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STUDIES ON LONGICORN BEETLES (COLEOPTERA : CERAMBYCIDAE) FROM INDIA PART 1. ON INDIAN SPECIES OF *APOMECYNA* LATREILIE WITH A KEY TO INDIAN GENERA OF TRIBE APOMECYNINI

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Inroduction

Beetles of the family Cerambycidae, commonly known as longicorn beetles, are very important economically as many of these insects are injurious to living trees as well as to timber.

After the publication of Gahan's monographic work (1906) in the Fauna of British India series no comprehensive work on the taxonomy of Indian Cerambycidae has been published. Stebbing (1914), Beeson and Bhatia (1939) and Beeson (1941) have contributed on the biolology and life history of many important species by taxonomic informations are still scattered in various journals published from all over the world in different languages. This is especially true for the subfamily Lamiinae which includes majority of the longicorn beetles and was not included in Gahan's fauna volume.

In the present paper, descriptions, geographical distribution, additional locality data and biological informations wherever available on all the species known from Indian region of the genus *Apomecyna* have been provided. A key to the genera of tribe Apomecynini known from Indian region and another key to the Indian species of the genus *Apomecyna* have been included.

Tribe **Apomecynini Lacordaire** 1872

The tribe Apomecynini is one of the 30 tribes of subfamily Lamiinae known from India and can be characterised as follows : Small to moderate in size, long to very long in form. Tarsal claws divergent. Metasternum not very short. First antennal segment never very short (non very long as in Agapanthini). Ciatrix usually absent. Middle tibiae with dorsal furrow. Middle coxal cavities open or closed.

Out of the 123 genera known from Asia-Australian region 19 genera have been recorded from Indian region. These can be separated by the following key :

Kay to the Indian Genera of Tribe Apomecynini

1(4) Pronotum with lateral spine.

2(3) Upper surface sparsely covered with hair ... *Nicomioides* Breuning

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3(2) Upper surface without hair ... *Metamecyna* Breuning

4(1) Pronotum without lateral spine.

5(6) 3rd antennal segment very short, not more than twice long as the 2nd ... *Eunidia* Erichson

6(5) 3rd antennal segment never so small.

7(8) Metasternum short ... *Tuberculosybra* Breuning

8(7) Metasternum not so short.

9(30) Head retracted.

10(13) 5th antennal segment with brush of hairs.

11(12) 3rd antennal segment with brush of hairs ... *Estigmenidia* Gahan

12(11) 3rd antennal segment without brush of hairs ... *Pemptolasius* Gahan

13(10) 5th antennal segment without brush of hair.

14(15) Eyes subdivided ... *Ropica* Pascoe

15(14) Eyes emarginate.

16(23) 3rd antennal segment at best as long as the 4th.

17(18) Entire upper surface sparsely covered with hair ... *Orcesia* Pascoe

18(17) Upper surface without hairy covering.

19(22) Middle coxal cavities closed.

20(21) Prosternal process extending between coxae ... *Parepilyata* Breuning

21(20) Prosternal process not extending between coxae (sternal small) ... *Sybra* Pascoe

22(19) Middle coxal cavities open ... *Neosybra* Breuning

23(16) 3rd antennal segment longer than the 4th.

24(25) Frons trapezoidal ... *Mimeepilista* Breuning

25(24) Frons rectangular.

26(25) Pronotum transverse.

27(28) Antenna extends upto the middle of the body ... *Diaxenes* Waterhouse

28(27) Antennae as long as or a little shorter than body ... *Praenethomimus* Breuning

29(26) Pronotum as long as broad ... *Hyagnis* Pascoe

30(9) Head not retracted.

31(33) Middle coxal cavities closed.

32(33) Elytra in apical 4th with tubercle or hairy stripe ... *Atimura* Pascoe

33(32) Elytra without those mentioned above ... *Cornallis* Thomson

34(37) Middle coxal cavities open.

