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Cerambícidos (Coleoptera, Cerambycidae) del Valle de Cusco con clave de identificación

Cerambycids (Coleoptera, Cerambycidae) from Cusco Valley with identification key

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RESUMEN

Se reporta la presencia de ocho especies de Cerambycidae del Valle de Cusco. El Valle de Cusco corresponde a la zona donde se asienta la ciudad del Cusco. Presenta varias microcuencas con vegetación diversa que mantienen una alta diversidad de flora y fauna. Las especies identificadas son: *Parandra barclayi* Santos-Silva 2015, *Cotyclitus potiuna* (Galileo and Martins, 2007), *Megacyllene punensis* Martins & Galileo, 2008, *Megacyllene* sp., *Eurysthea sordida* (Erichson, 1847), *Deretrachys montanus* (Tipmann, 1953), *Eriocharis devestivus* Monné & Martins 1973 y *Alcathousites asperipennis* (Fairmaire et Germain, 1864). Se incluye una clave para las especies estudiadas.

PALABRAS CLAVE: Coleoptera, Cerambycidae, Cusco, taxonomía.

ABSTRACT

The presence of eight species of Cerambycidae from the Cusco Valley is reported. The valley of Cusco corresponds to the area where the city of Cusco is located. It has several micro-basins with diverse vegetation that contain a high diversity of flora and fauna. The identified species are: *Parandra barclayi* Santos-Silva 2015, *Cotyclitus potiuna* (Galileo and Martins, 2007), *Megacyllene punensis* Martins & Galileo, 2008, *Megacyllene* sp., *Eurysthea sordida* (Erichson, 1847),

Deretrachys montanus (Tipmann, 1953), *Eriocharis devastivus* Monné & Martins 1973 y *Alcathousites asperipennis* (Fairmaire et Germain, 1864). An identification key is included for the species studied.

KEYWORDS. Coleoptera, Cerambycidae, Cusco, taxonomy.

INTRODUCTION

Coleoptera is one of the largest orders among insects, with almost 40% of known Hexapoda species (Triplehorn & Johnson, 2005). Within the Coleoptera order, the Cerambycidae occupy an important place both for their number and for their morphological characteristics that make them very attractive for collectors (Monné et al., 2017)

Cerambycids are widely distributed around the world, from sea level to 4200 m, where their host plants are found. Many important features have been cited about cerambycids, so: reproduction, taxonomy and ecological role (Monné et al., 2017)

Morphologically, the Cerambycidae family is characterized by antennae that are usually filiform, elongated and with 11 segments, rarely serrated and with 12 segments or more, generally they are inserted into pronounced tubercles; eyes usually emarginate; prothorax without pleural sutures; tibiae with two different tibial spines; tarsi usually pseudotetramerous with the fourth segment usually tiny and hidden by the third tarsomere; elytra generally cover the abdomen; the abdomen generally has five visible sternites, and the fifth one entire (Monné et al., 2017)

The Cerambycidae Latreille family, In 1802 is found within the Chrysomeloidea Latreille superfamily, and comprises nine subfamilies (Bouchard et al., 2011). Three of the four Cerambycoidea families: Cerambycidae, Disteniidae and Vesperidae have been registered at Peru and, within Cerambycidae, five of the nine Cerambycidae subfamilies: Cerambycinae, Lamiinae, Lepturinae, Parandrinae and Prioninae with a total of 846 species and 403 genera in 57 tribes (Monné & Chaboo, 2015; Monné et al., 2012). There are few data for this family at Cusco, several species have been reported in three subfamilies and 45 genera (Carrasco, 1978; Escalante, 1974)

The objective of this work is to make known the Cerambycidae species collected in the Cusco Valley and to elaborate an identification key for them.

MATERIAL AND METHODS

The Cusco Valley or Huatanay Valley

The Cusco Valley corresponds to the sub-basin of the Huatanay river, the city of Cusco is located in the confluence zone of several micro-basins and the source of the Huatanay river. The average altitude is between 3300 and 3400 m, with a dry climate, little rainfall in winter, with an average temperature of 12 ° and an average humidity of 60.83% (Mendívil et al., 2002). The vegetation is very varied and includes afforestation of *Eucalyptus* and native plants such as chachacomo, queñares, shrubs and natural pastures. Despite a very large urban growth, some transversal slopes that contribute to the Huatanay River are conserved, the same that flows into the Vilcanota River (Cusi-Bravo, 2012).

