International Journal of Ecology and Environmental Sciences
www.ecologyjournal.in
Online ISSN: 2664-7133, Print ISSN: 2664-7125
Received: 07-01-2022, Accepted: 22-01-2022, Published: 07-02-2022
Volume 4, Issue 1, 2022, Page No. 59-62

Preliminary study on diversity of coleopteran fauna from Katepurna region, district Akola, Maharashtra, India

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Abstract
The present investigation on the coleopteran diversity in and around Katepurna region, District Akola, Maharashtra, India was conducted from October 2021 to December 2021. The beetles were collected from diverse areas of Katepurna region as crop land, water bodies and grassland terrain. A total of 12 beetle individuals were recorded belonging to 12 species Within 12 genera falling under 9 families.

Keywords: coleopteran, beetle, Insecta, Katepurna, Akola

Introduction
Coleopteran (Linnaeus, 1758) is an exceedingly diverse order of class Insecta. They are distributed worldwide and are adapted for every possible habitat on our planet (except marine and polar regions). Habitat and food specificity make them ecologically and economically significant as indicator species and pests respectively2. The World record of identified species is 3,50,0003 where as 17,431 species have been reported from India.
The beetle diversity is enormous; they display a great deal of ecological importance. Some of them are specialized feeder of animal and plant debris5, while some are not. Many of species are destructive; by feeding on vital plant parts like flowers, fruits and seeds, which ultimately damage our economy. Numbers of the predatory species are biological control agents of agricultural pests' beetles of the family Coccinellidae (lady bugs) feeds on insect pest like aphids that damages crops. They also play a crucial role in the ecosystem as a pray of several Pisces, Aves Mammals. The present study helps in understanding the diversity of beetles from Katepurna.

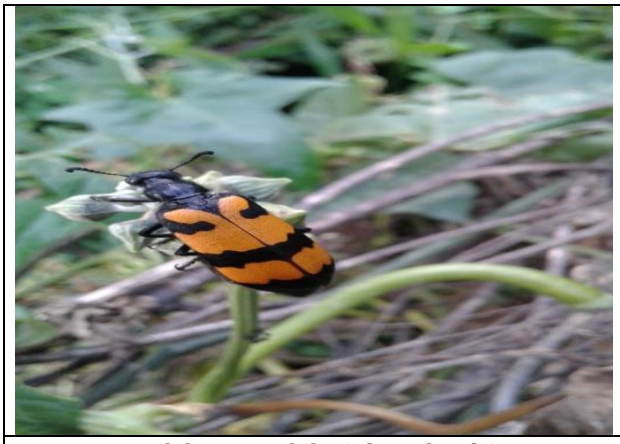
Materials and Methods
Study area
The total geographical area of Akola district is 5417 sq.km. The global location of the District extends between north latitudes 20°16' and 21°17' and east longitudes 76°38' and 77°38'. The major freshwater source is Katepurna River situated at Mahan, near Barshi Takali. The region has a large area under crop cultivation. The beetles were collected from diverse areas of Katepurna region as crop land, water bodies and grassland terrain. Light traps method was used for insect collection, majority of insect collected at evening hand picking were also applied. Filed visit was undertaken every collected and preserved as per the standard procedure, and specimens were identified with the help identification literature and manuals7-9 as well as different websites from the internet.

Result

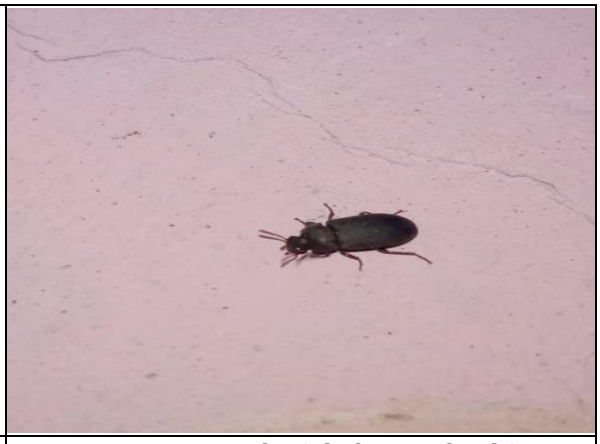
Fig 1: A total of 12 beetle individuals were recorded belonging to 12 species Within 12 genera falling under 9 families.

