

ON A SMALL COLLECTION OF ODONATA FROM
ANDHRA PRADESH, INDIA

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INTRODUCTION

Andhra Pradesh is bounded by Madhya Pradesh and Orissa in the north, the Bay of Bengal in the east, Tamil Nadu and Karnataka in the south and Maharashtra in the West. There are three main mountain chains in the state : Eastern Ghats fringing the east coast line, with at some places a very narrow coastal plain ; Deccan plateau with Sahyadri range of Adilabad district the north border of the state ; and Horseley and other hills of the Chittoor and Anantapur districts of the south border.

Andhra Pradesh has hot summer followed by tropical rains and pleasant winter. It is principally fed by south west monsoon and north-east monsoon contributing about one third of the rainfall. The annual rainfall has a wide variation ranging from a minimum of about 500 mm, at some places to a maximum of over 1,400 mm.

Andhra Pradesh has a widely diversified farming base, with a rich variety of cash crops. Forest area of the state extends over 644 mha or 23 percent of the land area of the state and has also vast mineral resources. The mineral-based industries in the state are dominated by limestone.

Odonates are true amphibiotic insects, eggs and larvae are aquatic while the adults are aerial in habits. Their aquatic stages are found in almost all types of waters, whether permanent or temporary. They are useful group of insects in biogeographic studies as the larval stages are aquatic and as

many groups show great specificity in larval habitat (Watson, 1962).

No comprehensive work is available so far on the Odonata fauna of Andhra Pradesh. Keeping this in view an attempt is being made here to give an account of systematic collections of this group based on a few collections.

SYSTEMATIC ACCOUNT

Suborder : ZYGOPTERA

Family : COENAGRIIDAE

Subfamily : COENAGRIINAE

1. *Ceriagrion coramandelianum* (Fabricius)

1798. *Agrion coramandelianum* Fabricius, *Ent. Syst. Suppl.* : 287 ; *Ceriagrion coramandelianum* (Fabricius) : Selys, 1876. *Bull. Acad. Belg.* 62(2) : 528.

Material examined : 5 ♂, 3 ♀, Hyderabad : Osmania University Gardens, 8.iii.84, Coll : Satyarani ; 4 ♂, 3 ♀, Hyderabad : Nehru Zoological Park, 23.ii.85, Coll : Satyarani.

Distribution : Throughout India, Sri Lanka, Burma, Malaysia, Indo China and South China.

Remarks : A large number of males and females are commonly found to occur on shrubs, some distance away from water.

2. *Ischnura elegans* (Vander Lindin)

1823. *Agrion elegans* Vander Lindin, *Opusc. Sci.* 4 : 104 ; *Ischnura elegans* (Vander Lindin) : Selys, 1876. *Bull. Acad. Belg.* 61(2) : 277.

Material examined : 1 ♂, 2 ♀, Hyderabad : Osmania University Gardens, 8.iii.84, Coll : Satyarani ; 1 ♂, 1 ♀, Hyderabad : Himayatsagar, 24.v.84, Coll : Satyarani ; 2 ♂, 3 ♀, Kurmalguda : Nadergula, 1.ix.84, Coll : Muley & Satyarani ; 1 ♂, Saroornagar, 16.ii.85, Coll : Satyarani. 8 ♂, 4 ♀, Hyderabad : Saroornagar, 24.iv.85, Coll : Satyarani. 1 ♂, Hyderabad : Saroornagar, 24.iv.85, Coll : Satyarani.

Distribution : Extending from the British Isles across Europe and mid-Asia, and within Indian region confined to the N.W. Frontier province and Baluchistan.

Remarks : It is a common species occurring in and around Hyderabad.

Suborder : ANISOPTERA

Family : GOMPHIDAE

Subfamily : GOMPHINAE

3. *Ictinus rapax* (Rambur)

1842. *Diastatamma rapax* Rambur, *Ins. Nevrop.* : 169 ; *Ictinus rapax* (Rambur) : Selys, 1854. *Bull Acad. Belg.* 21 : 90.

Material examined : 1 ♂, Hyderabad : Manjeera, 26.ix.84, Coll : Joseph ; 2 ♂, Hyderabad : Bibinagar, 11.iv.85, Coll : Satyarani.

Distribution : Throughout India, Burma, Sri Lanka and Malaysia, except in desert areas.

Remarks : These are extremely fast fliers and it is difficult to catch them. In spite of concentrated attempt of about two hours, only two males were caught at Bibinagar. All the specimens so far collected are males. They generally perch on prominent twigs facing the water. When disturbed, they dive gracefully towards the surface of water and return to their original resting place again and again.

