

TAXONOMIC STUDIES OF DRAGONFLIES FROM HYDERABAD, SINDH

Shafique_Ur_Rehman, Imran Khatri*, Maqsood Anwar Rustamani, Aslam Bukero, Basheer Ahmed Pirzado and Abdul Razzak Rajpar

Department of Entomology, Sindh Agriculture University, Tandojam

*Corresponding author: Email: imrankhatri.agri@gmail.com

ABSTRACT

For present studies dragonflies were collected from various localities of district Hyderabad. Examination and identification of dragonflies revealed the occurrence of nine species among three families; six species of Libellulidae Leach, 1815; two species of Gomphidae Rambur, 1842 and one species of family Aeshnidae Rambur, 1842.

Key words: dragonflies, taxonomy, Tandojam, Libellulidae

INTRODUCTION

Dragonflies are very valuable insects and the knowledge of the fauna is important for decision making about environmental protection and crop management (Rowe, 2003). Odonata have been reported from all continents except Antarctica and are typically concentrated in warmer, tropical habitats (Boyd, 2005). According to Trueman and Rowe (2001), approximately 6500 named species of Odonata have been described so far from all over the world. Yousaf (1972) explored first time the fauna of dragonfly of Pakistan and identified 46 species of dragonflies. After this no comprehensive survey of the country was carried out, only survey of different parts of the country was done resulting into 61 anisoptrous species. The number of Odonata species known from Pakistan (110) is little low with respect to Bangladesh (114), Sri Lanka (116), Nepal (172) and India (499) (Mitra, 2006). Keeping in view the importance of the dragonflies Odonatological survey of Hyderabad region is under taken.

MATERIALS AND METHODS

Examination and identification of dragonflies was carried out at Insect Systematic Laboratory, Department of Entomology, Sindh Agriculture University Tandojam. Dragonflies were collected through traditional aerial hand net and sweep net from various localities of Hyderabad. For killing the insects were killed in jar containing cyanide and mounted through entomological pins and labeled. For habitus images the canon camera model Power Shot Sx510 HS was used.

Method of identification. To identify the specimen up to species level; keys were followed established by Fraser (1934), Khaliq (1990), and Subramanian (2005). Further the specimens were confirmed by Dr. Rosser Garrison, Senior Insect Biosystematist, Department of Food & Agriculture, USA.

RESULTS

In present study the dragonflies of Hyderabad revealed the occurrence of nine species among three families. Six species of Libellulidae Leach, 1815; *Bradinopyga geminata* (Rambur, 1842) Granite Ghost, *Pantala flavescens* (Fabricius 1798) Wandering Glider, *Crocothemis servilia* (Drury 1770) Ruddy Marsh Skimmer, *Orthetrum pruinatum* (Burmeister 1839) Crimson-tailed Marsh Hawk, *Diplacodes trivialis* (Rambur, 1842) Ground Skimmer, *Rhyothemis variegata* (Linnaeus, 1763) Common Picture Wing. Two species of Gomphidae Rambur, 1842, *Ictinogomphus rapax* Rambur, 1842, Common Clubtail, *Paragomphus lineatus* (Selys, 1850) Common Oartail. One species of family Aeshnidae Rambur, 1842, *Anax parthenope* (Selys, 1839) Blue tailed Brown Darner.

