New Records of *Dasiops* spp (Diptera: Lonchaeidae) Associated with Pasiflora Grown in Colombia

Nuevos Registros de *Dasiops* spp (Diptera: Lonchaeidae) Asociados a Pasifloras Cultivadas en Colombia

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Abstract. *Four new records for* ***Dasiops*** *were registered for Colombia:* ***Dasiops brevicornis*** *(Williston, 1896),* ***D. rugifrons*** *Henning 1948,* ***D. plaumanni*** *McAlpine 1964 y* ***D. chotanus*** *Korytkowski 1971. All samples were collected in McPhail traps located in passiflora crops. Aspect related with their taxonomy, biology and geographical distribution are presented.*

Key words: Tephritoidea, Lonchaeidae, taxonomy, Passifloraceae.

Resumen. *Se registran cuatro especies del género* ***Dasiops*** *para Colombia:* ***Dasiops brevicornis*** *(Williston, 1896),* ***D. rugifrons*** *Henning, 1948,* ***D. plaumanni*** *McAlpine 1964 y* ***D. chotanus*** *Korytkowski 1971. Todas fueron capturadas en trampas McPhail en cultivos de pasifloras. Se presentan aspectos relacionados con su taxonomía, biología y distribución geográfica.*

Palabras clave: Tephritidae, Lonchaeidae, taxonomía, Passifloraceae.

The Lonchaeidae family belongs to the superfamily Tephritoidea, records for the Neotropics the genera: *Lonchaea* Fallen 1820, McAlpine *Neosilba* McAlpine 1982 and *Dasiops* Rondani 1856 (Korytkowski and Ojeda, 1971). The latter, of cosmopolitan distribution comprises at least 130 species worldwide (McAlpine, 1962; Arctos Specimen Database, 2012; Myers *et al*., 2012), with a large number of economically important species in pasiflora cultivated, because develop its cycle of life from egg to prepupae within the flower bud or fruit (Norrbom and McAlpine, 1996), resulting in the fall of floral structures and damage the fruit unmarketable. This paper includes four new records of species of genus *Dasiops* Rondani associated grown pasiflora in Colombia.

MATERIALS AND METHODS

Between April 2010 and June 2011, were recovered adults of *Dasiops* spp., from McPhail traps of yellow base, installed in areas with crops of yellow passion fruit (*Passiflora edulis* f. *flavicarpa* Degener), banana passion fruit (*Passiflora tripartita* var. *mollissima* Nielsen and Jorgensen), purple passion fruit (*Passiflora edulis* f. *edulis* Sims) and sweet passion fruit (*Passiflora ligularis* Juss) in regions of the departments of Cundinamarca, Boyacá, Huila, Tolima, Caldas, Quindio, Risaralda, Antioquia, Meta and Valle del Cauca. All McPhail traps were baited with a mixture of 30 mL of corn protein hydrolyzate, borax (10%) as preservative and 220 mL of water. Two traps were instaled per hectare for each crop to maximum height of the plant or tutoring system, as part of agronomic management method. After completing the reading of the traps, withdrew and preserved all of insects the material captured in vials with 90% ethyl alcohol; then, traps were filled with new protein and placed in the crops again. The vials and their contents, were sent at intervals of eight days to them National Laboratory Diagnosis Phytosanitary for analysis and taxonomic determination, according to the protocol proposed by the Instituto Colombiano Agropecuario (ICA, 2011). For taxonomic identification was considered morphological characters key in relation to the presence and number of spiracular setulae, throughout the third antennal segment (flagellomere),

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face width, smooth or rough face, presence or absence of setulae on the lunula, length of mesonotum, numbers of the propleural setulae and the cilia color in on the calyptero, color and length of the wings, shape of syntergosternito, taenias number of dorsal and ventral, color of tarsomeres, length and features of aculeus, according to Norrbom and McAlpine (1996), Korytkowski and Ojeda (1971). The record photographic was obtained of aculeus, mesonotum in dorsal view, antennas and micro-hairs present in the eye, with a stereomicroscope Nikon® SMZ1000 and microscope CME Leica®. All these characteristics were measured with a 80X magnification.

Ecological zones were established based on the height above sea level, levels of monthly precipitation and temperature from 1999-2011 for each locality. Specimens identified were deposited in the collection of the Institute of Natural Sciences, Natural History Museum of the Universidad Nacional de Colombia in Bogotá.

RESULTS

We collected a total of 2,668 females individuals and 869 male specimens of which, the 99.0% (n=3503) corresponded to *Dasiops brevicornis* Williston, 1896, 1.1% (n=38) to *D. rugifrons* Henning (1948), 0.08% (n=3) to *D. chotanus* Korytkowski 1971 and 0.02% (n=1) to *D. plaumanni* McAlpine 1964. We present here the geographical distribution and contributions to the description of each species.

Dasiops brevicornis (Williston, 1896).

Nomenclature: *Lonchaea brevicornis* Williston, 1896. Data type: female holotype (BMNH), St. Vincent, West Indies, with the following information: "St. Vincent, W.I., H.H. Smith"; "W. Indies 1907- 66"; "*Lonchaea brevicomis* Will."; and "female holotype *Dasiops brevicornis* Will. det. G. Morge, ex. 1944".
Dasiops brevicornis Steyskal, 1980: 169; Korytkowski, 1989: 9; Norrbom and McAlpine, 1996: 196.

