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

M.M. Kumawat1, K. Mamocha Singh2 & V.V. Ramamurthy3

1 Department of Plant Protection, College of Horticulture and Forestry, Central Agricultural University, Pasighat, Arunachal Pradesh 791102, India
2 College of Post Graduate Studies, Central Agricultural University, Umiam (Barapani), Meghalaya 793103, India
3 Network Project on Insect Biosystematics, Division of Entomology, Indian Agricultural Research Institute, New Delhi 110012, India
1 kumawatmm@gmail.com (corresponding author), 2 mamoento@gmail.com, 3 vvrento@gmail.com

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 along with 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 reticulata, and Sarothrocera lowii are being reported from Arunachal Pradesh for the first time.

Keywords: Cerambycidae, Coleoptera, Long-horned Beetles, wood boring beetles.
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 palaearctic, 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 have been reported from West Siang of Arunachal Pradesh by Singh et al. (2010). Several more species have been reported from India and adjacent countries (Holzschuh 1999, 2003; Holzschuh & Halder 2004, 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; Lobli & 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. 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 (Hylabrotus) tuberculatrix, Neocerambyx grandis, Olenecamptus indusianus, Obereopsis obscura obscura, Aristobia reticulator and Sarothrocerus 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 25(10): 421–431.
Nepiodes costipennis Komiyia & Drumont, 2010 Elytra 38 (2): 169–192.
Nepiodes costipennis subsp. costipennis Lobli & 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.
Biologie: N. costipennis recorded as boring into teak tree in Assam, India (Lefroy 1909).
Host Plants: Teak Tectona grandis; Kulsi 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 1885)
Nepiodes bowringi Lobli & Smetana, 2010 Cat. Palaearctic Coleopt.–6, Apollo books: 86–87.
Nepiodes bowringi Komiyia & Drumont, 2010 Elytra 38 (2): 169–192
Specimens examined: CHF/2015/202, female, 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
Biologie: 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 (Baralipton) marginalis Lameere, 1909 Ann. Soc. Ent. Belg. 53 (4): 152.
Megopis (Baralipton) marginalis Lameere, 1913 Coleopt. Cat. (52) 22:42.
Megopis (Baralipton) 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 (Baralipton) 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 marginalis Komiyia, 2005 Elytra 33 (1): 152, 178.
Aegolipton yunnanensis Feng & Chen, 2007 Acta Zootaxo. Sinica 32 (3): 717–720.
Aegolipton marginalis Feng & Chen, 2007 Acta Zootaxo. Sinica 32 (3): 717.
Aegolipton marginalis Lobli & Smetana, 2010 Cat. Palaearctic Coleopt.–6,Apollo books: 38.
Specimens 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.
Biologie: Unknown.
Long-horned Beetles of Arunachal Pradesh

Host Plants: Unknown

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

   Dorysthenes (Lophosternus) indicus Hope, 1831. Gray’s Zool. Misc. 1: 27.
   Lophosternus (Cyrthognathus) hopei Guerin, 1844 Icon. Regne Anim. Ins.: 210.
   Cyrthognathus indicus White, 1853 Cat. Coleopt. Brit. Mus. 7: 1–6.
   Cyrthognathus indicus Lammeere, 1890 Comptes–Rendus des Sea. de la Soc. Ent. 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 Lammeere, 1913 Col. Cat. 52: 68.
   Dorysthenes (Lophosternus) indicus Villiers & Chuo, 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. M.M. Kumawat.
   Distribution: Arunachal Pradesh, Bhutan, 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).

