

Notas del MEFLG

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Nuevo material tipo del MEFLG

Cryptocanthon andradei Arias & Medina, 2014

Paratipo: 3 especímenes “COLOMBIA: Antioquia: El Retiro. La Cascada, 6°00'26.5"N; 75°30'01.9"W, 2128 msnm, Diciembre 1999, A Posada (MEFLG)”

Nº Catálogo 26894-26896 MEFLG.

Paratipo: 2 especímenes “COLOMBIA: Antioquia: El Retiro. El Carmen, 6°5'39.7"N; 75°34'09"W, 2556 msnm, Diciembre 1999, A Posada (MEFLG)”

Nº Catálogo 26897, 26898 MEFLG.

Paratipo: 1 espécimen “COLOMBIA: Antioquia: El Retiro. Duraznos 2, 6°5'39.7"N; 75°34'09"W, 2556 msnm, Diciembre 1999, A Posada (MEFLG)”

Nº Catálogo 26899 MEFLG.

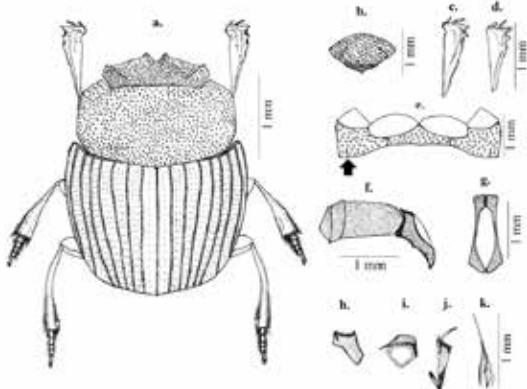


Figura 1. *Cryptocanthon andradei* sp. nov. a. Habitus b. Cabeza c. Pata anterior macho d. Pata anterior hembra e. Hipómero f. Aedeagus vista lateral g. Parímeros vista dorsal h. Escleto medul i. Escleto circular j. Escleto placa k. Escleto elongado.

Tomado de: Arias JA y Medina UCA. 2014 Tres nuevas especies de *Cryptocanthon* Balthasar, 1942 (Coleoptera: Scarabaeidae: Scarabaeinae) para Colombia Three new species of *Cryptocanthon* Balthasar, 1942 (Coleoptera: Scarabaeidae: Scarabaeinae) from Colombia. Caldasia 36(1):165-180. 2014. <http://www.icn.unal.edu.co/> Lonchopria (Biglossa) comforti González & Engel, 2014

Paratipo: 1 espécimen “COLOMBIA: Antioquia: Envigado. Loma del Escobero, Papa-bosque, Trans papa ppal, jama, 12.00'; 6°07'03"N; 75°32'16"W, 2454 msnm, 19°C, 65% HR, Enero 22 2010, Col: Sepúlveda Cano P. Osorio N.

Nº Catálogo 26900 MEFLG.

Paratipo: 1 espécimen “COLOMBIA: Antioquia: Envigado. Loma del Escobero, Papa-bosque, Trans borde, jama, 12.00'; 6°07'03"N; 75°32'16"W, 2459 msnm, 19°C, 65% HR, Enero 20 2010, Col: Sepúlveda Cano P. Osorio N.

Nº Catálogo 26901 MEFLG.

Paratipo: 3 especímenes “COLOMBIA: Antioquia: Envigado. San Sebastián,

Papa-bosque, Trans papa ppal, jama; 6°08'4.6"N; 75°32'17"W, 2459 msnm, 19°C, 65% HR, Enero 21 2010, Col: Sepúlveda Cano P. Osorio N.

Nº Catálogo 26902-26904 MEFLG.

Paratipo: 2 especímenes “COLOMBIA: Antioquia: Rionegro. En Eupatorium tinifolia, Julio 1975, Col: J Cano.

Nº Catálogo 26905, 26906 MEFLG.

Paratipo: 1 espécimen “COLOMBIA: Antioquia: Rionegro. En Eupatorium tinifolia, Julio 1975, Col: R. Añez

Nº Catálogo 26907 MEFLG.

Paratipo: 1 espécimen “COLOMBIA: Antioquia: Rionegro. En Tibouchilca lepidota, Julio 1975, Col: R. Añez.