4. *Mesogomphus lineatus* (Selys)

1850. *Gomphus lineatus* Selys, *Rev. Odon.* : 386 ; *Mesogomphus lineatus* (Selys) : Fraser, 1924. *Rec. Ind. Mus.* 26 : 427, 477.

Material examined : 1 ♂, Khammam Dist. : Kothagudem : Wild Life Sanctuary, 6.ii.85 ; 1 ♂ Khammam dist. : Yellandu., 7.ii.85 ; 1 ♂, Karimnagar dist. : Raikal Forest, 14.ii.85 ; all collected by Joseph and Ramakrishna.

Distribution : Found throughout India.

Remarks : So far we have not come across this species in Hyderabad and environs. All the specimens so far collected are males.

Family : LIBELLULIDAE

Subfamily : LIBELLULINAE

5. **Acisoma panorpoides panorpoides** Rambur

1842. *Acisoma panorpoides* Rambur, *Ins. Nevrop.* 28; *Acisoma panorpoides panorpoides* Rambur : Fraser, 1936, *Fauna Brit. India* 3 : 330-331.

Material examined : 3 ♂, 4 ♀, Hyderabad : Osmania University gardens, 7.i.85, Coll : Satyarani ; 1 ♀, Nalgonda Dist., 28.vi.85, Coll : Parui.

Distribution : Widely distributed in India, Sri Lanka, Celebes, China, Japan, Java, Moluccan islands, Sumatra and Taiwan.

Remarks : It is commonly found close to the water bodies. The females occur in two colours. Some resemble the males in colouration : azure blue marked with black on abdomen while a few females wholly brown.

6. **Brachythemis contaminata** (Fabricius)

1793. *Libellula cotaminata* Fabricius, *Ent. Syst. Suppl.* 2 : 382; *Brachythemis contaminata* (Fabricius) : Brauer, 1868, *Verh. Zool. bot. Ges. Wien.* 18 : 736.

Material examined : 2 ♂, 1 ♀, Hyderabad : Osmania University Gardens, 8.iii.84, Coll : Satyarani ; 3 ♂, 4 ♀, Hyderabad : NFC Rocky Pond, 19.v.84, Coll : Satyarani ; 3 ♂, 6 ♀, Hyderabad : Jeedimetla, 6 ♀, 6.viii.84, Coll : Satyarani ; 2 ♂, 5 ♀, Hyderabad : NFC Rocky Pond, 20.ix.84, Coll : Satyarani ; 4 ♂, 5 ♀, Hyderabad : Manjeera, 26.ix.84, Coll : Joseph ; 1 ♂, Hyderabad : Saroornagar, 24.iv.85, Coll : Satyarani ; 1 ♂, Hyderabad ; Nehru Zoological Park, 23.ii.85, Coll : Satyarani.

Distribution : Throughout the plains of India, Ceylon and Burma extending east of China, Taiwan and the Philippines and southwards to Java and Sumatra.

Remarks : In this species females differ from males in colour and markings. Usually found them in abundance near the rocky places where there are water bodies.

7. **Bradinopyga geminata** (Rambur)

1842. *Libella geminata* Rambur, *Ins. Nevrop.* : 90 ; *Bradinopyga geminata* (Rambur) : Ris, 1911. *Cat. Cool. Selys. Fasc.* 13 : 545-548.

Material examined : 1 ♂, 2 ♀, Hyderabad : Tarnaka, 19.ix.84 ; 1 ♂, Hyderabad : Tarnaka, 2.vii.85, all collected by Satyarani.

Distribution : Peninsular India, only at altitudes varying from sea level to 450 m.

Remarks : This species breed in wells and small cement tanks. The adults settle on plastered cemented walls. Reported from several places in Northern India.

8. **Brachydiplax sobrina** (Rambur)

1842. *Libellula sobrina* Rambur, *Ins. Nevrop.* : 114 ; *Brachydiplax sobrina* (Rambur) : Kirby, 1893. *J. Linn. Soc. Zool.* 24 : 551.

Material examined : 1 ♂, 1 ♀, Hyderabad : Public Gardens, 8. vi. 84, Coll : Satyarani.

Distribution : It is one of the commonest species in India. Also recorded from Burma and Sri Lanka.

Remarks : In spite of its wide occurrence in India, it is rather rare in Hyderabad and environs. These dragonflies fly over the water bodies and generally settle on lotus leaves.

9. **Crocothemis servilia servilia** (Drury)

1770. *Libellula servilia* Drury, *Ill. Ext. Ins.* 1 : 112-113 ; *Crocothemis servilia* (Drury) : Brauer, 1868. *Verh. Zool. bot. Ges. Wien.* 18 : 737 ; *Crocothemis servilia servilia* (Drury) : Fraser, 1936. *Fauna Brit. India*, 3 : 345-347.