Distribution: Saint Vincent Islands, Jamaica (Norrbom and McAlpine, 1996) and here is documented for the first time for Colombia. Observations: were collected 3,503 specimens, of which 30 females were chosen for morphometric characterization of the species.

Material examined: We analyzed a total of 3,503 specimens of *D. brevicornis* (2,638 ♀ and ♂ 865). Colombia, Risaralda, Apia, 5°03'55"N 75°34´58"W, 2,018 masl in sweet passion fruit (*Passiflora ligularis* Juss) (may 1, 2010 to June 30, 2011; A. Sepúlveda). Risaralda, Santuario, 5°03´58" N 75°35´37" W, 2,063 masl, in sweet passion fruit (*Passiflora ligularis* Juss), (may 1, 2010 to June 30, 2011; A. Sepúlveda). Risaralda, Mistrató, 5°16'41"N 75°54´36"W, 1,781 masl, in sweet passion fruit (*Passiflora ligularis* Juss), (may 1, 2010 to June 30, 2011; A. Sepúlveda). Quindio, Salento, 4°23´55"N 75°21´47"W, 1,925 masl, in sweet passion fruit (*Passiflora ligularis* Juss), (may 1, 2010 to June 30, 2011; A. Sepúlveda). Quindio, Circasia, 4°21´52"N 75°23´01"W, 1,787 masl, in sweet passion fruit (*Passiflora ligularis* Juss), (may1, 2010 to June 30, 2011; A. Sepúlveda). Huila, Palestina, 1°41´29"N 76°7´20"W, 1,808 masl, in sweet passion fruit (*Passiflora ligularis* Juss), (sep 30, 2010 to June 30, 2011; J. Salamanca and O. Martínez). Antioquia, Yarumal, 6°56´07"N 75°24´51"W, 2,198 masl, in sweet passion fruit (*Passiflora ligularis* Juss), (June 1, 2010 to March 30, 2011; A. Granados and C. Vallejo). Antioquia, La Unión, 5°54´42"N 75°18´42"W, 2,390 masl, in purple passionfruit (*Passiflora edulis* f. *edulis* Sims), (June 1, 2010 to August 30, 2010; A. Granados and C. Vallejo). Antioquia, Jardín, 5°35´28"N 75°48´32"W, 1,913 masl, in purple passion fruit (*Passiflora edulis* f. *edulis* Sims), (June 1, 2010 a August 30, 2010; A. Granados and C. Vallejo), (Table 1).

D. brevicornis is a species with blue glow metallic, wings hyaline, hardened aculeus and apex with denticulate margins. Head: Orbital plate without setae on orbital seta. Apparently naked eyes. Thorax: Mesonotum of 1.90-2.04 mm long. Post-stigmales setae 1-2 in females. Wings: Hyaline entirely. Female genitalia: Seventh sintergosternite 0.76-1.02 mm long. Eversible membrane with normal ventral taenia unfused distally. Aculeus 2.00-2.05 mm long, 0.98-1.07 times as long as mesonotum, 0.08 mm wide, base parallel sided or slightly tapered, medial membrane with minute spicules. Tip serrate, triangular of 0.08 mm wide and 0.095-0.110 mm long. Cerci 0.155-0.170 mm long (Figure 1).

D. brevicornis belongs to "brevicornis group", which includes the species *D. inedulis* Steyskal, *D. curubae* Steyskal, *D. passifloris* McAlpine, *D. longulus* Norrbom and McAlpine, 1996 and *D. rugulosus* Norrbom and McAlpine 1996. The group synapomorphies correspond to aculeus tip serrate, spermathecal duct

