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# *Eucurtiopsis davaoensis* n. sp., a new Chlamydopsinae from Philippines (Coleoptera, Histeridae)

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## Keywords:

Coleoptera ; Mindanao Island ;  
Histeridae ; Davao ;  
Chlamydopsinae ; Taxonomy ;  
*Eucurtiopsis* ; Description ;  
*davaoensis* ; new species.  
Philippines ;

**Abstract.** – *Eucurtiopsis davaoensis* n. sp. is described from Philippines. This new species is compared with *Eucurtiopsis ashei* Caterino & Tishechkin, 2007 from Luzon Island. It is the third species of Chlamydopsinae known from the archipelago.

Théry T. & Sokolov A. V., 2020. – *Eucurtiopsis davaoensis* n. sp., a new Chlamydopsinae from Philippines (Coleoptera, Histeridae). *Faunitaxys*, 8(15) : 1 – 5.

ZooBank : <http://zoobank.org/3D357771-8699-4F16-8F40-4253937D12FB>

## Introduction

Chlamydopsinae is subfamily of obligate inquiline species of Histeridae. The majority of species are myrmecophilous (*Eucurtia comata* (Blackburn, 1901) is termitophilous) and most of them possess trichomes (Mjöberg, 1912; Caterino, 2003; Dégallier & Caterino, 2005b; Caterino & Dégallier, 2007; Tishechkin & Caterino, 2007). Currently, the group includes 177 described species united in 13 genera (Mazur, 2011). It occurs from India and Southeastern Asia (Vietnam, Japan and Taiwan) to Australia, with numerous described species from Philippines, Malaysia, Brunei, Indonesia, Papua New Guinea, Fiji, Vanuatu and New Caledonia (Mazur, 2011). Discovery of many new species has been enabled by the use of flight interception traps (Caterino, 2000; Caterino, 2003, Dégallier & Caterino, 2005 a, b; Caterino, 2006; Tishechkin, 2009; Tishechkin & Sokolov, 2009). Until now, two species of Chlamydopsinae have been described from Philippines, both belong to the genus *Eucurtiopsis* Silvestri, 1926: *E. ashei* Tishechkin and Caterino, 2007 and *E. avis* Tishechkin and Caterino, 2007, from Luzon Island and Negros Island, respectively (Tishechkin & Caterino, 2007). Study of new materials from Mindanao Island permitted discovery of third species of *Eucurtiopsis*, herein described as *Eucurtiopsis davaoensis* n. sp.

## Material and Methods

All specimens were collected by sifting of leaf litter in environs of Davao town, Mindanao Island, Philippines. We follow description format, convention and terminology used by Caterino (2003, 2006) and Tishechkin & Caterino (2007). The specimens are glued on points. Genitalia, when extracted, are embedded in a droplet of Euparal placed on transparent label pinned beneath the related specimen. Pictures of habitus and body details of *E. davaoensis* n. sp., as well as measurements and scales, were taken with Carl Zeiss Discovery.V20 stereoscope using AxioCam HRc camera and Zen 2018 Carl

Zeiss Software, version 2.5 (blue edition). Those of prepared genitalia were made using Carl Zeiss Imager.M2 microscope with AxioCam HRc camera and Zen 2018 Carl Zeiss Software, version 2.5 pro. All pictures were taken at the Colin Favret lab (Institut de Recherche en Biologie Végétale (IRBV), Centre sur la Biodiversité, Montréal, Qc, Canada).

## *Eucurtiopsis davaoensis* Théry & Sokolov n. sp.

(Fig. 1-9)

ZooBank : <http://zoobank.org/0E9CE1A5-D782-470B-9E37-9445A1CC9D7D>

## Type material

**Holotype**, ♂. – Glued on a point, genitalia extracted and embedded in droplet of Euparal on transparent label, red labels: “PHILIPPINES: Mindanao, Davao, by leaf litter sifting”, “HOLOTYPE *Eucurtiopsis davaoensis* n. sp. T. Théry & A. Sokolov des. 2020” (Muséum national d’Histoire naturelle (MNHN), Paris, France).

**Paratypes**, 33 ex. – Same locality data as holotype. Paratypes are deposited in the collection of MNHN, private collection of Alexander V. Sokolov (Moscow, Russia), private collection of Albert Allen (Star, ID, USA), private collection of Nicolas Dégallier (Paris, France), private collection of Thomas Théry (Fleury les Aubrais, France), in the collection of the Snow Entomological Museum Collection, Kansas University (SEMC), Lawrence, KS, USA, and in the collection of the Insectarium de Montréal (IMQC), Montréal, Qc, Canada.