Sr. No.	Name of the species	Family	Genus
1.	*Mylabris variabilis* (Blister beetle)	Meloidae	*Mylabris*
2.	*Attagenus Unicolor* (Black carpet beetle)	Dermestidae	*Attagenus*
3.	*Typocerus Sparsus* (Black and yellow long horn beetle)	Cerambycidae	*Typocerus*
4.	*Carabus nemoralis* (Ground beetle)	Carabidae	*Carabus*
5.	*Cassida Circumdata* (Mottled tortoise beetle)	Chrysomelidae	*Cassida*
6.	*Coccinella Septempunctata* (Seven spotted lady beetle)	Coccinellidae	*Coccinella*
7.	*Epicauta Vittata* (Striped blister beetle)	Meloidae	*Epicauta*
8.	*Lyctoxylon dentatum* (Powderpost beetle)	Bostrichidae	*Lyctoxylon*
9.	*Batocera rufomaculata* (Long horned beetle)	Cerambycidae	*Batocera*
10.	*Chauliognathus lugubris* (Yellow neck soldier beetle)	Cantharidae	*Chauliognathus*

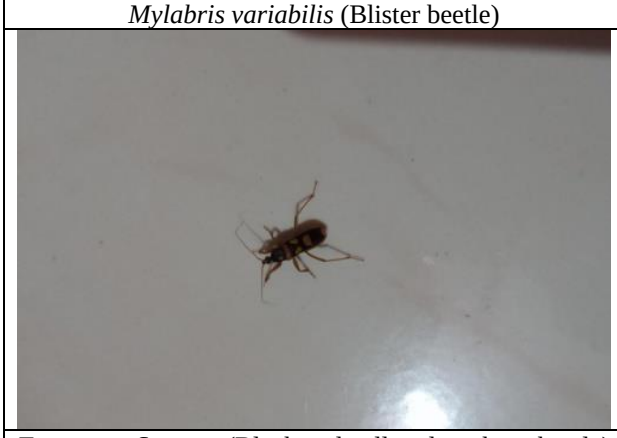
11.	*Megapenthes caprella* (Winter click beetle)	Elateridae	*Megapenthes*
12.	*odagrica fuscicornis* (Flea beetle)	Chrysomelidae	*Podagrica*



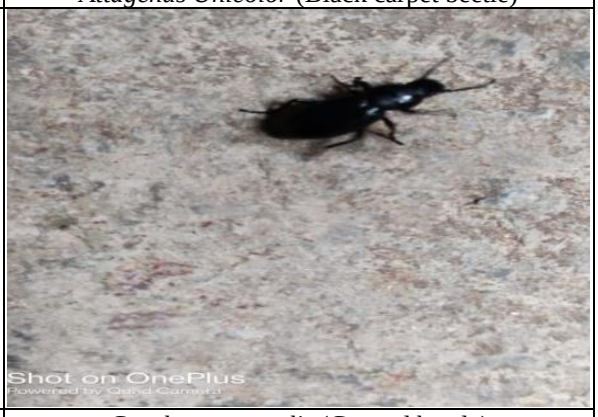
Mylabris variabilis (Blister beetle)



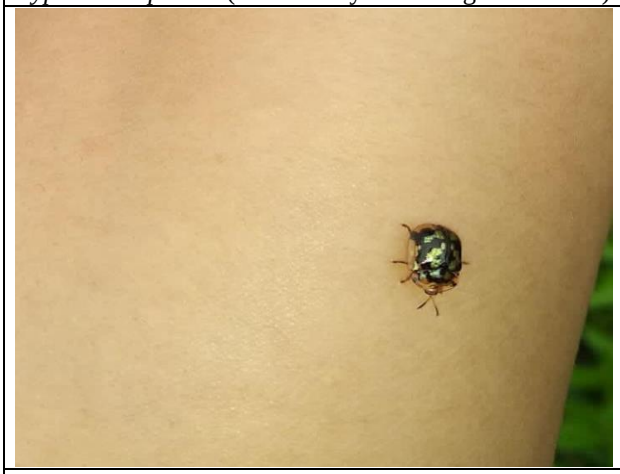
Attagenus Unicolor (Black carpet beetle)



