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Fauna of long horned beetle (Coleoptera: Cerambycidae) from Tilari forest, Chandgad, Kolhapur district of Maharashtra, a region of Western Ghats

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Abstract

The Indian longhorn beetles of family Cerambycidae are the very important and interesting group in the order Coleoptera, and they are serious pests in the forest area. The current work provides important information about diversity of long horned beetles Cerambycidae from Tilari forest with individually gave the color images based on the collection of coauthors. Based on the vegetation in the study area was selected for the collection of longicorn beetles. A total of 14 species of longhorn beetles distributed over 14 genera belonging to 3 subfamilies from the study area. The present work has been provided new localities for 14 species of Cerambycidae from Kolhapur district with all the species of Cerambycids were newly recorded in the Tilari forest.

Keywords: Cerambycidae, Coleoptera, longhorn beetles, Tilari forest

1. Introduction

Maharashtra state, which has rich biodiversity of flora and fauna, and micro-organisms. There are four biodiversity hot spots in India Chitale *et al.* ^[1] among which some area of Western Ghats lies in Maharashtra state and along with a coastline on the Arabian Sea, they are running parallel to Sahyadri Hills, also known as the Western Ghats. The study area is a part of Western Ghats, which has rich number of flora and fauna, especially for the insects. The study area is the suitable for naturally growing plants such as, medicine plants, flowering plants and large trees. Tilari forest lies in Kolhapur district and near the borders of Karnataka and Goa state. Forest area has suitable environmental conditions such as rainfall, temperature and humidity for the plants and animals especially for insects such as butterfly, grasshoppers, bugs, and beetles. This area is covered with dense lush forest, evergreen forest and mixed forest and also some area covered with grasses.

The longhorn beetles belonging to the family Cerambycidae of superfamily Chrysomeloidea are widely distributed and economically a very important group in the class Insecta. Both the larval and adult stage of insects is serious pests of forest trees and also pests in agricultural field. The most of the species of Cerambycidae are found in the tropical and subtropical region, and they are closely phytophagous or xylophagous insects. The comprehensive work on Cerambycidae was fulfilled by Gahan ^[2] his fauna of British India and provided important information about Cerambycidae which is the morphological characteristics of male and female, sketch images, geographical distribution and checklist. Thereafter, Gahan's work, the studies on longhorn beetles was blacked out, especially for the Maharashtra state. After a long gap, work on longhorn beetles, helped to fill the gap by Ghate ^[3] gave the first time fauna of longhorn beetles for Maharashtra state. They have been reported 59 species belonging to 4 subfamilies and 50 genera. Ghate and coauthors and other workers were published many research papers and short notes on the family Cerambycidae for Maharashtra state as well as India ^[4-16].

2. Materials and Methods

In the study region, majority species of longhorn beetles were collected with the help of Hand Picking method and a few with insect net during the year 2016 to 2017. The photographs of all species were taken by Canon PC 1560 Camera (Plate 1-4. Image 1-28). Identification of

Cerambycidae was confirmed by Gahan [2] and research paper Kumawat *et al.* [17]. The Tilari forest is the one of the well known protected areas in the Kolhapur district and famous for wild animals such as Indian bison. The geography and environmental conditions of the study area is suitable for flora and fauna especially for the insects. It receives high rainfall as compared to other forest areas of Kolhapur district. It has a number of smalls and large ponds and small streams. It lies between 15°47'27"N and 74°19'26"E and near the border of Karnataka and Goa state.

3. Results

Order: Coleoptera
 Family: Cerambycidae
 Subfamily Cerambycinae Latreille, 1802
 Tribe Cerambycini Mulsant, 1839

3.1 Genus *Aeolesthes* Gahan, 1890

3.1.1 *Aeolesthes (Aeolesthes) holosericea* Fabricius, 1787 (Plate 1. Image 1 and 2)

3.2 Genus *Neoplocaederus* Sama, 1991

3.1.2 *Neoplocaederus obesus* Gahan, 1890 (Plate 1. Image 3 and 4)
 Tribe Phoracanthini Newman, 1840

3.3 Genus *Nyphasia* Pascoe, 1867a

3.1.3 *Nyphasia apicalis* Gahan, 1893b (Plate 1. Image 5 and 6)
 Tribe: Hesperophanini Mulsant, 1839

3.4 Genus *Stromatium* Audinet-Serville, 1834

3.1.4 *Stromatium barbatum* Fabricius, 1775 (Plate 1. Image 7 and 8)
 Tribe Clytini Mulsant, 1839

