

Additional Records of Some Odonata Species from Various Indian States

R. K. VARSHNEY

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Raj Bhawan, Manik Chowk, Aligarh - 202 001.

Recently by the courtesy of Dr. Gaurav Sharma, I received a copy of his book on the damselflies and dragonflies of Rajasthan (Sharma, 2015). It is a beautiful pictorial handbook with large number of photographs. Although its subject matter is restricted to Rajasthan State, it makes all India coverage in two aspects : (i) showing distribution of species in different Indian States, and (ii) citing of the references of Odonata publications for India at large.

While going through this recent exhaustive and informative publication, I felt the fact that certain species have not been shown in some Indian States, from where they have already been recorded earlier. To make the distributional range of these species complete, I thought it proper to report such cases.

The species are arranged below in accordance with Sharma (op. cit.).

1. *Agriocnemis pygmaea* (Rambur)
(Sharma, 2015 : no. 1, p. 76)
Recorded from Kerala by Emiliyamma et al. (2005).
2. *Ceragrion cerinorubellum* (Brauer)
(Sharma, 2015 : no. 2, p. 78).
Recorded from Kerala by Emiliyamma et al. (2005).
3. *Ischnura nursei* (Morton)
(Sharma, 2015 : no. 6, p. 86)
It is recorded from Kerala by Sharma (2015), but not by Emiliyamma et al. (2005). It is placed in genus *Rhodischnura* by Prasad & Varshney (1995).
4. *Copera marginipes* (Rambur)
(Sharma, 2015 : no. 11, p. 98).
Recorded from S. Andaman Is. by Prasad & Varshney (1995).
5. *Disparoneura quadrimaculata* (Rambur)
(Sharma, 2015 : no. 12, p. 100).
Recorded from Delhi, U. P. and Western Ghats, by Prasad & Varshney (1995). On the other hand, its records from Bihar, W. Bengal etc. by Sharma (2015) have not come to my notice.
6. *Neurobasis chinensis* (Linn.)
(Sharma, 2015 : no. 13, p. 104)
I collected specimens from a locality in Meghalaya in between Shillong and Nongpoh, in 1967. This material was

deposited in the Eastern Reg. Stn. (now Northeastern Reg. Centre) of Z.S.I. I believe it is reported by Lahiri (1987) in his monograph on the Odonata of Meghalaya, where he has included my other large number of Shillong odonate collections.

Prasad & Varshney (1995) report its distribution as 'throughout India'.

7. *Paragomphus lineatus* (Selys)

(Sharma, 2015 : no. 15, p. 110).

Recorded from Haryana and U. P. by Prasad & Varshney (1995).

8. *Anax immaculifrons* Rambur

(Sharma, 2015 : no. 17, p. 116)

Recorded from Kerala by Emiliyamma et al. (2005).

9. *Brachydiplax sobrina* (Rambur)

(Sharma, 2015 : no. 21, p. 128)

Recorded from Assam, Meghalaya and Chandigarh, by Prasad & Varshney (1995).

10. *Bradinopyga geminata* (Rambur)

(Sharma, 2015 : no. 23, p. 132)

Recorded from Kerala by Emiliyamma et al. (2005).

11. *Diplacodes lefebvrei* (Rambur)

(Sharma, 2015 : no. 25, p. 136)

Recorded from Kerala by Sharma (2015), but not by Emiliyamma et al. (2005).

12. *Orthetrum triangulare* (Selys)

(Sharma, 2015 : no. 35, p. 156).

I studied a rare specimen of it, having asymmetrical venation on the forewings of its left and right side wings (Varshney & Prasad, 1981). This specimen came from Mawroh, near Shillong, Meghalaya.

Also recorded from Haryana and Western Himalaya, by Prasad & Varshney (1995).

13. *Palpopleura sexmaculata* (Fabr.)

(Sharma, 2015 : no. 36, p. 158).

This species was recorded by me from the Khasi Hills (Meghalaya) (Varshney, 1971).

Prasad & Varshney (1995) show that this has two subspecies : *P. s. octomaculata* Fraser which is distributed in Eastern India; and *P. s. sexmaculata* which occurs throughout India.

14. *Rhyothemis variegata* (Linn.)

(Sharma, 2015 : no. 39, p.164).

A very common species in the plains of Bihar. I recorded it from 3 villages in the south of Patna (Varshney & Guha, 1972). Prasad & Varshney (1988) also recorded it from Bihar (Patna, Koilwar and Dhanbad, the last one is now in Jharkhand).

15. *Trithemis kirbyi* Selys

(Sharma, 2015 : no. 46, p.178).

Recorded from Himachal Pradesh by Prasad & Varshney (1995). Also recorded from Kerala by Emiliyamma et al. (2005).

After these 15 species, I desire to report two species recorded earlier from Rajasthan, but not included in Sharma (2015).

16. *Lestes viridulus* Rambur

Prasad in Ghosh et al. (1996) has shown its records from Punjab, Haryana, Gujarat, and Rajasthan (Jodhpur).

17. *Selysiothemis nigra* (Van der Linden)

It was earlier known in India from Jammu & Kashmir State only. Prasad in Ghosh et al. (1996) reported its occurrence in Jodhpur, Rajasthan.

This species was earlier known as *Urothemis advena* Selys.

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Uproot all Apple Trees over 50 yrs old 60% apple orchards produce inferior fruit

Over 60% of apple orchards in India are producing inferior quality fruit and need to be replaced. This was an observation made by horticulturists and farmers gathered in Dehradun from across the country to participate in the two-day National Apple Festival. Many experts said that many of the apple trees have grown too old to produce good quality fruit which is adversely impacting apple production. "We estimate that almost 4 lakh hectares of land out of a total of 6.5 hactares covered by apple orchards in the country is populated by senile trees. This is leading to a year-on-year reduction in our apple production since the last one decade," said Ravindra Chauhan, President of the Apple Growers' Association of India.

It is not as if the problem has not been recognised. In 2013, a scheme was started by the Union government which was intended to motivate farmers to replace old trees with new ones by giving them an incentive. However, the amount of Rs 351 per tree that was offered to uproot an old tree to plant a fresh one was perceived as "too little" by many farmers, as a result of which the scheme did not have many takers. "I have over 80 apple trees which were planted by my father in the 1950s but today they are not of much use. The meagre amount offered by the government could barely cover the costs needed to uproot a full grown old tree, treat the soil and plant new saplings. Hence, our interest in continuing with apple farming is slowly waning," said Ramesh Kashav, an apple farmer who has orchards near Shimla in Himachal Pradesh.

Experts said, "Apple production can multiply within three years of uprooting all the old trees, since the new variety of plants start fruiting from the third year of plantation. However, the government has to support the farmers in the gestation period by providing them alternate source of livelihood to ensure that they do not quit apple cultivation," said an expert at the festival. Dhani Ram Gautam, ex-director of the Y.S. Parmar University of Horticulture and Forestry in Solan, Himachal Pradesh, said, "if apple tree replacement project is left to farmers, there is a very high possibility that it will not get uniformly implemented, leading to a little or no improvement in yield."