35(36) 3rd antennal segment markedly shorter than 4th ... *Mycerinopsis* Thomson

36(35) 3rd antennal segment at best a little shorter than 4th ... *Apomecyna* Latreille

Genus **Apomecyna** Latyeille

The genus *Apomecyna* may be recognised as follows : Very elongated, cylindrical. Antennae thick, shorter than body, lower surface not fringed. First segment short and thick. 3rd segment as long as or rather longer than 4th, much longer than first, fifth and rest are shorter. Antennal tubercle are broadly separated from each other, little produced. Eyes coarsely facetted, strongly emarginate, ventral lobe transverse. Frons broader than high. Pronotum transverse to longer than broad, convex, trilobed, rounded laterally, with two fine transverse groove, one anteriorly and another at base. Elytra very long, convex, rather broader than pronotum. Head not retracted. Prosternal process narrow, lower than the coxae uniformly rounded. Mesosternal process sloping towards apex. Metasternum of normal length. Mesocoxal cavities open. Legs little long. Femur clavate. Middle tibiae emarginate preapically.

The genus *Apomecyna* was erected by Latreille in 1829. The type species of the genus is *Apomecyna histrio* described by Fabricius from Tranquebar in South India. Aurivillius (1922) in Coleopterorum Catalogus recorded 6 species, namely *A. alboguttata* Megerle, *A. cretacea* Hope, *A. histrio* (F.), *A. leucosticta* Hope, *A. neglecta* Pascoe and *A. saltator* (F.) from Indian region. Breuning (1938) added two more species, *A. fallaciosa* from North West India and *A. ceylonica* from Ceylon. In the collection of Zoological Survey of India, there is a specimen of *A. proba* Newmannn from India, thus bringing the number of species known from Indian region to nine. Breuning (1964), however, in his revision of tribe Apomecynini of Asiatic and Australian region placed *A. alboguttata*, *A. neglecta* and *A. proba* under the synonymy of *A. histrio*, *A. saltator* and *A. cretacea* respectively, thus bringing the valid species of the genus *Apomecyna* Latreille known from Indian region to six. These species can be separated by the following key :

Key to the Indian species of **Apomecyna**

1(2) Pronotum with continuous narrow yellowish middorsal line ... ... *A. leucosticta* (Hope)

2(1) Pronotum without such line. ... ...

3(4) Elytra rounded apically ... ... *A. ceylonica* Breuning

4(3) Elytra truncated or emarginate apically. ... ...

5(6) Pronotum as long as broad in the middle ... *A. cretacea* (Hope)

6(5) Pronotum transverse. ... ...

7(8) 5th and rest antennal segment together shorter than 3rd and 4th together ... ... *A. histrio* (F.)

8(7) 5th and rest together longer than 3rd and 4th together. ...

9(10) 5th and rest together much longer than 3rd and 4th ... *A. fallaciosa* Breuning

10(9) 5th and rest together not so longer than 3rd and 4th ... *A. saltator* (F.)

1. **Apomecyna histrio** (Fabricius)

1792. *Lamia histrio* Fabricius, *Ent. Syst.* p. 288.

1802. *Saperda alboguttata* Megerle, *Cat. Ins. Append, Nov.* no. 473, p. 10.

1840. *Apomecyna histrio* Castelnau, *Hist. Nat. Col.* II, p. 40.

1868. *Apomecyna quadrifasciata* Thomson, *physis*, II, p. 59.

1918. *Apomecyna maculaticollis* Pic, *Mél. exot. ent.* XXVIII, p. 6.

