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RESEARCH ARTICLE

CHECKLIST OF ODONATA SPECIES IN PENCH TIGER RESERVE, NAGPUR, MAHARASHTRA, CENTRAL INDIA

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Abstract

Pench tiger reserve, Maharashtra is located in central Indian landscape and is a rich biodiverse area with good habitat for flora and fauna. The dragonflies and damselflies were recorded and photographed by author during regular field patrolling in area. This was the first attempt of recording odonata diversity from the area where 44 species were documented. Sub order Anisoptera represented by 3 families and 28 species while Sub order Zygoptera with 3 families and 16 species. (Pench Tiger reserve, Maharashtra, Central Indian landscape, Odonata, Dragonflies, Damselflies).

Introduction:

India has a unique and exceptionally rich and wide-ranging flora and fauna, and Central India is known for its distinctive and varied geographical features like topography, soil, climate and vegetation. Almost, the whole of Central India lies on the Peninsular Plateau. Hill ranges like Vindhya, Satpura, Maikal and river basins of Pench, Narmada, Wainganga located in the region and support a unique and varied flora and fauna. From wildlife conservation viewpoint the area is mainly known for large mammalian fauna such as tiger, leopard and their prey animals followed by the avian community. Insects belonging to the Odonata order have been studied from the perspective of ecological indicators, and many studies show that certain species exhibit high association with particular habitats (Smith et al. 2007, Go’mez-Anaya and Novelo-Gutie’rrez 2010). About 6,000 species of Odonata and subspecies belonging to 652 genera have been documented world-wide (Schorr and Paulson 2014). India harbors 474 species and 50 subspecies belonging to 142 genera spread across 18 families (Subramanian 2014) while in Maharashtra state 267 species of 87 Genera and 8 families are reported (Subramanian, 2009).

Pench Tiger reserve, Maharashtra, Nagpur is declared in 1999, encompassing Pench National park declared in 1975. Currently Pench tiger reserve is extended upto an area of 741.22 sq.Km with core area of 430.12 sq.km with Pench National Park and Mansighdeo Wildlife sanctuary and the buffer area of 311.10 sq.Km with 48 villages of Ramtek, Parshivani and Saoner tahsil of Nagpur district. The Park is located in the southern lower reaches of the Satpuda hill ranges, which form the catchments for river Pench. The Pench river flows almost through the centre of the Park in North - South direction. The folding and upheavals in the past resulted in formation of a series of hills and have many annual and seasonal flowing streams.

The main objective of this study has been conduct preliminary observations of odonata diversity and carried out the checklist, occurrence and richness inhibiting the Pench tiger reserve, Maharashtra.

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Material And Methods:-
The observations recording and photographing of odonata species has been done for a period of 5 years from June, 2015 to July, 2020 in irregular manner with visual encounter method. The odonata species were noticed and recorded during the regular patrolling of the area. The area is regularly surveyed for odonota in all the major habitats in all seasons. On the basis of the frequency of sighting, the species were assigned categories of abundance as rare when encountered less than 10% of visits, Not Rare when encountered 10 to 25% of visits, common when encountered 25 to 50% of visits and the others were as Very common.

Result:-
This is the first attempt to document the odonata diversity of the pench tiger reserve, Maharashtra where a total of 40 species were documented during the study period where Sub order Anisoptera represented by 3 families and 24 species while Sub order Zygoptera with 3 families and 16 species. (Table No. -1)

Among families of Anisoptera sub-order, Libellulidae is dominant with 22 species belonging to 15 genera while family Aeshnidae was represented by only one genus and 2 species. In Zygoptera sub-order, Family Coenagrionidae was dominant with 6 genera while family Lestidae represented by only species Lestus umbrinus.

Table No. 1:-

| Sub Order  | Family           | Genus | Species |
|------------|------------------|-------|---------|
| Anisoptera | Aeshnidae        | 1     | 2       |
|            | Gomphidae        | 2     | 2       |
|            | Libellulidae     | 15    | 24      |
| Zygoptera  | Coenagrionidae   | 6     | 11      |
|            | Lestidae         | 1     | 1       |
|            | Platycnemididae  | 3     | 4       |
|            |                  | 28    | 44      |