Material examined : 2 ♂, 3 ♀, Hyderabad : Osmania University Gardens, 8.iii.84, Coll : Satyarani ; 4 ♂, 3 ♀, Hyderabad : Jeedimetla, 6.viii.84, Coll : Satyarani ; 1 ♀, Warangal dist. : Phakal Forest, 10.ii.85, Coll : Joseph & Ramakrishna ; 4 ♂, 1 ♀, Hyderabad : Saroornagar, 16.ii.85, Coll : Satyarani ; 1 ♂, 3 ♀, Hyderabad : Nehru Zoological Park, 23.ii.85, Coll : Satyarani ; 10, 3 ♀, Hyderabad : 9.v.85, Coll : Satyarani.

Distribution : Widely occurring in North India. Also recorded from Nepal, Australia, Philipines and Sundaic Archipelago.

Remarks : A very common species of Hyderabad. Teneral males and females give rise to confusion on account of their pale straw yellow colour, quite different from adult males.

10. *Diplacodes lefebvrei* (Rambur)

1842. *Lebellula lefebveri* Rambur, *Ins. Nevrop.* : 112 ; *Diplacodes lefebvrei* (Rambur) : Kirby, 1980. *Cat. Odon.* : 42.

Material examined : 2 ♂, Hyderabad : Saroornagar, 24.iv.85, Coll : Satyarani.

Distribution : Occurring along the west coast of India, Fraserpet and coorg. Also reported from Africa.

Remarks : It is a rare species. They are swift and hence difficult to catch.

11. *Diplacodes nebulosa* (Fabricius)

1842. *Libellula nebulosa* Fabricius, *Ent. Syst.* 2 : 379 ; *Diplacodes nubolosa* (Fabricius) : Kirby, 1889. *Trans. Zool. Soc. Lond.* 12 : 308.

Material examined : 1 ♂, Warangal dist. : Phakal Forest, 10.ii.85, Coll : Joseph and Ramakrishna.

Distribution : Widely distributed in India. Also occur in Sri Lanka to Australia and southwards to Java.

Remarks : So far we have not come across this species in Hyderabad.

12. *Diplacodes trivialis* (Rambur)

1842. *Libellula trivialis* Rambur, *Ins. Nevrop.* : 115 ; *Diplacodes trivialis* (Rambur) : Karsch, 1891. *Ent. Nachr.* 17 : 246.

Material examined : 3 ♂, 3 ♀, Hyderabad : Tarnaka, 19.ix.84, Coll : Satyarani ; 10 ♂, 3 ♀, Hyderabad : Manjeera, 26.ix.84, Coll : Joseph ; 2 ♂, 1 ♀ Khammam dist. : Nagaram, 5.ii.85, Coll : Joseph & Ramakrishna ; 1 ♀, Kothagudam, 8.ii.85. Coll : Joseph & Ramakrishna ; 10 ♂, Warangal Dist.

Phakal Forest, 10.ii.85, Coll : Joseph & Ramakrishna ; 1 ♀ , Warangal Dist. : Kothagudem Village, 11.ii.85, Coll : Joseph & Kamakrishna ; 1 ♀ , Karimnagar Dist. : Jagtial Taluk : Raikal Forest, 14.ii.85, Coll : Joseph & Ramakrishna ; 1 ♂ , Hyderabad : Himayatsagar, 24.v.85, Coll : Satyarani.

Remarks : The female and teneral male resemble in colouration. The adult male is pruinosed densely.

13. *Hydrobasileus croceus* (Brauer)

1867. *Tramea croceus* Brauer, *Verh. Zool. bot. Ges. Wien.* 17 : 813 ; *Hydrobasileus croceus* (Brauer) : Karsch, 1890. *Berlin Ent. Zeit.* 33 : 351.

Material examined : 1 ♂ , Warangal Dist. : Phakal Forest, 11.ii.85 ; 1 ♂ , Adilabad dist. : Jaipur Forest, 19.ii.85 ; all collected by Joseph and Ramakrishna.

Distribution : Its distribution in India is more or less confined to the south. Also occur in Burma, Sri Lanka extending through South Asia to Borneo, Java and Sumatra, and to Formosa and the Philippines.

Remarks : Adults are found in forest areas away from water bodies.

14. *Neurothemis intermedia degener* Selys

1879. *Neurothemis degener* Selys, *Ann. Mus. Civ.* 14 : 290-296 ; *Neurothemis intermedia degener* Selys : Ris, 1911. *Cat. Coll. Selys fasc.* 13 : 552, 564, 565.