Size small to medium (7-12mm in length), shape cylindrical. (Fig. 1). Upper surface dark brown, covered with pale reddish brown hair. Pronotal disc with one white post median longitudinal mark and usually with one or two smaller white mark on lateral side of mid-dorsal line. Elytra covered with yellowish white patches, number of patches variable, arranged in four transverse bands, one irregular post basal, 2nd obliquely laterally rising premedian 3rd irregular post median and last small preapical. One small round whitish patch at the side of each abdominal segment. Third abdominal segment at base and 2/3rd of 4th abdominal segment pale, 3rd and 4th antennal segment apically and rest of the segments dark brown. Antennae hardly extending upto middle of the elytra, extremely finely punctured, 3rd segment longer than 4th, 5th and rest taken together not longer than the combined length of 3rd and 4th. Ventral optical lobe twice as long as gena. Head and pronotum coarsely punctured. pronotum transverse. Scutellum semicircular. Elytra parallel, obliquely truncated apically, rather closely but finely punctured in longitudinal rows ; punctures finer towards apex. Me sutural striae. Mesosternal process gradually slopping towards apex. Metasternum convex and smooth in the middle, punctured at the sides. Femora closely and finely punctured.

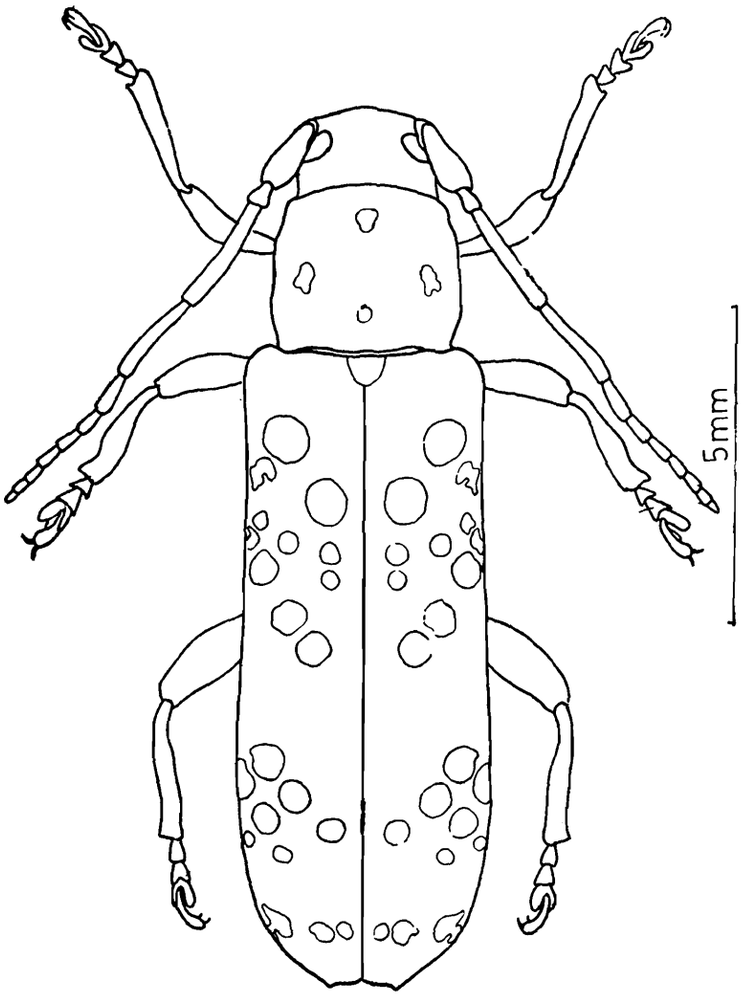
Length 7-12 mm ; Breadth 2-3.5 mm.

Material examined : Cochin State, Paramoikulam, 16-24.ix.1914, F. H. Gravely Coll., 2 ex. ; Andaman Islands, dated Nil, Coll. Nil—1 ex. ; Calcutta, dated Nil, Coll—Nil—1 ex.

Distribution : INDIA : Andaman, West Bengal and Kerala ; East ASIA, JaPAN PHILLIPINE, SUNDA ISLAND, MALAKKA to QUEENSLAND.