Nº Catálogo 26908 MEFLG.

Paratipo: 1 espécimen “COLOMBIA: Antioquia: Envigado. Las Palmas, Papa-bosque, Trans borde, jama; 9.00am 6°09'07.3"N; 75°30'48.4"W, 2505 msnm, 19°C, 65% HR, Enero 21 2010, Col: Sepúlveda Cano P. Osorio N.

Nº Catálogo 26909 MEFLG.

Paratipo: 1 espécimen “COLOMBIA: Antioquia: Envigado. San Sebastián, Papa-bosque, Trans papa ppal, jama; 3.30am 6°08'4.6"N; 75°32'17"W, 2459 msnm, 19°C, 65% HR, Enero 21 2010, Col: Sepúlveda Cano P. Osorio N.

Nº Catálogo 26910 MEFLG.

Paratipo: 1 espécimen “COLOMBIA: Antioquia: El Retiro. En Gutifera, Febrero 1975, Col: A Molina.

Nº Catálogo 26911 MEFLG.

**Nuevas Publicaciones con el material
del MEFLG**

**Daily abundance at the breeding site
and reproductive behavior of *Polythore
gigantea* (Odonata: Polythoridae).
Odonatologica 43(3/4) 2014: 169-182**

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Abstract. Daily abundance at the
breeding site and reproductive behavior
of *Polythore gigantea* (Selys 1853)
are described in different localities of
Antioquia, Colombia. Observations were
done between March and June 2009
from 08:00 to 16:00 h. The highest
reproductive activity (i.e. maximal
abundance of individuals at the breeding
site) was observed between 11:06 and
12:12 h. Oviposition lasted 10 min on

average. During courtship, the male
exhibited rhythmical movements by
opening and closing the wings rapidly,
getting closer to the female and holding
her in tandem. During oviposition,
the female inserts the eggs inside wet
trunks and little twigs in the surrounding
vegetation under the close surveillance
of the male. Males exhibit territorial
behavior and conspecific aggression
to defend the territory. Factors such as
vegetation cover, might influence the
time of the day in which oviposition
occurs. This study provides, for the first
time, information on the reproductive
behavior of *P. gigantea*.

Key words. Dragonfly, damselfly,
Zygoptera, Colombia, Antioquia

References

- Alcock J. 1982. Post-copulatory mate
guarding by males of the damselfly
Hetaerina vulnerata Selys (Odonata:
Calopterygidae). *Animal Behaviour* 30:
99-107.
- Altamiranda MS, Ortega O. 2012. Estructura
poblacional de *Polythore gigantea* (Odonata:
Polythoridae) en sistemas lóticos con diferentes estados
de conservación en Antioquia, Colombia.
Revista de Biología Tropical 60: 1205-
1216.
- Alves-Martins F, Del-Claro K, Jacobucci
GB. 2012. Sexual size dimorphism,
mating system and seasonality of
a Neotropical damselfly, *Telebasis
carmesina* (Coenagrionidae).
International Journal of Odonatology
15: 263-273.
- Altmann J. 1974. Observational study of

