



## Oriental species of clusiid flies (Diptera: Clusiidae: Clusiinae)

MITSUHIRO SASAKAWA

7-6-7 Korigaoka, Hirakata, Osaka, 573-0084 Japan. E-mail: sasakawa@star.odn.ne.jp

### Abstract

The Oriental species of the clusiid genera *Phylloclusia* Hendel, 1913, *Sobarocephala* Czerny, 1903, *Tetrameringia* McAlpine, 1960, *Heteromeringia* Czerny, 1903, *Tranomeringia* Sasakawa, 1966, and *Clusia* Haliday, 1838, which belong to the subfamily Clusiinae in having inclinate third (lowermost, rarely fourth) fronto-orbital bristles, are revised. It is confirmed that two of these genera, *Sobarocephala* and *Heteromeringia*, indeed belong to the Clusiinae (not the Sobarocephalinae and Clusiodinae). Of the 22 species identified, 14 are described as new to science: *Phylloclusia bivittata* **sp. nov.** from Laos and Vietnam and *P. sternopleuralis* **sp. nov.** from Malaysia; *Sobarocephala baculigera* **sp. nov.** and *S. fuscifacies* **sp. nov.** from the Philippines; *S. eurystylis* **sp. nov.** from Malaysia; *S. geniculata* **sp. nov.** and *S. megastylis* **sp. nov.** from Thailand; *Tetrameringia maculata* **sp. nov.** from Laos; *Heteromeringia abatanensis* **sp. nov.** and *H. spinifera* **sp. nov.** from the Philippines, *H. melanoprotoma* **sp. nov.** from Laos, *H. paraphalloides* **sp. nov.** from Vietnam and Malaysia, and *H. pectinata* **sp. nov.** from Malaysia, *Tranomeringia scutellata* **sp. nov.** from the Philippines. New locality records are given for *Phylloclusia steleocera* Hendel, 1913, *Sobarocephala vockerothi* Sasakawa, 1993, *Heteromeringia lyneborgi* Sasakawa, 1966, *H. melaena* Sasakawa, 1966, *H. mirabilis* Sasakawa, 1966, *H. nigricans* Sasakawa, 1966, and *Clusia sexlineata* Frey, 1960. Keys to the Oriental species of the genera *Phylloclusia*, *Sobarocephala*, and *Heteromeringia* are provided, and a revised terminology for the components of the male phallus is given.

**Key words:** Insecta, Diptera, Clusiidae, *Phylloclusia*, *Sobarocephala*, *Tetrameringia*, *Heteromeringia*, *Tranomeringia*, *Clusia*, revision, Oriental region

### Introduction

The six genera of the subfamily Clusiinae, *Phylloclusia* Hendel, 1913, *Sobarocephala* Czerny, 1903, *Tetrameringia* McAlpine, 1960, *Heteromeringia* Czerny, 1903, *Tranomeringia* Sasakawa, 1966, and *Clusia* Haliday, 1838, are currently not well known from the Oriental region. *Phylloclusia* is considered to be endemic to Southeast Asia, with the type species *P. steleocera* Hendel, 1913 in addition to four species described by Lonsdale and Marshall (2007b), but it is known that the distribution of this genus extends northwards in the Palaearctic region (Sueyoshi 2006). *Sobarocephala* is common in New World (Soós 1963; Sabrosky and Steyskal 1974) and at present is known to occur throughout the world except for Europe. Two species are known from the Oriental region, *Sobarocephala nepalensis* Sasakawa, 1979, from Nepal, and *S. vockerothi* Sasakawa, 1993, from Malaysia. *Tetrameringia* is known from Australia, South Africa, Malawi, Madagascar, and Japan (McAlpine 1960; Stuckenberg 1973; Barraclough 2002; Sueyoshi 2006). The widespread genus *Heteromeringia* is represented by 16 Oriental species, the Oriental and Australian genus *Tranomeringia* by one Oriental species, *T. zosteriformis* Sasakawa, 1966, and the Holarctic genus *Clusia* by one Oriental species, *C. sexlineata* Frey, 1960 (Sasakawa 1966, 1977).

Color pattern, especially on the thorax and abdomen, is a useful specific character in these genera, but one must be cautious in identifying specimens, because the color of the median or lateral stripes on the mesoscutum is frequently altered by the condition of the internal body contents when the scutum is viewed at different angles. In that case, the male genital characters enable one to avoid the problem inherent in the use of color pattern. However, an accurate explanation of the complicated structure of the male phallus in these genera, in terms of homologous parts, has not been clearly provided by previous authors. As such, the sclerotized structures of the phallus are described below.