Taxonomy

Order: Odonata Fabricius, 1793

Suborder: Anisoptera Selys, 1854

Superfamily: Libelluloidea Leach, 1815

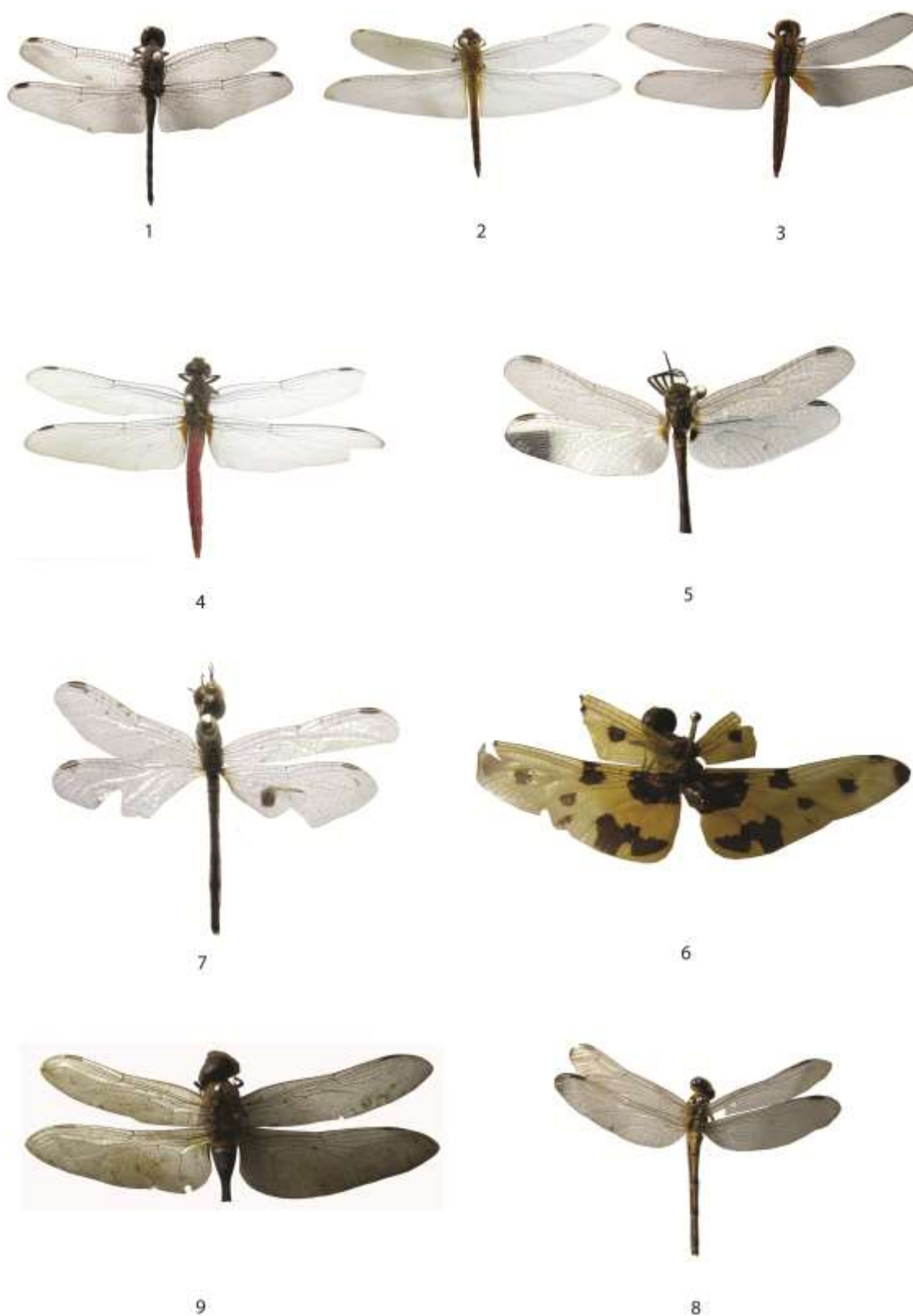
Family: Libellulidae Leach, 1815

Bradinopyga geminata (Rambur, 1842) (Granite Ghost)*Libellula geminate* Rambur 1842, Ins. Nevrop.: 90**Identification.** A medium sized grayish dragonfly. Dark brown spots on outer margins of forewings and hindwings. Grey thorax and abdomen is sprinkled with grey, black and white stripes.*Material examined.* Pakistan: 2♂, 1♀, Sindh Prov., Khaisana mori, 16.v.2013, Shafique.***Pantala flavescens*** (Fabricius, 1798) (Wandering Glider)*Pantala flavescens* Fabricius 1798, Ent. Syst. Suppl.: 285**Identification.** A medium sized golden yellow coloured dragonfly. Dark brown band on abdomen slightly starting from base, becomes thicker towards the end. Inner margins of hindwing with golden yellow stripe.*Material examined.* Pakistan: 2♂, 1♀, Sindh Prov., Khaisana mori, 28.viii.2013, Shafique, Channel.***Crocothemis servilia*** (Drury, 1770) (Ruddy Marsh Skimmer)*Libellula servilia* Drury 1770, Ill. Exot. Ins. 1: 112, 113**Identification.** Medium sized dragonflies with reddish tones of body, inner margin of hindwing with big patch of dark yellow colour.*Material examined.* Pakistan: 2♂, 1♀, Sindh Prov., Chaneel mori, 06.iv.2013, Shafique.***Orthetrum pruinosum*** (Burmeister, 1839) (Crimson-tailed Marsh Hawk)*Orthetrum pruinosum* Burmeister 1839, Handb Ent., Berlin 2, Odonata, 2: 840**Identification.** A medium sized with thorax dark brown and abdomen dark reddish. Females are dull ochre in overall colouration. Eyes grayish blue below and bluish black above. Cerci sharply pointed with row of spots.*Material examined.* Pakistan: 2♂, 1♀, Sindh Prov., Khaisana mori, 23.iii.2013, Shafique.***Diplacodes trivialis*** (Rambur, 1842) (Ground Skimmer)*Libellula trivialis* Rambur 1842, Ins. Nevrop.: 115**Identification.** A small sized, greenish yellow, with black markings. Hindwing with yellow spots at base of the wing.*Material examined.