3.5 *Xylotrechus* Chevrolat, 1860

3.1.5 *Xylotrechus sp.* (Plate 1 and 2. Image 9 and 10)
 Tribe Xystrocerini Blanchard, 1845

3.6 Genus *Xystrocera* Audinet-Serville, 1834

3.1.6 *Xystrocera globosa* Olivier, 1795 (Plate 2. Image 11 and 12)
 Subfamily Lamiinae Latreille, 1825
 Tribe Lamiini Lacordaire, 1869

3.7 Genus *Celosterna* Blanchard, 1845

3.1.7 *Celosterna scabrator* Fabricius, 1781 (Plate 2. Image 13 and 14)
 Tribe Astathini Pascoe, 1864

3.8 Genus *Cleonaria* Thomson, 1864

3.1.8 *Cleonaria bicolor* Thomson, 1864 (Plate 2. Image 15 and 16)
 Tribe Saperdini Mulsant, 1839

3.9 Genus *Glenea* Newman, 1842. Subgenus *Stirolgenea* Aurivillius, 1920.

3.1.9 *Glenea (Stirolgenea) spilota* Thomson, 1860 (Plate 2. Image 17 and 18)

3.10 Genus *Stibara* Hope, 1840

3.1.10 *Stibara nigricornis* Fabricius, 1781 (Plate 3. Image 19

and 20)

Tribe Dorcaschematini Thomson, 1860

3.11 Genus *Olenecamptus* Chevrolat, 1835

3.1.11 *Olenecamptus bilobus* Fabricius, 1801 (Plate 3. Image 21 and 22)
 Subfamily Prioninae Latreille, 1802
 Tribe Prionini Latreille, 1802

3.12 *Prionomma* White, 1853

3.1.12 *Prionomma atratum* Gmelin, 1789 (Plate 3. Image 23 and 24)

3.13 *Priotyranus* Thomson, 1877

3.1.13 *Priotyranus mordax* White, 1853 (Plate 3. Image 25 and 26)
 Tribe Remphanini (Lacordaire, 1869

3.14 *Rhaphipodus* Audinet-Serville, 1832

3.1.14 *Rhaphipodus subopacus* Gahan, 1890 (Plate 4. Image 27 and 28)

Table 1: Subfamily wise species diversity in Tialri forest

Sr. No	Subfamily	Tribe	Species	
1	Cerambycinae	Cerambycini	<i>Aeolesthes (Aeolesthes) holosericea</i>	
			<i>Neoplocaederus obesus</i>	
			Phoracanthini	<i>Nyphasia apicalis</i>
			Hesperophanini	<i>Stromatium barbatum</i>
			Clytini	<i>Xylotrechus sp.</i>
			Xystrocerini	<i>Xystrocera globosa</i>
		Lamiinae	Lamiini	<i>Celosterna scabrator</i>
			Astathini	<i>Cleonaria bicolor</i>
			Saperdini	<i>Glenea (Stirolgenea) spilota</i>
		Dorcaschematini	Prionini	<i>Stibara nigricornis</i>
				<i>Olenecamptus bilobus</i>
				<i>Prionomma atratum</i>
				<i>Priotyranus mordax</i>
				<i>Rhaphipodus subopacus</i>
Total	3	11	14	

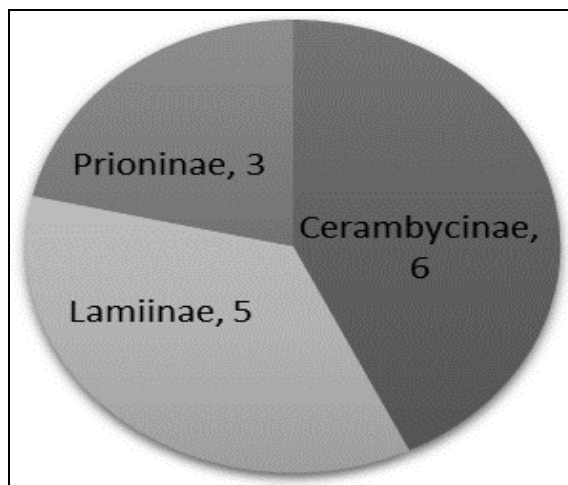


Fig 1: subfamily wise species diversity in Tilari forest, Chandgad

4. Discussion

The present study includes all the species of longhorn beetles known to Maharashtra state. They belong to 3 subfamilies, 11 tribes and 14 genera were identified from the Tilari forest,

