.48-1.56$, $2.51-2.61$ and $1.18-1.27$. Humer sometimes with small acute denticle visible from behind. Marginal series consisting of 6 (sometimes 5) basal and 7 (sometimes 6) apical umbilicate pores. Intervals impunctate; third interval with one discal pore behind middle. Microsculpture distributed more widely than in *N. megacephala*, meshes present in some females on all intervals, in male distributed over 6 lateral intervals; in both sexes meshes transverse, very fine and very narrow.

Metepisterna wide, approximately as long as wide.

Terminal lamella of median lobe of aedeagus weakly narrowed apicad, with sides almost parallel (Fig. 2); longitudinal chain of spines in internal sac shorter and consisting of smaller spines than that in *N. megacephala* (Figs 3-4).

Distribution. *N. impuncta* sp. n. seems to be a geographical vicariant of *N. megacephala*. It is known only from the Stirling Range Nature Park,

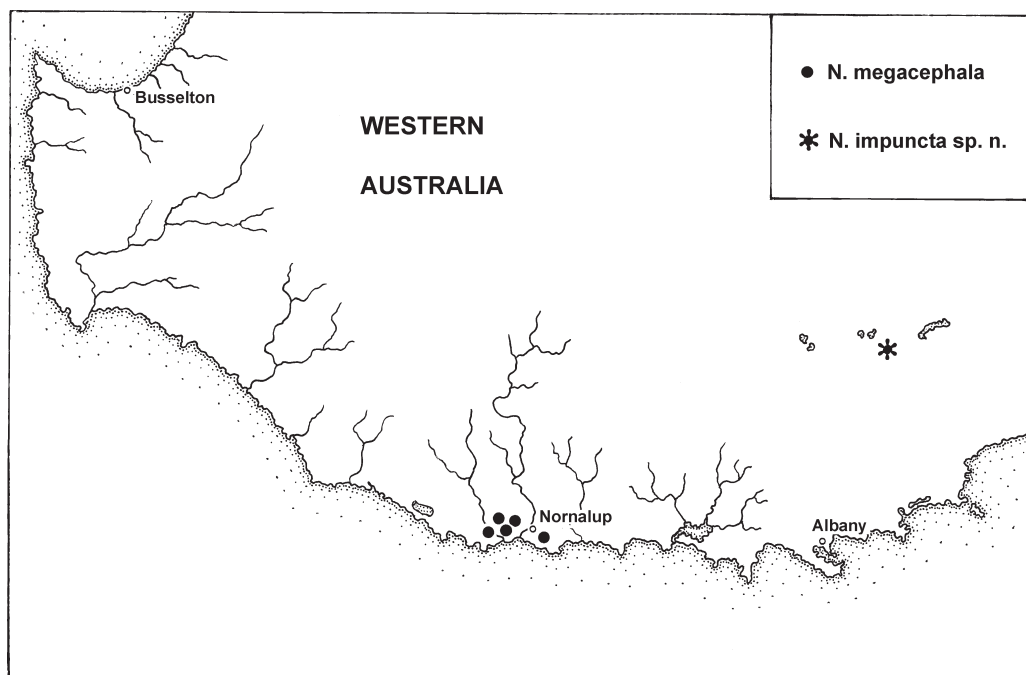


Fig. 5. *Nornalupia*, distribution.

Western Australia, to the north-east of the geographical range of *N. megacephala* (Fig. 5).

Etymology. The species epithet, a Latin word, refers to the impunctate head and disc of pronotum of the new species.

Remarks. The new species is very similar to *N. megacephala* but distinctly differs from it in the much larger body, impunctate head and disc of pronotum, and the pronotal basal fovea separated from lateral furrow by small convexity. In addition, the dorsal microsculpture in *N. impuncta* sp. n. is more developed and present on frons, vertex, pronotum and more widely on elytra. In *N. megacephala*, the body length is 6.2–6.6 mm in male and 6.4–7.6 mm in female, the head is distinctly punctate at least laterally, often almost throughout, the pronotum is coarsely punctate on disc (except for small central portion), the pronotal basal fovea is fused with lateral furrow, and the microsculpture on head and pronotum is absent. The male genitalia are very similar in both species but slightly different in the shape of the terminal lamella and armature of the internal sac. The terminal lamella of *N. megacephala* is more clearly narrowed apicad and the longitudinal chain of spines in the internal sac is more developed than in *N. impuncta* sp. n. The differences in the male genitalia should be verified based on more specimens because only one male of *N. impuncta* sp. n. was examined.

***Nornalupia megacephala* Kataev, 2003 (Fig. 5)**

Nornalupia megacephala Kataev, 2003: 177 (type locality: W Gully Road, Nornalup-Walpole Nature Park, SW Australia).

New material examined. **Australia, W Australia:** 1 ♂, Walpole Nature Park, Walpole, 5 km WE Coalbine, 5.XII.1976, FMHD: 76-466, *Casuarina* litter, *Casuarina decussata*?, J. Kethley leg. (FMNH); 1 ♀, Walpole Nature Park, 6 km NE Coalbine Beach, 13.XII.1976, FMHD: 76-497, sand litter, base Red Tingle, J. Kethley leg. (FMNH); 1 ♂, same data but FMHD: 76-498, ground litter under canopy of karri *Eucalyptus*, J. Kethley leg. (FMNH); 1 ♀, Conspicuous Pt., SE Nornalup, 14.XII.1976, FMHD: 76-500, litter on ground, slightly moist, J. Kethley leg. (FMNH); 2 ♀, Giant Tingle Area, 8 km NE Walpole, 19.XII.1976, J. Kethley leg., FM(HD): 76-514, ex Karri & Acacia (FMNH); 2 ♂, 2 ♀, same data but FM(HD): 76-513, ex mixed *Eucalyptus* litter (FMNH); 1 specimen, "Austral", "*capitalis* Chaud., Australie, Stephens" (MNHN).

Distribution. All known localities of this species lie within the boundaries of the Nornalup-Walpole Nature Park, in the south-western corner of Western Australia (Fig. 5).

Remarks. This species was known to M. de Chaudoir (1816–1881) who was going to describe it under the name "*capitalis*". A strongly damaged specimen with such a name on the label (without indication of the genus) was examined

by me in his collection (now in MNHN: see material examined) after publication of my description of *Nornalupia*. As far as known, Chaudoir did not describe this taxon.

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References

- Kataev, B.M.** 2003. A new genus and species of the subtribe Anisodactylina from South-Western Australia (Coleoptera: Carabidae: Harpalini). *Acta Zool. Hung.*, **48**(3), 2002: 173-179.

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