Remark : The species was described by Fabricius from a specimen from Tranquebar, India. In the specimen under study there are only three distinct patches

of white spots, the prebasal patch is confluent with the patches of the premedian region to form a broad band. The basal portion of the fourth antennal segment is



Text-fig. 1

Fig. 1. *Apomecyna histrio* (F.)

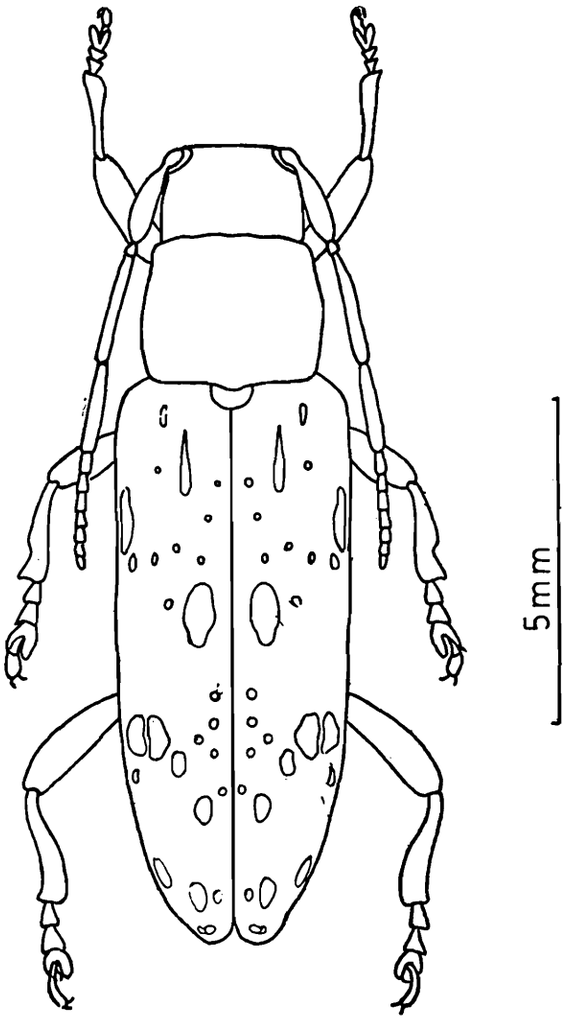
distinctly patchy covered with white pubescence while the other segments are dark brown. Pronotal disc have two distinct median spots, one anteriorly and the other basally while there is no post median longitudinal mark.

Biology : *A. histrio* has been recorded in *Tinospora cordifolia* and its life cycle has been described by Lefroy (1910). The larva lives in the living stem of the creeper making irregular tunnels. Beetles of the variety *cretacea* emerged from a climber collected in the Andamans between April and July (Beeson, 1941).

2. Apomeeyna cretacea (Hope)

1831. *Callidium cretaceum* Hope, *Gray Zool. Misc.*, p. 28.
1938. *Apomecyna multinotata* var., *laosensis* Pic, *Bull. Soc. ent. Fr.* xliii, p. 124.
1842. *Apomecyna proba* Newman, **1** : 299.
1964. *Apomecyna cretacea* m. *proba* Breuning *Ent. Abhan* **30** : 20, 24.

The present species resembles *A. histrio* but upper surface of body covered with large punctures, pronotum as long as broad, apical margin of elytra obliquely truncated (Fig. 2).



Text-fig. 2

Fig. 2. *Apomecyna cretacea* (Hope)

Size medium (11-18 mm in length), Shape elongated. Reddish brown, upper surface covered with pale yellowish pubescence. Pronotum without continuous longitudinal marking, pale white patches at sides. White patches in elytra arranged in ill defined transverse bands.

Length 11-18mm ; breadth 3.3-5.5mm.

Material Examined : INDIA, Tirap, Power House, Khonsa, 4.xi.1971. 800m. At light, G. S. Arora Coll. 1 ex ; Calcutta, Tollygunge, 23.iv.1950, A. P. Kapur, Coll. 1 ex.