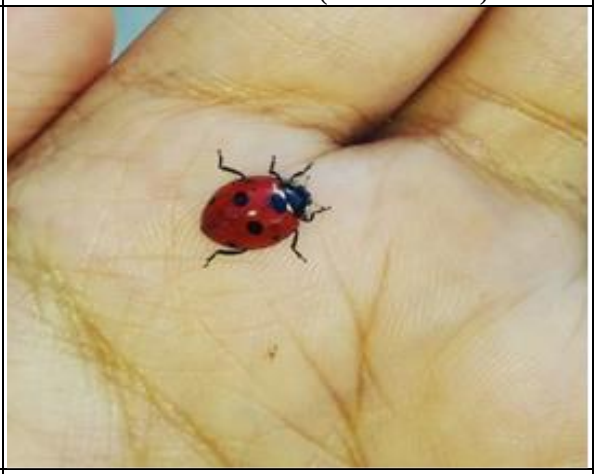
Typocerus Sparsus (Black and yellow long horn beetle)



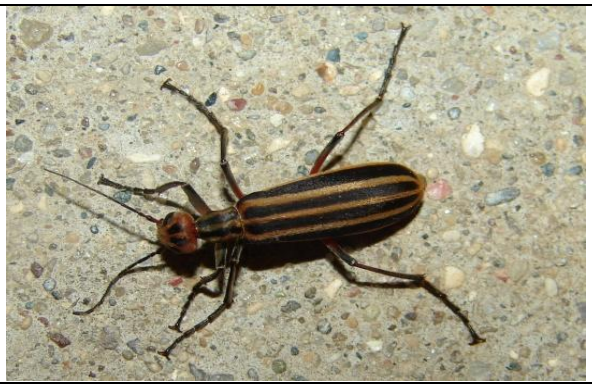
Carabus nemoralis (Ground beetle)



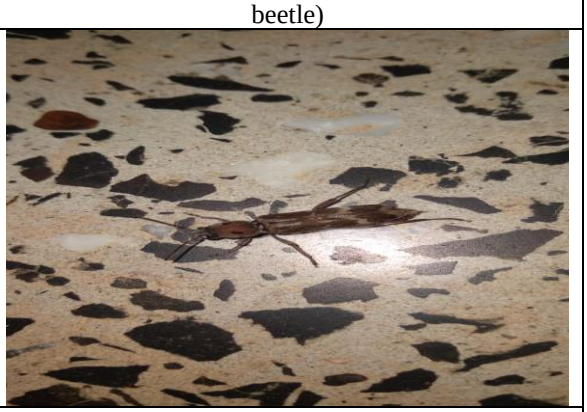
Cassida Circumdata (Mottled tortoise beetle)



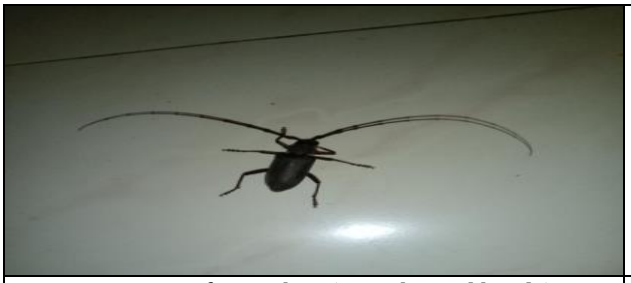
Coccinella Septempunctata (Seven spotted lady beetle)



Epicauta Vittat (Striped blister beetle)

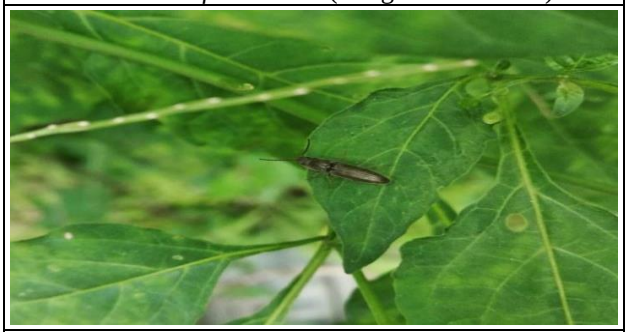


Lyctoxylon dentatum (Powderpost beetle)