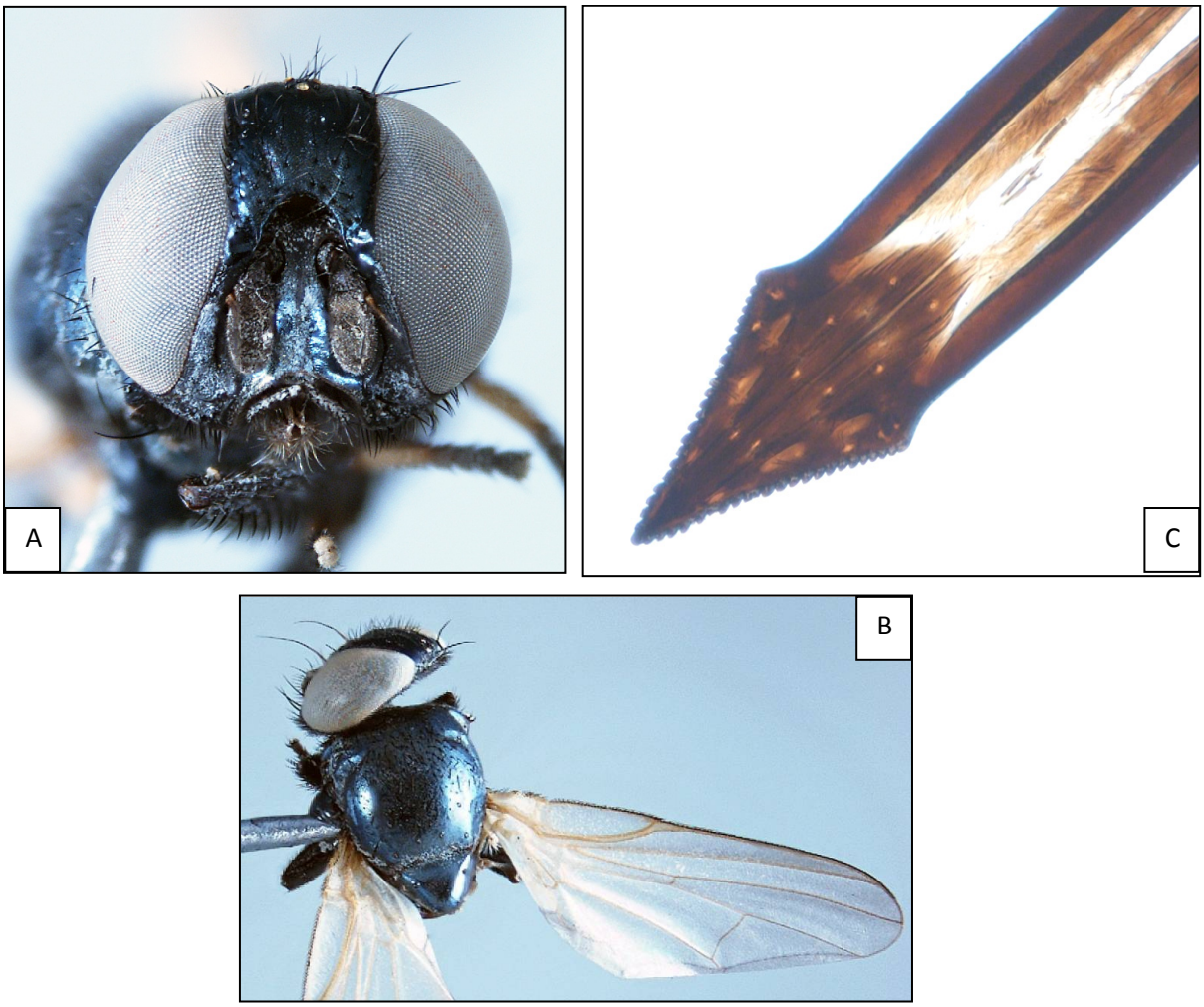

Figure 1. *Dasiops brevicornis*. **A**. Front view of the head. **B**. Dorsal view of the thorax and wings. **C**. Apical portion of aculeus.

slightly sclerotized, brown. Norrbom and McAlpine (1996), indicate that *D. brevicornis* and *D. inedulis* conspecific species are differentiated only by aculeus length between the first and 2.0-2.03 for 1.26-1.83 mm for the second, and the relationship aculeus-mesonotum between 0.98-1.07 to *D. brevicornis* and 0.79 to 0.93 times the length of mesonotum in *D. inedulis*. In this study, 50% of the specimens of *D. brevicornis* (n =30) reported a superior relationship at range of length of aculeus described for the species. Currently the authors conducted a study to determine the differences between these two species, using molecular techniques and scanning electron microscopy.

Dasiops rugifrons Henning, 1948

Nomenclature: *Dasiops rugifrons* Henning, 1948: 349. Data type: Female holotipo, Rosalina, Cuzco, Perú. *Dasiops rugifrons* Korytkowski and Ojeda, 1971: 95; Norrbom and McAlpine, 1996: 206.

Distribution: Perú (Henning, 1948; Korytkowski and Ojeda, 1971). Venezuela (Norrbom and McAlpine, 1996) and here is documented for the first time for Colombia.

Remarks: This species has been extensively characterized by Henning (1948); Korytkowski and Ojeda (1971).

Table 1. Geographical distribution and life zone with presence of *D. brevicornis* for Colombia.

Crop	Department	Municipality	Altitude (masl)	Life zone (Holdridge, 1967)	Abundance
Granadilla	Risaralda	Apia	2018	Premontane wet forest	1197 ♀ 12 ♂
Granadilla	Risaralda	Santuario	2063	Premontane wet forest	29 ♀ 2 ♂
Granadilla	Risaralda	Mistrató	1781	Premontane wet forest	209 ♀ 2 ♂
Granadilla	Quindío	Salento	1925	Premontane wet forest	1767 ♀ 674 ♂
Granadilla	Quindío	Circasia	1787	Premontane wet forest	37 ♀ 9 ♂
Granadilla	Huila	Palestina	1808	Premontane moist forest	30 ♀ 4 ♂
Granadilla	Antioquia	Yarumal	2198	Montane wet forest lower	3♀ 0 ♂
Gulupa	Antioquia	La Unión	2390	Montane wet forest lower	6 ♀ 0 ♂
Gulupa	Antioquia	Jardín	1913	Premontane moist forest	3 ♀ 0 ♂

