



## A review of the *carbonaria*-subgroup of *Fannia* Robineau-Desvoidy (Diptera: Fanniidae), with descriptions of two new species from China

MING-FU WANG<sup>1</sup>, DONG ZHANG<sup>2,3</sup>, SHUANG ZHENG<sup>1</sup> & CHUN-TIAN ZHANG<sup>1</sup>

<sup>1</sup>Institute of Entomology, Shenyang Normal University, Shenyang 110034, China

<sup>2</sup>College of Biological Sciences and Biotechnology, Beijing Forestry University, Beijing 100083, China

<sup>3</sup>Corresponding author. E-mail: ernest8445@163.com or wangmingfu403@163.com.

### Abstract

The *Fannia carbonaria*-subgroup belongs to the *Fannia carbonaria*-group Chillcott, 1961. The world fauna of this subgroup is reviewed, the diagnostic features of the subgroup are redefined, and a key to the males of the known species is given. Two new species from China are described: *F. dorsovittata* Wang **sp. nov.** and *F. subfuscitibia* Wang **sp. nov.** To facilitate comparisons of the species, *Fannia corvina* (Verrall), *Fannia imperatoria* Nishida and *Fannia xiaoi* Fan are redescribed. Geographic distributions of the species of the subgroup are updated. The systematic position and distribution patterns of the *F. carbonaria*-subgroup are discussed.

**Key words:** Diptera, Fanniidae, *Fannia*, *Fannia carbonaria*-subgroup, new species

### Introduction

The *Fannia carbonaria*-group was established by Chillcott (1961) within the genus *Fannia* Robineau-Desvoidy, consisting of two subgroups, the *F. carbonaria*-subgroup and the *F. minutipalpis*-subgroup. Since then, Nishida (1974a, 1974b, 1975a, 2002, 2003) has described six new species of *F. carbonaria*-group from Japan and noted two previously-described species as new records from Japan. Xue and Wang (1998) and Wang *et al.* (2004) added three new species of the *F. carbonaria*-group from China.

Chillcott (1961), Xue and Wang (1998), and Rozkošný *et al.* (1997) studied the genus *Fannia* from the Nearctic Region, China, and Europe, respectively, forming a sound basis for further research on this group. While sorting and identifying Fanniidae from material in the Insect Collection of the Institute of Entomology, Shenyang Normal University, we found two new species of the *F. carbonaria*-subgroup, which we describe below as *F. dorsovittata* Wang **sp. nov.** and *F. subfuscitibia* Wang **sp. nov.** We also transfer into this subgroup the species *F. xiaoi* Fan. The *F. carbonaria*-group now comprises 27 species in the world, among which 15 species belong to *F. carbonaria*-subgroup. Our study of the latter has given us an opportunity to provide a redefinition of this subgroup. We also redescribe three species that were not adequately described previously: *F. corvina* (Verrall), *F. imperatoria* Nishida and *F. xiaoi* Fan.

The primary aims of this article are to review the *F. carbonaria*-subgroup, to describe two new species, and to provide an identification key to the known species worldwide. New data on localities are reported. The systematic position and distribution patterns of this subgroup are also discussed.

### Materials and methods

The morphological terminology follows McAlpine (1981). Absolute measurements are used for body length in millimeters (mm). Abbreviations used for characters include: *a* = anterior seta, *acr* = acrostichal seta, *ad* =