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## A CHECKLIST OF THE LONG-HORNED BEETLES (COLEOPTERA: CERAMBYCIDAE) OF ARUNACHAL PRADESH, NORTHEASTERN INDIA WITH SEVERAL NEW REPORTS

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**Abstract:** Northeastern India is one of the hot spots of mega biodiversity of the world. The collections of cerambycid beetles were made from the forest region of Arunachal Pradesh, India during 2008–2013. A total of 49 species of cerambycids were collected during the survey, belonging to three subfamilies and a checklist of all the species is provided. Taxonomic synonyms, bibliography alongwith new distribution and list of host plants of the region are included. *Rhytidodera griseofasciata* is reported for the first time from India, besides seven other species, viz., *Nupserha nigriceps*, *Pterolophia (Hylobrotus) tuberculatrix*, *Neocerambyx grandis*, *Olenecamptus indianus*, *Obereopsis obscura obscura*, *Aristobia reticulator*, and *Sarothroceria lowii* are being reported from Arunachal Pradesh for the first time.

**Keywords:** Cerambycidae, Coleoptera, Long-horned Beetles, wood boring beetles.



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**Authors Contribution:** The survey works, collection of specimens and the information on host plants and biology are provided by MMK. The major parts of the manuscript are written by MMK. KMS contributed to the preparation of checklist and collection of literature for synonyms. VVR contributed significantly to species identification and formatting the checklist.

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## INTRODUCTION

The state of Arunachal Pradesh situated in the northeastern region of India has six broad rich forest types. The location of the state is at the juncture of palaeartic, Indo–China and Indo–Myanmar bio–geographical regions. Longicorn beetles are forest insects that constitute one of the largest groups of wood boring beetles. Most are dead wood feeders while some contribute to regulating living forest and fruit trees including plantation crops, weeds, orchids etc. The family cerambycidae contains more than 35,000 species under 4,000 genera in 11 subfamilies (Lawrence 1982). A total 396 species of cerambycids were described by Gahan (1906) from the Indian subcontinent. About 1500 species of cerambycids were recorded from India (Beeson 1941; Breuning 1960–62, 1964, 1965, 1966). Sengupta & Sengupta 1981 recorded 16 cerambycids from Arunachal Pradesh. Later eight species of longicorns were reported in West Siang of Arunachal Pradesh by Singh et al. (2010). Several more species have been reported from India and adjacent countries (Holzschuh 1999, 2003; Ghate 2012; Agarwala & Bhattacharjee 2012).

Arunachal Pradesh covers an area of 83,743km<sup>2</sup> and lies between 26°28'–29°30'N & 91°20'–97°30'E. Owing to great altitudinal variation, from less than 100m to above 5,000m climate varies with elevation and receives heavy rainfall of 80–160 inches (2,000–4,100 mm) annually, most of it between May to September and humidity ranges from 70–98 % (Hegde 2003). The complex geography and numerous altitudinal gradients support a high biodiversity hot spot enabling the cerambycids for better survival. The present study was taken up as an initiative to identify and document the longicorn beetles of this region.

## MATERIAL AND METHODS

The study was conducted from 2008 to 2013 in subtropical plain and hill zone (East Siang, West Siang, Upper Siang, Lower Siang, Lohit, Changlang, Ziro and Papumpare districts) of Arunachal Pradesh. The longicorn beetles were collected from ornamental plants, old and fresh wooden logs, trees, weeds of the forest and also with light traps. The individual specimens were picked up with forceps, placed in a killing jar containing benzene, and pinned (Chandra et al. 2015). The specimens were dried and transferred to insect boxes and kept at the Department of Plant Protection, College of Horticulture and Forestry, Pasighat. Collected specimens were identified to species level following key characters provided by Gahan (1906), Rondon & Breuning (1970), Mukhopadhyay & Biswas

(2000a), Mukhopadhyay & Halder (2004), Holzschuh (1999, 2003) and also compared with identified specimens present in the National Pusa Collection, Division of Entomology, Indian Agricultural Research Institute, New Delhi. The taxonomic synonyms were collected from various sources (Aurivillius 1912; Breuning 1957, 1964, 1965, 1966; Cherepanov 1979; Hayashi & Makihara 1981; Hayashi et al. 1988; Chemsak 1996; Holzschuh 1999, 2003; Makihara et al. 2002, 2008; Heffern 2005; Miguel 2005; Lobl & Smetana 2010) and compiled. The specimens discussed in this work were deposited in the National Pusa Collection, Division of Entomology, Indian Agricultural Research Institute, New Delhi.

## RESULTS AND DISCUSSION

During the five year survey, 49 species of cerambycids belonging to three subfamilies were recorded. Subfamily Lamiinae was found to be dominant with 28 species followed by Cerambycinae with 11 species. Subfamily Prioninae included 10 species. *Rhytidodera griseofasciata* Pic reported from China earlier is being reported from India for the first time during the present study. However, the biology and host plants of *R. griseofasciata* remain unknown. Beside this, seven species, viz., *Nupserha nigriceps*, *Pterolophia (Hylobrotus) tuberculatrix*, *Neocerambyx grandis*, *Olenecamptus indianus*, *Obereopsis obscura obscura*, *Aristobia reticulator* and *Sarothrocera lowii* are being reported from Arunachal Pradesh, northeastern India for the first time. The status of the new reports of the present study were confirmed by reviewing previously published literature of Zoological Survey of India (Sengupta & Sengupta 1981; Mukhopadhyay & Biswas 2000a, 2002b; Mukhopadhyay & Halder 2004; Anonymous 2006; Ramakrishna & Alfred 2006; Singh et al. 2007), Gahan (1906), Singh et al. (2010), Agarwala & Bhattacharjee (2012), CAB abstracts, Catalogue of life and Zoological records. The known host plants and colour images of all the specimens have also been included in the present paper.

## CHECKLIST OF COLLECTED SPECIMENS

### Family Cerambycidae

#### Subfamily Prioninae

#### 1. *Nepiodes costipennis costipennis* (White, 1853) (Image 1)

*Megopis costipennis* White, 1853 *Cat. Coleopt. Brit. Mus. Longicorn.* 1 (7): 28.

*Aegosoma lacertosum* Pascoe, 1867 *Ann. Mag. Nat. Hist.* 3(19) 114: 413.

*Aegosoma costipenne* Gahan, 1906 *Fauna Brit. India Col.* 1:49.

*Megopis (Megopis) costipennis* Lameere, 1909 *Ann. Soc. Ent. Belg.* 53 (4): 147.

*Aegosoma costipenne* Mukhopadhyay & Halder, 2004 *State Fauna Series ZSI* 10: 421–431.

*Nepiodes costipennis* Komiya & Drumont, 2010 *Elytra* 38 (2): 169–192.

*Nepiodes costipennis* subsp. *costipennis* Lobl & Smetana 2010, *Cat. Palaearctic Coleopt.*–6, *Apollo books*: 40.

Specimens examined: CHF/2015/202, female, 12.iv.2012, forest ground, Pasighat (elevation 160m), Arunachal Pradesh, India, coll. Kumawat; CHF/2015/203, male, 12.iv.2012, forest ground, Pasighat (elevation 160m), Arunachal Pradesh, India, coll. Kumawat.

Distribution: Arunachal Pradesh, Assam, Manipur, Sikkim, Bangladesh, Myanmar.

Biology: *N. costipennis* recorded as boring into teak tree in Assam, India (Lefroy 1909).

Host Plants: Teak *Tectona grandis*; Kuli teak plantation (Stebbing 1914).

## 2. *Nepiodes bowringi* (Gahan, 1894) (Image 2)

*Aegosoma bowringi* Gahan, 1894 *Ann. Mag. Nat. Hist.* 6 (14): 226.

*Megopis (Megopis) bowringi* Lameere, 1909

*Megopis (Megopis) sulcipennis* Hayashi, 1979 (nec White 1853)

*Nepiodes bowringi* Lobl & Smetana, 2010 *Cat. Palaearctic Coleopt.*–6, *Apollo books*: 86–87.

*Nepiodes bowringi* Komiya & Drumont, 2010 *Elytra* 38 (2): 169–192

Specimens examined: CHF/2015/206, male, 14.iii.2010, Light trap, Pasighat, (elevation 160m), Arunachal Pradesh, India, coll. Bilin Maying; CHF/2015/207, male, 26.v.2010, Banana field, Pasighat, (elevation 150–180 m), Arunachal Pradesh, India, coll. Kumawat; CHF/2015/208, female, 20.iv.2012, Forest floor, Pasighat (elevation 170m), Arunachal Pradesh, India, coll. Kumawat.

Distribution: India, Myanmar, Nepal

Biology: Unknown

Host Plants: Unknown

## 3. *Aegolipton marginale* (Fabricius, 1775) (Image 3)

*Cerambyx marginalis* Fabricius, 1775 *Officina Libraria Kortii*: 30 + 169.

*Cerambyx marginalis* Olivier, 1795 *Imprimerie de Lanneau* 4: 7.

*Cerambyx marginalis* Fabricius, 1801 *Bibliopoli Acad. Novi, Kiliae* 2: 1–280.

*Aegosoma marginale* White, 1853 *Proc. Zoo. Soc. Lond.* 21 (249): 27.

*Aegosoma marginale* White, 1853 *Cat. Coleopt. Brit. Mus. Lond.* (1)7: 31

*Aegosoma javanicum* Redtenbacher, 1868 *Zool. Theil. Zweiter Band: Coleopt.* 2: 202.

*Aegosoma marginale* Pascoe, 1869 *Trans. Ent. Soc. Lond.* 3 (3) 7: 679.

*Aegosoma marginale* Lansberge, 1884 *Notes Leyden Mus.* 6 (3): 156.

*Aegosoma marginale* Gahan, 1900 *Ann. Mag. Nat. Hist.* 5 (7) 28: 347.

*Aegosoma marginale* Gahan, 1906 *Fauna Brit. India Col.* 1: 45.

*Megopis (Baraliopton) marginalis* Lameere, 1909 *Ann. Soc. Ent. Belg.* 53 (4): 152.

*Megopis (Baraliopton) marginalis* Lameere, 1913 *Coleopt. Cat.* (52) 22:42.

*Megopis (Baraliopton) marginalis* Kano, 1933 *Kontyu* 6 (5–6): 260.

*Megopis (Aegolipton) marginalis* Gressitt, 1940 *Philippine J. Sci.*, 72 (1–2): 23.

*Megopis (Aegolipton) marginalis* Gressitt, 1951 *Longicornia* 2: 15.

*Cerambyx marginalis* Zimsen, 1964 *Copenhagen, Munksgaard* 166.

*Megopis (Baraliopton) marginalis* Duffy, 1968 *Brit. Mus (Nat. Hist.)*, London: 52.

*Megopis (Aegolipton) marginalis* Gressitt & Rondon, 1970 *Pacific Insects Mono.* 24: 18.

*Megopis (Aegolipton) marginalis* Hudepohl, 1990 *Ent. Zeitschrift fur Ent.* 11 (18): 286.

*Megopis marginalis* Hua 2002 *Zhongshan (Sun Yat-sen) Univ. Press, Guangzhou* 2: 214.

*Aegolipton marginale* Komiya, 2005 *Elytra* 33 (1): 152, 178.

*Aegolipton yunnanensis* Feng & Chen, 2007 *Acta Zootaxo. Sinica* 32 (3): 717–720.

*Aegolipton marginale* Feng & Chen, 2007 *Acta Zootaxo. Sinica* 32 (3): 717.

*Aegolipton marginale* Lobl & Smetana, 2010 *Cat. Palaearctic Coleopt.* - 6, *Apollo books*: 38.

Specimen examined: CHF/2015/209, male, 22.iii.2012, Forest floor, Pasighat, (elevation 150–180 m), Arunachal Pradesh, India, coll. Bhutia.

Distribution: Peninsula of southeastern Asia including China, Java, Sumatra, Banka, Borneo, Celebes, Amboina, India, Myanmar, Thailand, Vietnam, Laos, Taiwan, Formosa.

Biology: Unknown

Host Plants: Unknown

**4. *Dorysthenes (Lophosternus) indicus*** (Hope, 1831) (Image 4)

*Prionus indicus* Hope, 1831 *Gray's Zool. Misc.* 1: 27.

*Lophosternus (Cyrtosternus) hopei* Guerin, 1844 *Icon. Regne Anim. Ins.*: 210.

*Cyrtognathus indicus* White, 1853 *Cat. Coleopt. Brit. Mus.* 7: 1–6.

*Cyrtognathus indicus* Lameere, 1890 *Comptes–Rendus des Sea. de la Soc. Ento. Belg.* (4): 13.

*Lophosternus indicus* Gahan, 1906 *Fauna Brit. India Col.* 1: 10.

*Lophosternus socius* Gahan, 1906 *Fauna Brit. India, Col.* 1: 11.

*Dorysthenes (Lophosternus) indicus* Lameere, 1913 *Col. Cat.* 52: 68.

