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Diversity of Certain Insects found in Tisgaon Region, Taluka Deola, District Nashik, Maharashtra

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Abstract

Diversity of Insects found in Tisgaon Region of Deola, Nashik City was assessed during September 2021 to January 2022 using random sampling method. In the present study about 20 species were recorded of which 10 species belong to order. Coleoptera, 3 species belong to Order Orthoptera and 2 species belongs to Order Hemiptera and Hymenoptera, in this study it is found that Order Coleoptera is dominant over rest of the species.

Keywords: Diversity, Coleoptera, Tisgaon, Nashik.

Introduction

Insects constitute a remarkably spacious group of organisms attributed mainly to their small size, which allows them to niches not available for larger organisms (Rosina Kyeremate et. al. 2014). There are an estimated 68,370 species of animals of which 60,000 are insects. There are another 4,000 species of bugs (G.P. Painkra and K.L. Painkra 2011)

India is one of the most biologically diverse countries in the world, particularly because of the various ecosystems which nurture and extraordinary number of animal and plant species. Insect constitute a remarkably spacious groups of organisms attributed mainly to their small size, which allows them to niches not available for larger organisms (Rosina Kyerematen et. al. 2014).

The Insect has penetrated virtually every available habitat tolerating perhaps the widest climatic extremes of any taxon. Their strategy has involved the production of prodigious number of young which suffer large mortalities only small numbers survive to reproduce. The strategy no doubt contributes to diversity. for it offers wide range of variations which upon selection can act (L.K. Ghosh and Rajendra singh, 2000).This study is about the Insect fauna found in Tisgaon region, Taluka Deola has been choosen because of the various types of crops cultivated here like Pomegranate, Onion, Maize, Groundnut Pigeon

pea, Gauva, Wheat, Bajra, Papaya, Chickpea. Various Insects manifest the crops and reduces the crop yield as well as affect the economic loss and health hazards to the farmers.

Materials and Methods

Tisgaon is a village in Deola Taluka in Nashik district of Maharashtra State, India. It belongs to Khandesh and Northern Maharashtra region, it is located 90 km towards East from District headquarters Nashik, 21 kms from Deola and 260 kms from State Capital Mumbai.

The collection of naturally dead insects were handpicked and using pitfall traps (Jagdale And Magdum 2017). They were collected from the agricultural plants along with places like houses, garbage grounds. Collected dead specimens were brought to the laboratory, pinned using entomological pins and then preserved dry using electric oven at 30-45°C, afterwards the dried specimens were labelled and stored in insect boxes.

Identification of collected insects has been done by using the identification key of existing literature.

Results and Discussion

In the present investigation about 20 species of Insects are identified, in the given study area the Insects belongs to order Coleoptera, Hymenoptera, Orthoptera, Hemiptera Diptera and order Odonata. It was found that order Coleoptera is dominant having to specimens.

In order Orthoptera total 3 specimens are found, and in order Hymenoptera and Hemiptera, 2 Specimens are found, the orders having only 1 specimen found are Odonata, Diptera and Lepidoptera.

In order Coleoptera maximum specimen found belongs to family Scarabaeidae and Dermestidae and 1 specimen from the family Tenebrionidae, Carabidae, Erebidae, Cera-mbycidae, Curculionidae and Coccinella. Coleoptera is largest order of insects (Richards and Davies, 1977) which plays important role in Herbivory and decomposition. Different Insect species composition and Taxon recorded during the present study is listed in Table 1 and Fig 1-4.

Earlier studies in Nashik district also showed a predominance of family Scarabaeidae (Jagdale and Magdum 2017). It is a group of beetles in the form of serious pests of sugarcane, groundnut, pearl millet, sorghum, paddy, chillies and leguminous crops (Jameson and Ratcliffe, 2002; Chandra, et al.2015).

Thus, from the present study it is concluded that the Tisgaon Village area has moderate diversity of various insects, of which Insects belonging to order Coleoptera are dominant but at the same time the study needs detailed and long term study to explore the diversity of insects found in this region.

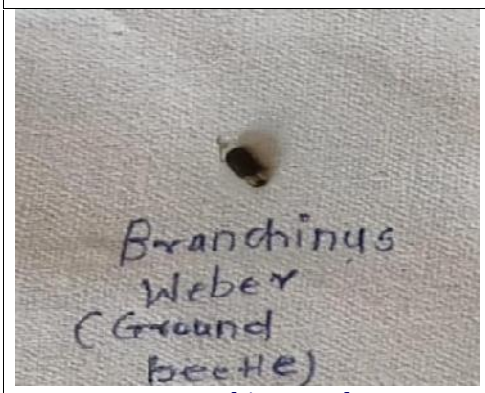
Table No 1. Checklist of various insects recorded from Tisgaon Region, Deola

ORDER	SR.NO	TAXON
Coleoptera	**A**	**Family Scarabaeidae**
	1	*Scarabaeidae satyrarus*
	2	*Phanaeus vindex*
	3	*Onthophagus nuchicornis*
	B	**Family Carabidae**
	4	*Branchinus weber*
	C	**Family Dermestidae**
	5	*Attagenus unicolor*
	6	*Anthrenus verbasci*
	D	**Family Tenebrionidae**
	7	*Alphitobius diaperinus*
	E	**Family Cerambycidae**
	8	*Batocera rufomaculata*
	F	**Family Curculionidae**
	9	*Sitophilus oryzae*
	G	**Family Coccinellidae**
	10	*Coccinella transversalis*
Orthoptera	**H**	**Family Gryllotalpidae**
	11	*Grylloptalpa gryllotalpa*
	I	**Family Gryllidae**
	12	*Gryllus veletis*
	J	**Family Acrididae**
	13	*Omocestus viridulus*
Hemiptera	**K**	**Family Pentatomidae**
	14	*Halyomorpha halys*
	L	**Family Reduviidae**
	15	*Triatoma sanguisuga*
Hymentoptera	**M**	**Family Vespidae**
	16	*Vespa tropica*
	N	**Family Apidae**
	17	*Apis florea*
Diptera	**O**	**Family Hippoboscidae**
	18	*Hippobosca equine*
Odonata	**P**	**Family Libellutidae**
	19	*Diplacodes trivalis*
Lepidoptera	**Q**	**Family Erebidae**
	20	*Eressa angustipenna*

1.Scarabaeus satyrus

2. Phanaeus vindex

3. Onthophagus nuchicornis



4. Branchinus weber

5. Attagenus unicolor

Fig: 1 : Insects belonging to order **Coleoptera**

6. Anthrenus verbasci

7. Alphitobius diaperinus

8. Batocera rufomaculata

9. Sitophilus oryzae

10. Coccinella transversalis

Fig: 2 : Insects belonging to order **Coleoptera**

11. Gryllotalpa gryllotalpa

12. Gryllus veletis

13. Omocestus viridulus

14. Halyomorpha halys

15. Triatoma sanguisuga

Fig: 3 : Insects belonging to order **Orthoptera and Hemiptera.**

16. Vespa tropica

17. Apis florea

18. Hippobosca equina

19. Diplacodes trivialis

20. Eressa angustipenna

Fig: 4 : Insects belonging to order **Hymenoptera, Diptera, Odonata and Lepidoptera**

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