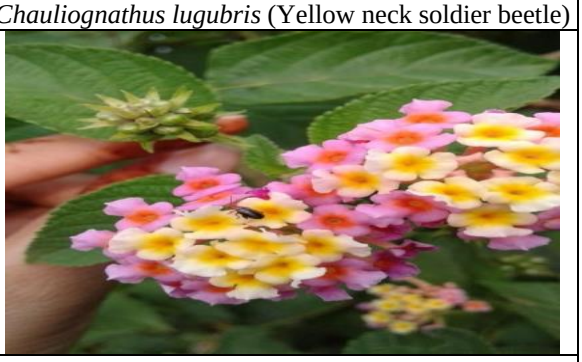


Batocera rufomaculata (Long horned beetle)

Chauliognathus lugubris (Yellow neck soldier beetle)



Megapenthes caprella (Winter click beetle)



Podagrica fuscicornis (Flea beetle)

Fig 1

Discussion

12 specimens collected, 12 species of beetles were identified. The checklist of beetles is given in Table I. In present study diversity of beetles of 9 different families were recorded. A preliminary study was conducted on beetles of Katepurna Wildlife Sanctuary. The region has a large area under crop cultivation. The beetles were collected from diverse areas of Katepurna region as crop land, water bodies and grassland terrain.

The notable species accumulated in the Crop land habitats of Katepurna were *Mylabris variabilis* (Blister beetle) and *Epicauta Vittata* (Striped blister beetle) belongs to Family Meloidae on their respective host plants namely *Solanum tuberosum* (potato) & *Solanum lycopersicum* (tomato).

The Dermestidae represented a few species of beetle which include *Attagenus Unicolor*(Black carpet beetle) observed as a pest Feed on barley, peanuts, bran, maize and also on household items including wool articles, some synthetic fibres, cereal products, damaging carpets.

Cerambycidae family represents two species of beetle *Typocerus Sparsus* (Black and yellow long horn beetle) and *Batocera rufomaculata* (Long horned beetle). It feed on Ficus carica, papaya, mangifera indica (mango) and shorea robusta.

The Carabidae represented a few species of beetle which include Carabus nemoralis(Ground beetle) observed as a pest Feed on eggs and larvae of root maggots, aphids, caterpillars, beetle larvae and weed seeds.

Chrysomelidae family represents two species of beetle Cassida Circumdata (Mottled tortoise beetle) and Podagrica fuscicornis (Flea beetle). It feed on Feed upon sweet potato plants, other crops including cabbage, corn & strawberry.

The Coccinellidae represented a few species of beetle which include Coccinella Septempunctata (Seven spotted lady beetle) Found on crops including potatoes, legumes, sweet corn, alfalfa, wheat, sorghum, etc.

The species Lyctoxylon dentatum (Powderpost beetle), Chauliognathus lugubris (Yellow neck soldier beetle) and Megapenthes caprella (Winter click beetle) represented the family Bostrichidae, Cantharidae and Elateridae respectively. These three families appeared to be scarce representing single species.

The species Lyctoxylon dentatum (Powderpost beetle) lives in dead branches & limbs of trees, barns and sheds. Attack on wood products manufactured from hardwood trees such as oak, ash, walnut, hickory, poplar or cherry.

Chauliognathus lugubris (Yellow neck soldier beetle) found on flowers such as sunflowers, goldenrod, coneflowers. Feed on eggs or larvae of another insects.

Megapenthes caprella (Winter click beetle) found on Wide variety of crops including beans, beets, clovers, corn, cotton, grasses, wheat, oat, potato & sweet potato.

Conclusion

Beetles are of value to humans in many ways. They are prominent decomposers, especially in forests. As predators, they reduce populations of problem insects, especially caterpillars. Ladybird beetles are widely known to be important predators of aphids, and can be purchased commercially for this purpose.

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