*Dorysthenes (Lophosternus) indicus* Villiers & Chujo, 1966 *J. College Arts Sci.* 4 (4): 550.

*Dorysthenes indicus* Hua, 2002 *Zhongshan (Sun Yat–sen) Univ. Press, Guangzhou*, 2: 1–205.

*Lophosternus socius* Mukhopadhyay & Halder, 2004 *State Fauna Series ZSI India*, 10: 424.

*Dorysthenes indicus* Weigel, 2006 *Ver. der Fre. und For. des Naturk. Erfurt e.* 5: 497.

Specimen examined: CHF/2015/212, male, 2.x.2008, Pasighat (elevation 160m), Arunachal Pradesh, India, Coll. Madhu.

Distribution: Arunachal Pradesh, Bhutan, China, Nepal, Tibet.

Biology: Unknown

Host Plants: Unknown

**5. *Dorysthenes (Lophosternus) huegelii*** (Redtenbacher 1848) (Image 5)

*Cyrtognathus huegelii* Redtenbacher, 1848 *Hugel's Kaschmir* 4 (2): 550.

*Cyrtognathus indicus huegelii* White, 1853

*Cyrtognathus falco* Thomson, 1877 *Rev. Mag. Zool.* (3) 5 (40): 262.

*Lophosternus falco* Gahan, 1906 *Fauna Brit. India, Col.* 1: 11.

*Lophosternus huegelii* Gahan, 1906 *Fauna Brit. India Col.* 1: 12.

*Lophosternus palpalis* Gahan, 1906 *Fauna Brit. India Col.* 1: 12.

*Dorysthenes (Lophosternus) hugeli* Lameere, 1911 *Ann. Soc. Ent. Belg.* 55 (9): 330.

*Dorysthenes (Lophosternus) hugeli* var. *falco* Lameere, 1913 *Coleopt. Cat.* (52) 22:69.

*Dorysthenes (Lophosternus) hugeli* var. *palpalis*

Lameere, 1913 *Coleopt. Cat.* (52) 22:69.

*Dorysthenes (Lophosternus) hugely* Gressitt, 1950 *Indian For. Rec.* 8 (2): 9.

*Dorysthenes huegelii* Weigel, 2006 *Ver. der Fre. und For. des Naturk. Erfurt e.* 5: 497.

Specimen examined: CHF/2015/214, male, 10.iv.2010, Forest ground, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. M.M. Kumawat.

Distribution: Arunachal Pradesh, Assam, Darjeeling, Kashmir, Sikkim, China, Nepal.

Biology: Adults start emerging with the onset of pre-monsoon rains during the second fortnight of June and the majority of the beetles (75–80 %) emerge by the first week of July but the emergence continues up to the second week of August depending upon the frequency of rainfall (Sharma & Khajuria 2005). The eggs are placed in an interstic in the bark (Stebbing 1914). The eggs are also laid 8–12 mm below the soil surface and after hatching the grubs initially feed on organic matter and then bore into the roots of the tree. It takes up to 3.5 years for them to mature (Atwal & Dhaliwal 1997).

Host Plants: It is a serious pest of apple trees. (Verma & Thapa 2005). The larvae also bore into the roots of oak trees, *Quercus* sp. (David & Ramamurthy 2012).

**6. *Bandar pascoei pascoei*** (Lansberge, 1884) (Image 6)

*Macrotoma Pascoei* Lansberge, 1884 *Notes Leyden Mus.* 6: 144.

*Macrotoma luzonum* Pascoe, 1869 *Trans. Ent. Soc. Lond.* (3)3: 666.

*Macrotoma fisheri* Waterhouse, 1884 *Ann. Mag. Nat. Hist.* (5)14: 382.

*Macrotoma fisheri* Gahan, 1906 *Fauna Brit. India Col.* 1: 35.

*Macrotoma (Bander) Fisheri* Lameere, 1912 *Mem. Soc. Ent. Belg.* 21: 144.

*Macrotoma (Bander) Pascoei* Lameere, 1912 *Mem. Soc. Ent. Belg.* 21: 144.

*Macrotoma (Bander) fisheri* Gressitt, 1951 *Longicornia* 2: 11.

*Macrotoma (Bander) fisheri* ssp. *khoi* Hayashi, 1975 *Bull. Osaka Jonan Women's Jr. Coll.* 10: 168.

*Macrotoma fischeri* Heyrovsky, 1976 *Kumbu Himal* 5: 125.

*Bander pascoei pascoei* Quentin & Villiers, 1981 *Ann. Soc. Ent. Fr.* 17(1): 363.

Specimens examined: CHF/2015/217, male, 01.iv.2010, light trap, Pasighat (elevation 160m), Arunachal Pradesh, India, coll. Jeebit; CHF/2015/218, female, 30.v.2011, light trap, Pasighat (elevation 160m), Arunachal Pradesh, India, coll. Bilin Maying.

Distribution: Sri Lanka, India, Tibet, Nepal, Myanmar, Thailand, Laos, Vietnam, Malay Peninsula, Sumatra, Java, Borneo, Billiton Island, Banga Island, southern China and Hainan Island.

Biology: Unknown.

Host Plants: *Castanea mollissima*, *Diospyros kaki*, *Malus pumila*, *Pistacia chinensis*, *Prunus armeniaca*, *P. persica*, *Pyrus serotina* and *Quercus variabilis* (Gressitt 1951).

#### 7. *Anomophysis plagiata* (Waterhouse, 1884) (Image 7)

*Macrotoma plagiata* Waterhouse, 1884 *Ann. Mag. Nat. Hist.* (5) 14 (84): 381.

*Macrotoma vidua* Lameere, 1903 *Mem. Ent. Soc. Belg.* 11: 167, 199.

*Macrotoma plagiata* Gahan, 1906 *Fauna Brit. India Col.* 1: 37.

*Macrotoma* (*Zooblast*) *plagiata* Lameere, 1913 *Coleopt. Cat.* (52) 22: 28.

*Macrotoma* (*Zooblast*) *vidua* Lameere, 1913 *Coleopt. Cat.* (52) 22: 28

*Macrotoma* (*Zooblast*) *plagiata* Lameere, 1919 *Coleopt. Generate Insecto.* 172: 51.

*Macrotoma* (*Zooblast*) *crenata* Gressitt & Rondon, 1970 *Pacific Insects Mono.* 24: 13.

*Anomophysis plagiata* Quentin & Villiers, 1981 *Ann. Soc. Ent. Fr.* 17 (3): 361, 376, 383.

Specimens examined: CHF/2015/222, male, 20.iv.2010, light trap, Pasighat (elevation 160m), Arunachal Pradesh, India, coll. Bilin Maying. CHF/2015/223, female, 14.iii.2010, light trap, Pasighat (elevation 160m), Arunachal Pradesh, India, coll. Bilin Maying.

Distribution: Central Asia, Sri Lanka, India, Pakistan, Afghanistan, Burma, Laos.

Biology: Unknown

Host Plants: Unknown

#### 8. *Prionomma atratum* (Gmelin, 1789) (Image 8)

*Prionus atratum* Gmelin, 1789 *Syst. Nat.* 1(4): 1818.

*Prionus orientalis* Olivier, 1795 *Ent.* 4 (66): 28.

*Prionus tranquebaricus* Fabricius, 1798 *Ent. Syst. Suppl.* 141.

*Prionus buphtalmus* Fabricius, 1801 *Bibliopoli Academici Novi Kiliae* 2: 1–687.

*Armiger hussarus ceilonensis* Voet, 1806 *La Haye Bakhuyzen* 2: 1–254.

*Prionoma orientalis* White, 1853 *Cat. Col. Brit. Mus. Longic.* 1 (7): 19.

*Prionomma atratum* Gahan, 1906 *Fauna Brit. India Col.* 1: 17.

*Prionoma* (*Prionomma*) *atratum* Lameere, 1910 *Ann. Soc. Ent. Belg.* 54: 279.

*Prionomma atratum* Quentin & Villiers, 1981 *Ann. Soc. Ent. Fr.* 17 (3): 361–383.

Specimens examined: CHF/2015/227, male, 05.v.2010, light trap, Pasighat (elevation 160m), Arunachal Pradesh, India, coll. Sanchi; CHF/2015/228, female, 08.iv.2008, forest logs, Pasighat (elevation 180m), Arunachal Pradesh, India, coll. Evoni.

Distribution: Sri Lanka, southern India, Arunachal Pradesh.

Biology: The adult appears in June–July. It is a borer of stumps and decaying logs making very large tunnels, the mature larva being over five inches long (Beeson 1941).

Host Plants: *Abies pindrow*, *A. webbiana*, *Juglans regia*, *Ficus excelsa*, *Boswellia serrata* (Beeson 1941; Duffy 1968).

#### 9. *Rhaphipodus subopacus* Gahan, 1890 (Image 9)

*Rhaphipodus subopacus* Gahan, 1890 *Ann. Mag. Nat. Hist.* 6: 48.

*Rhaphipodus* (*Rhaphipodus*) *subopacus* Lameere, 1903 *Mem. Ent. Soc. Belg.* 11: 73

*Rhaphipodus subopacus* Gahan, 1906 *Fauna Brit. India Col.* 1: 32

*Rhaphipodus subopacus* Lameere, 1912 *Mem. Ent. Soc. Belg.* 21: 138

Specimen examined: CHF/2015/231, female, 13.iv.2008, forest logs, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Pooja.

Distribution: Arunachal Pradesh, Mumbai, Tamilnadu, Uttar Pradesh, West Bengal

Biology: Larvae bores into the dead wood (Duffy 1968; Mathur & Singh 1961).

Host Plants: *Sapium sebiferum*, *Salmaalina malabarica* (Duffy 1968); *Ailanthus triphysa* (Verma 1986).

#### 10. *Baralipion maculosum* Thomson, 1857 (Image 10)

*Baralipion maculosum* Thomson, 1857 *Arch. Ent.* 1: 341–344.

*Megopis maculosa* Lameere, 1909 *Ann. Soc. Ent. Belg.* 53(4): 135–170.

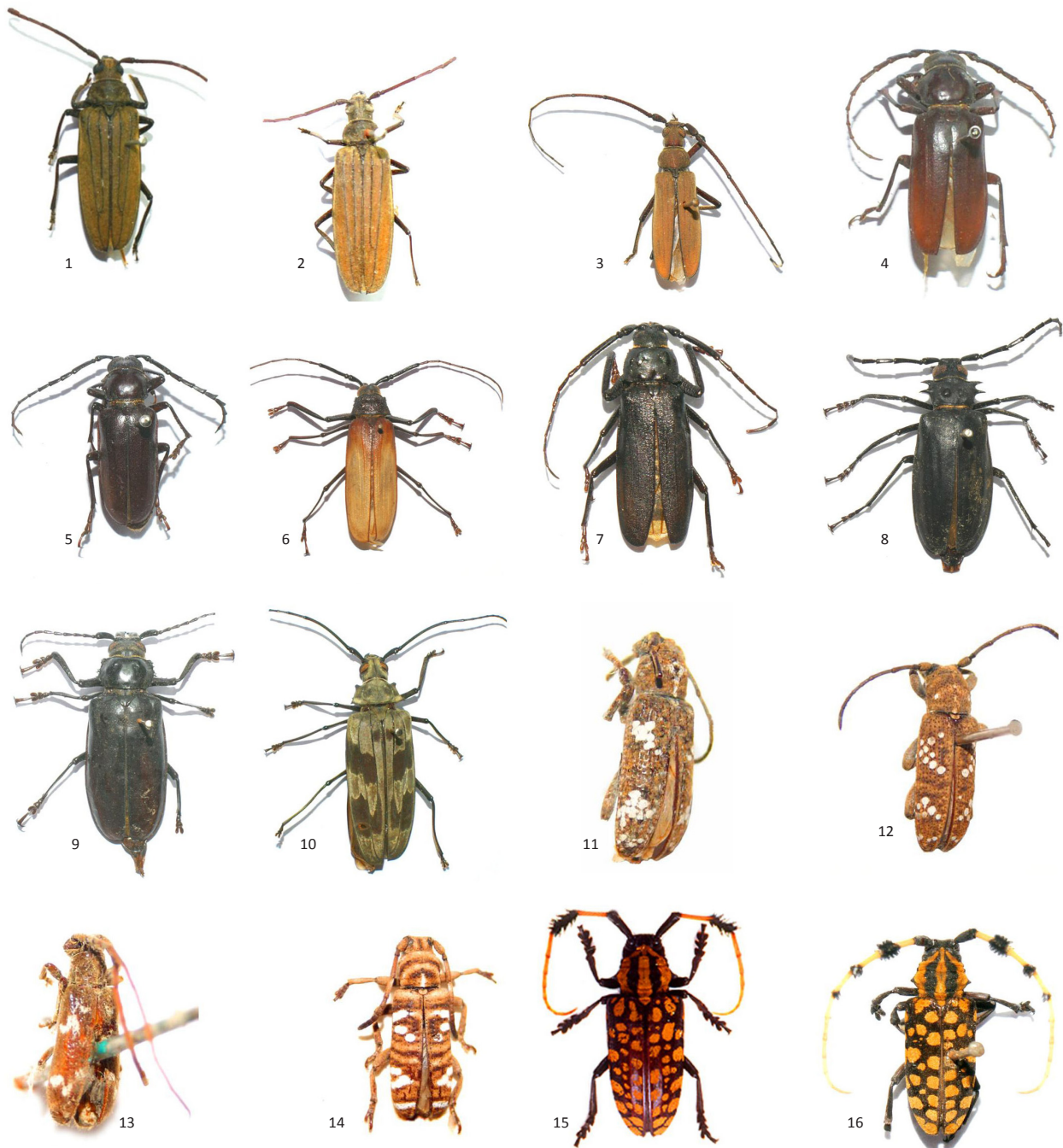
*Megopis maculosa* Gressitt 1940 *Philippine J. Sci.* 72 (1–2): 1–239.