5. Dorysthenes (Lophosternus) hugelii (Redtenbacher 1848) (Image 5)

   Cyrthognathus hugelii Redtenbacher, 1848 Hugel’s Kaschrn 4 (2): 550.
   Cyrthognathus indicus hugelii White, 1853 Rev. Mag. Zool. (3) 5 (40): 262.
   Lophosternus falco Gahan, 1906 Fauna Brit. India, Col. 1: 11.
   Lophosternus hugelii Gahan, 1906 Fauna Brit. India Col. 1: 12.
   Lophosternus palpalis Gahan, 1906 Fauna Brit. India Col. 1: 12.
   Dorysthenes (Lophosternus) hugelii Lammeere, 1911 Ann. Soc. Ent. Belg. 55 (9): 330.
   Dorysthenes (Lophosternus) hugelii var. falco Lammeere, 1913 Coleopt. Cat. (52) 22:69.
   Dorysthenes (Lophosternus) hugelii var. palpalis Lammeere, 1913 Coleopt. Cat. (52) 22:69.
   Dorysthenes (Lophosternus) hugelii Gerssitt, 1950 Indian For. Rec. 8 (2): 9.
   Dorysthenes hugelii 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).
Long-horned Beetles of Arunachal Pradesh

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 tranqugebaricus Fabricius, 1798 Ent. Syst. Suppl. 141.
   Prionus buphtalmus Fabricius, 1801 Bibliopoli Academicii Novi Kiliae 2: 1–687.
   Armiger hussaruss 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, Salmalia malabarica (Duffy 1968); Ailanthus triphysa (Verma 1986).

10. Baralipton maculosum Thomson, 1857 (Image 10)
    Baralipton 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.
    Baralipton maculosum Lepesme & Breuning, 1952 Trans. IXth Inter. Cong. Ent., Amsterdam 11: 139–142.
    Megopis maculosa Gressitt & Rondon, 1970 Pacific Insects Mono. 24: 1–314.
    Baralipton 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,
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.

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**Subfamily: Lamiinae**

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

**Notes**

*Apomecyna saltator* was collected at Sanchi. Distribution: Arunachal Pradesh, Myanmar, Thailand. Biology: Unknown. Host Plants: Unknown.
Apomecyna niveosparsa Fairmaire, 1895 Ann. Soc. Ent. Belg. 39: 185.
Apomecyna multitotata 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/2015/237, male, 20.iv.2010, forest weeds, East Siang (elevation 180m), Arunachal Pradesh, India, coll. Subhash.
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: Cucurbitaceous plants, East Siang (elevation 160m), Arunachal Pradesh, India, coll. S. Tamang.

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. Palaeartic 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, Prof. 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, Indonasia, Laos.
Biology: Unknown
Long-horned Beetles of Arunachal Pradesh

**Host Plants:** Unknown

**15. Aristobia approximator** (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 Educ. Kagawa Univ.* 2 (135): 1–4.

_Aristobia approximator_ Mukhopadhyay & Halder, 2004 *State Fauna Series ZSI*, India, 10: 423.

_Aristobia approximator_ 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 60 cm 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.*
Long-horned Beetles of Arunachal Pradesh

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. Salvius 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, Prof 1, 2: 290
Batocera rubus Dejean, 1835 Crevat 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 formasana 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 Bailere: 77.
Batocera kunzteni Kriesche, 1915 Arch. f. Naturg. 80A 11: 139.
Batocera horsfieldi m. flavicans Breuning, 1948 Bull. Mus. Hist. Nat. Belg. 24, 38: 15.
Specimens 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 & Tournout, 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.vii.2010, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Pinku.

Distribution: Comoros, East Turkey, Egypt, Himalayan India, India, Iran, Israel, Lebanon, Madagascar, Macarene, Nepal, Pakistan, Palaearctic 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 *Bailliere*: 82

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

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

*Batocera numitor var. sumatrensis* Aurivillius, 1922

Coleopt. Cat. 73: 126

*Batocera numitor var. palawanica* 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 heteroclitica*, *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* Chevrolet, 1852 *Rev. Mag. Zool.* (2) 4: 415.
Long-horned Beetles of Arunachal Pradesh

Kumawat et al.

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

Apriona deyrollei Kaup, 1866 Einige Ceramb.: 7.