Study material

The studied species correspond to samples deposited in the Laboratorio de Entomología de la Universidad Nacional de San Antonio Abad del Cusco (CEUC-UNSAAC). Identifications were made using specialized keys (Aragão & Monné, 2011; Botero & Santos-Silva, 2017; Di Iorio, 1995; Ferrú & Elgueta, 2011; Galileo & Martins, 2007; Monné et al., 2017; Nearn & Swift, 2011; Santos-Silva, 2015) as well as consultations with specialists, the same that are recognized in the respective section.

The photos were taken with a Canon EOS 5D MarkIII camera with zoom rings and processed with Photoshop C5S®.

The terminology used in the diagnoses is that proposed by Monné et al., (2017).

RESULTS

Identification key

1. Antennae shorter than the body 2
 Antennae longer than the body 5
2. Lateral margins of the pronotum uniformly rounded 3

	Lateral margins of the pronotum laterally emarginated	4
3.	Pentamerous tarsi	<i>Parandra barclayi</i> Santos-Silva, 2015
	Pseudotetramerous tarsi	<i>Cotyclitus potiuna</i> Galileo and Martins, 2007
4.	The scape exceeds the anterior margin of the pronotum	<i>Megacyllene punensis</i> Martins and Galileo, 2008
	The scape does not reach the anterior margin of the pronotum	<i>Megacyllene</i> sp.
5.	Elytra with sharp tubercles near the base	<i>Alcathousites asperipennis</i> (Fairmaire et Germain, 1864)
	Elytra without tubercles	6
6.	Third antennal segment 1.5 times the length of the scape	<i>Eurysthea sordida</i> (Erichson 1847)
	Third antennal segment of the same length or barely longer than the scape	7
7.	Disc of the pronotum with a transverse keel in the middle	<i>Deretrachys montanus</i> Tippmann, 1953
	Disc of the pronotum with an irregular protuberance that occupies the width of the basal margin and projects in a U-shape until before the anterior margin of the pronotum	<i>Eriocharis devestivus</i> Monné & Martins, 1973
1.	Antenas más cortas que el cuerpo	2
	Antenas más largas que el cuerpo	5
2.	Márgenes laterales del pronoto uniformemente redondeados	3
	Márgenes laterales del pronoto marginados lateralmente	4
3.	Tarsos pentasegmentados	<i>Parandra barclayi</i> Santos-Silva, 2015
	Tarsos pseudotetrámeros	<i>Cotyclitus potiuna</i> Galileo y Martins, 2007
4.	El escapo sobrepasa el margen anterior del pronoto	<i>Megacyllene punensis</i> Martins y Galileo, 2008
	El escapo no alcanza el margen anterior del pronoto	<i>Megacyllene</i> sp.
5.	Élitros con tubérculos agudos cerca de la base	<i>Alcathousites asperipennis</i> (Fairmaire et Germain, 1864)
	Élitros sin tubérculos	6

6. Tercer segmento antenal 1,5 veces la longitud del escapo *Eurysthea sordida* (Erichson 1847)
 Tercer segmento antenal de la misma longitud o apenas más largo que el escapo 7
7. Disco del pronoto con una quilla transversal en el medio
 *Deretrachys montanus* Tippmann, 1953
 Disco del pronoto con una protuberancia irregular que ocupa el ancho del margen basal y se proyecta en forma de U hasta antes del margen anterior del pronoto
 *Eriocharis devestivus* Monné & Martins, 1973

Subfamily Parandrinae Blanchard, 1845

Tribe Parandrini Blanchard, 1845

Parandra Latreille, 1802

Parandra (Parandra) barclayi Santos-Silva, 2015

Type locality: Peru, Cuzco, Purmamarca (3550 m, 2 hours N from Ollantaytambo). Distribution: Peru (Monné, 2018) *Parandra (Parandra) barclayi* Santos-Silva, 2015.

Diagnosis: antennae shorter than the body; pronotum laterally marginated; apex of the elytra rounded; maxillary palps pointed; tarsus pentamerous; upper lobe of eye present; disc of pronotum without tubercles; dorsal surface of elytra without tubercles; third tarsal segment whole; disc of pronotum without keels; reddish brown throughout the body, without setae.

