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An illustrated key to fruit flies (Diptera: Tephritidae) from Peninsular India and the Andaman and Nicobar Islands

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Abstract

An illustrated key and a checklist are provided for 126 species of fruit flies under 46 genera in four subfamilies namely Dacinae, Phytalmiinae, Tephritinae and Trypetinae. Among these, *Acroceratitis striata* (Froggatt), *Rhochmopterum venustum* (de Meijere) and *Themara yunnana* Zia are new records for India. *Bactrocera yercaudiae* Drew is placed as a synonymn of *Bactrocera digressa* Radhakrishnan.

Key words: Oriental Tephritidae, Dacinae, Phytalmiinae,Tephritinae, Trypetinae, India

Introduction

With about 4,500 species, fruit flies (Tephritidae) represent one of the largest families of Diptera. This family can be distinguished from all other families of Diptera by the combination of well developed mesoclinate frontal setae and subcostal vein bent sharply anteriorly at right angle before the apex, weakened or evanescent beyond the bend. In addition, the costa has three breaks viz., costal, humeral and subcostal (Hardy, 1973, 1974), vein R_1 dorsally with setulae; wing usually with colour pattern; cell bcu usually with an acute extension (White and Elson–Harris, 1992). As per the taxonomic classification by Korneyev (1999) Tephritidae comprises about 500 genera under six subfamilies namely Blepharoneurinae, Dacinae, Phytalmiinae, Tachiniscinae, Tephritinae and Trypetinae. Among the species reported worldwide, 325 species of fruit flies are known to occur in the Indian subcontinent, of which 243 in 79 genera are from India alone under four subfamilies, namely Dacinae, Phytalmiinae, Tephritinae and Trypetinae (White and Elson-Harris, 1992; Agarwal and Sueyoshi, 2005). Bezzi (1913, 1915, 1916), Senior-White (1921, 1922, 1924), Munro (1935, 1938, 1939), Perkins (1938), Hering (1938, 1941, 1956), Hardy (1971), Kapoor (1971, 1993), Kapoor *et al*. (1980), White and Hancock (1997) and Hancock and Drew (2004, 2005) studied the tephritid fauna of the Indian subcontinent. Drew and Raghu (2002) reported 21 species of dacines from the Western Ghats, of which eight were new to science. Although the economically important species account for only about 5% of all tephritid species, they are a driving force for various tephritid studies, including taxonomic ones (Freidberg, 2006). Accurate identification of fruit flies is essential in order to regulate the entry of pest species to a pest free zone, where they can flourish due to lack of regulating factors. Taxonomic keys are of paramount importance in the identification of the species during such circumstances. There is no comprehensive key to identify the fruit flies of India other than Kapoor (1993) which needs to be updated taking into account the revisions, new records (Dohm *et al*., 2008; Hancock, 2007a, 2007b, 2010, 2011; Hancock and Drew, 2004, 2005; Korneyev, 1999, Korneyev, 2006) and subsequent additions of several species (Drew *et al*., 1998; Drew *et al*., 2005; Drew and Raghu, 2001). As a first step towards that, we provide a key and an updated checklist for all the species of fruit flies which are reported from peninsular India (Kerala, Tamil Nadu, Andhra Pradesh, Karnataka, Maharashtra, Orissa and Madhya Pradesh) and also Andaman and Nicobar Islands.

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