The checklist of dragonflies and their occurrence is as follows:
### Table No. 2:

| Sr.No | Scientific name | Common Name          | Occurrence (VC, C, NR, R) |
|-------|-----------------|----------------------|---------------------------|
| 1     | Acisoma panorpoides (Rambur 1842) | Trumpet Tail         | C                         |
| 2     | Aethriamanta brevipennis (Rambur 1842) | Scarlet Marsh Hawk  | C                         |
| 3     | Anax guttatus (Burmeister, 1839) | Blue-tailed Green Darner | NR                      |
| 4     | Anax immaculifrons (Rambur 1842) | Blue darner          | NR                       |
| 5     | Brachythemis contaminata (Fabricius, 1793) | Ditch Jewel     | VC                       |
| 6     | Bradinopyga giminata (Rambur 1842) | Granite Ghost       | C                        |
| 7     | Burmagomphus pyramidalis, Laidlaw, 1922 | Sinuate cludtail    | NR                       |
| 8     | Cratilla lineate (Drury, 1878) | Emerald branded skimmer | R                      |
| 9     | Crocothemis cervilia (Drury, 1770) | Ruddy Marsh Skimmer | VC                       |
| 10    | Diplacodes lefebervii (Rambur, 1842) | Black ground skimmer | NR                      |
| 11    | Diplacodes trivalis (Rambur 1842) | Ground Skimmer      | VC                       |
| 12    | Ictinogomphus rapax (Rambur 1842) | Common Clubtail     | VC                       |
| 13    | Lathrecista asiatica, Fabricius, 1798 | Asiatic blood tail | R                        |
| 14    | Neurothemis fulvia (Rambur, 1773) | Fulvous Forest skimmer | C                      |
| 15    | Neurothemis intermedia, Rambur, 1842 | Paddy skimmer     | C                        |
| 16    | Orthetrum chrysis, Selys, 1891 | Brown-backed Red Marsh Hawk | C                      |
| 17    | Orthetrum glaucum (Brauer, 1865) | Blue Marsh Hawk     | C                        |
| 18    | Orthetrum luzonicum (Brauer, 1868) | Tricoloured Marsh Hawk | NR                      |
| 19    | Orthetrum prunosum (Rambur 1842) | Crimson-tailed Marsh Hawk | VC                      |
| 20    | Orthetrum sabina (Drury, 1770) | Green Marsh Hawk    | VC                       |
| 21    | Pantala flavesence (Fabricius, 1798) | Wandering Glider | VC                       |
| 22    | Potamarcha congener (Rambur 1842) | Yellow-tailed Ashy Skimmer | C                      |
| 23    | Rhyothemis variegate Linnaeus, 1763 | Common Picture Wing | NR                       |
| 24    | Tholymis tillarga, (Fabricius, 1798) | Coral-tailed Cloud Wing | NR                      |
| 25    | Trithemis aurora (Burmeister, 1839) | Crimson Marsh Skimmer | VC                      |
| 26    | Trithemis festiva (Rambur 1842) | Black stream glider | C                        |

### Table No. 3:

| Sr.No | Scientific name | Common Name                      | Occurrence (VC, C, NR, R) |
|-------|-----------------|----------------------------------|---------------------------|
| 1     | Aciagrion pallidum Selys, 1891 | Pale slender dartlet       | C                         |
| 2     | Agrocnemis pygmaea (Rambur 1842) | Pigmy Dartlet        | VC                       |
| 3     | Caconeura ramburi, Fraser, 1922 | Indian Blue bambootail | R                        |
| 4     | Ceriagrion coromandelianum, Fabricius, 1798 | Coromandel Marsh Dart | VC                       |
| 5     | Ceriagrion olivaceum, Laidlaw, 1914 | Rusty Marsh Dart    | R                        |
| 6     | Copera marginipes (Rambur 1842) | Yellow Bush Dart        | VC                       |
| 7     | Copera viittata, Selys, 1863 | Blue bush dart         | NR                       |
| 8     | Disparoneura quadrimaculata (Rambur 1842) | Black winged Bambootail | NR                      |
| 9     | Amphiallagma parvum, Selys, 1876 | Azure dartlet         | NR                       |
| 10    | Ischnura aurora (Brauer, 1865) | Golden Dartlet         | VC                       |
| 11    | Ischnura nuresei, Morton, 1907 | Pixie Dartlet          | NR                       |
| 12    | Ischnura rubilio, Selys, 1876 | Western Golden Dartlet | C                        |
| 13    | Ischnura senegalensis (Rambur 1842) | Senegal Golden Dartlet | C                        |
| 14    | Lestes umrinus, Selys, 1891 | Brown Spreadwing      | VC                       |
| 15    | Pseudagrion decorum, Rambur, 1842 | Three-lined dart     | VC                       |
| 16    | Pseudagrion rubriceps, Selys, 1876 | Saffron faced blue dart | VC                      |
Conclusion:
In the current study altogether 44 species of dragonflies and damselflies were reported from the Pench Tiger reserve area of Maharashtra. The survey was mainly conducted in eastern side of Pench tiger reserve and in Forested area. As per study 4 species, 2 from each sub order are found rare while 11 as Not Rare, 13 as Common while 15 species were Very common in area. The paddy fields and non-forest area may have some more species which needs to be studied further.

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