

## Study of two species groups of *Phaonia* Robineau-Desvoidy (Diptera: Muscidae) from China, with the description of three new species

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### Abstract

Two species groups of *Phaonia* from China were studied, the *P. nymphaeorum*-group and *P. fuscicoxa*-group. Three new species are described, *Phaonia bicolorantis* **sp. nov.** in the *P. nymphaeorum*-group, and *Phaonia hirtiorbitalis* **sp. nov.** and *Phaonia nigrifuscicoxa* **sp. nov.** in the *P. fuscicoxa*-group. A key to the species groups and subgroups of Chinese *Phaonia*, and keys to the species of the *P. nymphaeorum*-group and *P. fuscicoxa*-groups, are included.

**Key words:** Diptera, Muscidae, *Phaonia*, *nymphaeorum*-group, *fuscicoxa*-group, new species

### Introduction

*Phaonia* Robineau-Desvoidy is the largest genus of Muscidae (Diptera). During the 20<sup>th</sup> century, researchers from outside China carefully studied the genus and achieved good results. The genus and species from the Palaearctic Region were first divided into 16 groups (Ringdahl 1949), then 18 groups (Hennig 1963), and later 21 groups and 3 subgroups (Zinovjev 1981). Following the work of these earlier researchers, many Chinese scholars have concentrated on the study of *Phaonia*. After 20 years of study, Ma *et al.* (2002) divided the Chinese species of *Phaonia* into 38 groups in *Fauna Sinica Insecta*.

The male terminalia comprise the most important character system in the taxonomy of *Phaonia*. In the *Phaonia angelicae*-group, the *consobrina*-subgroup is distinguished from the *acerba*-subgroup and *trisetiacerba*-subgroup by having the cerci deeply concave in the middle part. Therefore, we believe that it is better to recognize the *consobrina*-subgroup as a separate group. In this paper, we have divided the known species of Chinese *Phaonia* into 39 groups (Ma *et al.* 2002; Yang *et al.* 2002; Feng 2004a, b; Xue *et al.* 2006).