*Baralipion maculosum* Lepesme & Breuning, 1952 *Trans. IXth Inter. Cong. Ent.*, Amsterdam 11: 139–142.

*Megopis maculosa* Gressitt & Rondon, 1970 *Pacific Insects Mono.* 24: 1–314.

*Baralipion maculosum* Komiya, 2003 *Elytra* 31 (1): 43–54.

Specimens examined: CHF/2015/233, male, 19.iv.2009, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Herojit; CHF/2015/234, female, 23.v.2010, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India,



Images 1–16. 1 - *Nepiodes costipennis costipennis*; 2 - *Nepiodes bowringi*; 3 - *Aegolipton marginale*; 4 - *Dorysthenes (Lophosternus) indicus*; 5 - *Dorysthenes (Lophosternus) huegellii*; 6 - *Bandar pascoei pascoei*; 7 - *Anomophysis plagiata*; 8 - *Prionomma atratum*; 9 - *Rhaphipodus subopacus*; 10 - *Baraliphton maculosum*; 11 - *Apomecyna saltator*; 12 - *Apomecyna cretacea*; 13 - *Apomecyna histrio histrio*; 14 - *Apomecyna tigrina indica*; 15 - *Aristobia approximator*; 16 - *Aristobia reticulator*. © M.M. Kumawat.

coll. Sanchi.

Distribution: Arunachal Pradesh, Myanmar, Thailand

Biology: Unknown

Host Plants: Unknown

#### Subfamily: Lamiinae

11. *Apomecyna saltator* (Fabricius, 1787) (Image 11)

*Lamia saltator* Fabricius, 1787 *Hafniae*, Proft 1: 141

*Apomecyna neglecta* Pascoe, 1865 *Trans. Ent. Soc. Lond.* 3, 3, 1: 152.

*Apomecyna pertigera* Thomson, 1868 *Physis Rec. Hist. Nat.* 2, 6: 160.

*Apomecyna niveosparsa* Fairmaire, 1895 *Ann. Soc. Ent. Belg.* 39: 185.

*Apomecyna multinotata* Pic, 1918 *Mel. Exot. Ent.* 28: 5.

*Apomecyna tonkinea* Pic, 1918 *Mel. Exot. Ent.* 28: 5.

*Apomecyna sinensis* Pic, 1918 *Mel. Exot. Ent.* 28: 5.

*Apomecyna excavaticeps* Pic, 1918 *Mel. exot. Ent.* 28: 6.

*Apomecyna subuniformis* Pic, 1944 *Opusc. Mart.* 13: 14.

Specimen examined: CHF/2015/235, male, 01.iv.2010, forest weeds, East Siang (elevation 180m), Arunachal Pradesh, India, coll. T. Riba.

Distribution: Widely distributed in all over India, subtropical China, Pakistan, Taiwan and Vietnam.

Biology: The grubs are brownish in colour having flattened head and thorax, soft and distinctly segmented abdomen. Eggs are laid single in the epidermis of the stems. On hatching, grubs bore into the long trailing stems or near the node and tunnel inside. Adult beetles gnaw the leaf petioles and soft parts of the stem. Egg, larval and pupal periods last for 5–7, 31–35 and 7–9 days, respectively (Srivastava & Butani 2009; Muthukrishnan et al. 2005).

Host Plants: Ivy gourd, bottle gourd, ridge gourd, snake gourd, sponge gourd, pumpkin (Beeson 1941; Nair 1975; David & Ramamurthy 2012).

#### 12. *Apomecyna cretacea* (Hope, 1831) (Image 12)

*Callidium cretaceum* Hope, 1831 *Gray's Zool. Misc.* 1: 28.

*Apomecyna proba* Newman, 1842 *The Entomologist* 1, 19: 299.

*Apomecyna perroteti* Thomson, 1868 *Physis Rec. Hist. Nat.* 2, 6: 159.

*Apomecyna laosensis* Pic, 1938 *Bull. Soc. Ent. France* 43: 124.

*Apomecyna cretacea* Rondon & Breuning, 1971 *Pacific Insects Mono.* 24: 352.

*Apomecyna cretacea* Hua, 2002 *Zhongshan (Sun Yat-sen) Univ. Press, Guangzhou*, 2: 1–612.

*Apomecyna (Apomecyna) cretacea* Lobl & Smetana, 2010 *Cat. Palaearctic Coleopt.-6, Apollo books*: 228.

Specimen examined: CHF/2015/237, male, 20.iv.2010, forest weeds, East Siang (elevation 180m), Arunachal Pradesh, India, coll. Subhash.

Distribution: India, Himalayan India, India, Nepal, Subtropical China, Taiwan, Laos, Philippines, S. Asia, Manila

Biology: Biology similar to that of *A. saltator*. More common in south India (Srivastava & Butani 2009).

Host Plants: Cucurbitaceous plants

#### 13. *Apomecyna histrio histrio* (Fabricius, 1793) (Image 13)

*Lamia histrio* Fabricius, 1793 *Hafniae, Proft* 1, 2: 288.

*Saperda alboguttata* Megerle, 1802 *Appendix Novus*, 473: 10.

*Apomecyna histrio* Castelnau, 1840 *P. Dumenil* 2: 492.

*Apomecyna alboguttata* Dejean, 1821 *Crevot* :

*Apomecyna histrio* Blanchard, 1849 Paris, Deterville and Crochard: 68.

*Apomecyna (Apomecyna) quadrifasciata* Thomson, 1868 *Physis Rec. Hist. Nat.* 2, 6: 159.

*Apomecyna maculaticollis* Pic, 1918 *Mel. exot. Ent.* 28: 6.

*Saperda alboguttata* Bousquet et al., 2009 *Zootaxa* 2321: 26.

*Apomecyna histrio histrio* Ohbayashi & Niisato, 2007 *Tokai Univ. Press, Kanagawa*: 532.

Specimen examined: CHF/2015/238, male, 05.v.2010, wild cucurbits, East Siang (elevation 180m), Arunachal Pradesh, India, coll. S. Tamang.

Distribution: Himalayan India, North East India, Japan, Korean Peninsula (South Korea), Laos, Moluccas, Nepal, Pakistan, Philippines, Siberia (East Siberia), Subtropical China, Taiwan.

Biology: The pest overwinters as grub inside the stem from October to February. Adult emergence from stems takes place usually during May. Incubation, grub and pupal periods last for 5–6, 22–33 and 6–8 days, respectively. A life cycle is completed in 35–46 days and adult longevity is 33–39 days (Lefroy 1909). There are 3 to four generations in a year.

Host Plants: Ridge gourd, smooth gourd, sponge gourd (Srivastava & Butani 2009), chow-chow, *Sechium eduli*; *Coccinia indica* (David & Ramamurthy 2012) and *Cephalandra* sp.

#### 14. *Apomecyna tigrina indica* Breuning, 1969 (Image 14)

*Apomecyna tigrina* Thomson, 1857 *Arch. Ent.* 1: 343.

*Apomecyna tigrina* Rondon & Breuning, 1971 *Pacific Insects Mono.* 24: 353.

*Apomecyna tigrina* Hua, 2002 *Zhongshan (Sun Yat-sen) Univ. Press, Guangzhou*, 2: 195.

*Apomecyna tigrina indica* Breuning, 1969 *Bull. Mus. Nat. Hist. Nat.* 2, 41, 3: 655–670.

Specimens examined: CHF/2015/241, male, 13.xi.2008, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Carmel; CHF/2015/242, female, 02.iv.2010, wild cucurbits, East Siang (elevation 160m), Arunachal Pradesh, India, coll. Kumawat.

Distribution: Himalayan India, India (North East India), China, Indonesia, Laos.

Biology: Unknown

Host Plants: Unknown

**15. *Aristobia approximinator*** (Thomson, 1865) (Image 15)  
*Celosterna approximator* Thomson, 1865 *Mem. Soc. R. Sci. Liege* 19: 552.

*Aristobia birmanica* Gahan, 1895 *Ann. Mus. Civ. Genova* 34: 40.

*Aristobia approximator* Breuning, 1943 *Novit. Entomol., third supp.* (89–106): 190.

*Aristobia approximator* m. *birmanica* Breuning, 1943 *Novit. Entomol., third supp.*, (89–106): 190.

*Aristobia approximator* m. *birmanica* Breuning & Chujo, 1966 *Mem. Fac. Lib. Arts Edu. Kagawa Univ.* 2 (135): 1–4.

*Aristobia approximator* Mukhopadhyay & Halder, 2004 *State Fauna Series ZSI, India*, 10: 423.

*Aristobia approximatrix* Lobl & Smetana, 2010 *Cat. Palaearctic Coleopt.-6, Apollo books*: 278.

Specimen examined: None

Distribution: Nepal, India, Cambodia, Myanmar, Subtropical China, Yunnan, Thailand, Vietnam, Malaysia

Biology: The adult beetle emerges in June to July. Females lay their eggs on the branches of the litchi tree; the grubs bore into the bark and feed beneath it. Later, grubs enter deep into the sapwood. The last larval instars were observed in the last week of April to the first week of May. The freshly emerged adults were found in the pupal chamber in the middle of June in Pasighat, Arunachal Pradesh. Only one generation is completed in a year.

Host Plants: *Dimocarpus longana*, *Lagerstroemia calyculata*, *Casurina* spp.

**16. *Aristobia reticulator*** (Voet, 1778) (Image 16)

*Cerambyx testudo* Voet, 1778 *La Haye Bakh.* 2: 29

*Lamia reticulator* Fabricius, 1781 *Bohn; Hamburgi et Kilonii* 1: 219

*Celosterna reticulator*, Thomson 1860 *Paris*: 85

*Celosterna testudo* Thomson, 1860 *Paris*: 85

*Celosterna clathrator* Thomson, 1865 *Mem. Soc. R. Sci. Liege* 19: 552

*Aristobia reticulator* Heyne & Taschenberg, 1908 *Leipzig Schreiber* 25/26: 241.

*Aristobia testudo* Breuning, 1943 *Novit. Entomol., third supp.* (89–106): 189.

*Lamia reticulator* Zimsen, 1964 *Copenhagen*, Munksgaard, 170.

*Aristobia testudo* Mukhopadhyay & Halder, 2004 *State Fauna Series ZSI, India*, 10: 423.

*Aristobia reticulatrix* Lobl and Smetana, 2010 *Cat. Palaearctic Coleopt.-6, Apollo books*: 278.

*Aristobia reticulator* Jiroux et al., 2014 *Les Cahiers*

*Magellanes* (NS) 14: 71, 84, 113.

*Aristobia reticulator* Agarwala & Bhattacharjee, 2015 *Coleopt. Bull.* 69(2): 205–212.

Specimen examined: CHF/2015/243, male, 23.vii.2010, litchi, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Kumawat; CHF/2015/244, female, 15.vi.2012, litchi, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Kumawat.

Distribution: Northeastern Himalayan range of India, Nepal, China, Vietnam.

Biology: One generation was observed each year with adults emerging in July. They removed bark rings around twigs, which then withered. Eggs were laid individually under the bark mainly in August, hatched generally in September and fed below the bark before hibernation (August–December). After hibernation the larvae bored into the wood, producing tunnels up to about 60cm long (Ho et al. 1990).

Host Plants: Litchi, Guava, Pigeonpea (Shylesha et al. 2000; Firake et al. 2012), *Microcos paniculata* (Agarwala & Bhattacharjee 2015) and *Dimocarpus longana*. The species is reported for the first time on litchi, *Litchi chinensis* in Pasighat, Arunachal Pradesh during the present study. The litchi plantations of the region including research farm of litchi in the College of Horticulture and Forestry, CAU, India suffered heavily.

Remarks: *A. approximator* characterized by the presence of a strong tuft of hairs at the apical half of the third antennal segment only in both sexes, whereas *A. reticulator* possesses tufts of hairs on the apices of the third, fourth, and most often on fifth antennal segments; these tufts are most prominent on the third segment, less so on the fourth segment, and feebly so, if present, on the fifth segment (Hua 2002; Jiroux et al. 2014; Agarwala & Bhattacharjee 2015).