- behavior: sampling methods. *Behaviour* 49: 227-267.
- Bergman M, Olofsson M, Wiklund C. 2010. Contest outcome in a territorial butterfly: the role of motivation. *Proceedings of the Royal Society, Serie B, Biological Sciences* 277: 3027-3033.
- Bick GH, Bick JC. 1985. A revision of the picta group of *Polythore*, with a description of a new species, *P. lamcereda* spec. nov., from Peru (Zygoptera: Polythoridae). *Odonatologica* 14: 1-28.
- Briffa M, Sneddon LU. 2007. Physiological constraints on contest behaviour. *Functional Ecology* 21: 627-637.
- Conrad KF, Herman T. 1987. Territorial and reproductive behavior of *Calopteryx aequabilis* Say (Odonata: Calopterygidae) in Nova Scotia, Canada. *Advances in Odonatology* 3: 41-50.
- Corbet PS. 1980. Biology of Odonata. *Annual Review of Entomology* 25: 189-127.
- Corbet PS. 1999. Dragonflies: Behavior and ecology of Odonata. Cornell University Press, New York. 829 p.
- Cordero A. 1989. Estructura de tres comunidades de *Calopteryx* (Odonata: Calopterygidae) con diferente composición específica. *Limnética* 5: 83-91.
- Cordero A. 1990. The adaptive significance of the prolonged copulations of the damselfly, *Ischnura graellsii* (Odonata: Coenagrionidae). *Animal Behavior* 40: 43-4.
- De Marco PJR., Cordero, Stoks R. 2008. Mark-recapture studies and demography. In: Córdoba-Aguilar A (ed). *Dragonflies and damselflies: Model organisms for ecological and evolutionary research*. Oxford University Press, Oxford. Pp 7-20.
- De Marmels J. 1982. The genus *Euthore* Selys in Venezuela, with special notes on *Euthore fasciata fasciata* (Hagen, 1853) (Zygoptera: Polythoridae). *Advances in Odonatology* 1: 39-41.
- Dijkstra KDB, Kalkman VJ, Dow RA, Stokvis FR, van Tol J. 2014. Redefining the damselfly families: a comprehensive molecular phylogeny of Zygoptera (Odonata). *Systematic Entomology* 39: 68-96.
- Fraser FC, Herman T. 1993. Territorial and reproductive behaviour in a sympatric species complex of the Neotropical damselfly *Cora* Selys (Zygoptera: Polythoridae). *Odonatologica* 22: 411-429.
- Garrison RW, González-Soriano E. 1988. Population dynamics of two sibling species of neotropical damselflies, *Palaemnema desiderata* Selys and *P. paulitoyaca* Calvert (Odonata: Platystictidae). *Folia entomológica mexicana* 76: 5-24.
- González-Soriano E. 2001. An unusual male aggregation in the Odonata: an aerial mating swarm in *Protoneura cara* Calvert and notes on other Mexican Protoneuridae (Zygoptera). *Odonatologica* 30: 335-340.
- González-Soriano E, Verdugo M. 1984. Estudios en Odonatos Neotropicales

II: notas sobre el comportamiento reproductivo de *Cora marina* Selys (Odonata: Polythoridae). *Folia Entomológica Mexicana* 62: 3-15.

Hamilton LD, Montgomerie RD. 1989. Population demography and sex ratio in a tropical damselfly (Odonata: Coenagrionidae) in Costa Rica. *Journal of Tropical Ecology* 5: 159-171.

Ide J, Kondoh M. 2000. Male-female evolutionary game on mate-locating behaviour and evolution of mating systems in insects. *Ecology Letters* 3: 433-440.

Kaufmann JH. 1983. On the definitions and function of dominance and territoriality. *Biological Reviews* 58: 1-20.

Lambret PH, Stoquert A. 2011. Diel pattern of activity of *Lestes macrostigma* at a breeding site (Odonata: Lestidae). *International Journal of Odonatology* 14: 175-191.

Loiola GR, De Marco P. 2011. Behavioral ecology of *Heteragrion consors* Hagen (Odonata, Megapodagrionidae): a shade-seek Atlantic forest damselfly. *Revista Brasileira de Entomología* 55: 373-380.

Marden J, Waage J. 1990. Escalated damselfly territorial contests are energetic wars of attrition. *Animal Behaviour* 39: 954-959.

Osorio D. 2008. Estructura poblacional de *Neoneura bilinearis* (Odonata: Protoneuridae) en dos ambientes líticos de la ciudad de Santiago de Cali. Tesis de grado, Universidad del Valle, Biología.

Ortega OE. 1992. Ciclodevida, morfología, hábitos alimenticios, comportamiento y ecología de *Mycrathyria ocellata* (Calvert) (Odonata: Libellulidae) depredador de larvas de mosquito. Tesis de maestría, Departamento de Biología, Universidad de Antioquia, Medellín.

Palacino-Rodríguez F, Contreras S, Córdoba-Aguilar A. 2012. Population structure in dry and rainy seasons in *Erythrodiplax umbrata* (Linnaeus, 1758) (Anisoptera: Libellulidae). *Odonatologica* 41: 245-249.