Material examined: We analyzed a total of 30 specimens of *D. rugifrons* (26♀ and 4 ♂). Colombia, Tolima, Villa Rica, 3°58´46″N 74°36´26″W, 1,461 masl, in purple passion fruit (*Passiflora edulis* f. *edulis* Sims), (September 2, 2010 to June 15, 2011; J. Salamanca and O. Martínez). Huila, Palestina, 1°41´29″N 76°7´20″W, 1,808 masl, in sweet passion fruit (*Passiflora ligularis* Juss), (August 12, 2010; J. Salamanca and O. Martínez). Cundinamarca, Fusagasugá, 4°12´11″N 74°12´38″W, 1,932 masl, purple passion fruit (*Passiflora edulis* f. *edulis* Sims), (June 15, 2010 to October 17, 2010; M. Cubides). Cundinamarca, San Bernardo, 4°06´00″N 74°14´22″W, 1,947 masl, sweet passion fruit (*Passiflora ligularis* Juss), (August 23, 2010; May 10, 2011; M. Cubides). Cundinamarca, Tibacuy, 4°21'11"N 74°28'14"W, 1,843 masl, in purple passion fruit (*Passiflora edulis* f. *edulis* Sims), (January 30, 2011; March 17, 2011; M. Cubides). Quindio, Circasia, 4°21´52″N 75°23´01″W, 1,787 masl, in sweet passion fruit (*Passiflora ligularis* Juss), (December 14, 2010; September 8, 2010; A. Sepúlveda). Quindio, Salento, 4°23´55″N 75°21´47″W, 1,925 masl, in sweet passion fruit (*Passiflora ligularis* Juss), (December 4, 2010; A. Sepúlveda). Risaralda, Apia, 5°03'55"N 75°34´58″W, 2,018 masl, in sweet passion fruit (*Passiflora ligularis* Juss), (February 1, 2011; A. Sepúlveda). Caldas, Salamina, 5°22´51″N 75°29´08″W, 2,060 masl, in sweet passion fruit (*Passiflora ligularis* Juss), (May 5, 2011; A. Granados y C. Vallejo). Antioquia, Yarumal, 6°56´07″N 75°24´51″W, 2,198 masl, in sweet passion fruit (*Passiflora ligularis* Juss), (August 18, 2010; September 3, 2010; A. Granados y C.

Table 2. Geographical distribution and life zone with presence of *Dasiops rugifrons* for Colombia.

Crops	Departament	Municipality	Altitude (masl)	Life zone (Holdridge, 1967)	Abundance
Gulupa	Tolima	Villa Rica	1461	Premontane moist forest	14♀0♂
Gulupa	Cundinamarca	Fusagasugá	1932	Premontane moist forest	6♀ 2♂
Granadilla	Cundinamarca	San Bernardo	1947	Premontane moist forest	0♀ 1♂
Gulupa	Cundinamarca	Tibacuy	1843	Premontane dry forest	2♀ 0♂
Granadilla	Huila	Palestina	1808	premontane moist forest	1♀ 0♂
Granadilla	Quindio	Circasia	1787	Premontane wet forest	1♀ 0♂
Granadilla	Quindio	Salento	1925	Premontane wet forest	1♀ 0♂
Granadilla	Risaralda	Apia	2018	Premontane wet forest	1♀ 0♂
Granadilla	Caldas	Salamina	2060	Premontane moist forest	1♀ 0♂
Granadilla	Antioquia	Yarumal	2198	Premontane wet forest	4♀ 3♂
Maracuyá	Antioquia	Dabeiba	1075	tropical dry forest	1♀ 0♂