**17. *Batocera parryi*** (Hope, 1846) (Image 17)

*Lamia (Batocera) calanus* Parry, 1845 *Ann. Mag. Nat. Hist.* 14: 86

*Lamia parryi* Hope, 1846 *Trans. Ent. Soc. Lond.* 1, 4: 77  
*Megacriodes guttata* Vollenhoven, 1871 *Tijdschr. Ent.*: 110

*Batocera fabricii* Thomson, 1878 *Rev. Mag. Zool.* 3, 6: 54

*Batocera albofasciata* Heyne & Taschenberg, 1908 *Leipzig, Schreiber* 25/26: 242.

*Batocera calanus* var. *bimaculata* Schwarzer 1914 *Ent. Mitteil.* 3: 280

*Batocera calanus* var. *immaculata* Schwarzer, 1914 *Ent. Mitteil.* 3: 280

*Semibatocera calana* Kriesche, 1915 *Arch. f. Naturg.*



80A 11: 115

*Batocera (Semibatocera) parryi narada* Kriesche, 1928  
*Deutsche Ent. Z.*: 45

*Batocera parryi* Perger & Vitali, 2012 *Les Cahiers Magellanes* NS 7: 11,15

Specimen examined: CHF/2015/250, female, 30.iv.2011, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Hammer.

Distribution: Borneo, Himalayan India, India, Java, Malayan Peninsula, Myanmar, Sumatra, Vietnam

Biology: Unknown

Host Plants: Unknown

**18. *Batocera rubus rubus* (Linnaeus, 1758) (Image 18)**

*Cerambyx rubus* Linnaeus, 1758 *Laur. Salvis Holmiae* 10, 1: 390

*Cerambyx albofasciatus* Degeer, 1775 *Stockholm, Impr. Pierre Hesselberg* 5: 106

*Cerambyx stigma* Voet, 1778 *La Haye Bakh.* 2: 37

*Cerambyx albomaculatus* Retzius, 1783 *Cruse*: 138

*Lamia octomaculata* Fabricius, 1793 *Hafniae, Proft* 1, 2: 290

*Batocera rubus* Dejean, 1835 *Crevot* 2: 4

*Lamia (Lamia) rubus* Audinet-Serville, 1835 *Ann. Soc. Ent. Fr.* 1, 4: 94

*Batocera rubus* Blanchard, 1845 *Paris Didot* 2: 175

*Batocera sarawakensis* Thomson, 1858 *Arch. Ent.* 1: 452

*Batocera octomaculata* Thomson, 1858 *Arch. Ent.* 1: 454

*Lamia octomaculata* = *albofasciatus* Degeer, 1775, Thomson 1858, *Arch. Ent.* 1: 454

*Lamia octomaculata* = *stigma* Voet, 1778, Thomson 1858 *Arch. Ent.* 1: 454

*Batocera rubus* Thomson, 1858 *Arch. Ent.* 1: 456

*Batocera sabina* Thomson, 1878 *Rev. Mag. Zool.* 3, 6: 52

*Batocera albofasciata* Stebbing, 1914 *Indian For. Ins.*: 366

*Batocera rubus* var. *bipunctata* Kriesche, 1915 *Arch. f. Naturg.* 80A 11: 134

*Batocera rubus* var. *punctatella* Kriesche, 1915 *Arch. f. Naturg.* 80A 11: 135

*Batocera formosana* Kriesche, 1915 *Arch. f. Naturg.* 80A 11: 136

*Batocera siporensis* Schwarzer, 1930 *Treubia* 12: 122

*Batocera lombokensis* Breuning, 1947 *Ark. Zool.* 39A 6: 16

*Batocera dividopunctata* Gilmour & Dibb, 1948 *Spolia Zeylanica* 25: 61

*Cerambyx rubus* Bousquet et al., 2009 *Zootaxa* 2321:

27

*Batocera rubus* Perger & Vitali, 2012 *Les Cahiers Magellanes* NS 7: 11,16

Specimens examined: CHF/2015/252, male, 15.vi.2010, light trap, East Siang (elevation 150m), Arunachal Pradesh, India, coll. Bhutia; CHF/2015/253, female, 06.iv.2011, forest of East Siang (elevation 150m), Arunachal Pradesh, India, coll. Bidhya.

Distribution: Borneo, Himalayan India, India, Japan, Korean Peninsula, Laos, Lesser Sunda, Malayan peninsula, Myanmar, Nepal, Pakistan, Subtropical China, China, Saudi Arabia, Sumatra, Taiwan, Thailand, Vietnam

Biology: The beetles emerged during April. The eggs are laid on the bark or on wounds in the months of April to May. The larvae on hatching, tunnel through the bark till they reach the bast and then bore deeper and eat out a winding gallery. The larvae spend about nine months and enter into pupal stage which lasts from six weeks to two months. The grubs pupate in January or February. There is only one generation per year (Stebbing 1914).

Host Plants: Indian rubber, *Ficus elastic*, *Careya arborea*, mango, fig and many other forest trees.

**19. *Batocera horsfieldi* Hope, 1839 (Image 19)**

*Batocera horsfieldi* Hope, 1839 *Proc. Linn. Soc. Lond.* 1: 42.

*Batocera adelpha* Thomson, 1859 *Baillere*: 77.

*Batocera kuntzeni* Kriesche, 1915 *Arch. f. Naturg.* 80A 11: 139.

*Batocera horsfieldi* m. *flavicans* Breuning, 1948 *Bull. Mus. Hist. Nat. Belg.* 24, 38: 15.

Specimen examined: CHF/2015/257, male, 05.vi.2011, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Donald.

Distribution: Bhutan, Himalayan India, India, Myanmar, Palaeartic China.

Biology: Adults emerge in early June and continue till July. The adults live for about four months. Adults rest on their food plants and feed on the bark of the young twigs. A single female lays 55–60 eggs in the bark. The grubs bore into the bark and reach into the sap wood. It pupates in a chamber under the bark. The life cycle completes in 22–32 months (Rahman & Khan 1942).

Host Plants: *Aliius nepaleusis*, *Juglans regia*, *Quercus incana*, *Walnut*, *Salix tetrasperma*, *Trema amboinensis* and *Parlowina tomentosa* (Beeson 1941).

Remarks: *B. horsfieldi* characterized by the presence of smoky or grayish pubescence on black elytra with multi striped whitish longitudinal pubescence bands are present on middle of each elytron. Mesepimeron covered with whitish pubescence leaving a narrow triangular mark

uncovered near the juncture of mesepisternum. Lateral lobes of apical tegmen of male genitalia are narrow, long and less jointed from their base to each other. *Batocera lineolata* is closely related species possesses reddish-brown or dark brown elytra covered with brownish pubescence with cloudy striped longitudinal whitish yellow pubescence band on each elytron. Mesepimeron covered with dense whitish pubescence without leaving a narrow triangular mark. Lateral lobes of apical tegmen are broad and their basal half jointed to each other. The median lobe of male *B. horsfieldi* is broad at base as compared to *B. lineolata* (Ponpinij 2011; Ying et al. 2012).

**20. *Batocera rufomaculata rufomaculata*** (De Geer, 1775) (Image 20)

*Cerambyx rufomaculatus* De Geer, 1775 *Stockholm, Impr. Pierre Hesselberg* 5: 107

*Cerambyx rubiginosus* Voet, 1778 *La Haye Bakh.* 2: 14

*Cerambyx cruentatus* Gmelin, 1790 *Lipsiae Beer* 13, 1, 4: 1863

*Batocera rufomaculata* m. *flavescens* Breuning 1950 *Longicornia* 1: 519

*Batocera rufomaculata* Breuning, 1957 *Inst. Rech. sc. Tananarive-Ts.* 4: 10

*Cerambyx rubus* = *rubiginosus* Voet, 1778, Thomson 1858 *Arch. Ent.* 1: 456

*Cerambyx rubus* = *rufomaculatus* Degeer, 1775, Thomson 1858 *Arch. Ent.* 1: 456

*Cerambyx rubus* = *cruentatus* Gmelin, 1790, Thomson 1858 *Arch. Ent.* 1: 456

*Batocera diana* Nonfried, 1892 *Deutsche Ent. Z.* 2: 276

*Batocera (Batocera) rufomaculata* Duffy, 1960 *Brist. Mus. (Nat. Hist.):* 187

*Batocera rufomaculata* Rigout, 1981 *Sciences Nat.*: 86

*Batocera rufomaculata* Chalumeau & Touroult, 2005 *Pensoft Publ.:* 141

*Batocera rufomaculata* Sakenin et al., 2011 *Calodema* 143: 7

Specimens examined: CHF/2015/259, male, 15.vi.2010, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Mantu; CHF/2015/260, female, 06.vi.2010, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Pinku.

Distribution: Comoros, East Turkey, Egypt, Himalayan India, India, Iran, Israel, Lebanon, Madagascar, Mascarene, Nepal, Pakistan, Palaeartic China, Oman, Yemen, Syria.

Biology: The female chews a small depression in the bark and inserts an egg under it. The neonate larvae initially feed under the bark then migrate into the heartwood. The larval and pupal stages last about 280 and 24–29 days, respectively (Husain & Khan 1940; Sudhi et al.

2008; Kulkarni 2010).

Host Plants: Mango, fig, durian, mulberry, jackfruit, eucalyptus, *Bombax ceiba*, *Ceiba pentandra*, and *Syzygium cumini*. *Anacardium occidentale*, *Artocarpus heterophyllus*, *Careya arborea*, *Ceiba pentandra*, *Hevea brasiliensis*, *Syzygium cumini* (Mathew 1982). It is a polyphagous pest and about 50 host plants are known (CABI 2007).

**21. *Batocera numitor*** Newman, 1842 (Image 21)

*Batocera numitor* Newman, 1842 *The Entomologist* 1, 17: 275

*Batocera ajax* Thomson, 1858 *Arch. Ent.* 1: 455

*Batocera ajax* = *ajax* Dejean, 1837, Thomson, 1858 *Arch. Ent.* 1: 455

*Batocera ferruginea* Thomson, 1858 *Arch. Ent.* 1: 456

*Batocera numitor titana* Thomson 1859 *Baillere:* 82

*Batocera javanica* Thomson, 1859 *Baillere:* 83

*Batocera loki* Kriesche, 1915 *Arch. f. Naturg.* 80A 11: 143

*Batocera numitor* var. *sumatrensis* Aurivillius, 1922 *Coleopt. Cat.* 73: 126

*Batocera numitor* var. *palawanicola* Kriesche, 1928 *Deutsche Ent. Z.:* 47

*Batocera rufopunctata* Breuning, 1956 *Bull. Inst. Roy. Sc. Nat. Belg.* 32, 25: 1

*Batocera numitor* Rigout 1982 *Sci. Nat.:* 32

Specimens examined: CHF/2015/262, female, 23.v.2010, forest logs, Pasighat (elevation 160m), India, coll. Sanjeev; CHF/2015/263, female, 19.vii.2010, light trap, Pasighat (elevation 180m), India, coll. Mantu; CHF/2015/264, male, 09.iv.2010, light trap, West Siang (elevation 210m), Arunachal Pradesh, India, coll. Mantu.

Distribution: Himalayan India, India, Java, Nepal, Palaeartic China, Subtropical China, Sulawesi, Sumatra, Thailand, Vietnam

Biology: The beetle makes its appearance from July to August. The eggs are laid in wounds or on the bark having no strength to resist the tunneling. The grub bores into the stem and become full grown in March than it pupates for three months. The life cycle is annual. The beetle was studied by Stebbing (1914) under the name of *Batocera titana* (Beeson 1941).

Host Plants: *Anthocephalus cadamba*, *Hodgsonia heteroclita*, *Mangifera indica*, *Ochroma lagopus*, *Sterculia villosa* (Beeson 1941); *Alstonia* spp., *Ceiba pentandra* (Bhasin et al. 1958)

**22. *Apriona germarii germarii*** (Hope, 1831) (Image 22)

*Apriona germarii* Hope, 1831 *Gray's Zool. Misc.* 1: 28.

*Apriona germarii* Chevrolat, 1852 *Rev. Mag. Zool.* (2) 4: 415.

*Apriona germarii* Thomson, 1864 *Mem. Soc. R. Sci. Liege* 19: 74.

*Apriona deyrollei* Kaup, 1866 *Einige Ceramb.*: 7.

*Apriona cribrata* Thomson, 1878 *Rev. Mag. Zool.* 3, 6: 57.

*Apriona germari* Stebbing, 1914 *Indian For. Ins.*: 371.

*Apriona germari* Huang et al., 2009 *Les Cahiers Magellanes* 94: 8 (4).

*Apriona germari* Jiroux, 2011 *Les Cahiers Magellanes* NS 5: 59, 83.

*Lamia germarii* = *cribrata* Thomson, 1878, Jiroux 2011 *Les Cahiers Magellanes* NS 5: 59.