Chandgad (Table No. 1). This current study shows that, the subfamily Cerambycinae was most dominant, which is represented by 6 species (Fig. 1) they are namely, *Aeolesthes (Aeolesthes) holosericea*, *Neoplocaederus obesus*, *Nyphasia apicalis*, *Stromatium barbatum*, *Xylotrechus sp.* and *Xystrocera globosa* (Table No. 1). Out of which the species *Nyphasia apicalis* was rare in the study area (Image 5-6) and remaining are the common and mostly found in winter and summer season. The following 5 species, *Celosterna scabrator*, *Cleonaria bicolor*, *Glenea (Stirolene) spilota*, *Stibara nigricornis*, and *Olenecamptus bilobus* which are the beetles belong to the subfamily Lamiinae (Fig. 1). Among them the species *Olenecamptus bilobus* and *Stibara nigricornis* are very common and found near different light sources. The subfamily Prioninae having 3 species which are namely, *Prionomma atratum*, *Priotyranus mordax* and *Rhaphipodus subopacus* are the rare species in the study area and between them the species *Priotyranus mordax* is very rare to Chandgad Tehsil and Maharashtra State (Image 25-26).

In general, the present study is totally based on the diversity of Cerambycids in the study area. A total of 14 species of Cerambycids is listed in this fauna. Out of which 3 species, namely, *Glenea (Stirolene) spilota*, *Prionomma atratum* and *Rhaphipodus subopacus* are the reported for the first time from the Kolhapur district (Images 17-18; 23-24 and 27-28). Ghate [3] reported 59 species belonging to 4 subfamilies and

50 genera from Maharashtra state. Bhawane *et al.* [18] studied on the longhorn beetle and their diet breadth from Kolhapur district and they reported 26 species belonging to 4 subfamilies and 23 genera out of which 9 species of longhorn beetles were recorded from Chandgad forest area, but they are not reported above mentioned three species which are the first reported in the Kolhapur district in this fauna. Kumawat *et al.* [17] gave the checklist on longhorn beetle from Arunachal Pradesh and they reported 49 species and also reported many first records from the study area. Mitra *et al.* [19] reported 19 species belonging to 17 genera under 3 subfamilies from Nagaland. Mitra *et al.* [20] recorded the 81 species from the Meghalaya state, of them 8 species are reported for the first time from Meghalaya. More *et al.* [15] gave the first report of the species *Olenecamptus signaticollis* from the Maharashtra state, which is collected from Chandgad Tehsil. Kariyanna *et al.* [21] studied the species composition and distribution pattern of longhorn beetles across the India and they provided a complete checklist of longicorn beetles includes 1555 valid species which are previously and recently recorded from India. Kariyanna *et al.* [22] studied on the longhorn beetles from the horticulture crops. Recently, Mitra *et al.* [23] gave the updated list of Cerambycids beetle from Assam and they have been reported 95 species belonging to 64 genera under 3 subfamilies. Above mentioned some workers are reported more or less numbers of Cerambycidae insects and their study area is large as compared to the current study area.

