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## Neotropical Agromyzidae (Diptera) of the *Mission Géodésique de l'Équateur*: Becker (1920) revisited

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### Abstract

The Ecuadorian Agromyzidae described by Theodor Becker from the *Mission du service géographique de l'armée pour la mesure d'un arc de méridien équatorial en Amérique du Sud* are revised and several taxonomic changes are proposed. The eight named species identified by Becker actually comprise 14 species of Agromyzidae (3 *Melanagromyza*, 4 *Cerodontha*, 6 *Liriomyza*, 1 *Nemorimyza*) and one species of Heleomyzidae. Three new species are described: *Cerodontha (Cerodontha) angela* Boucher **sp. n.**; *Liriomyza biensis* Boucher **sp. n.**; *Melanagromyza pontis* Boucher **sp. n.** New species records for Ecuador include *Melanagromyza memoranda* Spencer; *M. lini* Spencer; *Cerodontha (C.) colombiensis* Spencer; *Liriomyza nigra* Spencer and *Nemorimyza fuscibasis* (Malloch). *Cerodontha (C.) nigricornis* Becker is redescribed, including the first description of the male genitalia. *Liriomyza biformata* (Becker) is redescribed and two species are included as junior synonyms of *L. biformata*: *Agromyza braziliensis* Frost **syn. n.** and *A. ecuadorensis* Frost **syn. n.** *Agromyza bipartita* Becker is transferred to the family Heleomyzidae as *Notomyza bipartita* **comb. n.**

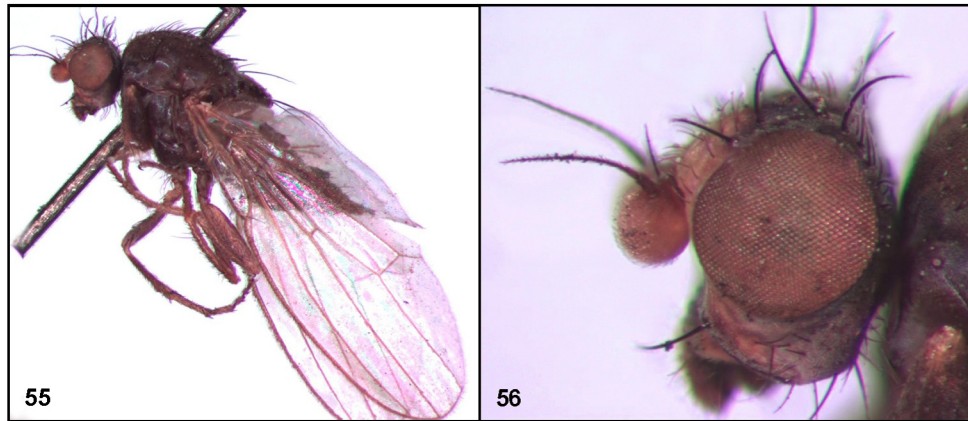
**Key words:** *Cerodontha*, *Liriomyza*, *Melanagromyza*, *Nemorimyza*, Heleomyzidae, *Notomyza*, Ecuador

### Introduction

The French *Mission Géodésique de l'Équateur*, more formally known as the *Mission du service géographique de l'armée pour la mesure d'un arc de méridien équatorial en Amérique du Sud*, was primarily a military cartographic expedition to Ecuador between 1899 and 1906 to survey the equator. However, with additional support from the French Academy of Sciences the expedition also had clear scientific outcomes, including extensive collections of insects by Paul Rivet, a medical officer and anthropologist (Barragán *et al.* 2009). Most of the insects were deposited in the Musée National d'Histoire Naturelle de Paris, with others in the Natural History Museum (London, UK).

The Diptera (Brachycera) collected by the expedition were studied by Theodor Becker, who published descriptions and notes on 145 species (Becker, 1920). Although the printed publication bears a “1919” publication date, copies were not received in institutional libraries until the subsequent year and thus the date of publication is 1920 (Evenhuis 1997). Becker treated eight named species of Agromyzidae, three of which were newly described (*Agromyza biformata* Becker, *Agromyza bipartita* Becker, *Cerodontha nigricornis* Becker). Some of the other species were considered conspecific with described Palearctic species. Becker listed a ninth, unnamed, species in Agromyzidae (species #143, represented by a single damaged specimen) but he suggested that the specimen is close to *Parodinia* Coquillett (a junior synonym of *Trixoscelis* Rondani, family Heleomyzidae) Because this specimen was not formally described as an agromyzid, and does not belong to the family, we are not discussing it further here.

Subsequent examination of the expedition specimens has revealed problems with some of Becker's species limits and assignments. In this paper, we revise the Agromyzidae described by Becker (1920). The material actually comprises 14 species of Agromyzidae, three of which are newly described here, and one species (*Agromyza bipartita*) that is here transferred to the family Heleomyzidae. Host plants are known for only three of the species discussed below; details are given under the relevant species.



**FIGURES 55–56.** *Notomyza bipartita* (Becker), (55) body, lateral, (56) Head, lateral.

Female postabdomen telescoping, tergites with long setae, cerci shrivelled, shape and size not clear; spermathecae not examined (holotype not dissected).

**Comments.** Becker (1920) did not explicitly designate a holotype or “type” in the original publication, but the species was described from a single female specimen. The collection data of the specimen we examined correspond exactly to Becker’s original description, and although the specimen does not bear a type label, it does have a determination label in Becker’s handwriting. We have seen no evidence to suggest that other type specimens exist, so we consider this specimen the holotype, fixed by monotypy. We have added a label to that effect.

Although Becker described this species as an agromyzid, Spencer (1963) excluded it from the family, but did not suggest what family it might belong to. Martinez & Etienne (2002) treated it as a *nomen dubium*. Although the holotype is slightly damaged (some missing and/or misdirected setae, damaged legs), it is identifiable as Heleomyzidae and keys to the couplet containing *Notomyza* Malloch and *Prosopantrum* Enderlein in McAlpine’s (1985) key to Neotropical heleomyzid genera. The specimen resembles *Notomyza* in most respects except for the apparent possession of two katepisternal setae (generally 2 in *Prosopantrum*, 1 in *Notomyza*). The katepisternal setae are broken but two sockets are visible on each side of the body. The specimen does not correspond to any of the three described species of *Notomyza* (Malloch 1933) and is considerably larger than any of those species. Thus, we have assigned it tentatively to *Notomyza* pending discovery of specimens, hopefully males, in better condition. The other three described species of *Notomyza* are from temperate Chile, so this is the northernmost record to date of the genus.

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