Peixoto P, De Marco P. 2009. No size or density effect on alternative mate-locating tactics in the tropical damselfly *Hetaerina rosea* males (Odonata: Calopterygidae). *Revista de Biología Tropical* 57: 361-370.

Pritchard G. 1996. The life history of a tropical dragonfly: *Cora marina* (Odonata: Polythoridae) in Guanacaste, Costa Rica. *Journal of Tropical Ecology* 12: 573-581.

Rehn AC. 2003. Phylogenetic analysis of higher-level relationship of Odonata. *Systematic Entomology* 28: 181-239.

Resende DC, De Marco P. 2010. First description of reproductive behavior of the Amazonian damselfly *Chalcopteryx rutilans* (Rambur) (Odonata, Polythoridae). *Revista Brasileira de Entomologia* 54: 436-440.

Sánchez M, Realpe M. 2010. Population structure of *Polythore procera* at a Colombian stream (Odonata: Polythoridae). *International Journal of Odonatology* 13: 27-37.

Srivastava VK, Suri Babu B. 1985.

Reproductive behavior in *Chloroneura quadrimaculata* (Rambur) (Zygoptera: Protoneuridae). *Odonatologica* 14: 219-226.

Stoks R. 2000. Components of lifetime mating success and body size in males of a scrambling damselfly. *Animal Behaviour* 59: 339-348.

Suhonen J, Rantala MJ, Honkavaara J. 2008. Territoriality in odonates. In: Córdoba-Aguilar A. (ed). *Dragonflies and damselflies: Model organisms for ecological and evolutionary research:* 203-217. Oxford University Press, Oxford. Pp 203-217.

Trapero AD, Torres Y, González-Soriano E. 2005. Estudio del comportamiento de oviposición de *Protoneura capillaris* (Rambur, 1842) (Odonata: Protoneuridae). *Folia Entomológica Mexicana* 44: 225-231.

Waage JK. 1979. Adaptive significance of post-copulatory guarding of mates and non-mates by male *Calopteryx maculata* (Odonata). *Behavioral Ecology and Sociobiology* 6: 147-154.

Waage JK. 1986. Evidence for widespread sperm displacement ability among Zygoptera (Odonata) and the means for predicting its presence. *Biological Journal of the Linnean Society* 29: 285-300.

Waage JK. 1988. Confusion over residency and the escalation of damselfly territorial disputes. *Animal Behaviour* 36: 586-595.

Tres nuevas especies de *Cryptocanthon* Balthasar, 1942 (Coleoptera: Scarabaeidae: Scarabaeinae) para Colombia. *Caldasia* 36(1):165-180. 2014

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Resumen. Se presenta la descripción de tres especies nuevas de *Cryptocanthon* para Colombia: *Cryptocanthon andradei*, *Cryptocanthon buriticaorum* y *Cryptocanthon pulidoae*. Se incluye ilustraciones del *habitus*, caracteres morfológicos externos, la genitalia del macho incluyendo los escleritos del saco interno, así como mapas de distribución. Se presenta una clave para la determinación de las especies del género presentes en Colombia. Además, se presenta nuevas localidades de recolección para las especies conocidas para Colombia y se amplía la distribución departamental de: *C. altus* (Santander), *C. foveatus* (Santander), *C. peckorum* (Vichada) y *C. humidus* (Caquetá, Nariño y Putumayo).

Palabras clave. Escarabajos coprófagos, Andes Colombianos, *Cryptocanthon*, Nuevas especies.

Literatura citada

Cook J. 2002. A revision of the neotropical genus *Cryptocanthon* Balthasar (Coleoptera: Scarabaeidae: Scarabaeinae). Coleopterists Society Monograph 1: 1-96.

Hijmans R, Guarino L, Bussink C, Mathur P, Cruz M, Barrantes I, Rojas E. 2004. DIVA GIS Versión 5.2: Sistema de Información Geográfica para el Análisis de Datos de Distribución de Especies. www.diva-gis.org

Medina CA, Scholtz CH, Gill BD. 2003. Morphological variation and systematics of *Canthon* and related genera of new world Canthonini dung beetles (Coleoptera, Scarabaeinae). Deutsche Entomologische Zeitschrift 50 (1): 23-68.