Apriona cribra 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 Jiroyx, 2011 Les Cahiers Magellanes NS 5: 59, 83.

Lamia germari = cribra Thomson, 1878, Jiroyx 2011

Les Cahiers Magellanes NS 5: 59.

Lamia germari = deyrollei Kaup, 1866, Jiroyx 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. Manu; CHF/2015/267, female, 21.v.2009, light trap, Basar (elevation 575m), Arunachal Pradesh, India, coll. T. Riba.

Distribution: Bhutan, Himalayan India, India, Nepal

Biological: 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 ambulatrix Fabricius, 1775 Korte, Flensburgi and Lipsiae 30: 171.

Monochamus fulvicornis Pascoe, 1875 Ann. Soc. Ent. Fr. (1) 4: 64.

Lamia aedificator Fabricius, 1807 Arch. Ent. 2: 177

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

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

Coptops quadrastigma Fahraeus, 1872 Oefvers. Vet. Ak.

468. (50–66): 7889

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.

Biological: 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 Azelia. 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 paryi; 18 - Batocera rubus rubu; 19 - Batocera horsfieldi; 20 - Batocera rufomaculata rufomaculata; 21 - Batocera numitor; 22 - Apriona gerrarii gerrari; 23 - Coptops aedificator; 24 - Acalolepta cervina; 25 - Epepeotes uncinatus; 26 - Glenea (Stirogena) spilota; 27 - Imantocera penicillata; 28 - Macrochenus guerinii; 29 - Nupserha nigriceps; 30 - Nupserha bicolor; 31 - Obereopsis obscura obscura; 32 - Olenecamptus bilobus bilobus. © M.M. Kumawat

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, Clerodendron infortunatum, Buddleia madagascarensis, Gmelina arborea, Adina cardifolia, Anthocephalus

25. Epepeotes uncinatus Gahan, 1888 (Image 25)

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

Epepeotes salvaaz Pic, 1925 Mel. exot. Ent. 43: 18. Pseudopsacothela lineata Pic, 1944 Opusc. marc. 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 prepupal 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 gallaries. 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)

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

Macrochenus guerinii 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.v.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 malabaricum, 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.

Specimens examined: CHF/2015/286, male, 22.vi.2010, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Mantu.

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

Biological: Unknown

Host Plants: Unknown

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

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

*Stibara bicolor* Thomson, 1860 Paris: 61

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

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

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

*Stibara bicolor* m. *subnittida* 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

Biological: 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.

Biological: Unknown

Host Plants: Unknown

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

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

*Olenecamptus serratus* Chevrelet, 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. *madecassus* 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. *dahlii* 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* stricki 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,
Long-horned Beetles of Arunachal Pradesh

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

*Olenecamptus bilobus lacteoguttatus* Breuning, 1957 Inst. Rech. sc. Tana-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, Baca, Sula, Myanmar, Nepal, New Guinea Island, Pakistan, Palaeartic 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. incises* 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 indians* (Thomson, 1857) (Image 33)

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

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

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

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

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

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

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

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

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

*Olenecamptus multitatus* 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.
Long-horned Beetles of Arunachal Pradesh

Pages: 7879–7901

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

*Pterolophia occidentalis* Schwarzer, 1931

*Bull. I.F.A.N.* 23, A, 4: 1093.

- Host Plants: *Milletta auriculata*, *Acacia* sp., *Acrocarpus fraxinifolius*, *A. hirsuta*, *Bauhinia vahlii*, *Cudrania javanensis*, *Dalbergia paniculata*, *Engelhardtia celebrookiana*, *Ficus religiosa*, *Lagerstroemia parviflora*, *Lannea grandis*, *Mallotus philippimms*, *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.

- 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.

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

- Distribution: *Ghana, India, Himalayan India including Arunachal Pradesh* biological: 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).
Long-horned Beetles of Arunachal Pradesh

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

Anoplophora versteegii 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.