* Pakistan: 2♂, 1♀, Sindh Prov., KB Feeder, 12.iv.2013, Shafique.***Rhyothemis variegata*** (Linnaeus, 1763) (Common Picture Wing)*Libellula variegata* Linnaeus 1763, Amoenitates Acad., 6: 412**Identification.** A medium sized dragonfly with metallic green thorax and yellow and brown marked wings with large conspicuous spots (flutters like a butterfly). Eyes are dark reddish brown from above.*Material examined.* Pakistan: 2♂, 1♀, Sindh Prov., Detha, 11.iv.2013, Shafique.

Superfamily: Gomphioidea Rambur, 1842

Family: Gomphidae Rambur, 1842

Ictinogomphus rapax Rambur, 1842 (Common Clubtail)*Ictinogomphus rapax* Rambur 1842, Ins. Nevrop.: 190**Identification.** A small sized black dragonfly with bluish grey and bright yellow markings on thorax and abdomen. Lateral leaf like porch at eighth abdominal segment.*Material examined.* Pakistan: 2♂, 1♀, Sindh Prov., Tandojam, 27.iv.2013, Shafique.***Paragomphus lineatus*** (Selys, 1850) (Common Oartail)*Gomphous lineatus* Selys 1850, Rev. Odon.: 386



Figs. 1-8. 1) *Bradinopyga geminate* (Rambur, 1842), 2) *Pantala flavescens* (Fabricius, 1798), 3) *Crocothemis servilia* (Drury, 1770), 4) *Orthetrum pruinatum* (Burmeister, 1839), 5) *Diplacodes trivialis* (Rambur, 1842), 6) *Rhyothemis variegata* (Linnaeus, 1763), 7) *Ictinogomphus rapax* Rambur, 1842, 8) *Paragomphus lineatus* (Selys, 1850), 9) *Anax parthenope* (Selys, 1839).

Identification. A small sized yellow dragonfly with black and brown markings. Males with lateral oar like expansion at eighth and ninth segments.

Material examined. Pakistan: 2♂, 1♀, Sindh Prov., Khaisana mori, 01.vii.2013, Shafique.

Superfamily: Aeshnoidea Rambur, 1842

Family: Aeshnidae Rambur, 1842

Anax parthenope (Selys, 1839) (Blue tailed Brown Darner)

Aeschna parthenope Selys 1839, Bull. Acad. Belg. 6(2): 389

Identification. Large sized dragonfly with thorax brown and eyes green. The abdomen greenish brown with blue band at top of the abdomen.

Material examined. Pakistan: 2♂, 1♀, Sindh Prov., Tandojam, 19.viii.2013.