Pulido L, Rivero R, Gast F, von Hildebrand P. 2003. Escarabajos coprófagos (Coleoptera: Scarabaeidae: Scarabaeinae) del Parque Nacional Natural "Serranía de Chiribiquete", Caquetá, Colombia (Parte I). En: Onore et al. (Comp.). Escarabeidos de Latinoamérica: Estado del conocimiento: 51-58. Monografías Tercer Milenio 3, Zaragoza. España.

Zunino M. 1978. L'armatura genital negli Onthophagini Techiche de preparazione e criteri di studio (Coleoptera, Scarabaeoidea). Bollettino della Società Entomologica Italiana, Supplemento 90: 21-26.

Mantidflies of Colombia (Neuroptera, Mantispidae). Zootaxa 3937 (3): 401-455.2015

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Abstract. This study revises the Mantispidae of Colombia. 151 adult specimens of 12 entomological museums of Colombia were examined and identified. On the basis of the specimens studied and a comprehensive literature search, it is determined that 20 nominal species (including two doubtful records) plus four proposed as new to science, in ten genera (*Anchieta*, *Plega*, *Trichoscelia*, *Gerstaeckerella*, *Buyda*, *Climaciella*, *Dicromantispa*, *Entanoneura*, *Leptomantispa*, and *Zeugomantispa*) and, three subfamilies (Symphrasinae, Drepanicinae, and Mantispinae) occur in Colombia. In addition, *A. eurydella* (Westwood), *C. amapaensis* Penny and *P. fasciatella* (Westwood) are redescribed, providing complementary information to the original descriptions. A list of Colombian Mantispidae, distribution maps and taxonomic keys to subfamilies, genera and species are included. Illustrations of the external morphology and male genitalia are provided for selected species. The taxonomic status of *P. hagenella* (Westwood) is discussed, and its diagnostic characters are

redefined. *Anchieta remipes* (Gerstaecker) is newly transferred to this genus from *Trichoscelia*.

Key words: Neuroptera, taxonomy, species list, new species, Neotropics.

References

- Aspöck U, Mansell MW. 1994. A revision of the family Rhachiberothidae Tjeder, 1959, stat. n. (Neuroptera). Systematic Entomology 19: 181–206.
- Aspöck U, Plant JD, Nemeschkal HL. 2001. Cladistic analysis of Neuroptera and their systematic position within Neuropterida (Insecta: Holometabola: Neuropterida: Neuroptera). Systematic Entomology 26: 73–86.
- Aspöck U, Aspöck H. 2008. Phylogenetic relevance of the genital sclerites of Neuropterida (Insecta: Holometabola). Systematic Entomology 33: 97–127.
- Brushwein JR, Hoffman KM, Culin JD. 1992. Spider (Araneae) taxa associated with *Mantispa viridis* (Neuroptera: Mantispidae). Journal of Arachnology 20: 153–156.
- Buyss SC. 2008. Observations on the Biology of *Anchieta fumosella* (Westwood, 1867) (Neuroptera: Mantispidae) from Brazil. Tropical Zoology 21: 91–95.
- Cambray RA, Quintero D, Miranda RJ. 2004. Presas, comportamiento de anidación y nuevos registros de distribución en pompílidos Neotropicales (Hymenoptera: Pompilidae). Tecno-ciencia 6 (1): 95–109.
- Cannings RA, Cannings SG. 2006. The Mantispidae (Insecta: Neuroptera) of Canada, with notes on morphology, ecology, and distribution. The Canadian Entomologist 138: 531–544.
- Dejean A, Canard M. 1990s. Reproductive behaviour of *Trichoscelia santareni* (Navás) (Neuroptera: Mantispidae) and parasitization of the colonies of *Polybia diguetana* R. du Buysson (Hymenoptera: Vespidae). Neuroptera International 6: 19–26.
- Dobosz R. 2008. *Spaminta wanati* sp. n. – a new species of mantidflies from New Caledonia (Neuroptera: Mantispidae). Polish Taxonomical Monographs 15: 175–186.
- Enderlein G. 1910. Klassifikation der Mantispiden nach dem Material des Stettiner Zoologischen Museums. Stettiner Entomologische Zeitung 71: 341–379.
- Erichson WF. 1839. Beiträge zu einer Monographie von *Mantispa*, mit einleitenden Betrachtungen über die Ordnungen der Orthopteren und Neuropteren. Zeitschrift für die Entomologie (Germar) 1: 147–173.
- Esben-Petersen P. 1917. Neue und wenig bekannte Mantispiden. Arkiv för Zoologi 11 (10): 1–15.
- Frantsevich L. 1998. The Coxal Articulation of the Insect Striking Leg: A Comparative Study. Journal of Morphology 236: 127–138.
- Ferris GF. 1940. The morphology of *Plega signata* (Hagen) (Neuroptera: Mantispidae). Microentomology 5: 33–56.