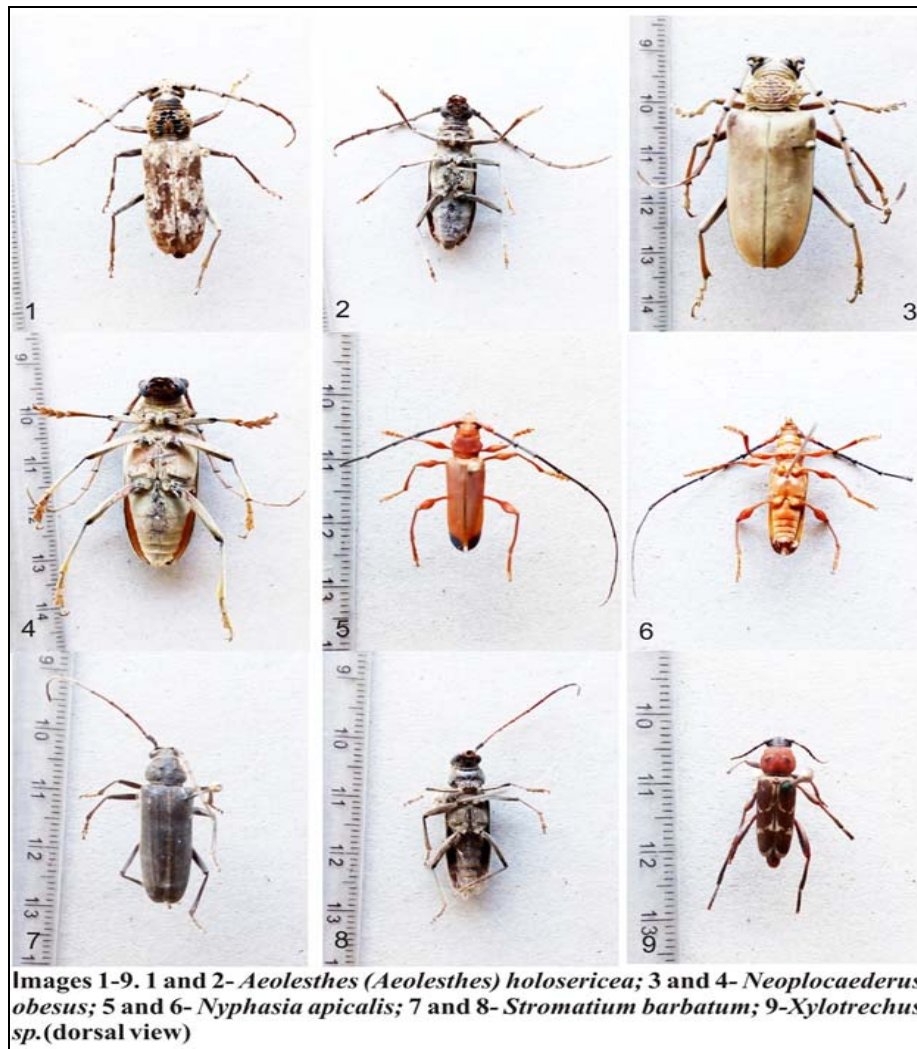
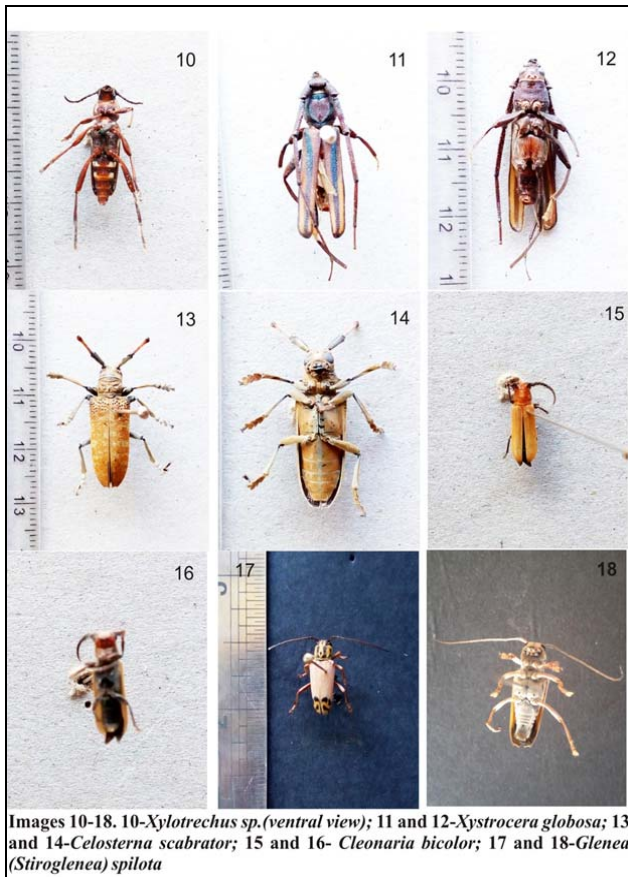
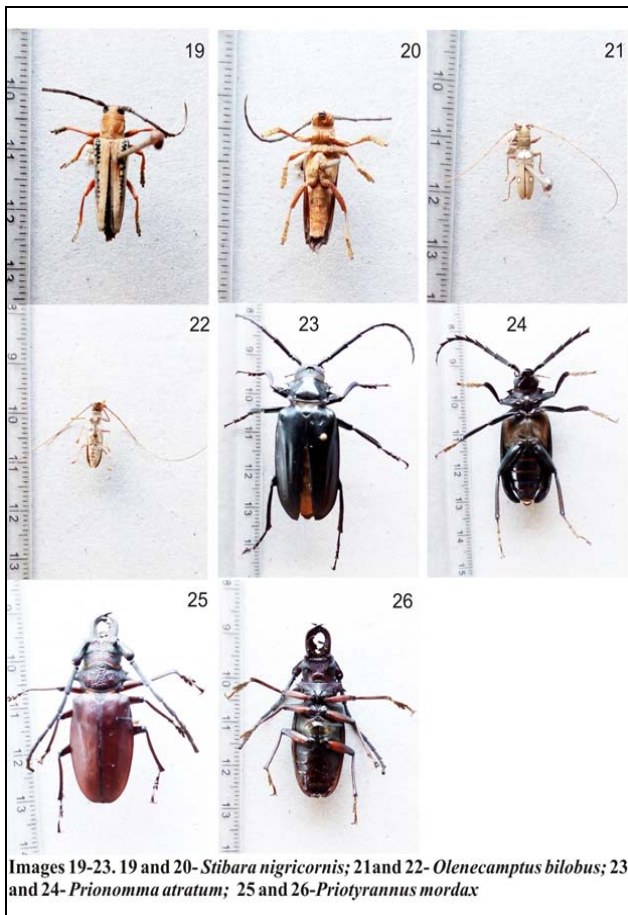