## Description

### Measurements.

- L: about 1.5 mm
- W: 0.97 mm
- E/Pn L: 1.70
- E/Pn W: 1.32
- Pn W/L: 1.27
- E L/W: 1.02
- Pr/Py: 0.95
- Sterna: 0.53, 0.07, 0.41
- Tibiae: 0.53, 0.54, 0.57 (body part measurements from the holotype).

**Coloration.** – Body brown-reddish with legs and antennae lighter; body covered by short branched pale setae.

**Head** (Fig. 5). – *Frons* flat, slightly longer than wide; lateral margins subparallel; marginal striae complete; with double punctuation, shallow rounded punctures, coarser and denser on disc, separated by less than half of their diameter, and fine punctures with some bearing well ramified erect setae; intervals smooth and shiny on disc, with barely visible alutaceous microsculpture. – *Labrum* short, arcuate and concave anteriorly, with same type of punctuation and setation as those of frons, but punctures and setae smaller. – *Mandibles* strongly bent, glabrous, with tips long, narrow and smooth, strongly microsculptured at basal midpart. – *Antennae* with scape triangular, about twice long as wide, widest at about middle, inner edge slightly arcuate and concave, its punctuation, setation and surface similar to those on frons, longer than funicle, shorter than funicle and club combined; club covered by pale, simple, thin setae.

**Pronotum.** – Subquadrate, slightly wider than long, widest near midpoint; anterior margin slightly bisinuated, posterior margin obtusely angulate, lateral margins sinuate; from above, marginal striae visible in basal half only, in anterior half marginal striae lowering abruptly downwards and connecting with supracoxal striae; pronotal disc with bifid elevation, located in anterior third, anteriorly with abrupt 70° angle declivity, posteriorly convex, descending fluently to posterior margin, lateral sides of elevation almost concave near top, descending abruptly; pronotum covered by double punctuation, with dense, large, deep ovoid punctures, sparser on sides and on bifid elevation, fine punctures irregularly spaced, some bearing erect branched setae, setae and fine punctures become denser toward top of bifid elevation; pronotal surface smooth with alutaceous background; antennal cavities open above.

**Elytra.** – *Scutellum* not visible (Fig. 3). Each *elytron* with conspicuous humeral trichome (Fig. 3-4). – *Trichomes* with anterior and posterior elevations laterally strongly convex, almost globular, dorsally connected by narrow and small relief, laterally connected by deep, conspicuous vertical sulcus about  $\frac{3}{4}$  as long as trichome height; from above, trichomes medially with cavity enclosing two vertical fringes of short setae, each elevation bearing fringe of setae; anterior elevation dorsally convex, but with central longitudinal depression continuing anteriorly in barely visible sulcus, its internal edge arcuate and concave; posterior elevation anteriorly convex with short and deep longitudinal depression, thence continuing backwards as arcuate cariniform relief, descending to apical quarter of elytra, descending abruptly medially along elytral disc and concave at lateral side. – *Elytra* strongly concave between trichomes, convex in posterior half but with barely visible shallow longitudinal depression along sutural stria; sutural stria complete and distinct; elytral surface with erect and well ramified setae in posterior half of elytra, minute and appressed between and on trichome elevations, suberect and sparse on arcuate cariniform relief except at apex where they are denser, erect and more developed; setae more or less aligned along sutural stria in two or more barely visible rows from basal part of elytra to apex; elytral punctuation with minute to small punctures where setae are inserted, minute in depression between trichomes, becoming bigger and better visible on posterior elytral midpart, punctures minute on top of trichome elevations and on arcuate cariniform relief; surface of elytra smooth and shiny with minute alutaceous background, but rugose on top of anterior elevation; elytral marginal stria complete, conspicuously visible. – *Epipleuron* with small appressed branched setae, its surface similar to that of elytra.