*Lamia germarii* = *deyrollei* Kaup, 1866, Jiroux 2011, *Les Cahiers Magellanes* NS 5: 59.

*Apriona germari* Hussain & Buhroo, 2012 *Nat. Sci.* 10, 1: 24.

*Apriona germari* Hussain 2012 *J. Amer. Sci.* 8, 8: 961.

Specimens examined: CHF/2015/266, male, 12.iv.2010, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Mantu; CHF/2015/267, female, 21.v.2009, light trap, Basar (elevation 575m), Arunachal Pradesh, India, coll. T. Riba.

Distribution: Bhutan, Himalayan India, India, Nepal

Biology: Both pupae and beetles are found in the middle of July. Adults lay eggs on the bark of the stems. The young grubs start eating on the bark and then enter into the heartwood and tunnel up and down (Stebbing 1914) In Andhra Pradesh, *A. germari* appeared in July–August, feeding on the bark of the top stem portion of 2–3 cm diameter of the crown (Kulkarni 2010).

Host Plants: Mulberry, *Morus indica*, eucalyptus.

### 23. *Coptops aedificator* (Fabricius, 1793) (Image 23)

*Lamia ambulator* Fabricius, 1775 *Korte, Flensburgi and Lipsiae* 30: 171.

*Cerambyx fuscus* Olivier, 1792 *Paris Panckoucke Imp. Lib.* 7: 462.

*Cerambyx villica* Olivier, 1792 *Paris Panckoucke Imp. Lib.* 7: 468.

*Lamia aedificator* Fabricius, 1793 *Hafniae, Proft* 1 (2): 275.

*Cerambyx fuscus* Olivier, 1795 *Coleopteres, Imp. de Lanneau Paris* 4: 83.

*Lachnia (Coptops) parallela* Audinet-Serville, 1835 *Ann. Soc. Ent. Fr.* (1) 4: 64.

*Lamia aedificator* = *calliginosus* Dejean, 1837, Thomson 1858 *Arch. Ent.* 2: 177

*Coptops aedificator* Thomson, 1858 *Arch. Ent.* 2: 177.

*Lamia aedificator* = *bidens* Fabricius, Thomson 1858 *Arch. Ent.* 2: 177

*Coptops quadristigma* Fahraeus, 1872 *Oefvers. Vet. Ak.*

*Forh.* 29 (2): 30.

*Phymasterna inhambanensis* Bertoloni, 1876 n. Syn. by Vitali 2011 *Entomol. Africana* 16 (1): 2–12.

*Coptops fuscus* Quedenfeldt, 1883 *Ber. Ent. Zeitschrift* 27 (1): 138.

*Coptops aedificator* Gahan, 1896 *Ann. Mag. Nat. Hist.* 6 (16) 108: 451.

*Coptops aedificator* Kolbe, 1910 *Mitt. dem Zool. Mus. Berlin* 5 (1): 38.

*Coptops aedificator* Breuning, 1939 *Novit. Entomol. third supp.* (50–66): 508.

*Lamia aedificator* Zimsen, 1964 *Copenhagen, Munksgaard*: 169.

*Coptops aedificator* Delahaye, 2009 *Les Cahiers Magellanes* 96: 16.

*Coptops aedificator* Vitali, 2011 *Entomol. Africana* 16, 1: 8.

Specimens examined: CHF/2015/269, female, 26.iv.2010, Pomegranate, East siang (elevation 170m), Arunachal Pradesh, India, coll. Henuka; CHF/2015/270, female, 28.iii.2010, mango, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Subhash; CHF/2015/271, male, 08.iv.2009, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Mantu.

Distribution: Cameroon, Central Africa R., Djibouti, Ethiopia, Gabon, Ivory Coast, Kenya, Malawi, Namibia, Nigeria, R.D. Congo, R.P. Congo, Senegambia, Senegal, Saudi Arabia, Tanzania, Uganda, Zambia and India including northeastern region.

Biology: Larvae of this species feed on the inner bark, and the damage they do to the sapwood is only superficial, for even the pupal cells are constructed almost entirely in the bark (Beeson & Bhatia 1939; Fraser 1949). The emergence hole is circular, but usually somewhat ragged. Emergence occurs more or less throughout the year, although the main period in India is in June. The life cycle normally lasts a year.

Host Plants: More than 50 subtropical forest trees (Beeson & Bhatia 1939). Fraser (1949) records this species from *Afzelia*. Duffy (1953a) reported from *Artocarpus* sp. Dawah et al. (2013) observed on mango as host in Saudi Arabia.

### 24. *Acalolepta cervina* (Hope, 1831) (Image 24)

*Monochamus cervinus* Hope, 1831 *Gray's Zool. Misc.* 1: 27.

*Monochamus fulvicornis* Pascoe, 1875 *Ann. Mag. Nat. Hist.* 4, 15: 64.

*Haplohammus cervinus* Gahan, 1894 *Ann. Museo Civico di Storia Nat.* (2) 14: 36.

*Dihammus cervinus* Gressitt, 1937 *Lingnan Sci. J.* 16



Images 17–32. 17 - *Batocera parryi*; 18 - *Batocera rubus rubu*; 19 - *Batocera horsfieldi*; 20 - *Batocera rufomaculata rufomaculata*; 21 - *Batocera numitor*; 22 - *Apriona germarii germarii*; 23 - *Coptops aedificator*; 24 - *Acalolepta cervina*; 25 - *Epepeotes uncinatus*; 26 - *Glenea (Stirolene) spilota*; 27 - *Imantocera penicillata*; 28 - *Macrochenus guerinii*; 29 - *Nupserha nigriceps*; 30 - *Nupserha bicolor*; 31 - *Obereopsis obscura obscura*; 32 - *Olenecamptus bilobus bilobus*. © M.M. Kumawat

(4): 596.

*Cypriola cervina* Breuning, 1949 *Arkiv Zool. Stockholm* 42 (A) 15: 1.

*Dihammus cervinus* Gressitt, 1951 *Longicornia* 2: 399.

*Acalolepta cervina* Hayashi, 1981 *Bull. of the Osaka Jonan Women's Jr. College* 14: 14.

*Acalolepta cervinus* Wang & Chiang, 1988, *Entomotaxonomia* 10 (1–2): 144.

*Acalolepta cervina* Weigel, 2006 *Ver. der Fre. und For.*

*des Naturk. Erfurt e. V.*: 502.

*Acalolepta cervina* Hua et al., 2009 *Sun Yat-sen Univ. Press*: 330

Specimens examined: CHF/2015/273, male, 15.vi.2010, light trap, East Siang (elevation 180m), Arunachal Pradesh, India, coll. Prakash; CHF/2015/274, female, 04.v.2009, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Roamer.

Distribution: Myanmar, Laos, China, India including

North Eastern region, Korea, Japan, Vietnam, Laos, Myanmar, Nepal.

Biology: The life cycle is annual with a long larval period (Beeson 1941). Adults feed on the bark of the twigs. The female lays eggs on the bark by making a slit or incision with the help of mandibles. The newly hatched larva makes tunnels in the cambium, later penetrating deeper in the wood resulting in the abnormal callus like growth or bulging base formed known as canker around the wounded portion of the trunk.

Host Plants: *Clerodendron* sp., *Tectona grandis*, *Gmelina arborea*, *Adina cardifolia*, *Anthocephalus chinensis*, *Anthocephalus cadamba*, *Camellia thea*, *Cterodendron infortunatum*, *Buddleia madagascariensis*, *Daubanga sonneratioides* and *Sarcocephalus cordatus*.

**25. *Epepeotes uncinatus*** Gahan, 1888 (Image 25)

*Epepeotes uncinatus* Gahan, 1888 *Ann. Mag. Nat. Hist.* 6, 1: 271.

*Epepeotes salvazai* Pic, 1925 *Mel. exot. Ent.* 43: 18.

*Pseudopsacotheca lineata* Pic, 1944 *Opusc. mart.* 13: 14.

*Epepeotes uncinatus lineatopunctatus* Breuning, 1960 *Bull. Soc. Ent. France* 65 (1–2): 29.

*Epepeotes uncinatus* Breuning, 1961 *Bull. Inst. roy. Sc.nat. Belg.* 37(20): 2.

*Epepeotes uncinatus* Weigel, 2006 *Ver. der Fre. und For. des Naturk. Erfurt e. V.*: 502.

Specimen examined: CHF/2015/275, female, 17.v.2010, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Mantu.

Distribution: Bhutan, Himalayan India, India, Myanmar, Nepal, Palaeartic China, Laos, Vietnam

Biology: Emergence occurs in April–June, mainly May. The life-cycle is annual. The prepupal tunnel and pupal chamber are carried deep into the wood. The beetle escapes by an imaginal tunnel from the base of the pupal chamber (Beeson 1941; Duffy 1968).

Host Plants: *Crateva unilocularis*, *Ficus carica*, *F. elastica*, *F. religiosa*, *Morris indica*, *M. laevigata*, *Terminalia myriocarpa* (Beeson 1941).

**26. *Glenea (Stiroglenea) spilota*** Thomson, 1860 (Image 26)

*Glenea spilota* Thomson, 1860 *Paris*: 58.

*Glenea spilota* Thomson, 1878 *E. Deyrolle*: 14.

*Glenea spilota* Weigel, 2006 *Ver. der Fre. und For. des Naturk. Erfurt e. V.*: 506.

Specimen examined: CHF/2015/277, male, 01.iv.2011, forest weeds, Pasighat (elevation 160m), Arunachal Pradesh, India, coll. Mantu.

Distribution: India, Himalayan India including Arunachal Pradesh, Nepal

Biology: The life-cycle is annual with the beetle emergence in April–July (April 16%, May 68%, June 15%) (Beeson 1941). It lays eggs on the bark, on hatching the grub bores into the bast and feeds on sapwood, eating out ramifying galleries. It is not found on freshly felled trees (Stebbing 1914). Lefroy (1909) confirmed that the larvae are found abundantly in the decaying trunk.

Host Plants: *Bombax malabaricum* and *Sterculia villosa*, the other species of *Glenea* attack on *Zanthoxylum rhetsa* and *Bombax ceiba* (Mathew 1982).

**27. *Imantocera penicillata*** (Hope, 1831) (Image 27)

*Lamia penicillata* Hope, 1831 *Zool. Misc.* 1: 17.

*Cerambyx plumosus = penicillata* Hope, 1831, Thomson, 1864 *Mem. Soc. R. Sci. Liege.* 19: 82

*Imantocera penicillata* Thomson 1857 *Arch. Ent.* 1: 188.

*Imantocera (=Himantocera) penicillata* Pascoe, 1866 *Trans. Entomol. Soc. London* (3) 3: 260, 288.

*Himantocera penicillata* Gahan, 1894 *Ann. Mus. Civ. Genova* 34: 47.

*Imantocera penicillata* Dillon & Dillon, 1950 *Philipp. J. Sci.* 79 1: 14 (13).

*Imantocera penicillata* Weigel, 2006 *Ver. der Fre. und For. des Naturk. Erfurt e. V.*: 503.

Specimens examined: CHF/2015/279, male, 22.vi.2010, citrus, Rengging (elevation 300m), Arunachal Pradesh, India, coll. Riba; CHF/2015/280, female, 22.vi.2010, citrus, Rengging (elevation 300m), Arunachal Pradesh, India, coll. Riba.

Distribution: Bangladesh, Bhutan, Himalayan India, India, Laos, Malayan Peninsula, Myanmar, Nepal, Palaeartic China, Subtropical China, Thailand, Vietnam

Biology: Unknown

Host Plants: *Ficus religiosa* (Beeson 1941) and citrus.

**28. *Macrochenus guerinii*** (White, 1858) (Image 28)

*Pelargoderus guerinii* White, 1858 *Ann. Mag. Nat. Hist.* 3, 2: 274.

*Macrochenus guerini* Hua, 2002 *Zhongshan (Sun Yat-sen) Univ. Press, Guangzhou* 2: 213.

*Macrochenus guerinii* Weigel, 2006 *Ver. der Fre. und For. des Naturk. Erfurt e. V.*: 502.

Specimens examined: CHF/2015/281, female, 20.iv.2010, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Mantu; CHF/2015/282, male, 05.v.2010, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Mantu.

Distribution: Subtropical China, North and North

Eastern Himalayan India, Nepal, Myanmar, Laos, Thailand, Vietnam.

Biology: Emergence occurs in April–May. The pupal chamber is vacated by the beetle through an imaginal tunnel from its lower end (Beeson 1941).

Host Plants: *Bombax malabaricitm*, *Ficus elastica*, *F. religiosa*, *Lagerstroemia flos-reginae* (*Lagerstroemia speciosa*), *Stereospermum chelonoides* (Beeson 1941).

**29. *Nupserha nigriceps*** Gahan, 1894 (Image 29)

*Nupserha nigriceps* Gahan, 1894 *Ann. Mus. Civ. Genova* 34: 90.