Plate 1



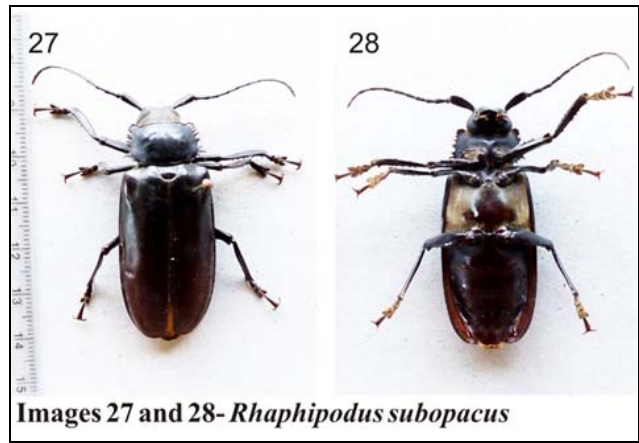
Images 10-18. 10-*Xylotrechus* sp.(ventral view); 11 and 12-*Xystrocera globosa*; 13 and 14-*Celosterna scabrator*; 15 and 16- *Cleonaria bicolor*; 17 and 18-*Glenea* (*Stiroglenea*) *spilota*

Plate 2



Images 19-23. 19 and 20-*Stibara nigricornis*; 21 and 22- *Olenecamptus bilobus*; 23 and 24- *Prionomma atratum*; 25 and 26-*Priotyranus mordax*

Plate 3



Images 27 and 28- *Rhaphipodus subopacus*

Plate 4

5. Conclusion

In this fauna, 14 species of longhorn beetles belonging to 3 subfamilies and 14 genera were obtained. The subfamily Cerambycinae was most dominant, which represents 6 species belonging to 6 genera and 5 tribes followed by the subfamily Lamiinae with 5 species belonging to 5 genera and 4 tribes and the subfamily Prioninae having 3 species belonging to 3 genera and 2 tribes. The most of the species were collected in rainy season, and they are also collected from different light sources from the forest areas. The species *Olenecamptus bilobus* was very common and most abundant in the study area, and that is collected every field visit. The population of Cerambycids were may be increased in future because the availability of rich vegetation and suitable environmental conditions in the forest area. The current work provides new information about Cerambycidae especially for Tilar forest, Kolhapur district from this fauna.

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7. References

1. Chitale VS, Behera MD, Roy PS. Global biodiversity hotspots in India: significant yet under studied. Current Science. 2015; 108(2):149-50.
2. Gahan CJ. The Fauna of British India, including Ceylon and Burma. Coleoptera: Cerambycidae. Taylor and Francis, London, 1906, 329.
3. Ghate HV. Insecta: Coleoptera: Cerambycidae. Zoological Survey of India, Fauna of Maharashtra, State Fauna Series. 2012; 20(Part-2):503-505.
4. Sen A, Hiremath U, Chaudhari RD, Ghate HV. Record of *Pachyloceros crassicornis* (Olivier) (Coleoptera: Cerambycidae) from Maharashtra. Zoo's Print Journal. 2006; 21(2): 2167
5. Sen A, and Ghate HV. A short note on three species of *Stibara* (Cerambycidae: Lamiinae: Saperdini). Zoos' Print Journal. 2006; 21(3):2198.
6. Ghate HV, Sen A. A note on three species of the Genus *Olenecamptus* Chevrolat (Coleoptera: Cerambycidae: Lamiinae) found in India. Zoos Print Journal. 2006; 21 (12):2514-2515.
7. Ghate HV, Viraktamath CA, Sundararaj R. First report of a Cerambycid beetle (*Capnolymma cingalensis*) from

