



## Four new species of the genus *Brithura* Edwards from China, with an updated key to world species (Diptera, Tipulidae)

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### Abstract

The following four new species of the genus *Brithura* Edwards from China are described: *B. shii* sp. nov., *B. aureola* sp. nov., *B. flaviflagellum* sp. nov., *B. stigmosa* sp. nov. An updated key to the world species of the genus *Brithura* is presented.

**Key words:** Diptera, Tipulidae, *Brithura*, new species, China

### Introduction

The genus *Brithura* Edwards, 1916 is a small genus in the family Tipulidae. It is characterized by the following characters: Body very stout; anterior vertex produced into a sharp-pointed conical tubercle in both males and females; flagellomeres each with long basal verticils, three to five in number and nearly twice the length of each segment; pleurotergal tubercle large, with dense silvery plush-like pubescence on dorsal face; dorsal sternopleurite often with hairs; costal border opposite stigma bulged in males in some species; Sc<sub>1</sub> usually preserved in males; Rs short and strongly arcuate (Edwards 1916; Alexander 1935; Liu & Yang, 2009). It is distributed only in the Palaearctic and Oriental Regions with twelve described species, of which eight species are in the Oriental Region and five in the Palaearctic Region (Oosterbroek 2009; Liu & Yang, 2009). One species, *B. imperfecta* (Brunetti), is distributed in both zoogeographical regions. Eight species are known to occur in China (Alexander 1925, 1927, 1929, 1935; Edwards 1916; Liu & Yang, 2009) and five in India (Alexander 1964, 1970, 1971; Edwards 1916). In the present paper, four new species of the genus *Brithura* Edwards are described from China. An updated key to the world species of the genus *Brithura* is presented.

### Material and methods

The specimens were studied and illustrated with ZEISS Stemi 2000-c. Genitalic preparations were made by macerating the apical portion of the abdomen in cold 10% NaOH for 12–15 h. After examination it was transferred to fresh glycerine and stored in a microvial pinned below the specimen. Type specimens examined were deposited in the Entomological Museum of China Agricultural University (CAU), Beijing.

Taxonomy

### Key to species of genus *Brithura*

1. Abdominal tergites with big blackish brown spots at lateral margins ..... 2