- Gerstaecker A. 1888. Weitere Beiträge zur artenkenntniss der Neuroptera Megaloptera. Mitteilungen aus dem Naturwissenschaftlichen Verein für Neu-Vorpommern und Rügen 19: 89–130.
- Handschin E. 1960. Zur Revision süd-amerikanischer Mantispiden. Revue Suisse de Zoologie 67: 523–560.
- Henry CS, Penny ND, Adams PA. 1992. The Neuropteroid orders of Central America (Neuroptera and Megaloptera). In Quintero D, Aiello A (eds.). Insects of Panama and Mesoamerica: selected studies. Oxford University Press, Oxford. Pp 432–458.
- Hijmans RJ, Guarino L, Bussink C, Mathur P, Cruz M, Barrentes I, Rojas E. 2004. DIVA-GIS. Vsn. 7.0. A geographic information system for the analysis of species distribution data. Available from: <http://www.diva-gis.org/> (accesed 10 February 2013).
- Hoffman KM. 1992. Systematics of the Mantispinae (Neuroptera:Mantispidae) of North, Central, and South America. Unpublished Ph. D. dissertation, Clemson University, Clemson, South Carolina, E.U.A. 501 p.
- Hoffman KM, Brushwein JR. 1989. Species of spiders (Araneae) associated with the immature stages of *Mantispa pulchella* (Neuroptera: Mantispidae). Journal of Arachnology 17: 7–14.
- Hoffman KM, Brushwein JR. 1990. Spider (Araneae) taxa associated with the immature stages of *Mantispa interrupta* (Neuroptera: Mantispidae). Entomological News 101: 23–28.
- Hoffman KM, Brushwein JR. 1992. Descriptions of the larvae and pupae of some North American Mantispinae (Neuroptera: Mantispidae) and development of a system of larval chaetotaxy for Neuroptera. Transactions of the American Entomological Society 118: 159–196.
- Hoffman KM. 2002. Family Mantispidae. In Penny ND (ed). A guide to the lacewings (Neuroptera) of Costa Rica. Proceedings of the California Academy of Sciences 53 (12): 251–275.
- Hook AW, Oswald JD, Neff JL. 2010. *Plega hagenella* (Neuroptera: Mantispidae) parasitism of *Hylaeus* (*Hylaeopsis*) sp. (Hymenoptera: Colletidae) reusing nests of *Trypoxylon manni* (Hymenoptera: Crabronidae) in Trinidad. Journal of Hymenoptera Research 19: 77–83.
- Lambkin KJ. 1986. A revision of the Australian Mantispidae (Insecta: Neuroptera) with a contribution to the classification of the family I. General and Drepanicinae. Australian Journal of Zoology, Supplement Series 116: 1–142.
- LaSalle MW. 1986. Note on the mantispid *Climaciella brunnea* (Neuroptera: Mantispidae) in a coastal marsh habitat. Entomological News Philadelphia 97 (1): 7–10.
- Linsley EG, MacSwain JW. 1955. Two new species of *Plega* from Mexico (Neuroptera, Mantispidae). Pan-Pacific Entomologist 31: 15–19.
- Liu XY, Winterton SL, Chao W, Ross P, Ohl M. 2014. A new genus of mantidflies discovered in the Oriental region, with a higher-level phylogeny of Mantispidae