*Nupserha nigriceps* Breuning, 1960 *Bull. Inst. roy. Sc.nat. Belg.* 36 (10): 27.

*Nupserha nigriceps* Weigel, 2006 *Ver. der Fre. und For. des Naturk. Erfurt e. V.*: 506.

Specimen examined: CHF/2015/284, male, 05.iv.2010, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Mantu.

Distribution: India, Nepal, Subtropical China, Yunnan, Sumatra

Biology: Unknown

Host Plants: Unknown

**30. *Nupserha bicolor*** Thomson, 1857 (Image 30)

*Stibara bicolor* Thomson, 1857 *Arch. Ent.* 1: 147

*Nupserha bicolor* Thomson, 1860 *Paris*: 61

*Stibara bicolor* m. *nigrata* Breuning, 1950

*Nupserha bicolor* m. *postbrunnea* Dutt, 1952 *Nature* 170: 287–288.

*Stibara bicolor* m. *parteatriventris* Breuning, 1960

*Stibara bicolor* m. *subnitida* Breuning, 1960

*Stibara bicolor* m. *thomsoni* Breuning, 1960

Specimens examined: CHF/2015/286, male, 22.vi.2010, forest weeds, Pasighat (elevation 180m), Arunachal Pradesh, India, coll. Riba.

Distribution: North East India, Himalayan India, Taiwan  
Biology: The adult beetle girdles the stem at two levels before it starts oviposition. This causes withering, drooping and death of the portion above the lower girdle to a length varying from 5–50 cm thus resulting in loss of fibre yield. Girdling causes suspension of unidirectional vertical growth, and this is followed by the appearance of a number of side branches, which are of little value from the point of view of fibre (Dutt 1956; Dutt 1961).

Host Plants: Jute, *Corchorus olitorius* and *C. capsularis* (Dutt 1952; ICJC 1958).

**31. *Obereopsis obscura obscura*** Breuning, 1957 (Image 31)

*Obereopsis obscura obscura* Breuning, 1957 *Indian*

*Forest Rec. (New Series) Ent.* 9 (3): 75.

Specimens examined: CHF/2015/288, male, 11.v.2012, unidentified weed complex from forest floor, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Mantu; CHF/2015/289, female, 18.vi.2012, weeds, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Mantu.

Distribution: Nilgiri Hills, Tamil Nadu, The species first time reported in Arunachal Pradesh in the year 2012 during the course of the present study.

Biology: Unknown

Host Plants: Unknown

**32. *Olenecamptus bilobus bilobus*** (Fabricius, 1801) (Image 32)

*Saperda biloba* Fabricius, 1801 *Bibl. Acad. Nov.* 2: 324.

*Olenecamptus serratus* Chevrolat, 1835 *Mag. Zool.* 5: 134.

*Gnoma biloba* Montrouzier, 1855 *Ann. Soc. agric. Lyon* 2, 7: 63.

*Olenecamptus bilobus* Pascoe, 1866 *Proc. Sci. M. Zool. Soc. London*: 253

*Olenecamptus madecassus* Fairmaire, 1901 *Rev. Entomol. Caen* 20: 226.

*Olenecamptus borneensis* Pic, 1916 *Mel. exot. Ent.* 17: 6.

*Olenecamptus rouyeri* Pic, 1916 *Mel. exot. Ent.* 17: 6.

*Olenecamptus bilobus* m. *madecassa* Breuning, 1940 *Novit. Entomol.* 11, 66–71: 555.

*Olenecamptus bilobus* m. *trimaculata* Breuning, 1940 *Novit. Entomol.* 11, 66–71: 555.

*Olenecamptus bilobus* m. *borneensis* Breuning, 1940 *Novit. Entomol.* 11, 66–71: 555.

*Olenecamptus bilobus* m. *rouyeri* Breuning, 1940 *Novit. Entomol.* 11, 66–71: 555.

*Olenecamptus bilobus* m. *dahli* Breuning, 1940 *Novit. Entomol.* 11, 66–71: 556.

*Olenecamptus bilobus* m. *confluens* Breuning, 1940 *Novit. Entomol.* 11, 66–71: 556.

*Olenecamptus serratus* Breuning, 1940 *Novit. Entomol.* 11, 66–71: 556.

*Olenecamptus bilobus bilobus* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 224.

*Olenecamptus bilobus strucki* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 225.

*Olenecamptus bilobus ternatus* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 227.

*Olenecamptus bilobus mindanaensis* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 228.

*Olenecamptus bilobus luzonensis* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 228.

*Olenecamptus bilobus lacteoguttatus* Dillon & Dillon,

1948 *Trans. Amer. Ent. Soc.* 73: 229.

*Olenecamptus bilobus nipponensis* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 229.

*Olenecamptus bilobus laosus* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 230.

*Olenecamptus bilobus tonkinus* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 230.

*Olenecamptus bilobus borneensis* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 231.

*Olenecamptus bilobus artemis* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 232.

*Olenecamptus bilobus niasus* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 232.

*Olenecamptus bilobus pseudoserratus* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 233.

*Olenecamptus bilobus gressitti* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 234.

*Olenecamptus bilobus trimaculatus* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 235.

*Olenecamptus madecassus* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 235.

*Olenecamptus confluens* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 236.

*Olenecamptus bilobus lacteoguttatus* Breuning, 1957 *Inst. Rech. sc. Tananarive-Ts.* 4: 21.

*Olenecamptus bilobus lacteoguttatus* var. *madecassus* Breuning, 1957 *Inst. Rech. sc. Tana.-Ts.* 4: 23.

*Olenecamptus bilobus lacteoguttatus* var. *trimaculatus* Breuning, 1957 *Inst. Rech. sc. Tana.-Ts.* 4: 23.

*Olenecamptus bilobus* m. *reductemaculatus* Breuning, 1969 *Bull. Mus. Nat. Hist. Nat.* 2, 41, 3: 665.

Specimens examined: CHF/2015/291, male, 28.x.2008, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Madhu; CHF/2015/292, female, 20.x.2008, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Madhu.

Distribution: Andaman Island, India including north and northeastern Himalayan range, Australia, Bismarck, Borneo, Comoros, Japan, Java, Laos, Lesser Sunda, Madagascar, Malayan Peninsula, Micronesia, Moluccas, Ambon, Bacan, Sula, Myanmar, Nepal, New Guinea Island, Pakistan, Palaearctic China, Seychelles, Sri Lanka, Subtropical China, Sulawesi, Sumatra, Taiwan, Thailand, Timor, Vanuatu, Vietnam.

Biology: In northern India the life-cycle is annual with an extended emergence-period from May to November (May 20%, June 36%, July 21%, August 9%); a portion of the brood may be prolonged to the second year but if the wood dries out considerably these belated individuals do not survive. The grubs generally bore into the sapwood in the early instars and subsequently tunnel into the

heartwood (Beeson 1941). According to Stebbing (1914), it appears to affect old decaying trees and not reported in young, green and healthy trees.

Host Plants: *Artocarpus hirsutus*, *A. blumei*, *A. incisus* and *Lagerstroemia microcarpa*, (Mathew 1982), *Ficus rumphii*, *F. glomerata*, *F. roxburghii*, *Morus indica*, and Jackfruit. Lefroy (1909) mentioned that this beetle is common in pakur, gular and other *Ficus* sp. in the plains.

### 33. *Olenecamptus indianus* (Thomson, 1857) (Image 33)

*Authades indianus* Thomson, 1857 *Arch. Ent.* 1: 192.

*Saperda biloba = indianus* Thomson, 1860 *Paris*: 108.

*Olenecamptus albolineatus* Pic, 1916 *Mel. exot. Ent.* 17 : 5.

*Olenecamptus salweeni* Heller, 1926 *Tijdschr. Ent.* 69: 39.

*Olenecamptus indianus* Breuning, 1940 *Novit. Entomol.* 11, 66–71: 544.

*Authades indianus = multinotatus* Pic, 1916, Breuning 1940 *Novit. Entomol.* 11, 66–71: 544.

*Authades indianus = albolineatus* Pic, 1916, Breuning 1940 *Novit. Entomol.* 11, 66–71: 544.

*Olenecamptus indianus* ab. *salweeni* Breuning, 1940 *Novit. entomol.* 11, 66–71: 545.

*Olenecamptus bilobus indianus* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 233.

*Olenecamptus multinotatus* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 246.

*Olenecamptus albolineatus* Dillon & Dillon, 1948 *Trans. Amer. Ent. Soc.* 73: 247.

Specimens examined: CHF/2015/294, female, 11.xi.2009, unidentified weed complex from forest floor, East Siang (elevation 180m), Arunachal Pradesh, India, coll. Dolly; CHF/2015/295, male, 21.xi.2008, light trap, Upper Siang (elevation 210m), Arunachal Pradesh, India, coll. Kumawat.

Distribution: India including eastern Himalaya, Malayan Peninsula, Myanmar, Nepal, Seychelles, subtropical China, Taiwan, Thailand, Vietnam

Biology: The life-cycle of this sapwood borer is annual in north India with emergence in May– August (50% in June, 44% in July) (Beeson 1941; Duffy 1968).

Host Plants: *Anogeissus acuminata*, *A. latifolia*, *Lagerstroemia calyculata*, *Phyllanthus emblica*, *Randia dumetorum*, *Terminalia belerica*, *T. tomentosa* (Beeson 1941).

### 34. *Pterolophia (Hylobrotus) tuberculatrix* (Fabricius, 1781) (Image 34)

*Lamia tuberculator* Fabricius, 1781 *Bohn Hamburgi et Kilonii* 1 : 224.

*Praonetha obsoleta* Fairmaire, 1871 *Ann. Soc. ent. Fr.* 5, 1: 67.

*Pterolophia (Hylobrotus) tuberculatrix* Breuning, 1957 *Inst. Rech. sc. Tana.-Ts.* 4 : 297.

*Pterolophia (Hylobrotus) tuberculatrix* var. *obsoleta* Breuning, 1957 *Inst. Rech. sc. Tana.-Ts.* 4: 299

*Pterolophia (Hylobrotus) tuberculatrix* Breuning, 1961 *Bull. I.F.A.N.* 23, A, 4: 1093.

*Pterolophia (Hylobrotus) tuberculatrix* var. *obsoleta* Breuning, 1961 *Bull. I.F.A.N.* 23, A, 4: 1094.

*Pterolophia (Hylobrotus) tuberculatrix* Sudre & Teocchi, 2000 *Bull. mens. Soc. Linn. Lyon.* 69, 10: 226.

*Pterolophia (Hylobrotus) tuberculatrix* Teocchi et al., 2013 *Les Cahiers Magellanes* NS 11: 15.

Specimen examined: CHF/2015/297, male, 11.x.2008, forest ground, Rengging (elevation 300m), Arunachal Pradesh, India, coll. Madhu.

Distribution: India, first time reported in Arunachal Pradesh during present study, Ivory Coast, Kenya, Madagascar, Maldives Island, Mascarene Island, South Africa, Sri Lanka, Tanzania, Maldives, Comoros.

Biology: Unknown for *P. tuberculatrix*. Moreover, *Pterolophia* appears to be a minor pest from the agricultural point of view and its outbreaks can be easily controlled. In more recent years, there have been a few studies on the biology and host plants of *Pterolophia* species found elsewhere (Desmier et al. (1990, 1991), Zhan et al. (1996), Yamazaki & Takakjura (2003)).

Host Plants: *Tectona grandis*, other species of *Pterolophia* attacking *Coconut*, *Cocos nucifera*, *Populus* sp., *Araucaria cunninghamii*, *Coffea arabica*, *Theobroma cacao*, *Citrus aurantiifolia*, *Saccharum officinarum*, *Camposperma brevipetiolata* (Hawkeswood 2011).

### 35. *Pterolophia occidentalis* Schwarzer, 1931 (Image 35)

*Pterolophia occidentalis* Schwarzer, 1931 *Senckenbergiana*, 13: 72.

*Pterolophia (Pterolophia) occidentalis* Breuning, 1972 *Ann. Hist. Nat. Mus. Nat. Hung.* 64: 230.

Specimen examined: CHF/2015/299, male, 23.iv.2013, unidentified weeds, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Kumawat.

Distribution: Ghana, India, Himalayan India including Arunachal Pradesh

Biology: Adult emergence occurs in nearly every month of the year but mainly in June–July (June 21%, July 56%, August 11%). The larva tunnels in thin barked stems and grooves the sapwood. The pupal chamber is also constructed on the sapwood surface. The life-cycle is annual but may be prolonged to the second or third year in dry stems and climbers (Beeson 1941; Duffy 1968).

Host Plants: *Millettia auriculata*, *Acacia* sp., *Acrocarpus fraxinifolius*, *A. hirsuta*, *Bauhinia vahlii*, *Cudrania javanensis*, *Dalbergia paniculata*, *Engelhardtia colebrookiana*, *Ficus religiosa*, *Lagerstroemia parviflora*, *Lannea grandis*, *Mallotus philippinensis*, *Mangifera indica*, *Myristica attenuata*, *Pterocarpus marsupium*, *Spatholobus roxburghii*, *Terminalia paniculata*, *Vitis araneosa*, *Wistaria* sp.