Material examined : 3 ♀ , Kurnool dist. : Nandayal, 22.vi.85, Coll : P. Parui.

Distribution : In India it occurs in Bengal, Assam and Sikkim. Also reported from Burma.

Remarks : It is rare in Southern India.

15. *Neurothemis intermedia intermedia* (Rambur)

1842. *Libellula intermedia* Rambur, *Ins. Nevrop.* : 91 ; *Neurothemis intermedia* (Rambur) : Selys, 1889. *Ann. Mus. Civ. Genova.* 27 : 454 ; *Neurothemis intermedia intermedia* (Rambur) : Ris, 1911. *Cat. Coll. Selys, fasc.* 13 : 551, 563, 564.

Material examined : 1 ♂, Khammam Dist. : Kothagudem, wild life sanctuary, 5.ii.85, Coll : Joseph & Ramakrishna.

Distribution : In India recorded from Punjab, Uttar Pradesh, Bihar, Madhya Pradesh, and Peninsular India. Also distributed in Burma, Sri Lanka, Indo-China and Malacca.

Remarks ; So far we have not come across this species in and around Hyderabad.

16. *Neurothemis tullia tullia* (Drury)

1773. *Libellula tullia tullia* Drury, *Ill. Exot. Ins.*, 2 : 85 ; *Neurothemis tullia* (Drury) : Kirby, 1890. *Cat. Odon.* : 8 ; *Neurothemis tullia tullia* (Drury) : Fraser, 1936. *Fauna Brit. India*, 3 : 360-362.

Material examined : 3 ♀, Hyderabad : Manjeera, 5.v.85, Coll : Joseph ; 2 ♂, 1 ♀, Kurnool Dist. : Nandyal, 23.vi.85, Coll : P. Parui.

Distribution : It is one of the widely distributed species of the genus in India. Also reported from Burma, Sri Lanka, Hong Kong, Malacca.

Remarks : Medium sized beautiful species which are not very common in Hyderabad.

17. *Orthetrum sabina sabina* (Drury)

1770. *Libellula sabina* Drury, *Ill. Exot. Ins.* 1 : 114-115 ; *Orthetrum sabina* (Drury) : Kirby, 1889. *Trans. Zool. Soc. Lond.* 12 : 302 ; *Orthetrum sabina sabina* (Drury) : Mitra et al, 1976. *Third All India Congr. Zool.* : 64.

Material examined : 6 ♂, 4 ♀, Hyderabad : Osmania University Gardens, 8.iii.85, Coll : Satyarani ; 3 ♂, 3 ♀, Hyderabad : NFC gate, 19.v.85, Coll : Satyarani ; 7 ♂, 1 ♀, Kurmalguda : Nadergul, i.ix.84, Coll : Muley & Satyarani ; 1 ♂, 1 ♀, Hyderabad : Manjeera, 26.ix.84, Coll : Joseph ; 1 ♂, Khammam Dist. : Yellandu forest, 7.ii.85, Coll : Joseph & Ramakrishna ; 1 ♂, Khammam Dist. : Kothagudem, 8.ii.85, Coll : Joseph & Ramakrishna ; 3 ♂, Karimnagar Dist. : Raikal Forest, Jagtial, 14.ii.85, Coll : Joseph & Ramakrishna ; 2 ♂, Karimnagar Dist. : Tirumapur Forest, 15.ii.85, Coll : Joseph & Ramakrishna ; 1 ♀, Hyderabad : Bibinagar,

11.iv.85, Coll : Satyarani 1 ♂, Hyderabad : Saroornagar,
24.iv.85, Coll : Satyarani.

Distribution : In India it is reported from Manipur, Assam, Bengal, Bihar, Uttar Pradesh, Punjab, Himachal Pradesh, Karnataka State, Tamil Nadu and Kerala. Also occur in Nepal, Burma, Sri Lanka, North East Africa, eastward across Asia to Australia, Pacific Islands, Siam and Samosa.

Remarks : It is very common in and around Hyderabad. The distinctive shape of the abdomen is characteristic of the genus.

18. *Pantala flavescens* (Fabricius)

1798. *Libellula flavescens* Fabricius, *Ent. Syst. Suppl.* 285 ; *Pantala flavescens* (Fabricius) : Hagen, 1861. *Syn. Neur. N. Amer.* 142.

Material examined : 3 ♂, 4 ♀, Hyderabad : Osmania University Gardens, 8.iii.84, Coll : Satyarani ; 4 ♂, 2 ♀, Kurmalguda : Nadergul, i.ix.84, Coll : Muley & Satyarani ; 2 ♂, 4 ♀ Hyderabad : Nacharam, 6.xi.84, Coll : Joseph.