- (Neuroptera) using DNA sequences and morphology. Systematic Entomology 40 (1): 183–206.
- Maia-Silva C, Hrnrcr M, Koedam D, Machado RJP, Imperatriz-Fonseca VL. 2013. Out with the garbage: the parasitic strategy of the mantisfly *Plega hagenella* mass-infesting colonies of the eusocial bee *Melipona subnitida* in northeastern Brazil. Naturwissenschaften 100: 101–105.
- Machado RJP, Rafael JA. 2007. A new species of Mantispidae (Insecta: Neuroptera) from Central Amazonia, Brazil. Zootaxa 1530: 37–40.
- Machado RJP, Rafael JA. 2010. Taxonomy of the Brazilian species previously placed in *Mantispa* Illiger, 1798 (Neuroptera: Mantispidae), with the description of three new species. Zootaxa 2454: 3–59.
- MacLeod EG, Redborg KE. 1982. Larval Platymantispine mantispids (Neuroptera: Planipennia): possibly a subfamily of generalist predators. Neuroptera International 2: 37–41.
- Miranda RJ. 2007. Insectos depredadores y parasitoides de huevos de arañas (Arachnida: Araneae: Araneomorphae) en Panamá. Master's thesis. Universidad de Panamá, República de Panamá. 59 p.
- Navás L. 1911. Quelques Mantispides (Insectes Névroptères) du Musée Zoologique de l'Academie Impériale des Sciences de St. Pétersbourg. Annuaire du Musée Zoologique de l'Académie Impériale des Sciences, St. Pétersborg 16: 535–538.
- Navás L. 1914. Névroptères nouveaux de l'Amerique du Nord. Ilème série. Entomologische Zeitschrift, Frankfurt am Main 28: 18–20, 25–26.
- Navás L. 1924. Insectos de la América Central. Brotéria. Zoológica 21: 55–86.
- Navás L. 1927. Insectos neotropicos. 3.a serie. Revista Chilena de Historia Natural 31: 316–328.
- Ohl M. 2004. Annotated catalog of the Mantispidae of the world (Neuroptera). Contributions on Entomology International 5 (3): 131–262.
- Ohl M. 2009. A revision of the mantispid genus *Nampista* (Neuropterida, Mantispidae). Zoosystematics and Evolution 85: 189–198.
- Opler PA. 1981. Polymorphic Mimicry of Polistine Wasps by a Neotropical Neuropteran. Biotropica 13: 165–176.
- Oswald JD, Contreras-Ramos A, Penny ND. 2002. Neuroptera (Neuropterida). In: Llorente BJ, Morrone JJ (eds.). Biodiversidad, taxonomía y biogeografía de artrópodos de México hacia una síntesis de su conocimiento. Vol. III. Universidad Nacional Autónoma de México, México, D.F. Pp 559–581.
- Parker FD, Stange LA. 1965. Systematic and biological notes on the tribe Platymantispini (Neuroptera: Mantispidae) and the description of a new species of *Plega* from Mexico. Canadian Entomologist 97: 604–612.
- Penny ND. 1977. Lista de Megaloptera, Neuroptera e Raphidioptera do México, América Central, ilhas Caraíbas e América do Sul. Acta Amazônica 7 (4)

(Suplemento): 1–61.

Penny ND. 1982a. Review of the generic level classification of New World Mantispidae (Neuroptera). *Acta Amazônica* 12 (1): 209–223.

Penny ND. 1982b. Neuroptera of the Amazon basin. Part 6. Mantispidae (1). *Acta Amazônica* 12 (2): 415–463.

Penny ND, da Costa CA. 1983. Mantispídeos do Brasil (Neuroptera: Mantispidae). *Acta Amazônica* 13(3–4): 601–687.

Poivre C. 1978. Morphologie externe comparée de *Gerstaeckerella gigantea* Enderlein [Planipennia, Mantispidae]. *Annales de la Société Entomologique de France* (N.S.) 14: 191–206.

Poivre C. 1986. Les mantispides d’l’Institut Royal des Sciences Naturelles de Belgique (Insecta, Planipennia). 3e partie: espèces d’Amérique. *Neuroptera International* 4: 85–95.

Redborg KE. 1998. Biology of the Mantispidae. *Annual Review of Entomology* 43: 175–194.