### 36. *Thylactus simulans* Gahan, 1890 (Image 36)

*Thylactus simulans* Gahan, 1890 *Ann. Mag. Nat. Hist.* 6, 5: 58.

*Thylactus simulans* Rondon & Breuning, 1970 *Pacific Insects Mono.* 24: 345.

*Thylactus simulans* Hua, 2002 *Zhongshan (Sun Yat-sen) Univ. Press*, Guangzhou 2: 235.

Specimens examined: CHF/2015/302, male, 19.iii.2010, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Bilin Maying; CHF/2015/303, female, 27.iv.2011, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Chanu.

Distribution: India, Arunachal Pradesh, Myanmar, Thailand, Vietnam, China

Biology: Not studied, although some preliminary study was done by Zhang & Zuo (1986) (original not seen).

Host Plants: *Catalpa* sp., *Exbucklandia populnea* (Beeson 1941) and *Paulownia*.

### 37. *Pseudonemophas versteegii* (Ritsema, 1881) (Image 37)

*Monohammus versteegii* Ritsema, 1881 *Not. Leyd. Mus.* 3: 155.

*Monochamus albescens* Pic, 1920 *Mel. exot. Ent.* 32: 2.

*Monochamus glabronotatus* Pic, 1934 *Mat. Etud. Longic.* 11, 2: 34.

*Monochamus albescens* var. *subuniformis* Pic, 1934 *Mat. Etud. Longic.* 11, 2: 34.

*Monohammus versteegii* = *subuniformis* Pic, 1934, Breuning 1944, *Novit. Entomol.* 13, 107–137: 290

*Monoplophora (Anoplophora) versteegi* Breuning, 1944 *Novit. Entomol.* 13, 107–137: 290.

*Anoplophora (Anoplophora) versteegi* m. *albescens* Breuning, 1944 *Novit. Entomol.* 13, 107–137: 290.

*Anoplophora (Anoplophora) glabronotata* Breuning, 1944 *Novit. Entomol.* 13, 107–137: 291.

*Anoplophora (Anoplophora) versteegi siamensis* Breuning, 1982 *Ann. Soc. Ent. Fr.* (n.s.) 18, 1: 17.

*Pseudonemophas versteegii* Lingafelter & Hoebeke, 2002 *Entomol. Soc. Wash.*: 143 (102).

*Monochamus glabronotatus* Lingafelter & Hoebeke, 2002 *Entomol. Soc. Wash.*: 212.



*Monochamus albescens subuniformis* Lingafelter & Hoebeke, 2002 *Entomol. Soc. Wash.*: 218.

*Anoplophora versteegi siamensis* Lingafelter & Hoebeke, 2002 *Entomol. Soc. Wash.*: 219.

*Monochamus albescens* Lingafelter & Hoebeke, 2002 *Entomol. Soc. Wash.*: 220.

*Pseudonemophas versteegii* Ohbayashi et al., 2009 *Spec. Bull. Jpn. Soc. Col.* 7: 316, 317, 323.

Specimens examined: CHF/2015/306, male, 15.v.2008, citrus, Rengging (elevation 300m), Arunachal Pradesh, India, coll. Mamocha; CHF/2015/307, female, 21.vi.2009, citrus, Rengging (elevation 300m), Arunachal Pradesh, India, coll. Mamocha.

Distribution: Northeastern region of India, Laos, Myanmar, Nepal, subtropical China, Sumatra Island, Thailand, Vietnam.

Biology: The female beetles lay their eggs beneath the bark of the tree trunk by making a cut with their mandibles. The eggs are not laid on the trunk above one meter height from ground level. The frequency of egg laying per day per female varies from 0 to 11 eggs with the mean egg deposition frequency of 2.90 eggs per female. Initially the larvae feed under the bark and then enter the centre of the trunk. Pupation takes place below the bark. The egg, larval and pupal periods last for 4 to 5, 240 to 310 and 23 to 39 days, respectively. The adults emerge from April to May (Saikia et al. 2011; Singh & Singh 2012).

Host Plants: *Citrus reticulata*, *C. sinensis*, *C. limon*, *C. jambhiri*, *C. grandis*, *C. medico*, *C. aurantifolia*, trifoliolate orange, pumelo and many other wild species of *Citrus* group.

### 38. *Sarothroceria lowii* White, 1846 (Image 38)

*Sarothroceria lowii* White, 1846 *Ann. Mag. Nat. Hist.* 18: 47.

*Sarothroceria lowei* Thomson, 1861 *Paris*: 361.

*Sarothroceria lowi* Aurivillius, 1922 *Coleopt. Cat.* 73: 78.

*Sarothroceria lowii* Ghate et al., 2012 *J. Threat. Taxa* 4(7): 2709.

Specimen examined: CHF/2015/311, female, 25.vi.2013, Forest ground, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Kumawat.

Distribution: India (Manipur, Arunachal Pradesh), Borneo, Myanmar, Indonesia, Laos, Sumatra, Thailand, West Malaysia and Vietnam.

Biology: The beetles emerge in May–July (Beeson 1941) and females deposit eggs singly into a slit made in the bark of the trunk and felled logs. Larvae emerge and initially feed just under the bark, later boring into the stem. Pupation occurs towards the end of April.

Host plants: *Eucalyptus* sp., *Engelhardtia spicata*,

*Stereospermum suaveolens*.

### Subfamily Cerambycinae

#### 39. *Aeolesthes sarta* (Solsky, 1871) (Image 39)

*Pachydissus sartus* Solsky, 1871 *Hor. Soc. Ent. Ross* 8:150.

*Aeolesthes sarta* Gahan, 1906 *Fauna Brit. India Col.* 1: 129.

*Aeolesthes sarta* Hua, 2002 *Zhongshan (Sun Yat-sen) Univ. Press*, Guangzhou 2: 191.

Specimens examined: CHF/2015/314, male, 23.iv.2009, forest logs, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Dorjee; CHF/2015/315, male, 23.v.2012, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Hokivi; CHF/2015/316, female, 11.iv.2011, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Chhetri; CHF/2015/317, female, 09.v.2013, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Sapna.

Distribution: India (Western to eastern Himalayan range), Pakistan (north), Afghanistan, Baluchistan, Iran, Turkmenistan, Turkistan, Uzbekistan, Tajikistan, Kyrgyzstan (south), Quetta, Tibet in mountainous areas up to an altitude of 2000m. In Arunachal Pradesh, it was reported by Sengupta & Sengupta 1981.

Biology: *A. sarta* requires two years to complete a generation (Ahmad et al. 1977; Vorontsov 1995). Adults usually leave their pupal cells in April or the beginning of May. Females lay eggs in slit-like niches in the bark of the trunk and the larger branches. A single female may lay a total of 240–270 eggs. The larvae start feeding and construct tunnels deep into the wood. At the end of July, grubs pupate in cells and about two weeks later adults appear. Adults stay in the pupation cells over winter and emerge the following spring.

Host Plants: *Ulmus minor*, *U. pumila*, *U. carpiniifolia*, *Populus diversifolia*, *P. euphratica*, *P. talassica*, *P. alba*, *P. euroamericana*, *Salix acmophylla*, *S. turanica*, *S. aongarica*, *S. tetrasperma*, *Platanus orientalis* and *P. acerifolia*, *Malus pumila* and *Juglans regia* are the preferred hosts. It has also been known to attack other species of *Ulmus*, *Populus*, *Salix*, *Platanus*, *Malus*, *Prunus*, *Pyrus*, *Juglans*, *Quercus*, *Betula*, *Fraxinus*, *Acer*, *Morus*, *Geditsia*, *Robinia*, *Elaeagnus* and other broadleaf trees (Thakur 2000; Afsaneh et al. 2011).

#### 40. *Hoplocerambyx spinicornis* (Newman, 1842) (Image 40)

*Hammaticherus spinicornis* Newman, 1842 *Entomologist* 1 (15): 243–248.

*Cerambyx? morosus* Pascoe, 1857 *Trans. Ent. Soc.*



Images 33–49. 33 - *Olenecamptus indianus*; 34 - *Pterolophia (Hylobrotus) tuberculatrix*; 35 - *Pterolophia occidentalis*; 36 - *Thylactus simulans*; 37 - *Pseudonemophas versteegii*; 38 - *Sarothrodera lowii*; 39 - *Aeolesthes sarta*; 40 - *Hoplocerambyx spinicornis*; 41 - *Chlorophorus annularis*; 42 - *Rhytidodera bowringii*; 43 - *Rhytidodera griseofasciata*; 44 - *Stromatium barbatum*; 45 - *Gnatholea simplex*; 46 - *Xystrocera globosa*; 47 - *Xystrocera festiva*; 48 - *Neoplocaederus obesus*; 49 - *Neocerambyx grandis*. © M.M. Kumawat

Lond. (2) 4: 89–112.

*Hoplocerambyx relictus* Pascoe, 1866 *Proc. Zoo. Soc. Lond.* 44: 504–537.

*Hoplocerambyx morosus* Pascoe, 1869 *Trans. Ent. Soc.*

Lond. 3 (3) 6: 499–552.

*Hoplocerambyx spinicornis* Duffy, 1968 *Brit. Mus (Nat. Hist.)*: 1–434.

*Hoplocerambyx spinicornis* Hayashi & Makihara, 1981

*Esakia* (17): 183–200.

*Haplocerambyx spinicornis* Niisato, 1990 *Elytra* 18 (1): 109–128.

Specimens examined: CHF/2015/320, male, 19.iv.2010, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Donald; CHF/2015/321, female, 10.v.2012, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. B. Mibang.

Distribution: Afghanistan, Pakistan, Nepal, India, Bhutan, China, Myanmar, Thailand, Laos, Malaysia, Borneo, Indonesia (Sumatra, Java), Philippines (Mindanao, Luzon, Benguet, Negros).

Biology: The beetle emerges from June to August, coincidence with the rains. The gravid female lays eggs singly in cracks and crevices of the bark of unhealthy, fallen trees, dead trees and live trees also. The newly hatched larva starts feeding under the bark and gradually moves down to the sapwood by making tunnels. The larval period completes in 4–7 months. The fully grown larva returns to the peripheral region and excavates a chamber for pupation. The larva remains here in prepupal stage for several months. It pupates for 2–3 weeks, the newly emerged beetle remains in the chamber till the onset of rains (Thakur 2000). The borer ranks as the most injurious forest insect in India (Beeson 1941; Thakur 2000).

Host Plants: *Shorea assamica*, *S. obtusa*, *S. robusta*, *Duabanga sonneratioides*, *Hevea braziliensis*.

**41. *Chlorophorus annularis*** (Fabricius, 1787) (Image 41)

*Callidium annularis* Fabricius, 1787 *Mant. Ins.* 1: 156.

*Clytus annularis* Fabricius, 1801 *Syst. Eleuth.* 2: 352.

*Chlorophorus annularis* Chevrolat, 1863 *Mem. Soc. R. Sci. Liege* 18: 290.

*Clytanthus annularis* Bates, 1873 *Ann. Mag. Nat. Hist.* (4)12: 16.

*Caloclytus annularis* Gahan, 1906 *Fauna Brit. India Col.* 1: 261.

*Rhaphuma annularis* Ohbayashi, 1963 *Fragment. coleopt.* (3): 11.

*Callidium bidens* Wever, 1801 *Obs. Ent.* p. 90.

*Caloclytus annularis* Basak & Biswas, 1985 *Records of the ZSI India* 82 (1–4): 217.

*Chlorophorus (Chlorophorus) annularis* Ozdikmen, 2011 *Munis Entomol. Zool.* 6 (2): 536.

Specimen examined: CHF/2015/323, male, 14.iv.2009, felled bamboo, Sille (elevation 140m), Arunachal Pradesh, India, coll. Shibstanding; CHF/2015/324, female, 20.v.2012, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Donald.

Distribution: North America, Oceania, South America, Australia, Micronesia, Hawaii Islands, India, Myanmar,

Siam, China, Malaya Peninsula, New Guinea, Japan, East Indies.

Biology: Oviposition occurs on cut bamboo which has already lost a certain amount of sap. The first instar larvae bore into the tissues of the walls of the bamboo, making irregular excavations which are packed with powdery wooden particles and frass. The galleries are not delimited by the nodes. The mature larva excavates a cell in the wood in which it pupates. Adults emerge from May to September but principally in June (Stebbing 1914; Duffy 1953b). It is a native of Asia (Duffy 1953a).

Host Plants: *Bambusa*, *Citrus*, *Dendrocalamus strictus*, *Dipterocarpus tuberculatus*, *Gossypium*, *Liquidambar formosana*, *Phyllostachys reticulata*, *Pyrus malus*, *Shorea robusta*, *Sinocalamus*, *Sinobambusa gibbosa*, *Spondias*, *Tectona grandis*, *Derris dalberuinides* and *Vitis* (Duffy 1968).

