

New Species of *Dematochroma* from Lord Howe and Norfolk Islands (Coleoptera, Chrysomelidae, Eumolpinae)

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Résumé.– Le genre *Dematochroma*, qui comprend des espèces allongées, de taille moyenne, d'Eumolpinae est principalement distribué en Nouvelle-Calédonie où se rencontrent la plupart des espèces (Heller, 1916 ; Jolivet et al., 2006), mais le genre existe aussi dans les îles de Lord Howe et de Norfolk, situées plus au sud et très probablement reliées à la Nouvelle-Calédonie, un court temps, comme part de Zealandia, au Mésozoïque. Le genre semble cependant beaucoup plus récent et pourrait provenir de migrations cénozoïques en provenance du nord. Il ne se rencontre pas en Nouvelle-Zélande, mais très probablement des espèces aussi existent au Vanuatu et aux Salomon où jusqu'à présent elles n'ont pas été récoltées. Une espèce a même été signalée de Timor, mais son identité reste à vérifier. Le genre *Dematochroma* est assez variable morphologiquement, polyphage, ailé, radicicole à l'état larvaire et probablement de nombreuses autres espèces restent encore à découvrir. Les espèces vivent sur Mono- et Dicotylédones indifféremment et certaines ont été capturées sur Palmiers. Quelques espèces fréquentent les *Araucaria* en montagne en Nouvelle-Calédonie. La plupart des spécimens mentionnés ici semblent avoir été capturés en moyenne altitude au centre de ces îles. Jusque là, nous connaissions de Lord Howe island une seule espèce décrite autrefois par Baly, en 1864 : *Dematochroma picea*. Reid (2003) écrit que les Chrysomelidae *s. lat.* à Lord Howe island sont représentés par 24 espèces et Samuelson (1973) en a étudié les Alticinae.

Summary.– The genus *Dematochroma*, which comprises middle size elongated modern eumolpines, is mostly distributed in New Caledonia, where occur most of the species (Heller, 1916 ; Jolivet et al., 2006), but it exists also in Lord Howe and in Norfolk islands. It is not found in New Zealand, but probably its range extends to Vanuatu and neighbouring archipelagos. So far there are no clear records from Solomon or elsewhere. However, it has been recorded from Timor, *D. timorensis* (Jacoby, 1894), and the specimen seems related to typical members of the genus. This genus is very diverse, polyphagous, winged, root feeding as a larva, and probably many new species remain to be discovered. It can be found on Mono- and Dicots indifferently. Some species seem to be restricted to *Araucaria* spp., in New Caledonia, where they hide under leaves. Most the specimens mentioned here seem to have been captured at middle altitude in the center of the islands. So far, we have

records of two species in Lord Howe island : *D. picea* Baly 1864, 1881, and *D. howensis* n., which is being recorded here, and two in Norfolk island. Reid (2003) mentions that Chrysomelidae *s. lat.* in Lord Howe island are represented by 24 species, and Samuelson (1973) studied there the Alticinae.

Key-words.– Chrysomelidae ; nouvelle espèce ; *Dematochroma* ; Lord Howe island ; Norfolk island.

Taxonomy

Dichotomic key

- 1 Large and wider species. Lord Howe island..... 2
- Smaller and elongated species. Norfolk island..... 3
- 2 Large sized species (13 mm). Darker, including eyes. Nearly black, and shining. Only legs brown..... *D. howensis* nov.
- Smaller species (10 mm). Entirely reddish brown..... *D. picea* Baly
- 3 Smaller (6 mm) and shiny. Pronotum rounded on the sides, almost impunctate. Elytra smooth, very superficially punctate at the base *D. shuteae* nov.
- Bigger (9 mm), light brown, not shiny. Pronotum punctate, less bulky, more curved on the sides. Elytra densely punctate at the base *D. norfolkiana* nov.

Dematochroma howensis sp. n. (fig. 1)

HOLOTYPE ♂ : Lord Howe island. On *Howeia forsterana* (C. Moore and F. Muell.) Becc. (kentia) (Palmae), an endemic plant. A. M. Lea leg., 1919. Type in NHM in London.

Total length of the holotype : 13 mm. Elytra width : 7 mm.

General body colour : black in the collections. Possibly greenish or brown when alive. So far the biggest species known.

Head brownish on the vertex, then black on the frons and on the clypeus. Antennal calli black. Vertex, frons, clypeus densely and grossly punctate. Eyes black, elongated, emarginate. Clypeus deeply emarginate in front, marginate on the sides. Labrum brown, darker in the middle, nearly smooth, with few small punctures in front, deeply emarginate and hairy in front. Mandibles strong, black. Maxillary and labial palpi brown. Antennae brown and black, robust, the first antennomere (scape) brown, the second antennomere (pedicel) black, the following antennomeres (3-6) large and strong, the last ones elongated. All antennomeres darker brown.