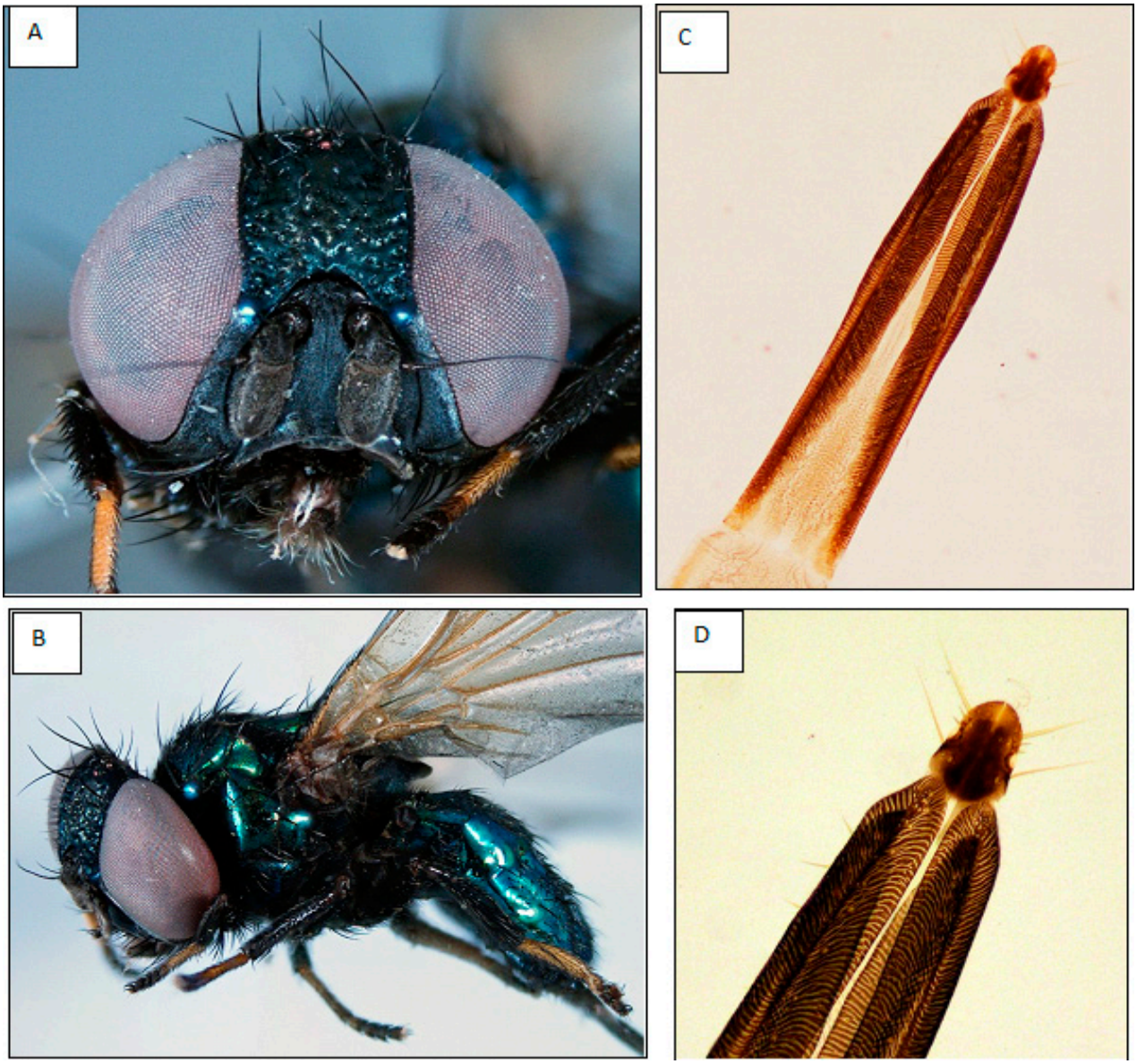

Figure 2. *Dasiops rugifrons*. **A**. Front view of the head. **B**. Side view. **C**. Aculeus. **D**. Aculeus apical portion.

Vallejo). Antioquia, Dabeiba, 7°02´30"N 76°15´01"W, 1,075 masl, in yellow passion fruit (*Passiflora edulis* f. flavicarpa Degener), (July 2, 2010; A. Granados y C. Vallejo), (Table 2).

D. rugifrons is medium to moderately large (4.2-4.5 mm long). With strong and intense green metallic sheen on thorax and abdomen. Frons strongly rugose. Eyes apparently naked, although with very short and sparse hairs, visible only to sharp increase. Tarsi yellow, calyptrae brown, with cilia blackish. Mesonotum 2.00-2.31 mm long. The aculeus is narrow 1.22-1.40 mm long; relationship aculeus/mesonotum 0.60. The apex provided with lateral escrotaduras of 0.18 mm long (Figure 2).

Dasiops plaumanni (McAlpine, 1964)

Nomenclature: *Dasiops plaumanni* McAlpine, 1964: 662. Data type: Female holotipo, Nova, Teutonia, Brasil.

Distribution: Brasil McAlpine, 1964 and here is documented for the first time for Colombia.

Remarks: Was collected one female from which was performed morphometric characterization. Consideration was given that McAlpine (1964), made the species description, for the most part qualitatively.

Material examined: One specimen (1♀). Colombia, Quindío, Montenegro, farm El Agrado, 4°30´58"N 75°47´32"W, 1,295 masl, route ICA-630010632, (23 sep 2010; A. Sepúlveda). Area of influence in crops of pasiflora. The feature zoning of the region corresponds to the life zone Montane wet forest lower, transition warm.
Dasiops plaumanni is a large species of 6.00 mm long, general coloration black (Figure 3). Head: Smooth, flat frons. Frons with parallel sides with a width of 0.65 mm to the height previous ocellus and of 0.65 mm to the height of the lunula. Setulae along the orbital facial, setae long and erect between ocellar triangle with 0.38 mm length. Lunula with 20 setulae along this (up between the base of the antenna) and 5 setae inserted into the base of the antennas. Eyes seemingly without setae. Antenna brown, arista plumose; setulae as long as the width of basal segment; flagellomere 0.39 mm long and 0.27 mm wide. Thorax: Mesonotum of 2.15 mm long, with 2 poststigmatals setae, 2 propleurales. Prosternum with two pairs of thin and small setae. Wings: Calyptrae white, with white margins cilia presents four setae longs, thicks, and black. Halteres with brown clavola and white peduncle. Wings yellow hyalines with a length of 4.3 mm. Legs: Tarsi black.

Genitalia: Syntergosternite flattened dorso-ventrally, provided in dorsal view of 14 thick setae in two groups on each side at the base, with a length of 0.22-0.25 mm. Eversible membrane with the dorsal taenias widely fused and cover almost the entire surface of the membrane, in ventral view presents two parallel taenias. Aculeus with four sculpted blades with vertical lines (2 dorsal slightly shorter and 2 ventral) (Figure 3). Aculeus length 1.44 mm; relationship aculeus/ mesonotum 0.66. Cerci with 0.32 mm long shaped in "shield" with the apical end triangular and acute; and a pair of sensilla just up to half the apex, in dorsal view two sensilla more in the front (Figure 3).