- India. *Taprobanica*. 2011; 3(2):104-106.
8. Ghate HV, Riphung S, Thakur NSA. First record of the Long-horned Beetle *Sarothrocer a lowii* White, 1846 (Cerambycidae: Lamiinae: Lamiini) from India. *Journal of Threatened Taxa*. 2012; 4(7):2709-2712.
 9. Ghate HV, Naidu NM. A first record of *Oplatocera halli* Lepesme, 1956 (Coleoptera: Cerambycidae) from western India. *Journal of Threatened Taxa*. 2013; 5(17):5301-5304.
 10. Ghate HV, Mitra B. First record of a Cerambycid beetle (*Purpuricenus temminckii*) from India. *Taprobanica*. 2013; 5:75-76.
 11. Mamlayya AB, Bhawane GP, Ghate HV. First record of the long-horned beetle *Apioccephalus licheneus* Gahan from Western India Coleoptera: Cerambycidae: Lepturinae. *Journal of Threatened Taxa*. 2014; 6(2):5494-5498.
 12. Agarwala BK, Ghate HV, Bhattcharajee PP. Redescriptions of *Imantocera penicillata* Hope and *Eutaenia corbeti* Gahan Coleoptera: Cerambycidae, with records of host plants from India. *The Coleopterists Bulletin*. 2014; 68(4):719-726.
 13. Ghate HV, Agarwala BK. A first record of *Abryna regispetri* Paiva, 1860 (Cerambycidae: Lamiinae: Pteropliini) and its redescription from India. *Journal of Threatened Taxa*. 2015; 7(14):8173-8176.
 14. Vives E, Ghate HV. On two rare cerambycid beetles (Coleoptera) from India. *Taprobanica: The Journal of Asian Biodiversity*. 2015; 7(1):40-42.
 15. More SV, Prashant MS, Nikam KN. First report of *Olenecamptus signaticollis* Heller 1926 (Coleoptera: Cerambycidae: Lamiinae) from Maharashtra, *International Journal of Applied Agricultural Research*. 2017; 12(2):153-156.
 16. Kolla S, Ghate HV, Sharma M, Kulanthaivel S. First record of the longhorn beetle, *Rosalia lameerei* Brongniart Cerambycidae: Cerambycinae: Compsocerini from India, with additional descriptions of male. *Entomon*. 2017; 42(1):37-40.
 17. Kumawat MM, Singh KM, Ramamurthy VV. A checklist of the Long-horned Beetles Coleoptera: Cerambycidae of Arunachal Pradesh, northeastern India with several new reports. *Journal of Threatened Taxa*. 2015; 7(12):7879-7901.
 18. Bhawane GP, Gaikwad YB, Gaikwad SM, Mamlayya AB. Longicorn beetles and their diet breadth from forests of Kolhapur district, Northern Western Ghats, Maharashtra. *The Bioscan*. 2015; 10(2):679-684.
 19. Mitra B, Das P, Chakraborti U, Mallick K, Chakraborty K. Long horn beetles (Cerambycidae: Coleoptera) of Nagaland, India. *Journal of global biosciences*. 2016; 5(4):3963-3969.
 20. Mitra B, Das P, Chakraborti U, Mallick K, Majumder A. Longhorn beetles (Cerambycidae: Coleoptera) of Meghalaya with eight new records, *The Journal of Zoology Studies*. 2016; 3(4):39-47.
 21. Kariyanna B, Mohan M, Gupta R, Bakthavatchalam N. Species Composition and Distribution Pattern of Longhorn Beetles across India. *International Journal of Current Microbiology and Applied Sciences*. 2017; 6(5):1677-1688.
 22. Kariyanna B, Mohan M, Das U, Biradar R, Anusha Hugar A. Important longhorn beetles (Coleoptera: Cerambycidae) of horticulture crops. *Journal of Entomology and Zoology Studies*. 2017; 5(5):1450-1455.
 23. Mitra B, Chakraborti U, Mallick K, Bhaumik S, Das P. An updated list of cerambycid beetles (Coleoptera: Cerambycidae) of Assam, India. *Record zoological Survey of India*. 2017; 117(1):78-90.