Prothorax twice as large as long, regularly rounded on the sides, finely and densely punctate, marginate, strongly at the base and on the sides, lighter in front. A very small spine at the rear angles. Scutellum triangular, rather smooth, but with three lines of punctures at the base. Legs densely hairy, brown with simple claws.

Elytra brownish, with double and irregular lines of punctures, more sparsely punctate on the sides, nearly smooth at the end. Suture darker. Epipleura bordered with a line of punctures.

Underside brown, with the legs. Prosternum dark brown, with the intercoxal plate narrow, rugose and hairy. Meso- and metasternum nearly smooth, but hairy. Abdomen below brown, hairy, punctuate. The last abdominal segment shows an oval depression in the middle. Perhaps a sensorial (hygrometric) organ.

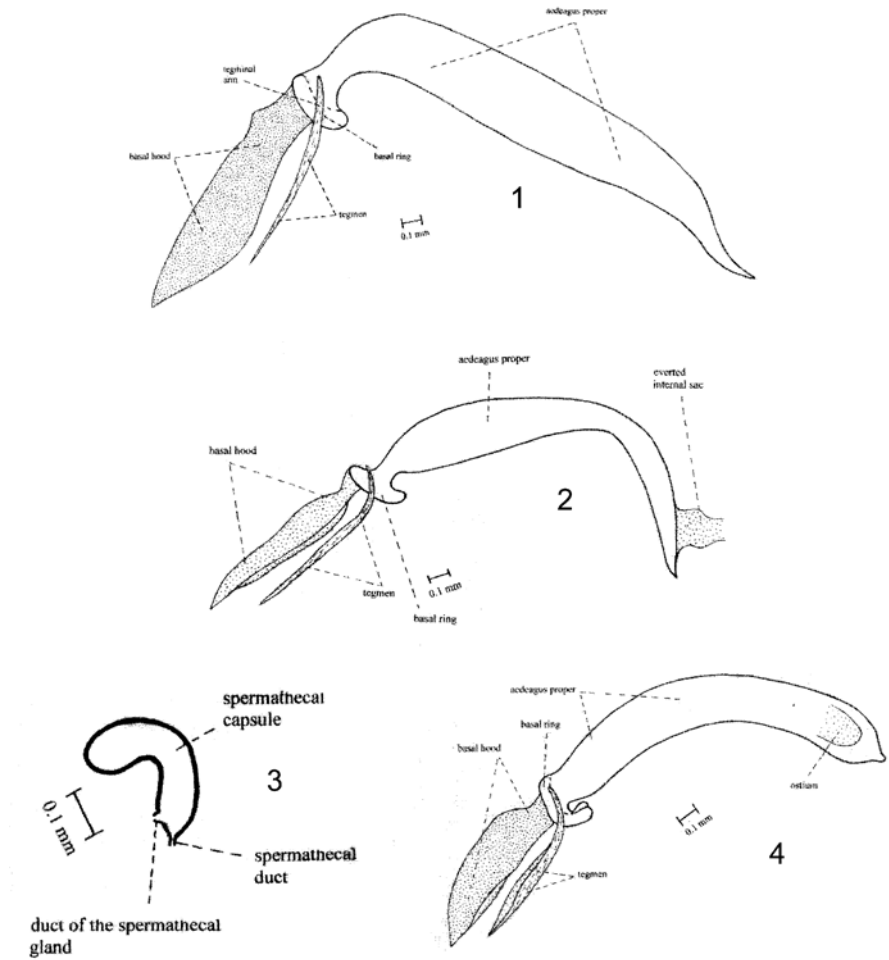


Fig. 1-4.- *Dematochroma* : 1.- *D. howensis*, aedeagus, lateral view ; (N.B. : in this and other figures of genital organs dotted areas indicate thin and flexible parts, and those with scattered small lines are thickened and better sclerotised portions in such membranous areas.) ; 2.- *D. norfolkiana*, aedeagus, lateral view , 3.- *D. norfolkiana*, spermatheca ; 4.- *D. shuteae*, aedeagus in lateral view ; the organ is a little tilted to left.

Aedeagus : basal hood part of the aedeagus is about $1/3^{\text{rd}}$ in length of the aedeagus proper. The ventral curvature of the aedeagus proper is confined to its basal and apical parts., while the apical

most part presents some upward bend. The paired arms of the tegmen cross the outer face of the basal ring of the aedeagus proper, as they extend upward.

Spermatheca : a female of the species was not available for dissection.

Derivatio nominis : from Lord Howe island.

***Dematochroma norfolkiana* sp. n.** (fig. 2, 3)

HOLOTYPE ♂ : Norfolk island, NW Mt Bates, 290 m. 6-XI-1975. Mr. and Mrs F. Jowett leg. Type and paratypes in NHM, London. 4 Paratypes : 3 specimens, same locality. 290 m, Nov. 1975 ; 1 specimen : Cascade Reserve, 8-01-1975. Same collectors.