**Sterna.** – *Prosternum* long, with anterior margin bisinuated and posterior margin rounded; prosternal keel convex; with conspicuous complete carinate marginal stria along prosternal leg depressions; its posterior half ascending, then with prosternal lobe almost flat; prosternal lobe with lateral sides parallel; punctuation with rounded to ovoid punctures of variable diameter, irregularly spaced, but denser anteriorly and laterally; surface with erect and ramified setae, inserted in some fine punctures; surface background with alutaceous microsculpture. – *Mesoventrite* concave, short, about five times wider than median length, its anterior margin arcuate and concave, with similar punctuation and setation to prosternum, but punctures smaller. – *Mesepimeron* conspicuously concave, its edges prominent, surface with some sparse and elongated small punctures and conspicuous microsculpture. – *Metaventrite* convex, *mesometaventral suture* straight, well visible, connected with lateral metaventral stria, surface with less dense and more regular

punctuation than prosternum, punctures smaller, setae similar to those of prosternum. – *Median metaventral suture* visible and complete from anterior to posterior margin; metaventrite laterally with stria starting from posterior margin, running tightly along the anterior margin of metacoxa, then along metepisternum and finally meeting lateral metaventral stria at right angle.

**Abdomen.** – *First abdominal ventrite* with punctuation, setation and surface similar to metaventrite, with an elevated stria along leg depression. – *Propygidium* (Fig. 6) convex, not carinate; with double punctuation, larger punctures rounded to ovoid, irregularly spaced, with finer punctures between them; with some well ramified erect setae; surface shiny with alutaceous background. – *Pygidium* (Fig. 6) similar to propygidium but more densely punctured.

**Legs.** – Shiny with well ramified suberect to erect setae. – *Femora* stout, margins of profemora subparallel, mesofemora slightly narrower than profemora, slightly curved, proximally narrower and slightly broadened distally, metafemora broader than mesofemora; all femora margined along anterior and posterior sides; ventral surface of profemora with large, rounded punctures, strongly impressed and very dense, meso- and metafemora with much smaller punctures, almost punctiform on the entire surface, much larger, rounded and shallow along posterior side. – *Protibia* slender, externally angulate at more than one-third from base, widest near angulation, straight basally and then narrowly rounded at apex. – *Meso-* and *metatibia* much wider than protibia, metatibia wider than mesotibia, both with angulation less visible, the margin almost rounded, widest at more than one-third from base; ventral surface of protibia covered by small punctures, with large and shallow punctures along outer side, punctures of meso- and metatibia less impressed. – *Tarsi* exceeding half of tibia, slightly laterally compressed. – *Tarsal claws* simple, divergent and slightly curved, about  $\frac{1}{3}$  length of apical tarsomere.

**Genitalia** ♂ (Fig. 7-8). – *Aedeagus* with phallobase measuring about  $\frac{1}{4}$  of the total length, lateral sides of tegmen parallel before midpart then diverging slightly, then becoming parallel again and finally with parameres converging. – *8<sup>th</sup> ventrite* and *8<sup>th</sup> tergite* combined slightly longer than wide, vena of *8<sup>th</sup> ventrite* bearing about fifteen or more pores where are inserted thin and acute setae, spiculum gastrale short, X-shaped, about 2 times longer than wide.

**Genitalia** ♀ (Fig. 9). – *Female ovipositor* (valvifers and coxites) with coxite strongly bilobed, lobes asymmetric.

**Sexual dimorphism.** – Antennal club more than  $\frac{3}{4}$  length of scape in male and less than of  $\frac{3}{4}$  in female, elongated and cylindrical in male, ovoid in female.

**Differential diagnosis.** – The species is morphologically very close to *Eucurtiopsis ashei* Tishechkin & Caterino, 2007 described from Luzon Island. It is distinguished from it mainly by the following characters:

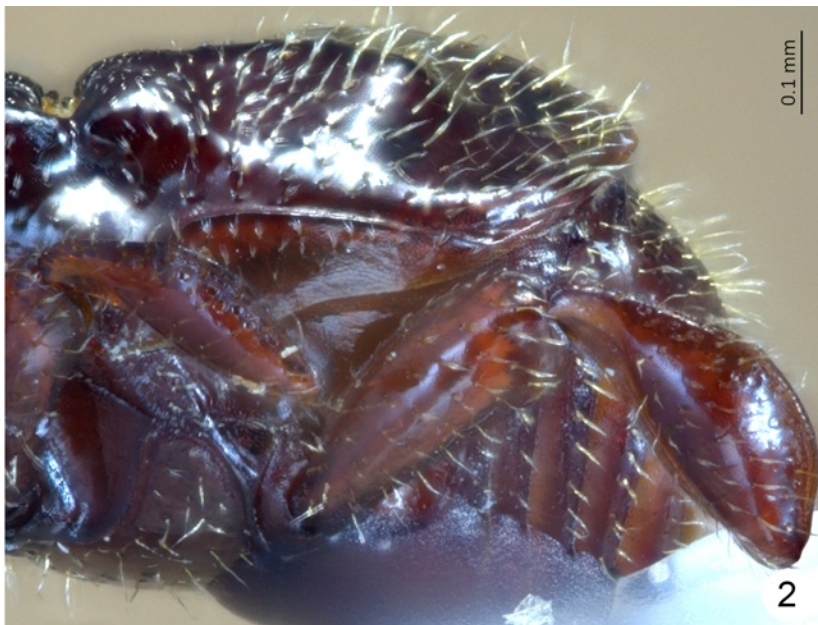
- Shape of the trichomes, which are widely opened from above in *E. ashei*, showing no connections between anterior and posterior elytral elevations, with fringe of setae horizontally orientated, whereas trichomes in *E. davaoensis* n. sp. have anterior and posterior elevations dorsally connected by a narrow relief, with fringe of setae vertically orientated;

- Setae of integument thin, elongated and barely ramified in *E. ashei*, whereas those in *E. davaoensis* n. sp. are conspicuously ramified;

- Lateral stria of posterior margin of metaventrite conspicuously arched near the metepisternum in *E. ashei*, not arched but tightly running along metepisternum and meeting lateral metaventral stria at right angle in *E. davaoensis* n. sp.

**Etymology.** – The name is related with type locality, Davao, Mindanao Island, Philippines archipelago.

**Distribution.** – Currently, this species is only known from the type locality, Davao, Mindanao Island, Philippines archipelago.



**Fig. 1-4.** – Habitus and body details of *Eucurtiopsis ashei* Caterino & Tishechkin, 2007 and of *E. davaoensis* Théry & Sokolov n. sp. – 1 : habitus of *E. ashei*, dorsal view. – 2 : hind part of *E. ashei*, lateral view. – 3 : habitus of *E. davaoensis* Théry & Sokolov n. sp., dorsal view. – 4 : hind part of *E. davaoensis* Théry & Sokolov n. sp., lateral view.



**Fig. 5-6.** – Body details of *E. davaoensis* Théry & Sokolov n. sp. – 5 : head and antennae (male). – 6 : propygidium and pygidium.

## Discussion

The new species belongs to genus *Eucurtiopsis* Silvestri, 1926, by combination of following characters: pronotum narrower than both elytra and bearing paired of dorsal tubercles near pronotal anterior margin, elytra with transversely incised trichomes bearing branched setae (in our species, present on most parts of the body, except in worn specimens) (Tishechkin & Caterino, 2007). Our specimens were compared with holotype of *E. ashei* held in SEMC. All specimens of new species seem to have been collected by sifting. Unfortunately, there is not information about its biology. In Japan, *Eucurtiopsis ohtanii* (K. Sawada, 1994) is known to live with ants *Pheidole fervida* F. Smith, 1874 (Nishikawa, 1995; Nishikawa & Fukuzawa, 2010). The genus *Pheidole* Westwood, 1839 is also known to house species of the genera *Ceratothister* Reichensperger, 1924 and *Pheidoliphila* Lea, 1914, respectively in India and in both Australia and Tasmania (Reichensperger, 1924; Nishikawa, 1995). In Philippines, at least 21 species of *Pheidole* are known (General & Alpert, 2012). An effort to research *Pheidole* nests in Philippines would likely reveal more details about the biology of this species and perhaps uncover other new species of Chlamydopsinae.

## Acknowledgements

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## Résumé

Théry T. & Sokolov A. V., 2020. – *Eucurtiopsis davaoensis* n. sp., un nouveau Chlamydopsinae des Philippines (Coleoptera, Histeridae). *Faunitaxys*, 8(15) : 1–5.

*Eucurtiopsis davaoensis* n. sp. est décrit des Philippines. Cette nouvelle espèce est comparée à *Eucurtiopsis ashei* Caterino & Tishechkin, 2007 de l'Île de Luzon. C'est la troisième espèce de Chlamydopsinae connue de l'archipel.

Mots-clés. – Coleoptera, Histeridae, Chlamydopsinae, *Eucurtiopsis*, *davaoensis*, Philippines, Île de Mindanao, Davao, taxonomie, description, espèce nouvelle.