Biological: The 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. aurantiifolia, triaflolate orange, pumelo and many other wild species of Citrus group.

38. Sarothrocerca lowii White, 1846 (Image 38)

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

Sarothrocerca lowei Thomson, 1861 Paris: 361.

Sarothrocerca lowi Aurivillius, 1922 Coleopt. Cat. 73: 78.

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

Specimens 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.

Biological: The beetles emerge in May–July (Beeson1941) 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 Zhongsan (Sun Yan–sen) Univ. Press, Guangzhou 2: 191.

Specimens examined: CHF/2015/314, male, 23.v.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. 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.

Biological: 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. carpinifolia, Populus diversifolia, P. euphratica, P. taliassica, P. alba, P. euroamericana, Salix acmophylla, S. turanica, S. oongarica, 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, Gediitsia, 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.
**Hoplocerambyx relictus** Pascoe, 1866 Proc. Zoo. Soc. Lond. 44: 504–537.

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

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

**Hoplocerambyx spinicornis** Hayashi & Makihiara, 1981

Images 33–49. 33 - *Olenecamptus indianus*; 34 - *Pterolophia (Hylobrotus) tuberculatrix*; 35 - *Pterolophia occidentalis*; 36 - *Thylactus simulans*; 37 - *Pseudonemophas versteegii*; 38 - *Sarathrocera 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
Long-horned Beetles of Arunachal Pradesh

**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, coincident 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 sonneratii*, *Hevea brasiliensis*.

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

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

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

* Chlorophorus annularis* Chevironat, 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 Coll.* 1: 261.

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

* Calcidium bidens* Weever, 1801 *Obs. Ent.* p. 90.

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

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

Specimens 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 dolberuinoides* 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 feeds 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.

Specimens 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...
Long-horned Beetles of Arunachal Pradesh

was first time reported from India (Arunachal Pradesh) during the present study.
Biolog: Unknown
Host Plants: Unknown

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

*Callidium barbatum* Fabricius, 1775 Syst. Ent.: 189
*Cerambyx* (*Callidium*) tranquercaricus Gmelin, 1790

Edito 13, Lipsiae Beer 1 (4): 1848.
*Callidium variolosum* Fabricius, 1798 Pratf 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* Makiha 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 up to 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)

*Ceramix globosus* Olivier, 1795 Ent. (4) 67: 27.
*Ceramix marginale* Goldfuss, 1805 Walther Erlangae 1805: 44.

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

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

*Xystrocera globosa* v. reducetivittata 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. magnus*, *Acrocopus fraxinifolius,*
Long-horned Beetles of Arunachal Pradesh

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

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

*Xystrocera festiva* Thomson, 1861 *Essai. Classif. Ceramibi.:* 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.

**Host Plants:** Unknown

**Biology:** Unknown

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

*Hammaticherus obesus* Dejean, 1837 *Mequignon–Marvis Pere Fils* (31): 347.

*Cerambyx obesus* Gemminger & Harold, 1872 *Sumpi E. H. Gummi Monachi*. 9: 2802.

*Ploderus pedestrises* Cotes, 1889 *Indian Mus. Notes* 1: 91.

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

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

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

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

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

Specimens examined: CHF/2015/343, male, 05.v.2013, light trap, Pasighat (elevation 150m), Arunachal Pradesh, India, coll. Mantu; 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.

**Host Plants:** 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, Celastra pentandra, Cordia dichotoma, Dracomeloton dao, Eriodendron anfracotuosum, Garuga pinnata, Gmelina arborea, Kydia calycina, Lannea coromandelica, Mangifera indica, Odina wodler, Odina sp., Protium serratum, Pterocarpus marsupium, Salmalia malabarica, Shorea robusta, Spandias 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. Oni.

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

**Host Plants:** Unknown

**Biology:** 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. *Rhytidodergriseofasciata* 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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