Total length of the holotype : 9 mm ; elytra width : 5 mm.

General body colour : brown, not shiny.

Head and antennal calli brown ; mandibles black. Vertex, clypeus practically smooth, with only some irregular and shallow punctures. Eyes blackish, rounded, slightly emarginate near the antennae. Clypeus emarginate in front. Labrum smooth, emarginate in front, darker on the sides. Maxillary and labial palpi lighter brown. Antennae strong, brown as the rest of the body, hairy except on the scape and the pedicel ; antennomeres 3 to 11 elongate.

Prothorax slightly wider than long, rounded on the sides, with irregular and shallow punctures, marginate strongly at the base and at the sides, lightly in front, no spine at the rear angles. Scutellum heart-shaped, impunctate. Legs densely hairy, brown, with single claws.

Elytra brownish, with irregular lines of shallow punctures, nearly smooth at the apical side. Suture dark brown. Epipleura bordered with a line of punctures. Underside brown, as the legs. Pro-, meso-, and metasternum nearly smooth, hairy, with very shallow irregular punctures. Abdomen below brown, reasonably hairy.

Aedeagus : the aedeagus proper presents at more than 1/3rd of its total length from at its apex a sharp ventralward bend, and also some dorsoventral constriction. Arms of the tegmen cross the outer face of the basal ring, as they extend upward.

Spermatheca : the spermathecal capsule is curved and U-like, and a little dilated in its distal portion. Its proximal part, connected with the spermathecal duct and the duct of the spermathecal gland, is not clearly differentiated from the rest, unlike what has been noted in the *Dematochroma* species of New Caledonia, covered earlier (JOLIVET *et al.*, 2006), and also unlike the general situation among Eumolpinae (SUZUKI, 1988).

Derivatio nominis : from Norfolk island.

Rather similar to *Dematochroma panieensis* from Mt Panié, New Caledonia, but a bit smaller, slender, with a narrower pronotum and much shallower punctures. The general color is also lighter.

***Dematochroma shuteae* sp. n.** (fig. 4)

HOLOTYPE ♂ : Norfolk island. February 1975. Mr and Mrs F. Jowett leg. Paratypes : 14 specimens, from the same collectors, as follows : 1 sp. : Red Road, 160 m, 7-II-1975 ; 2 sp. : Mt. Pitt Reserve, 280 m, 29-III-1974/10-II-1975 ; 2 sp. : NW Mt.

Bates, 290 m, 6-XI-1975 ; 1 sp. : Anson Bay, 50 m, 14-III-1975 ; 1 sp. : Burnt Pine, 110 m, 14-IV-1974 ; 7 sp. : February-March 1975, without specific locality. Types and paratypes in NHM, London.

Total length of the holotype : 6 mm ; elytra width : 3 mm.

General body colour : brown, generally shiny.

Head brown with darker spots in V, from the vertex to the frons. Antennal calli black. Vertex, frons, clypeus finely, but very densely punctuate. Eyes black, rounded, bulged. Clypeus brown, darker in front, emarginate. Labrum brownish, emarginate. Mandibles black. Maxillary and labial palpi yellowish. Antenna light brown, with elongated and hairy segments starting with antennomere 3. Scape and pedicel smooth.

Prothorax narrow, bulged, brown with a diagonal darker spot on each side, one and a half wider than long, rounded on the sides, moderately marginate all around, with a slightly projecting rear angle, nearly smooth, but with some few irregular punctures. Scutellum brown, nearly smooth, rounded on the back. Legs hairy with claws simple.

Elytra brown, with irregular lines of big, shallow punctures. Suture not much darker. Epipleura with a shallow line of punctures. Underside brown, densely hairy, with shallow and abundant punctures on pro-, meso- and metasternum. Prosternum with intercoxal plate with long whitish hairs. Mesosternum darker in the middle. Abdominal segments smooth, a bit hairy, darker on a median line.

Aedeagus : basal hood is about half the length of the aedeagus proper. Ventral curvature of the aedeagus proper is distributed almost throughout its length. Apex of the organ presents a small rounded projection. In this species too the tegminal arms cross the outer face of the basal ring, as they extend upward.

Spermatheca : a female specimen of the species was not available for dissection.

Derivatio nominis : dedicated to Dr. Sharon Shute, entomologist.

Dematochroma shuteae is smaller than *D. norfolkiana* (6 against 9 mm for the males), darker brown in color, relatively more stocky. It has a small projecting spine at the rear angles of the pronotum., which is missing in *D. norfolkiana*.

Discussion

As in case of New Caledonian species of *Dematochroma* studied earlier (JOLIVET *et al.*, 2006), in all the species, recorded here, the aedeagus presents species specific characters, and in all cases the paired arms of the tegmen cross the outer face of the basal ring of the aedeagus proper.

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