Dasiops chotanus Korytkowski 1971

Nomenclatura: *Dasiops chotanus* Korytkowski 1971: 93. Data type: Male holotipo, Pasamayo, Chota, Perú.

Distribution: Perú (Korytkowski and Ojeda, 1971) and here is documented for the first time for Colombia.

Remarks: This species was described from a male specimen. This document records the morphological characteristics of female specimens.

Material examined: Three specimens were collected (2 ♀ Tolima and 1♀ Cundinamarca). Colombia, Tolima, Villa Rica, 3°55´58"N 74°33´34"W, 1,709 m latitude, in purple passion fruit (*Passiflora edulis* f. *edulis* Sims), (16 sep 2010; J. Salamanca and O. Martínez). Cundinamarca, La Mesa, 4°40'01"N 74°31'26"W, 845 masl, in yellow passion fruit (*Passiflora edulis* f. *flavicarpa* Degener), (5 may 2011; M. Cubides). The feature zoning of the region corresponds to the life zone Premontane wet forest and Montane wet forest lower.
Dasiops chotanus is a large species of 5.98 mm long, with general coloring black and dark blue light sheen. Head: Frons smooth and flat, genae with 3 vibrissa setae. Sides of the frons parallel, to the height previous ocellus and of the lunula, with a width of 0.57-0.81 mm and a length of 0.55-0.63 mm. Setulae along the orbital facial, orbital setae with a 0.47-0.54 mm length. setae long and erect between ocellar triangle with 0.60-0,69 mm length; post-ocellar setae long 0.35 to 0.46 mm length. Lunula with setulae along this (up between the base of the antenna) and 5 setae inserted into the base of the antennas. Eyes seemingly without setae. Antenna brown, arista plumose; setulae 1.5 times as long as the width of basal segment; flagellomere 0.26-0.33 mm long and 0.15-0.21mm wide, relationship length/ width 1.57-1.73 (Figure 4). Thorax: Mesonotum of 1.75-2.31 mm long, notopleura with microtrichias; 2-3 poststigmatal setae, 2 propleurales setae. 1 katepisternal setae. Wings: Infuscadas of a soft brown-black with a length of 4.09-5.78 mm; anal vein with projection very short, extending only 0.38-0.43 mm. Calyptrae white-yellowish, yellow cilia with uniform setulae. Halteres with brown clavola and white peduncle.
Legs: Basal segment of all tarsi yellow.

Genitalia: Syntergosternite with a length of 0.75-0.84 mm. Eversible membrane of 0.60-0.65 mm in length with a central dorsal taenia, two ventral-side and one on each side end. Membranous aculeus except apex; ventrally folded along ventral midline. Length aculeus 0.76-1.04 mm; relationship aculeus/mesonotum 0.35 to 0.46.

Cerci of 0.12-0.14 mm long, fully sclerotic apex, bright yellow, smooth and tapered, with a group of sensilla

just up to half the apex, in a dorsal view of with one sensilla of 0.04 mm accompanied by two shorter sensilla, approximately ½ of the previous, acute apex (Figure 4).