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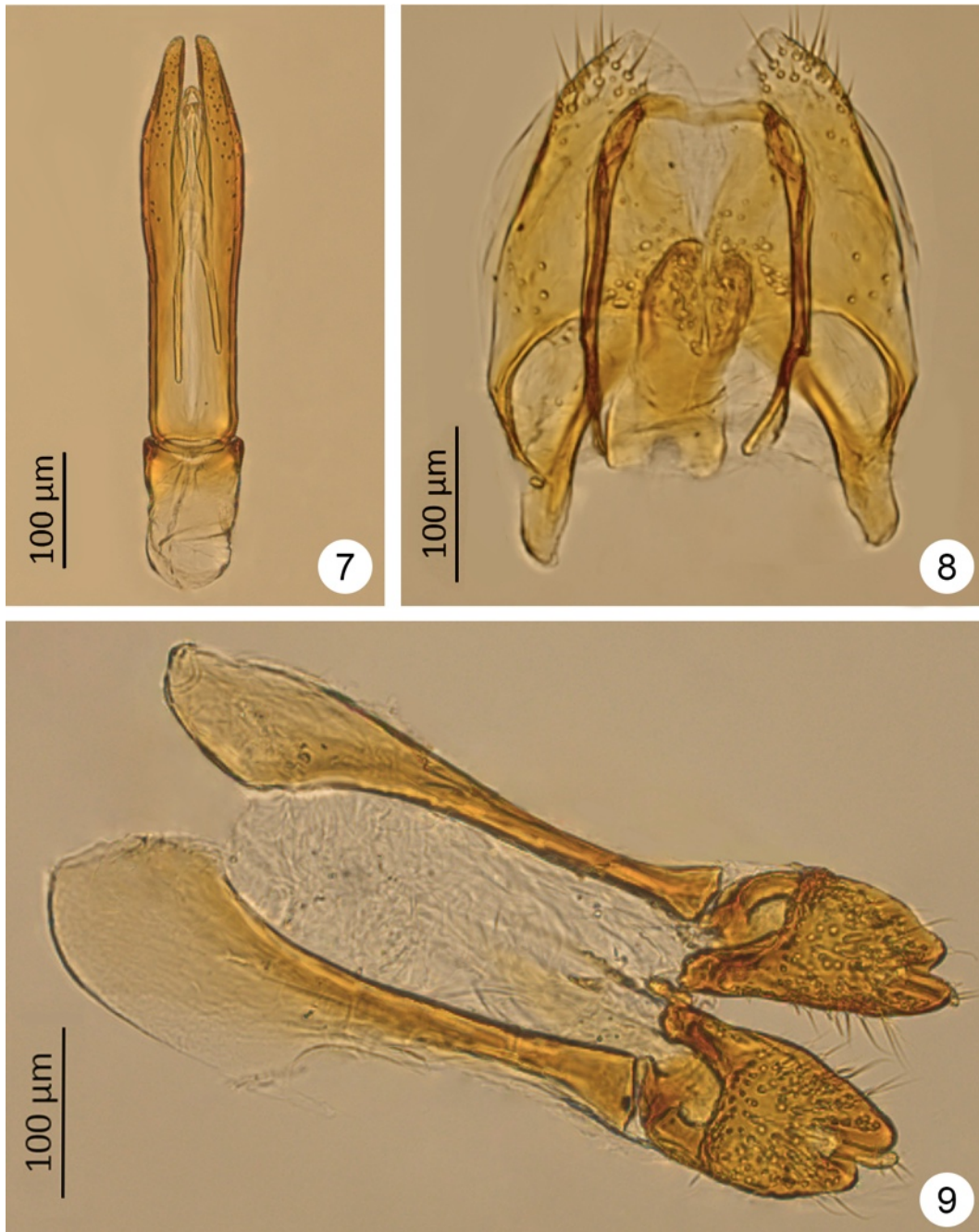
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**Fig. 7-9.** – Male and female genitalia of *Eucurtiopsis davaoensis* Théry & Sokolov n. sp. - **7** : aedeagus. - **8** : 8<sup>th</sup> tergite, 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> ventrites of male, articulated. - **9** : ovipositor (coxite and valvifer).

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**Illustration de la couverture** : Le mont Apo, sur l'île de Mindanao, est le plus haut sommet des Philippines (2954 m). Les environs du volcan abritent une biodiversité endémique exceptionnelle.

Crédits:

Thomas Théry : Fig. 1-9.  
Jeffrey Pioquinto : Couverture.