Material examined: Cusco, Cusco, 12/28/2016, E Yabar

Bionomy: *P. barclayi* has been described from “.. Peru, Cuzco: Purmamarca (3550 m; 2 hours N of Ollantaytambo), IV.1999, M. V. L. Barclay col. (BMNH). Paratypes - 1 male (MZSP), 1 female (BMNH), same data as holotype...” (Santos-Silva, 2015, p. 4). Carrasco (1978) cites the genus *Parandra* collected in Limatambo, at 2600 masl (10.1.1966) and Andahuaylas at 3300 masl (29.IV.1974) “... of medium size (2.5 cm), it has a blackhead and a blackprothorax , and the rest of the body is brown ... ”(Carrasco, 1978, p. 75). This description establishes a notable difference with *P. barclayi*, which has a reddish-brown body.

Subfamily Cerambycinae Latreille, 1802

Clytini Mulsant Tribe, 1839

Cotyclitus potiuna (Galileo & Martins, 2007)

Neoclytus potiuna Galileo and Martins, 2007)

Cotyclitus potiuna Martins & Galileo, 2011; Monné et al., 2012; Monné & Chaboo, 2015

Type locality: Peru, Cuzco: Salinas; Distribution - Peru (Monné, 2016)

Diagnosis: antennae shorter than body length; pronotum with marginalized sides; apex of the elytra acute; maxillary palp truncated; pseudotetramerous tarsi; upper lobe of eye present; disc of pronotum without tubercles; dorsal surface of elytra without tubercles; third cleft tarsal segment; disc of pronotum with three longitudinal keels.

Material examined: Cusco, 3335 m, 8/15/2001, A. Alfaro.

Bionomy: *N. potiuna* Galileo and Martins (2007) was described from a female holotype: “..Peru, Cuzco, Salinas, 15.III.1965, F. Carrasco ..”. (Galileo & Martins, 2007, p. 350). It does not apply for the gender key to Argentina (Di Iorio, 1995), mainly because the prothorax does not present teeth and its coloration is mostly brown. There is no information on hosts but in Argentina *Neoclytus* sp. and *N. pusillus* (Lap. De Ger.) were registered in *Parkinsonia aculeata* L. (Caesalpinaceae), *N. famelicus* in *Acacia bonariensis* Gill. and *Enterolobium contortisiliquum* (Vell.) Murong (Mimosaceae), *Maclura pomifera* (Raf.) Schneid. (Moraceae) and *Celtis tala* Gill. (Ulmaceae). Generally cited for Peru (Monné et al., 2012)

Genus *Megacyllene* Casey, 1912: “.. face with the rostrum long, or wider than long; third antennomere of the same length as the fourth, fifth to tenth serrated segments, third to sixth with internal spine at the apex. Pronotum laterally excavated at the base; prosternum with vertical intercoxal process, not dilated backward; metasternum sub vertical to the front, convex after the declivity. Elytra gradually narrow posteriorly; apices emarginated or obliquely truncated, rarely prickly..” (Aragão & Monné, 2011, p. 160).

The *Megacyllene* genus is one of the largest of the Clytini Mulsant tribe, 1839, in the Americas, includes 45 species distributed between Canada and Argentina. It includes two subgenera: *M. (Megacyllene)* Casey, 1912 with 40 species and *M. (Sierracyllene)* Tippman, 1960 with five species (Monné & Napp, 2005)

Megacyllene punensis Martins and Galileo, 2008.

Type locality: Peru, Puno: Puno (4000m); Distribution - Peru (Monné, 2016)

Megacyllene (Megacyllene) punensis Martins & Galileo, 2008; Lingafelter et al., 2014

Megacyllene punensis; Martins & Galileo, 2011; Monné et al., 2012; Monné & Chaboo, 2015

Diagnosis: antennae are shorter than body length; pronotum with rounded sides; apex of the elytra acute; truncated maxillary palp; pseudotetramerous tarsi; upper lobe of eye present; disc of pronotum without tubercles; dorsal surface of elytra without tubercles clefts; third tarsal segment cleft; disc of pronotum without keels; two transverse strips of yellowish pubescence.

Material examined: Salineras, 3400 m; S. Sebastián, Cusco, 01 / V / 2002; W. Huaraca.

