

Short Communication

# Definition of Diptera Cyclorrhapha or Muscomorpha

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## Abstract

Some species of dipterous included in the infraorder Muscomorpha are of fundamental medical and veterinary importance, since they can produce myiasis and act towards transmission of pathogens to humans and animals. These dipterans are potential mechanical vectors for etiological agents such as viruses, bacteria, protozoan cysts and helminth eggs. This study aimed to make a definition of Diptera Cyclorrhapha or Muscomorpha, as well as their technical characteristics, interactions and classification. *Musca domestica* L. (Diptera: Muscidae) is a specie of great sanitary interest because of its synanthropic characteristics, abundance in urban areas, capacity to develop in several sorts of substrates and high reproductive.

## Technical features

The 60,000 described species of Cyclorrhapha (Muscomorpha) (Figures 1-3) are characterized by an unusual diversity in larval life-history traits, which range from saprophagy over phytophagy to parasitism and predation. Act in the transmission of pathogens to humans and animals [1-4]. These diptera are potential mechanical vectors for etiologic agents, such as viruses, bacteria, protozoan cysts and helminth eggs [2].

The Cyclorrhapha is composed of those flies where the adult escapes from the pupal case through a circular opening in the anterior end. These flies are characterized by the possession of three-segmented antennae where the last segment bears an arista or style. The suborder Cyclorrhapha (Muscomorpha) has historically represented one of three suborders of the Diptera, along with the Nematocera and Brachycera (Figure 1). Recently, it has been proposed that the Brachycera and Cyclorrhapha be combined in an infraorder called the Muscomorpha [5].

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The Cyclorrhapha contains many adult flies that are free-living and many of the flies that are true parasites of vertebrates as larval stages. Within this group are the filth flies (Muscidae), the flesh flies (Sarcophagidae), the blow flies (Calliphoridae),

### Brachycera – Classification

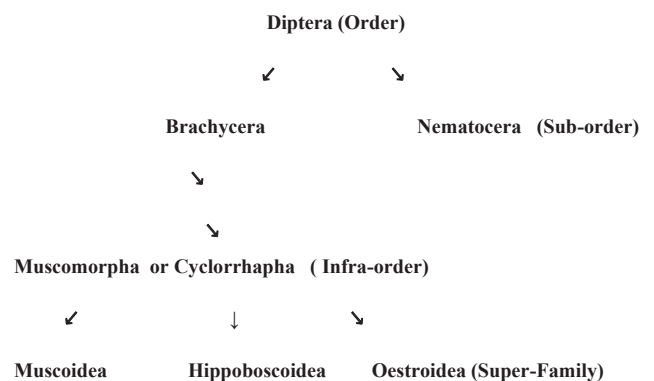


Figure 1: Brachycera – Classification.

and the tse-tse (Glossinidae). Some of these flies are parasitic as larvae causing myiasis that may be obligatory or which can be facultative. One last group of these flies, the Cuteribridae, causes significant disease in cats through the migration of the large bot-like larval stage that is usually found in the rodents or lagomorphs [6].

This study aimed to make a definition of Diptera Cyclorrhapha or Muscomorpha, as well as their technical characteristics, interactions and classification.



Figure 2: Diptera Cyclorrhapha - Previous view.

Source: [https://upload.wikimedia.org/wikipedia/commons/thumb/a/a2/Sarcophagid\\_fly\\_Portrait.jpg/253px-Sarcophagid\\_fly\\_Portrait.jpg](https://upload.wikimedia.org/wikipedia/commons/thumb/a/a2/Sarcophagid_fly_Portrait.jpg/253px-Sarcophagid_fly_Portrait.jpg)



Figure 3: Diptera Cyclorrhapha - Side view.

Source: javascript: popup\_window.

## Methods

This study, which consists of building a bibliographic summary of the main groups of parasitoids of the Order Diptera Muscomorpha a bibliographic search, was carried out that contained published works on the following aspects: definition, classification and interaction.

### Muscomorpha-interaction

Synanthropic (Syn= joint action; Anthropos= man): Those who, due to their development, take advantage of man-made conditions, ie the products resulting from the urbanization process and/or low level of hygiene. (Animal and human waste, urban and industrial waste, dumps, landfills and open pits and open markets).

*Musca domestica* (Diptera: Muscidae), *Chrysomya* spp. (Diptera: Calliphoridae) and *Lucilia* spp. (Diptera: Calliphoridae).

Symbovines "Linked to man through the excreta of domestic animals, mainly herbivores" *Stomoxys calcitrans* L. (Diptera: Muscidae) (stable fly) and *Haematobia irritans* L. (Diptera: Muscidae) (horn fly).

Myiasis producers nital considerations

Animal husbandry (cattle, poultry) at population density, excrements favoring the development of larvae at synanthropic or symbolic flies.

Disordered expansion of cities to accumulation of garbage and conditions for the proliferation of synanthropic flies.

In general, the present modified Nematocera mouthparts and stylus picks Muscomorpha, the stylets have been lost and mouth parts are adapted to absorb liquid food [7].

*Musca domestica* is a specie of great sanitary interest because of its synanthropic characteristics, abundance in urban areas, capacity to develop in several sorts of substrates and high reproductive capacity and also is of major medical and sanitary interest, because it is responsible for secondary myiasis and is a vector for pathogenic microorganisms [2].

Knowledge of the biology and population activities of these various types of dipterous insects is important from an epidemiological point of view. on of diseases and dispossession of the host process can be ascertained. This information can contribute significantly towards studies aimed at prevention of disease transmission by these insects and towards formulation of more effective control methods [8-10].

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