DISCUSSION

The major collection was made around Tandojam campus. Tando Jam is located at 25°25'60N 68°31'60E and lies about 20 km away from Hyderabad city Pakistan, along Hyderabad and Mirpurkhas Road. *Bradinopyga geminata* (Rambur, 1842) is commonly found near small water collection areas and found in urban environment, huge swarms of *Pantala flavescens* (Fabricius, 1798) can be seen just before and after monsoon. *Crocothemis servilia* (Drury, 1770) is frequently found in rivers, big wells and standing water. Males of *Orthetrum pruinosum* (Burmeister 1839) are very conspicuous and could be seen perched on shrubs, stones etc. *Diplacodes trivialis* (Rambur, 1842) is one of the common dragonflies fields and lawn, it flies at 1 meter above the ground.. *Rhyothemis variegata* (Linnaeus, 1763) is easily mistaken for a butterfly, water bodies and bare twigs are commonly perched by *Ictinogomphus rapax* Rambur, 1842. *Paragomphus lineatus* (Selys, 1850) and *Anax parthenope* (Selys, 1839) are commonly found near streams, rivers, ponds and lakes.

REFERENCES

- Boyd, S. (2005). Damselflies and dragonflies. Scientific Illustration Major. Univ. of Georgia, Athens.
<http://www.discoverlife.org/nh/tx/insecta/odonata>
- Burmeister, H. (1839). *Handbuch der Entomologie. Zweiter Band. Besondere Entomologie. Zweite Abtheilung. Kaukerfe. Gymnognatha.* (Zweite Hälfte; vulgo Neuroptera)., Enslin, Berlin 755-1050.
- Drury D. (1770). *Illustrations of Exotic Entomology, figures and description of foreign insects.* Published by, Henry G. Bohn 4, New York Street, Covent Garden, London. Volume 1: 112, 113.
- Fabricius, J.C. (1793) *Entomologia systematica emendata et aucta. Secundum classes, ordines, genera, species adjectis synonymis, locis, observationibus, descriptionibus.* Tome 2. Christ. Gottl. Proft, Hafniae, viii + pp. 519
- Fabricius, J. C. (1798) *Supplementum entomologiae systematicae.* Proft et Storch, Hafniae 1-572.
- Fraser, F. C. (1934). *The Fauna of British India Including Ceylon and Burma.* Vols. 2, Today and Tomorrow's Printers and Publishers. New Dehli-5.
- Khaliq, A. (1990). *Taxonomic studies on Zygoptera (Odonata) of Pakistan.* Ph.D. Thesis, Deptt. Entomol., Univ. Agric., Faisalabad.
- Leach, W. E. (1815) *Entomology.* In Brewster, D. [ed.] *The Edinburgh Encyclopaedia.* Edinburgh: William Blackburn Vol. 9 (reprint 1830) 57-172.
- Linnaeus, C (1763) *Centuria insectorum rariorum.* (Also in *Amoenitates academicae* 6: 384-415, 1763.) – Dissertation (respondent: B.Johansson), Upsala.
- Mitra, A. (2006). Current Status of the Odonata of Bhutan: A Checklist with Four New Records. *Bhu. J. RNR.*,2 (1): 136 – 143.
- Rambur, J.P. (1842) *Histoire Naturelle des Insectes, Névroptères.* Librairie encyclopédique de Roret. *Fain et Thunot*, Paris, pp. xviii + 534.
- Rowe, R. (2003). Dragonflies: Behaviour and Ecology of Odonata. *Australian J. Entomol.* 42 (2), 210–211
- Selys-Longchamps, M. E. de. (1839) Descriptions de deux nouvelles espèces d'*Aeschna* du sous-genre *Anax* (Leach.). *Bulletin Academie royale Belgique Serie 1* 6 (10): 386-393.
- Selys-Longchamps, M. E. de. (1850) *Revue des odonates ou Libellules d'Europe. Mémoires de la Société Royale des Sciences de Liège* 6: 386

- Selys-Longchamps, M. E. de. (1854). Synopsis des Gomphines. Bulletin de l'Académie royale des Sciences de Belgique 21:23-114.
- Subramanian, K.A. (2005). Dragonflies and Damselflies of India-A field guide. http://en.wikipedia.org/wiki/List_of_odonates_of_India
- Trueman, J.W.H. and R.J. Rowe (2001). Odonata (Dragonflies and damselflies). <http://tolweb.org/tree?group=Odonata&contgroup=Pterygota>.
- Yousaf, M. (1972). *Taxonomic studies on Anisoptera (Odonata) of Pakistan*. Ph.D. Thesis, Deptt. Entomol., W. P. A. U. Lyallpur, Pakistan.

(Accepted for publication November 2014)