

NOTA / NOTE

Studies on the taxonomy of *Crocothemis servilia servilia*
(Drury, 1773) (Odonata: Libellulidae).Amjad Lakhlar¹, Waheed Ali Panhwar¹ & Farhad Ali Panhwar²¹ National College of Science, Sindh, PAKISTAN. e-mail: amjadlakhlar2@hotmail.com² Institute of Environmental Engineering & Management, Mehran University of Engineering and Technology, Jamshoro, PAKISTAN

Abstract: Odonata, which are well known as flying insects, comprise dragonflies and damselflies. The present study was carried out to characterize the dragonfly fauna of Pakistan. Moreover, detailed taxonomic work on *Crocothemis servilia servilia* (Drury, 1773) (Odonata, Libellulidae) has been conducted and descriptions regarding important taxonomic characters are presented.

Key words: Odonata, Libellulidae, *Crocothemis servilia*, taxonomy, Pakistan.

Resumen: Estudios sobre la taxonomía de *Crocothemis servilia servilia* (Drury, 1773) (Odonata: Libellulidae). Dentro de los Odonata, insectos voladores bien conocidos, se incluyen las libélulas y los caballitos del diablo. El presente estudio se ha llevado a cabo a fin de caracterizar la fauna de libélulas de Pakistán. Además, se ha realizado un detallado estudio taxonómico de *Crocothemis servilia servilia* (Drury, 1773) (Odonata, Libellulidae) y se describen importantes características taxonómicas.

Palabras clave: Odonata, Libellulidae, *Crocothemis servilia*, taxonomía, Pakistán.

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Odonata, which are well known as flying insects, comprise dragonflies and damselflies. They are medium to large sized insects and are among the oldest flying insects (Rehen, 2001). Many species are very specific in their requirements but others are generalists and can exist in almost all kind of water bodies, whether acidic, alkaline, brackish, or saline. Rare species frequently live in running water, nevertheless, but some select still waters, swamps and fenlands (Zia, 2010; Zia et al., 2011). The Odonata fauna of Pakistan has been less studied than that of neighbouring republics but actually comprises forty six species and subspecies belonging to twenty four genera within six subfamilies of dragonflies, collected and determined in several zones of Pakistan (Yousuf, 1972).

Taxonomic studies on Odonata have been overlooked in Pakistan. Previous studies were chiefly focused on adults and their ecology and work done on *Crocothemis servilia servilia* (Drury, 1773) is insignificant, few records being available (Din, 2012; Din et al., 2013). Taxonomic observations on the larvae of Pakistani Odonata are extremely inadequate. Out of about 46 species, the larval characters of only a few have been studied (Chaudhry & Aslam, 2010; Chaudhry et al., 2010; Khaliq & Maula, 1999).

Material and methods

The present study was conducted in several localities of Pakistan. Collected samples were kept in glass vials with 95% alcohol and later changed to 70% alcohol with a few drops of glycerine added to it to avoid desiccation. Collected samples were identified under stereoscope binocular microscope. The material is deposited in National College of Science Museum (Sindh/Pakistan).

Results

Crocothemis servilia servilia (Drury, 1773) (Fig. 1) ►

Material examined: 10♂♂ and 17♀♀, 9.II.2013 (A. Lakhkar & F. Ali Panhwar leg.).

Measurements: ♂: Total body length 15.6 - 16.9 cm, body width 6.1 - 6.9 mm; ♀: Total body length 14.5 - 14.9 cm, body width 5.5 - 5.7 mm.

Descriptions: Colour yellowish brown, being lighter anteriorly and darker posteriorly. Legs light brown with a few dark bands. Abdominal segments 1-5 light yellow and 6-10 dark brown. Head brown in colour, transverse in outline. Vertex slightly convex bearing scattered setae. Antennae seven-segmented, slender, piliform and set 1.8 mm apart; scattered setae present on antennal segments. Eyes in living condition with whitish spherical periphery and darker lower region. Ocelli not prominent, situated medially on the dorsal side of the head. Labium spoon-shaped with two lateral movable lobes, mentum conical distally being 5.0 mm wide, distal margins of palpi produced into crenations bearing a number of setae, spiniform setae present on median lobe. Thorax collar-like, compact and well formed, bearing a pair of functional spiracles between the pronotum and mesothoracic episterna; yellowish in colour with dark brown spots on its mid-dorsal surface. Wings held dorsally and parallel over the abdomen, length of fore wing 4.0 cm and hind wing 5.0 cm from the common point of their origin up to the tip. The hind wing overlaps the fore wing and in living condition extends up to the lower half of the sixth abdominal segment. Legs long, slender and light yellow in colour. All the three pairs of legs similarly marked with dark brown bands on the femora and tibiae and dark spots on tarsi. Scattered setae present on femora and tibiae, while trirradiate setae are found on tarsi. Abdomen egg-shaped, yellowish brown in colour, segments 2-5 yellowish, segments 8-10 darker, being brownish yellow; light yellow bands present on the posterior margin of each segment. Body form strongly convex dorsally, middle portion slightly convex ventrally while laterally it is flattened.



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