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Entomological Society of America Proposal Form for New Common Name or Change of ESA-Approved Common Name

Complete this form and e-mail to pubs@entsoc.org.

Submissions will not be considered unless this form is filled out completely.

The proposer is expected to be familiar with the rules, recommendations, and procedures outlined in the "Use and Submission of Common Names" on the ESA website at <https://www.entsoc.org/pubs/use-and-submission-common-names>.

1. Proposed new common name: Avian vampire fly

2. Previously approved common name (if any): (none)

3. Scientific name (genus, species, author): *Philornis downsi* (Dodge & Aitken)

Order: Diptera

Family: Muscidae

Supporting Information

4. Please provide a clear and convincing explanation for why a common name is needed, possibly including but not limited to the taxon's economic, ecological, or medical importance, striking appearance, abundance, or conservation status:

Philornis downsi is a Neotropical bird-parasitic nest fly that has invaded the Galápagos Islands, where it attacks many species of Darwin's finches. Parasitism by this fly is so severe that it is driving several finch species toward near-certain extinction. In response, the International Philornis Working Group was established by a collaboration between the Charles Darwin Foundation and the Galapagos National Park Directorate in 2012 to coordinate research and conservation efforts focused on the invasion of *P. downsi*. Despite the fly's major conservation significance, it remains relatively unknown to both the general public and much of the scientific community, and the Working Group has had difficulty securing consistent funding for research and management.

Members of the International Philornis Working Group (of which I am one) felt that a clear, memorable, and descriptive common name could help raise awareness of the problem and, in turn, support efforts to attract funding for essential scientific and conservation work. In 2019, the group held a meeting to select a common name and settled on "vampire fly." I submitted this name to ESA that year, but it was rejected due to the concern that it could imply that the fly feeds on human blood. We agreed with this reasoning and revised our preferred name to "avian vampire fly" to better clarify its host association. Since then, this name has been adopted by

many members of the group and others in news releases, reports, and a range of scientific publications.

5. Stage or characteristic to which the proposed common name refers.

(If the description involves a physical feature, it is strongly encouraged that an image of the organism be provided with this submission.)

The name 'avian vampire fly' refers to the actions of the larvae which feed on the blood of nestling birds. *P. downsi* eggs are laid into bird nests and after first instar larvae feed within the beak of nestlings, 2nd and 3rd instar larvae spend days in the base of the nest and attack nestlings only at night. This behavior is what inspired our Working Group to choose the name 'avian vampire fly'. This name was voted on after a discussion at a second meeting of the group over some other potential names.

6. Distribution (include references):

Philornis downsi is known as a native insect from various countries in mainland South America (Brazil, Argentina, Ecuador) and the Caribbean island Trinidad (Bulgarella et al. 2017; Fessl et al. 2018). We realize that this species is not found in North America, but it is of great interest to conservationists in North America and throughout the world due to the international interest in Darwin's finches as iconic species with great historical, scientific and educational importance. A number of members of the *Philornis* Working Group are from North America (both Canada and the U.S.) as well being members of ESA (myself included).

At least five articles focusing on this species have been published in ESA journals (Bulgarella et al. 2015, 2017; Lahuate et al. 2016; Boulton et al. 2024; Moreno-Mejia et al. 2024) and on at least two occasions these articles were featured on the Entomology News Blog. A picture of *P. downsi* from Bulgarella et al. (2015) was featured on the cover of the Annals of the ESA.

- Boulton R.A., A. Cahuana, P.F. Lahuate, I.E. Ramirez, C. Sevilla, and C.E. Causton. 2024. Using modified trapping regimes to understand the behavioral and spatial ecology of *Philornis downsi* (Diptera: Muscidae). *Environmental Entomology* 53:315-325.
- Bulgarella, M., M. A. Quiroga, G. A. Brito Vera, J. S. Dregni, F. Cunningham, D. A. Mosquera, C. E. Causton, and G. E. Heimpel. 2015. *Philornis downsi* (Diptera: Muscidae), an avian nest parasite invasive to the Galapagos Islands, in mainland Ecuador. *Annals of the Entomological Society of America* 108: 242-250.
- Bulgarella, M., M. A. Quiroga, R.A. Boulton, I.E Ramirez, R.D. Moon, C.E. Causton, & G. E. Heimpel. 2017. Life cycle and host specificity of the parasitoid *Conura annulifera* (Hymenoptera: Chalcididae), a potential biological control agents of *Philornis downsi* (Diptera: Muscidae) in the Galapagos Islands. *Annals of the Entomological Society of America* 110: 317-328.
- Fessl, B., G. E. Heimpel, and C. E. Causton. 2018. Invasion of an avian nest parasite, *Philornis downsi*, to the Galápagos Islands: Colonization history, adaptations to novel ecosystems, and conservation challenges. Pages 213-266 in P. G. Parker, editor. *Disease Ecology: Social and Ecological Interactions in the Galapagos Islands*. Springer, Dordrecht, The Netherlands.
- Lahuate, P., M. P. Lincango, G. E. Heimpel, and C. E. Causton. 2016. Rearing larvae of the avian nest parasite, *Philornis downsi* (Diptera: Muscidae) on chicken blood-based diets. *Journal of Insect Science* 16: 81-87.
- Moreno-Mejía A, C. Córdova-Nieto, P.F. Lahuate, C.E. Causton, J.M. Valdez Carrasco, Rosas-G. Saito, E. Ruelas Inzunza, J.E. Yar, D. Pérez-Staples. 2024 Reproductive system and activity patterns of *Philornis downsi* (Diptera: Muscidae). *Annals of the Entomological Society of America* 117:64-74.

