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STUDIES ON BIODIVERSITY AND ABUNDANCE OF BEETLES AND BUGS IN AND AROUND UMRED AREA, DISTRICT NAGPUR, MAHARASHTRA, INDIA

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Abstract:

The present study has been done to find out biodiversity of bugs and beetle in Umred area district Nagpur. Umred is located at a distance of around 45 km from Nagpur. The area is surrounded by forest, farms, garden, lake, etc. More species were recorded during winter and monsoon season than in summer season. The observation of bugs and beetles was carried out at morning and evening hours. From these 35 species 7 bugs and 28were beetlespecies respectively. These 7 species of bugs belonging to 5 families and 7 genera were identified. Nearly 28 species of beetles belonging to13 families and 27 genera were identified.

Following suggestions are proposed by the main author: (a) establish in India the central and regional "Bug-Beetle gardenor park" and research stations in their natural habitats like social forest, general forest, mangrove forest, aquatic ecosystems, etc. (b) carry out model based experimental research on economically important species-specific mutualism between plants-bugs, plants - beetles that influences their life-cycles, survival, co-evolution, etc. (c) carry out research on interaction behaviour of phytohormones-pheromones of plants-bugs, plants - beetles and pheromones - pheromones of bugs-bugs, beetles-beetles and bugs-beetle on breeding cycle, population abundance, population stability and population-disruption that may lead to their extinction due to climate changes and other anthropogenic reasons (d) set up laboratories to preserve bug and beetle germplasm (terrestrial, arboreal and aquatic species respectively that are predatory, parasitic/parasitoid and coprophagous) (e) beetles are biological indicators of minor fluctuations of abiotic and biotic factors in specific habitats. They indicate ecological health of habitats.Spontaneous drastic fluctuations in environment due to climate changes may trigger topographical catastrophes and localized losses to agriculture, aquaculture, animal husbandry, etc. Captive breeding of beetle species under artificially controlled conditions for above monitoring purpose is proposed (f) carry research on roles of coprophagous beetles in spread and prevention of zoonotic diseases as well as plant diseases; also role in maintenance of sanitation and hygiene (g) unravel mysterious roles of bugs and beetles as flagship species, initiate investment services to preserve and promote environment for their future generations to survive; conserve their specific genotypes, adapt to co-evolve new genotypes to cope up with evolution in their specific host plants that will be necessary to survive in altered climatic conditions to overcome the threat of extinction. The authors suspect that Xylocopa violacea (apidae) may be a transitional evolutionary link between 'bumble bees' and 'beetles'. Genetic studies are needed to confirm the above statement.

Key words: Umred, Bugs, Beetle, Biodiversity, Conservation, Necrophagous.

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Introduction:

Coleoptera is an order of insect commonly called as beetles, in Greek Keleos, means 'sheath' and pteron, meaning 'Wing', they have two pairs of wings, the front pair, the elytra. The diversity of beetles is very wide, they are distributed in all habitats, except marine and