**42. *Rhytidodera bowringii*** White, 1853 (Image 42)

*Rhytidodera bowringii* White, 1853 *Cat. Coleopt. Brit. Mus. Longicorn.* 7: 133.

*Rhytidodera bowringii* Thomson, 1864 *Mem. Soc. R. Sci. Liege* 19: 1–540.

*Rhytidodera bowringii* Weigel, 2006 *Ver. der Fre. und For. des Naturk. Erfurt e. V.*: 498.

Specimens examined: CHF/2015/327, male, 21.iv.2013, light trap, East Siang (elevation 175m), Arunachal Pradesh, India, coll. Mantu; CHF/2015/328, male, 18.v.2013, mango orchard, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Mantu; CHF/2015/329, female, 19.iv.2009, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Sanchi.

Distribution: Arunachal Pradesh, India, Subtropical China, Nepal, Myanmar, Thailand, Laos, Vietnam

Biology: Eggs are laid in batches of 6–8 on living shoots and branches of mango trees over 8–10 years old. On hatching the larva enters the branches and feed on sapwood that is kept clean of wood dust. The adults emerge from June to August. Larval and pupal periods are 260–310 and 30–50 days, respectively.

Host Plants: Mango, cashew nuts

**43. *Rhytidodera griseofasciata*** Pic, 1912 (Image 43)

*Rhytidodera griseofasciata* Pic, 1912 *L. Echange Rev. Linn.* 28 (326): 16.

*Rhytidodera griseofasciata* Lobl & Smetana, 2010 *Cat. Palaearctic Coleopt.-6, Apollo Books*: 162.

Specimen examined: CHF/2015/330, male, 01.iv.2010, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Hokivi.

Distribution: China from Yunnan province. The species

was first time reported from India (Arunachal Pradesh) during the present study.

Biology: Unknown

Host Plants: Unknown

**44. *Stromatium barbatum*** Fabricius, 1775 (Image 44)

*Callidium barbatum* Fabricius, 1775 *Syst. Ent.*: 189

*Cerambyx (Callidium) tranquebaricus* Gmelin, 1790 *Editio 13, Lipsiae Beer* 1 (4): 1848.

*Callidium variolosum* Fabricius, 1798 *Proft Storch Hafniae*: 149.

*Callidium funestum* Boisd, 1835 *Voy. d'Astrolabe* 2: 481

*Stromatium barbatum* Castelnau, 1840 *P. Dumenil* 2: 452.

*Stromatium barbatum* Gahan, 1906 *Fauna Brit. India Col.* 1: 114

*Stromatium barbatum* Aurivillius, 1912 *Coleopt. Cat.* 39: 73

*Stromatium barbatum* Stebbing, 1914 *Ind. For. Ins.*: 291

*Stromatium barbatum* Villiers, 1966 *J. Coll. Arts Sci.* (4): 550.

*Stromatium barbatum* Hayashi, 1979 *Ent. Rev.* 33(1/2): 86

Specimens examined: CHF/2015/331, male, 03.vi.2010, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Bilin Maying; CHF/2015/332, female, 01.xii.2008, forest logs, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Madhu.

Distribution: India, Andaman, Sri Lanka, Myanmar, Nepal, Mauritius, Bourbon, Madagascar, Bangladesh.

Biology: *Stromatium barbatum* is primarily a pest of packing cases, seasoned timber, furniture, plywood, and wood work in buildings. It also attacks bamboos. This species has been known to attack over 300 tree species. The female beetle lays eggs on the bark. The newly hatched larva feeds under the bark until it matures enough. The larvae while excavating in the wood, throws out coarse dust, frass and wood fibres from the boring (Thakur 2000).

Host Plants: This species has been known to attack over 300 tree species (Duffy 1968, Thakur 2000).

**45. *Gnatholea simplex*** Gahan, 1890 (Image 45)

*Gnatholea simplex* Gahan, 1890 *Ann. Mag. Nat. Hist.* 6 (5) 25: 53.

*Gnatholea simplex* Gahan, 1906 *Fauna Brit. India Col.*: 111.

*Gnatholea simplex* Makihara et al., 2008 *Bulletin of the F.F.P.R.I.* 7 (2) 407: 99.

Specimen examined: CHF/2015/334, male, 01.iv.2013, light trap, Pasighat (elevation 150m), Arunachal Pradesh,

India, coll. B. Mibang.

Distribution: Arunachal Pradesh, Sikkim, Darjeeling, Assam, Burma, Ruby Mines, Mandalay and Prome, Tharawaddy, Sri Lanka

Biology: The life-cycle of this sapwood borer is annual which gets prolonged upto three years under dry conditions. Adult emergence takes place during May–August, mainly in May (Beeson 1941; Duffy 1968).

Host Plants: *Hardwickia binata*, *Albizia odoratissima*, *Millettia pinnata*, *Pongamia glabra*, *Shorea robusta*.

**46. *Xystrocera globosa*** (Olivier, 1795) (Image 46)

*Cerambix globosus* Olivier, 1795 *Ent.* (4) 67: 27.

*Callidium marginale* Goldfuss, 1805 *Walther Erlangae* 1805: 44.

*Xystrocera globosa* Audinet-Serville, 1834 *Ann. Soc. Ent. Fr. Paris* (3) 1: 70.

*Xystrocera viridipicta* Fairmaire, 1896 *Ann. Soc. Ent. Belg.* 40 (8): 367.

*Xystrocera globosa* v. *reductevittata* Breuning, 1957 *Bull. I.F.A.N.* 19 A (4): 1241.

*Xystrocera globosa* v. *invittata* Breuning, 1957 *Bull. I.F.A.N.* 19 A (4): 1241.

*Xystrocera globosa* var. *mediovitticollis* Breuning, 1957 *Bull. I.F.A.N.* 19 A (4): 1241.

*Xystrocera globosa* m. *onomichiensis* Ohbayashi, 1963 *Fragmenta Coleopt.* (2): 10.

*Xystrocera globosa* ssp. *diehli* Heyrovsky Lo, 1967 *Bull. Soc. Ent. Mulhouse*: 39.

*Xylotrechus globosa* Wang, 2003 [misspelling]

*Xystrocera globosa mediovitticollis* Hua, 2002 *Zhongshan (Sun Yat-sen) Univ. Press*, Guangzhou 2: 237.

Specimen examined: CHF/2015/336, male, 21.iv.2011, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Mantu.

Distribution: Europe and northern Asia, South and South-east Asia, Australasian to Oceanian

Biology: The larva initially feed beneath the bark, making cavities in the outer sapwood portion. As the larva grows, it penetrates deep into the wood resulting in formation of longitudinal galleries (Mathew 1982). Adult emergence occurs every month of the year but mainly in May, June and September. Larval period is variable and in some individuals may be prolonged for two years, while others of the same brood may develop in less than a year (Duffy 1953a).

Host Plants: *Albizia odoratissima*, *A. falcataria*, *A. odoratissima*, *A. lebbek*, *A. lucida*, *A. moluccana*, *A. odoratissima*, *A. procera*, *A. stipulata*, *Bombax ceiba*, *Haldina cordifolia*, *Acacia catechu*, *A. modesta*, *A. auriculiformis*, *A. magnium*, *Acrocarpus fraxinifolius*,

*Bauhinia acuminata*, *Grewia tiliaefolia*, *Xylia dolabriformis*, *Paraserianthus faleataria* (Beeson 1941; Nair 2000).

**47. *Xystrocera festiva*** Thomson, 1861 (Image 47)

*Xystrocera festiva* Thomson, 1861 *Essai. Classif. Cerambi.*: 251.

*Xystrocera festiva* Pascoe, 1869 *Trans. Ent. Soc. Lond.* 3 (3) 6: 506.

*Xystrocera festiva* Hua, 2002 *Zhongshan (Sun Yat-sen) Univ. Press*, Guangzhou: 237.

Specimens examined: CHF/2015/339, male, 28.x.2008, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Mantu; CHF/2015/340, female, 06.iv.2013, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Ashutosh.

Distribution: India, Burma, Karenee, Sumatra, Java, Borneo, China, Hainan, Yunnan, Java, Malaysia.

Biology: Almost similar to that of *X. globosa*.

Host Plants: *Acacia* spp., *Paraserianthus faleataria*, *Albizia lebbek*, *Tectona grandis* (Nair 2000).

**48. *Neoplocaederus obesus*** (Gahan, 1890) (Image 48)

*Hammaticherus obesus* Dejean, 1837 *Mequignon-Marvis Pere Fils* (3)1: 347.

*Cerambyx obesus* Gemminger & Harold, 1872 *Sumptu E. H. Gummi Monachii*. 9: 2802.

*Plocaederus pedestris* Cotes, 1889 *Indian Mus. Notes* 1: 91.

*Plocaederus obesus* Gahan, 1890 *Ann. Mag. Nat. Hist.* 6, 5:51, 6: 259.

*Plocaederus obesus* Khan, 1985 *Proc. Indian Acad. Sci.* 94 (4): 435–441.

*Plocaederus obesus* Gahan, 1906 *Fauna Brit. India Col.* 1: 121

*Plocaederus obesus* Holzschuh, 1977 *Entomol. Basiliensa* 2: 337–341.

*Neoplocaederus obesus* Lobl & Smetana, 2010 *Cat. Palaearctic Coleopt.-6, Apollo books*: 161.

Specimens examined: CHF/2015/343, male, 05.v.2013, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Ashish; CHF/2015/344, female, light trap, Pasighat (elevation 150m), Arunachal Pradesh, 28.x.2008, coll. Oni.

Distribution: Sri Lanka, India including northeastern region, Arunachal Pradesh, Andaman and Nicobar, Bangladesh, Myanmar, Thailand, Vietnam, Laos, China, Taiwan, Bhutan.

Biology: The female beetle lays 40–50 eggs in the live tissues or in the crevices of the bark at the collar region. The eggs hatch out as tiny grubs which bore into the fresh tissues of the bark, feed on the sap wood and make tunnels

in broad and irregular directions and reached in roots. The grubs feed inside the tissues for 3–6 months. The pupal period lasts for 3–4 months. Adult emergence occurs from January–May depending upon the climatic conditions or coinciding with pre monsoon rains. It has one generation in a year (Meshram 2009; Vasanthi & Raviprasad 2013).

Host Plants: *Anacardium occidentale*, *Boswellia serrata*, *Buchanania lanzan*, *Bombax malabaricum*, *Bombax heptaphyllum*, *Butea monosperma*, *B. frondosa*, *Caryota urens*, *Cedrela toona*, *Ceiba pentandra*, *Cordia dichotoma*, *Dracontomelon dao*, *Eriodendron anfractuosum*, *Garuga pinnata*, *Gmelina arborea*, *Kydia calycina*, *Lannea coromandelica*, *Mangifera indica*, *Odina wodier*, *Odina* sp., *Protium serratum*, *Pterocarpus marsupium*, *Salmalia malabarica*, *Shorea robusta*, *Spondias mangifera*, *Sterculia colorata*, *S. urens*, *S. villosa* and *Terminalia tomentosa* (Duffy 1968; Stebbing 1914).

**49. *Neocerambyx grandis*** Gahan, 1891 (Image 49)

*Neocerambyx grandis* Gahan, 1891 *Ann. Mag. Nat. Hist. Lond.* (6) 7 (37): 20.

*Neocerambyx grandis* Gahan, 1906 *Fauna Brit. India Col.*1: 125.

*Neocerambyx* (s. str.) *grandis* Gressitt & Rondon, 1970 *Pacific Insects Mono.* 24: 58.

*Neocerambyx grandis* Hua, 2002 *Zhongshan (Sun Yat-sen) Univ. Press* Guangzhou 2: 218.

Specimens examined: CHF/2015/347, male, 20.iv.2013, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Mantu; CHF/2015/348, female, 30.vii.2013, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Bikram.

Distribution: Allahabad, Assam, Arunachal Pradesh (reported first time during the course of the present study), China, Laos.

Biology: Unknown

Host Plants: Unknown

## CONCLUSIONS

A total 49 species of the coleopteran family Cerambycidae were recorded during the study, out of which subfamily Lamiinae included 28 species, Cerambycinae 11 species and Prioninae 10 species. *Rhytidodera griseofasciata* Pic is reported for the first time from India whereas seven other species are reported for the first time in Arunachal Pradesh, northeastern India. The observations indicate that Arunachal Pradesh is a rich spot for entomological fauna. Most of the area is densely covered by deciduous and evergreen forests. A long

term survey covering maximum habitats over different seasons would be required at the earliest to explore and document the entomological wealth of the region. All the cerambycids are primary pests of forest trees and timber products which cause huge economic losses in the region. Considering the lack of studies on the wood borer insects in Arunachal Pradesh, present findings have much significant for understanding insect biodiversity in the region and providing baseline data for further research programmes.

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