7. Principal hosts (include references):

Philornis downsi has been documented attacking 45 bird species in its current native and introduced ranges (Bulgarella & Heimpel 2015; Fessl et al. 2018). Most of these hosts are passerines from the order Passeriformes, but a few are from the Piciformes (woodpeckers and allies) and Cuculiformes (Cuckoos and allies) orders. *P. downsi* has been found attacking 21 species of endemic passerines in the Galapagos Islands, seven of which are designated as threatened by the International Union for the Conservation of Nature (IUCN) (Fessl et al. 2018).

Bulgarella, M. and G. E. Heimpel. 2015. Host range and community structure of bird parasites in the genus *Philornis* (Diptera: Muscidae) on the Island of Trinidad. *Ecology and Evolution*. 5: 3696-3703.

Fessl, B., G. E. Heimpel, and C. E. Causton. 2018. Invasion of an avian nest parasite, *Philornis downsi*, to the Galápagos Islands: Colonization history, adaptations to novel ecosystems, and conservation challenges. Pages 213-266 in P. G. Parker, editor. *Disease Ecology: Social and Ecological Interactions in the Galapagos Islands*. Springer, Dordrecht, The Netherlands.

8. Please provide multiple references indicating clearly that the proposed name is already established and ideally widespread in use. If the name has been newly coined for purposes of this application, please state so:

A Google Search of the search term 'Avian vampire fly' immediately identifies *Philornis downsi* as the scientific name associated with this term. This includes a link to a Wikipedia page for *Philornis downsi* that begins with the following phrase, '*Philornis downsi*, also known as the avian vampire fly . . .'. Other sites that link the proposed name with *Philornis downsi* resulting from the google search include the National Geographic Society, the National Institute of Health, the Charles Darwin Foundation, the Galapagos Conservancy, and various publishers including *Nature* and *Oxford Academic Press*. As of this writing, the prompt 'avian vampire fly' elicits 28 pages in a google search, with all entries referring to *Philornis downsi*.

Turning to peer-refereed publications, a topic-search in the Web of Science using the term 'avian vampire fly' brings up 23 papers, all of which refer to *P. downsi*, and were published between 2021 and 2025 (inclusive). As examples of these papers, we provide here the earliest and the most recent:

Katsis, A. C., D. Colombelli-Négrel, L.K. Common, J.A. O'connor, R.Y. Dudaniec, J. García-Loor and S. Kleindorfer. 2021. Nestling behaviour predicts naris deformation in Darwin's finches parasitized by the avian vampire fly. *Biological Journal of the Linnean Society* 134, 636-649.

Common, L. K., K.A. Morales, A.C. Katsis and S. Kleindorfer. 2025. Personality in the parasitic avian vampire fly (*Philornis downsi*). *Behaviour* 162: 545-568.

9. Please identify any common names in use (include references) that have been applied to this taxon other than the one herein proposed. Please justify why each alternate name is inadequate:

We are not aware of any other common names in use. Terms such as 'avian nest fly' or 'bird-parasitic fly' are sometimes used in the scientific literature, but these are not meant as common names but rather as adjectives to describe the fly.

10. Please identify any other organisms to which your proposed common name *could* apply, giving careful consideration to closely related taxa. Please justify why the proposed common name is (i) unsuitable for each of those taxa and/or (ii) better suited for the proposed taxon:

The term 'avian vampire fly' refers specifically to the habit of *P. downsi* larvae of feeding on the blood of their hosts at night. Of the 50 species of the genus *Philornis*, most feed subcutaneously

within their host, and thus presumably feed more-or-less continuously, or at least with less defined diurnal feeding patterns than external feeders. Thus, 'avian **vampire** fly' would be less appropriate. There is one species which has a life cycle thought to be similar to that of *Philornis downsi* and that is *Philornis falsificus*. However, the life cycle of *P. falsificus* has not been described sufficiently to know whether feeding occurs at night and this species is not known to be invasive or precipitate any particularly important conservation outcomes. Members of the calliphorid genus *Protocalliphora* have a similar general life cycle to that of *P. downsi* but it is not known whether nestling feeding takes place primarily at night as far as I am aware.

11. Please document your efforts to consult with entomologists (including taxonomic specialists), colleagues, or other professionals who work with the taxon as to the suitability and need for the proposed common name. Please note that this is an important element of your proposal; proposals that do not document these steps are less likely to be successful.

Having a common name for *Philornis downsi* was considered a high priority by the International *Philornis* Working Group to the point where a formal discussion and vote was held at two meetings of the group as noted above. Members of the Working Group feel that a common name would help to publicize the plight of Darwin's finches as a result of the *P. downsi* invasion and could help secure funding for this project. This group includes Dipteran taxonomists and multiple North American members, some of whom are members of the ESA.

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Date submitted: Dec. 3, 2025