DISCUSSION

D. brevicornis and *D. rugifrons* were found together associated to sweet passionfruit (*Passiflora ligularis* Juss)

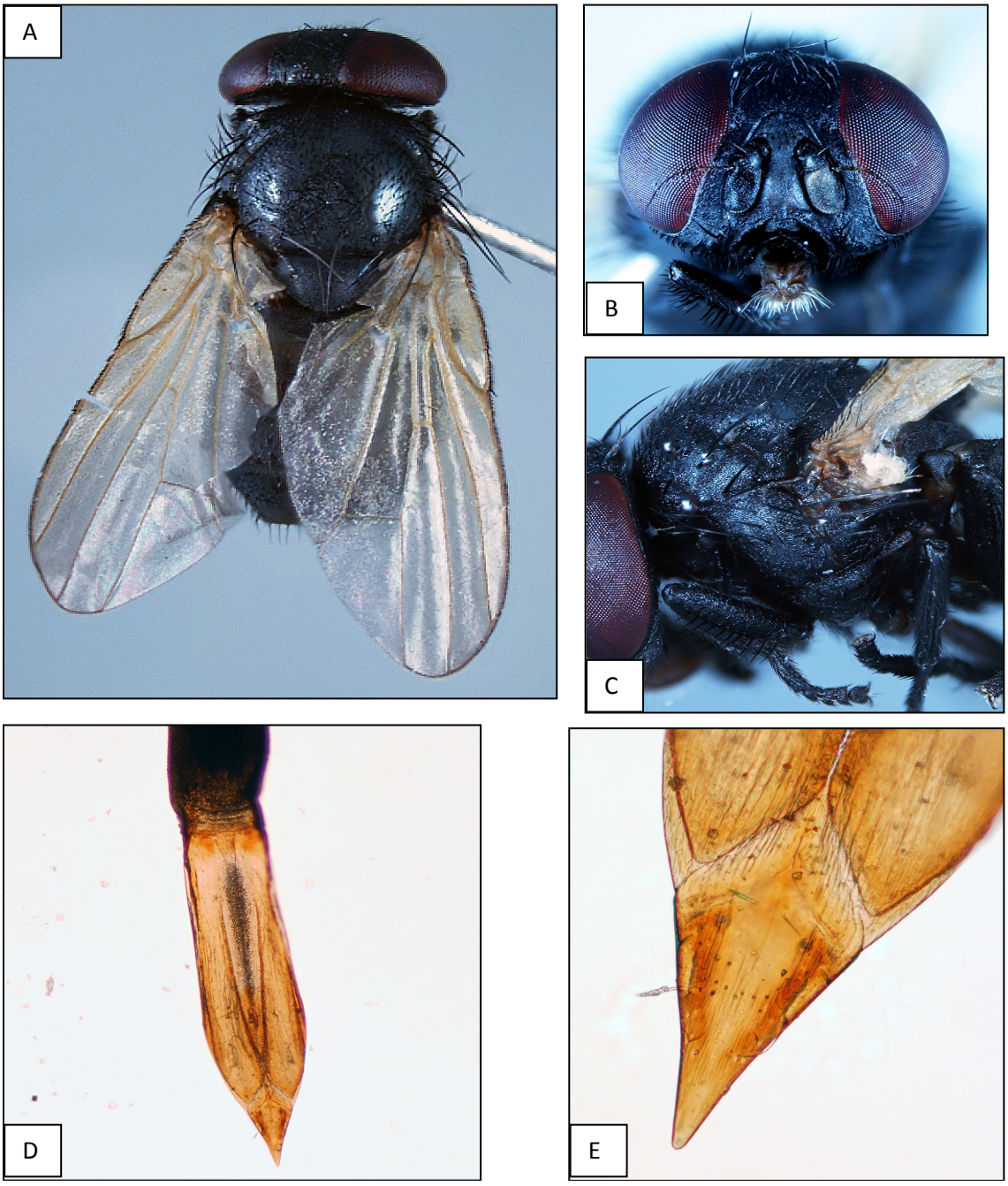

Figure 3. *Dasiops plaumanni*. **A.** Dorsal view. **B**. Front view of the head. **C.** Lateral view of thorax. **D.** Aculeus. **E.** Aculeus apical portion.