Redborg KE, MacLeod EG. 1983. *Climaciella brunnea* (Neuroptera: Mantispidae): a mantispid that obligately boards spiders. *Journal of Natural History* 17: 63–73.

Redborg KE, MacLeod EG. 1985. The developmental ecology of *Mantispa uhleri* Banks (Neuroptera: Mantispidae). *Illinois Biological Monographs* 53: 1–130.

Redborg KE, Redborg AH. 2000. Resource partitioning of spider hosts

(Arachnida, Araneae) by two mantispid species (Neuroptera, Mantispidae) in an Illinois woodland. *The Journal of Arachnology* 28: 70–78.

Rehn JWH. 1939. Studies in North American Mantispidae. *Transactions of the American Entomological Society* 65: 237–263.

Reynoso-Velasco D, Contreras-Ramos A. 2008. Mantispidae (Neuroptera) of Mexico: Distribution and key to genera. *Annals of the Entomological Society of America* 101 (4): 703–712.

Rice ME. 1986. Communal oviposition by *Mantispa fuscicornis* (Say) (Neuroptera: Mantispidae) and subsequent larval parasitism on spiders (Arachnida: Araneida) in south Texas. *Journal of the Kansas Entomological Society* 59: 121–126.

Rice ME. 1987. Morphological variation in *Plega dactylota* (Neuroptera: Mantispidae) and status of its subspecies. *Journal of the Kansas Entomological Society* 60: 34–344.

Rice ME, Peck WB. 1991. *Mantispa sayi* (Neuroptera: Mantispidae) parasitism on spiders (Araneae) in Texas, with observations on oviposition and larval survivorship. *Annals of the Entomological Society of America* 84: 52–57.

Salazar JA. 2001. Notas sobre Mantispidae de Colombia (Neuroptera: Planipennia). *Boletín Científico Museo de Historia Natural Universidad de Caldas* 5: 126–128.

Snyman LP, Ohl M, Mansell MW, Scholtz CH. 2012. A revision and key to the

genera of Afrotropical Mantispidae (Neuropterida, Neuroptera), with the description of a new genus. ZooKeys 184: 67–93.

Stitz H. 1913. Mantispiden der Sammlung des Berliner Museums. Mitteilungen aus dem Zoologischen Museum in Berlin 7: 1–49.

Valerio CE. 1971. Parasitismo en huevos de araña *Archaearenea tepidariorum* (Koch) (Aranea: Theridiidae) en Costa Rica. Revista de Biología Tropical 18: 99–106.

Wedmann S, Makarkin VN. 2007. A new genus of Mantispidae (Insecta: Neuroptera) from the Eocene of Germany, with a review of the fossil record and Palaeobiogeography of the family. Zoological Journal of the Linnean Society 149: 701–716.

Werner FG, Butler GD. 1965. Some notes on the life history of *Plega banksi*

(Neuroptera: Mantispidae). Annals of the Entomological Society of America 58: 66–68.

Westwood JO. 1867. Descriptions of new species of Mantispidae in the Oxford and British Museums. Transactions of the Entomological Society of London Series 3, 5: 501–508.

Williner GJ, Kormilev NA. 1958. Notas sobre Mantispidae Neotropicales, I (Neuroptera). Revista de la Sociedad Entomológica Argentina 21: 1–18.

Woglum RS. 1935. *Symphrasis signata* Hagen. Pan-Pacific Entomologist 11: 19.

Yang X, Liu Z. 2010. Notes on the genus *Eumantispa* Okamoto, 1910 from mainland of China (Neuroptera, Mantispidae). Zootaxa 2669: 57–68.

Visitas de taxónomos y especialistas al MEFLG

NOMBRE	INSTITUCION	TRABAJA REALIZADO	FECHA DE VISITA
Cindy Lorena Flautero	Universidad Nacional de Colombia, Bogotá	Estudio general de polillas Lepidoptera Noctuidae de importancia agrícola en Colombia	3-7 de Marzo de 2015
Augusto León Montoya	Universidad de Antioquia	Revisión taxonómica de Diptera Syrphidae	Febrero – Marzo de 2015