Distribution : Circumtropical and subtropical, in distribution. Widely distributed throughout the whole of India Sri Lanka and Burma to as far north as Tibet.

Remarks : This is a very common species of Hyderabad, seen all round the year.

19. *Rhodothemis rufa* (Rambur)

1842. *Libellula rufa* Rambur, *Ins. Nevrop.* 71 ; *Rhodothemis rufa* (Rambur) : Ris. 1911. *Cat. Coll. Selys, Fasc.* 13 : 592-593.

Material examined : 1 ♂, Hyderabad : Nehru Zoological Park, 23.ii.85, Coll : Satyarani.

Distribution : Extends throughout India, Sri Lanka, Burma and Malaysia to New Guinea, Celebes, Borneo, Java and Australia.

Remarks : It is a very rare species. It differs from Fraser's description of male in that the prothorax and thorax

reddish-brown with markings : prothorax dark-brown with middorsal citron-yellow stripe, thorax golden brown with a bright citron-yellow stripe extending from front of dorsum backwards towards the abdomen up to the fourth segment.

20. *Ryothemis variegata variegata* (Linnaeus)

1763. *Libellula variegata* Linnaeus, *Amoenitates Acad.* 6 : 412 ; *Ryothemis variegata* (Linnaeus) : Hagen, 1867. *Stett. Ent. Zeit.* 28 : 232 ; *Ryothemis variegata variegata* (Linnaeus) : Ris, 1913. *Cat. Coll. Selys, Fasc.* 15 : 931, 935, 936.

Material examined : 1 ♀, Hyderabad : Manjeera, 5.v.85, Coll : Joseph ; 1 ♀, Adilabad Dist. : Khanapur Forest, 23.ii.85, Coll : Joseph and Ramakrishna ; 1 ♀, Hyderabad : Saroornagar, 9.v.85, Coll : Satyarani.

Distribution : In India it is distributed in Assam, Bihar, West Bengal, Himachal Pradesh and Karnataka State. Also reported from Burma, Sri Lanka, Malaysia and Philippines.

Remarks : While flying this dragonfly moves their wings up and down like a butterfly unlike that of other odonates.

21. *Trithemis pallidinervis* (Kirby)

1889. *Sympetrum pallidinervis* : Kirby, *Trans. Zool. Soc. Lond.* 12 : 327 ; *Trithemis pallidinervis* (Kirby) : Morton, 1907. *Trans. Ent. Soc. Lond.* : 304.

Material examined : 12 ♂, 10 ♀, Hyderabad : Jeedimetla, 22.v-84, Coll : Satyarani ; 3 ♂, 3 ♀, Hyderabad : Himayatsagar 24.v.84, Coll : Satyarani ; 1 ♂, 3 ♀, Hyderabad : Public Gardens, 5.vi.84, Coll : Satyarani ; 5 ♂, ♀ Hyderabad : Jeedimetla, 6.viii.84, Coll : Satyarani ; 5 ♂, ♀ Hyderabad : Jeedimetla, 6.viii.84, Coll : Satyarani ; 3 ♂, 4 ♀, Hyderabad : Manjeera, 8.iv.85, Coll : Joseph ; 1 ♀, Hyderabad ; Saroornagar, 10.iv.85, Coll. Satyarani ; 2 ♀ Hyderabad : Saroornagar, 24.iv.85, Coll : Satyarani ; 5 ♂, 3 ♀, Khandi village, 5.v.85, Coll : Joseph ; 6 ♂, 2 ♀ Hyderabad : Saroornagar 9.v.85, Coll : Satyarani.

Distribution : It is known to occur throughout India, Burma, Sri Lanka, Taiwan and Philippines.

Remarks : It breeds only in stagnant waters and usually in marshy areas.

SUMMARY

Twenty-one species of odonates from Hyderabad, Warangal, Khammam, Karimnagar, Nalgonda, Adilabad and Kurnool districts of Andhra Pradesh collected during 1984-85 are reported in this paper. Of these sixteen species are recorded for the first-time from Andhra Pradesh, the already recorded species are, *Ceriagrion coromandelianum* (Fabricius), *Crocothemis servilia servilia* (Drury), *Orthetrum sabina* (Drury), *Pantala flavescens* (Fabricius) and *Rhyothemis variegata* (Linnaeus), reported in the unpublished work of Krishnamoorthy *et al.* (1961). The specimens are deposited in the Fresh water Biological Station, Zoological Survey of India, Hyderabad.

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