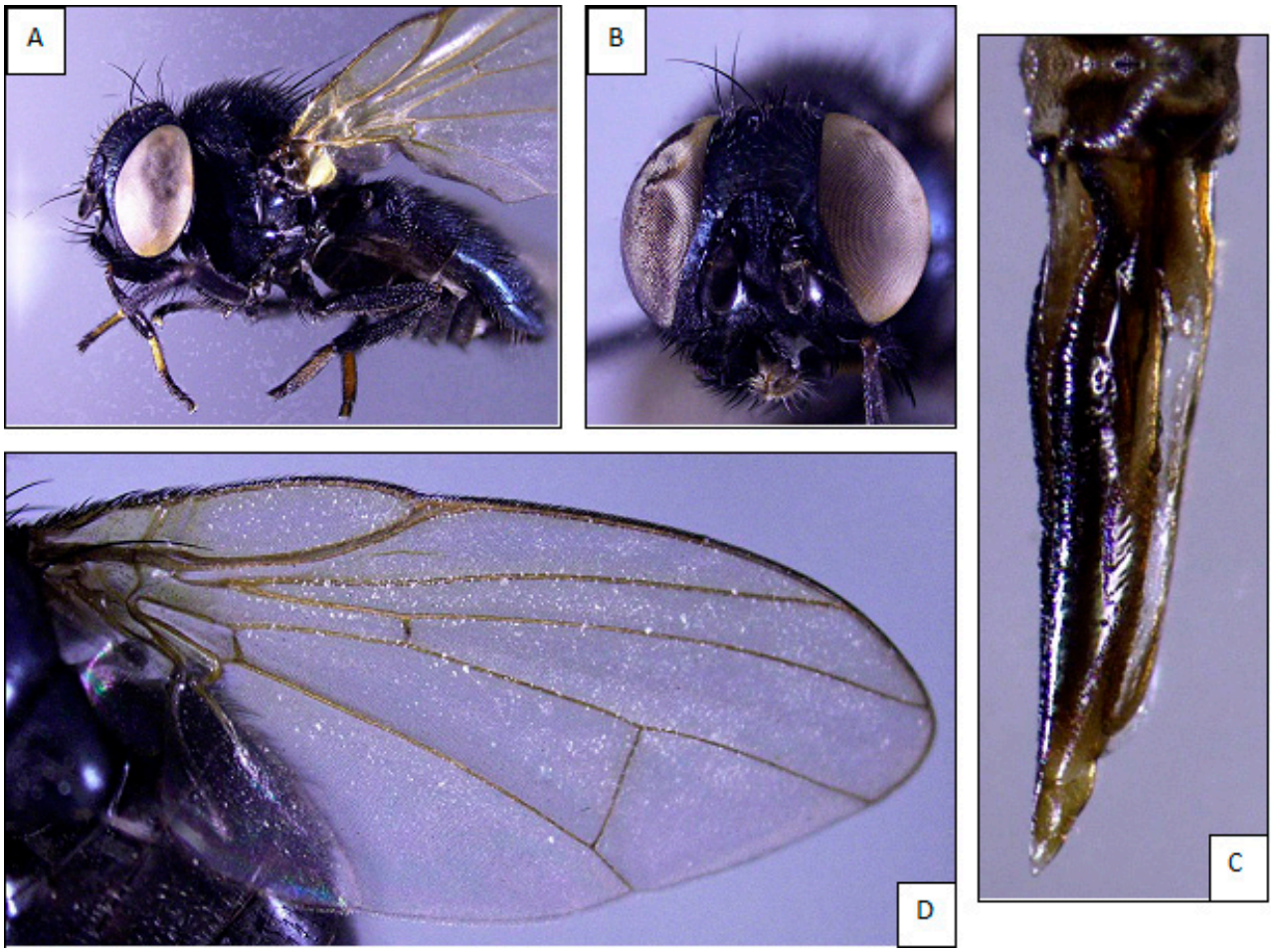

Figure 4. *Dasiops chotanus*. **A.** Lateral view. **B.** Front view of the head. **C.** Aculeus. **D.** Wing.

crops in the departments of Risaralda, Huila, Antioquia, Quindio and occupy the life zone Premontane wet forest (bmh - PM) between 1,781 and 2,390 masl and the zone of Premontane moist forest (bh - PM) between 1,075 to 2,198 masl (Holdridge, 1967; 1982). In this case, D. brevicornis was always more frequent along the fifteen months of sampling. *D. brevicornis* in Antioquia met a range of heights of 1,913 and 2,390 masl and *D. rugifrons* in Tolima and Cundinamarca between 1,461 and 1,932 masl, with permanent catches between August and June. These species were also found associated with purple passion fruit (*Passiflora edulis* f. *edulis* Sims) crops.

According to Steyskal (1980), the species *D. inedulis* described in that publication may be *D. brevicornis*, taking into account that they are conspecific. However, Steyskal says *D. brevicornis* was described of an individual from San Vincente Islands (West Indies) While *D. inedulis* of individuals from the province of Chiriqui, Panamá, with significant geographical separation to define them as two species. This criterion is not strictly valid, since there are specimens with wide geographical distribution belonging to the same species (Korytkowski,, 2011). In this study it was found in sympatry to *D. brevicornis* and *D. inedulis* in three of the ten departments sampled (Table 1), located in the Andean region.

The specimen of *D. rugifrons* examined by Norrbom and McAlpine (1996), was obtained from fruits of *Passiflora alata* Curtis, known as maracúa in the state of Merida (Venezuela). In Colombia, this plant species is not considered of commercial interest and

only is registered with the department of Amazonas (Ocampo *et al*., 2007). However, it is considered very close to *P. quadrangularis* known as badea, exploited in smallholding and distributed in the region Amazónica, Andina, Caribe, Orinoquía and Pacifica from sea level up to 1,500 masl (Estrada and Rodríguez, 2009; Ocampo *et al*., 2007). *D. rugifrons* presents membranous aculeus. The authors defend the hypothesis that this feature would not allow directly penetrate host tissues for oviposition, so that is considered a saprophagous species without economica importance, to oviposit in plant tissues previously damaged by the action of other insects.

D. chotanus were found associated to purple passion fruit (*Passiflora edulis* f. *edulis* Sims) crops in the life zones of Premontane moist forest (bh-PM) and Montane moist forest lower (bh-MB), respectively, in altitude ranges between 845 to 1,700 masl. The contribution of this study is very relevant because the species was described from males only, and here describes the characteristics of females adult.
D. plaumanni belongs to "group *Plumatus*". It is characterized by a wide and broad aculeus, setulae inserted up between the base of the antenna, black tarsi, two katepisternal setae, arista plumose and presence of a cluster of black hairs on calyptrae (McAlpine, 1962). According to Korytkowski (2011), this group can be borer of grasses so it is not considered economically important in cultivated pasiflora.

D. brevicornis, D. rugifrons, D. chotanus y *D. plaumanni* add to the existing records in Colombia for this genus, corresponding to *Dasiops inedulis* Steyskal (Ambrecht *et al*., 1986; Chacón and Rojas, 1984; Santos *et al*., 2009), *Dasiops curubae* Steyskal (Steyskal, 1980; Umaña, 2005), *Dasiops passifloris* McAlpine (Figueroa, 1977; Posada, 1989), *Dasiops gracilis* Norrbom and McAlpine, *Dasiops yepezi* Norrbom and McAlpine (Yepes and Vélez, 1989; Norrbom and McAlpine, 1996), *Dasiops caustonae* Norrbom and McAlpine (Umaña, 2005) and *Dasiops luzestelae* n. sp Korytkowsky and Castro (Castro *et al*., 2012), associated to pasiflora cultivated in Colombia.

The fruits are an line of special interest to the national economy, particularly for the pasifloras for both domestic consumption and for export, so that the defining the status of diversity and geographical distribution of the species associated with these crops, enables better oversight and adequacy of integrated management strategies.

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