Bionomy: *M. punensis* Martins and Galileo was described based on a specimen collected in Puno (4000 m) in 1941. The band and mark patterns are diagnostic for each species, based on which a key for the genus was constructed in Argentina (Di Iorio, 1995). Our material does not correspond to the species included in the mentioned key because the pronotum has only two transverse bands. The most important characters are a transverse pronotal band near the anterior margin and a posterior transverse band near the posterior margin. It should be noted that the pronotal bands in the examined specimen are wider than the bands shown in the male holotype (Martins & Galileo, 2008). At the moment it can only be assumed that it could be a color variation. Furthermore, there is no information on the biology of this species, but, apparently, it is the species with the highest altitude level. There is practically no information on their host plants, but in Argentina *Megacyllene proxima* (Laporte and Gory) associated with *Fagara coco* (Gill.) Engl (Rutaceae) has been cited. (Di Iorio, 1997). Generally cited for Peru (Monné et al., 2012)

Megacyllene sp.

Diagnosis: antennae are shorter than the body length; pronotum with rounded sides; apex of the elytra acute; truncated maxillary palp; pseudotetramerous tarsi; upper lobe of eye present; disc of pronotum without tubercles; dorsal surface of elytra without tubercles; third tarsal segment cleft; disc of pronotum without keels; entirely black color with very short whitish pubescence

Material examined: Chimpahuaylla, Cusco, 3515 m, 02/23/95, D Torres.

Comment: Carrasco (1978) cites *Megacyllene rotundicollis?* Zajc. and *Megacyllene rufipes?* Cast. S. Gory. without further details on collection locations

Tribe Elaphidiini Thomson, 1864

Genus *Eurysthea* Thomson, 1861

Diagnosis: “.. frons short, transverse, well demarcated lateral foveas. Coarse faceted eyes; well separated upper eye lobes. Poorly elevated antennal tubercles, separated by the coronal suture. Prothorax is slightly wider than its long; with or without lateral spiniform tubercles. Pronotum with five different tubercles...” (Botero and Santos-Silva, 2017, p. 2)

Eurysthea sordida (Erichson 1847)

Type locality: Peru. Distribution - Colombia, Venezuela, Ecuador, Peru, Bolivia (Santa Cruz) (Monné, 2016)

Mallocera sordida Erichson, 1847; White, 1853

Paraleglocera sordida; Aurivillius, 1912; Tippman, 1960; Fonseca-Gessner, 1990; Monné, 2005

Eurysthea sordida; Martins, 2005; Monné, 2006; Wappes et al., 2006; Monné et al., 2012; Monné & Chaboo, 2015

Trichophorus dysoni White, 1853

Diagnosis: antennae are shorter than the body; lateral edges of the pronotum with dentiform projections; apex of the elytra acute, slightly projecting; truncated maxillary palp; pseudotetramerous tarsi; upper lobe of eye present; disc of pronotum with tubercles; dorsal surface of elytra without tubercles; third tarsal segment cleft; disc of pronotum without keels; elytra without yellow, brown or reddish-brown spots, uniform color throughout the body.

Material examined: Kayra, Cusco, 13 ° 33'21.33 "S, 71 ° 52'26.67" W, 3229 m, 03 (04/01, W Cosio.

Comment: the same key includes *Eurysthea cribripennis* (Bates, 1885) with the data: “..PERU, Cuzco (Route Cuzco Manu K 115´), male, 8 december 1979, T. Porion leg. (MNRJ) .. ” Botero & Santos-Silva, 2017, p. 20)

Bionomy: found in the key of Botero and Santos-Silva (2017). Cited for Colombia, Venezuela, Ecuador, Peru and Bolivia (Botero & Santos-Silva, 2017; Monné et al., 2012)

Trachyderini Dupont Tribe, 1836

Trachyderina Dupont subtribe, 1836

Deretrachys montanus (Tippmann, 1953)

Type locality: Peru, Ocaña. Distribution - Peru (Monné, 2016)

Trachyderes montanus Tippmann, 1953; Lingafelter et al., 2014.

Deretrachys montanus; Huedepohl, 1985; Monné, 2005; Monné et al., 2012; Monné & Chaboo, 2015

Trachyderes itzingeri Tippmann, 1953; Lingafelter et al., 2014

Diagnosis: antennae are longer than the body length; lateral edges of the pronotum with a dentiform projection; apex of the elytra rounded; truncated maxillary palp; pseudotetramerous tarsi; upper lobe of eye present; disc of pronotum with tubercles; dorsal surface of elytra without tubercles; third tarsal segment cleft; disc of pronotum with a short central keel; brown with elytral margins, scutellum and margins of the pronotum, black; vertex and forehead reddish brown.

Material examined: Chilcani, Urcos, 3530 masl, 06/04/93, E. Yabar. Huacarpay, Lucre, 3117 m, 13° 36' 57" S, 71° 43' 14" W, 23 / III / 2009, M. Cárdenas (Det. G. Valencia)

Bionomy: The holotype of *T. montanus* Tippmann was collected in “.Ocaña, Sued-Perú, 2600 m, in meiner Sammlung: 7.IV.1936.Laenge 18 mm, Breite 6.2 mm, Fuehlerlaenge 24 mm” (Tippmann, 1953, p. 328). For southern Peru, the species *T. succintus* L., *T. reichei* Dup and *T. sp.* are mentioned with no collection data. Larvae drill dry trunks of various trees and adults have been observed cutting mature or decomposing fruits (Carrasco, 1978). Cited for Peru (Monné et al., 2012)

Eriocharis devestivus Monné & Martins, 1973

Type locality: Peru, Ayacucho: Miravalle. Distribution: Peru (Monné, 2016)

Eriocharis devestivus Monné & Martins, 1973; Carrasco, 1978; Huedepohl, 1985; Monné, 2005; Monné et al., 2012; Monné & Chaboo, 2015.

Diagnosis: antennae are longer than the body length; edges of the pronotum with dentiform projections; apex of the elytra rounded; truncated maxillary palp; pseudotetramerous tarsi; upper lobe of eye present; disc of pronotum without tubercles; dorsal surface of elytra without tubercles; third tarsal segment cleft; disc of pronotum without tubercles; dark color with two longitudinal yellow bands on the elytra; pronotum with the front half reddish brown and the posterior one black.

Material examined: Huancaro, 3330 masl, Santiago, Cusco, 03/27/1967, no data; Huacarpay, Lucre, 3086 masl, 13° 37'16.23" S, 71° 43'06.81" W, W. Cosio; Sahuayaco, 800 masl, Echarate, 03/15/96, R Casafranca.

Bionomy: *E. devestivus* Monné & Martins was described on material collected in Miravalle, Ayacucho, Peru, and the types are deposited at the MZSP, Museu de Zoologia da Universidade de São Paulo, Brazil. *E. devestivus* is mentioned for southern Peru without collection data (Carrasco, 1978).

Subfamily Lamiinae

Acanthocinini Blanchard tribe, 1845

Alcathousites asperipennis (Fairmaire & Germain, 1859)

Type locality: Chile, Distribution: Peru, Northern Chile (Monné, 2005)

Leiopus asperipennis Fairmaire & Germain, 1859; Bosq. 1949; Barriga et al., 1993; Monné, 2001

Alcathousites asperipennis Monné, 2004

Alcathousites chaclacayoi Gilmour, 1962; Monné, 2001.

Amniscus polyrhaphoides; Wille, 1943

Diagnosis: antennae are longer than the body length; lateral edges of the pronotum with dentiform projections; apex of the elytra sharp, slightly projected; pointed maxillary palp; pseudotetramerous tarsi; upper lobe of eye present; disc of pronotum with tubercles; dorsal surface of elytra with tubercles; third tarsal segment cleft; disc of pronotum without keels; brown coloration with a lighter oval area at the elytral apex; a whitish spot curved in the middle of the elytra and a reddish brown spot between the spot and the shoulder.

Material examined: UNSSAC; 12/13/05, 3345 masl, 13° 31'16.97" S, 71° 57'32.77" W, W Cosio.

Comments: *A. asperipennis* was cited for the Arica, Parinacota and Tarapacá regions in Chile. It is also mentioned that this species was previously located in the genus *Leiopus*, it develops in green twigs of fig trees (*Ficus carica* L.) (Ferrú & Elgueta, 2011). Artigas (original not consulted, cited by Ferrú & Elgueta, 2011) estimated his presence as possible in southern Peru. It is mentioned as a Chile type locality and its distribution in Peru and northern Chile (Monné, 2005). Under the name

of *Amniscus polyraphoides* White it is mentioned as a pest on trunks and branches of apple, pear, quince, peach and plum tree (Wille, 1943).

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