Distribution : The species is distributed from India to Phillipine.

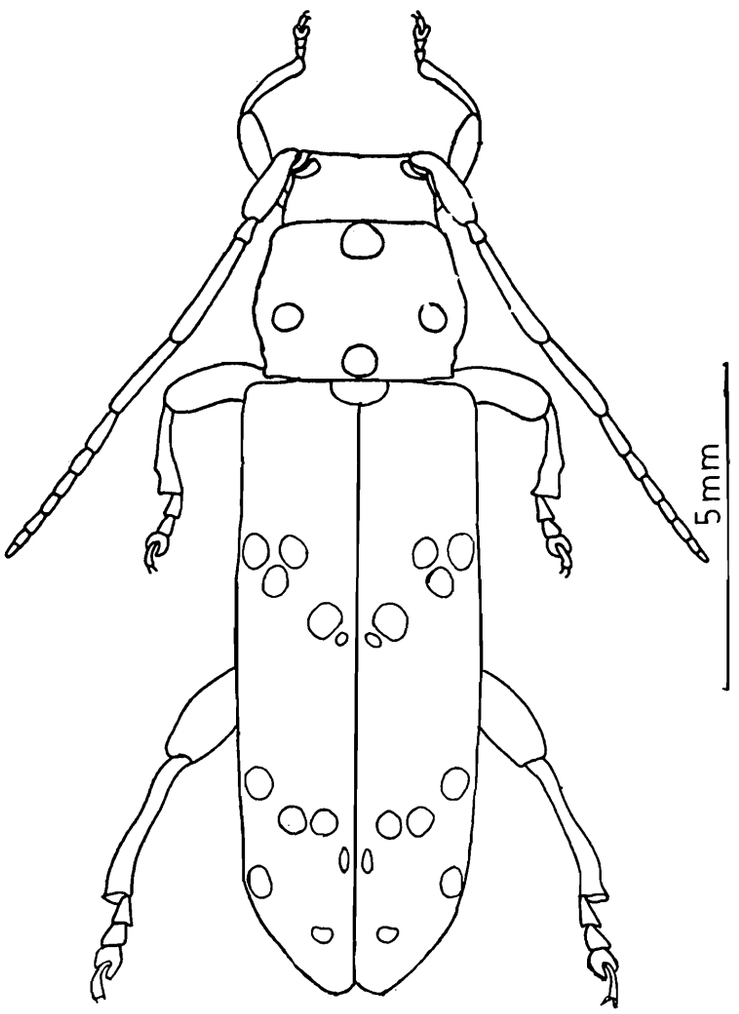
Remark : *A. proba* and *A. cretacea* (Breuning, 1964). The morphs *proba* occurs in Indian region and the present description has been mainly based on this morph.

Hope (1831) described this species from Nepal. The fourth antennal segment is paler at the basal 2/3rd and covered with white pubescence in the specimen examined.

3. **Apomecyna ceylonica** Breuning

1938. *Apomecyna ceylonica* Breuning, *Nov. Ent. fasc.* viii, p. 51.

Similar to *A. histrio* F. but little broader, 1st antennal segment not punctured, head feebly, pronotum little closely punctured. Apical margin of elytra rounded, upper surface of body rather pale yellowish brown, sometimes no white mark on pronotum, the whole apical 3rd of elytra covered densely with whitish patch (Fig. 3).



Text-fig. 3

Fig. 3. *Apomecyna ceylonica* Breuning

Length 12 mm ; breadth 4 mm.

Material Examined : CEYLON, Kandy, Date—Nil, 1 ex.

Distribution : CEYLON : Waddawa, Kandy.

Remarks : Breuning described the species from Ceylon : Waddawa (Museum Stockholm). Post basal markings absent and ventral lobe of eyes is less than twice the length of gena in the specimen studied.

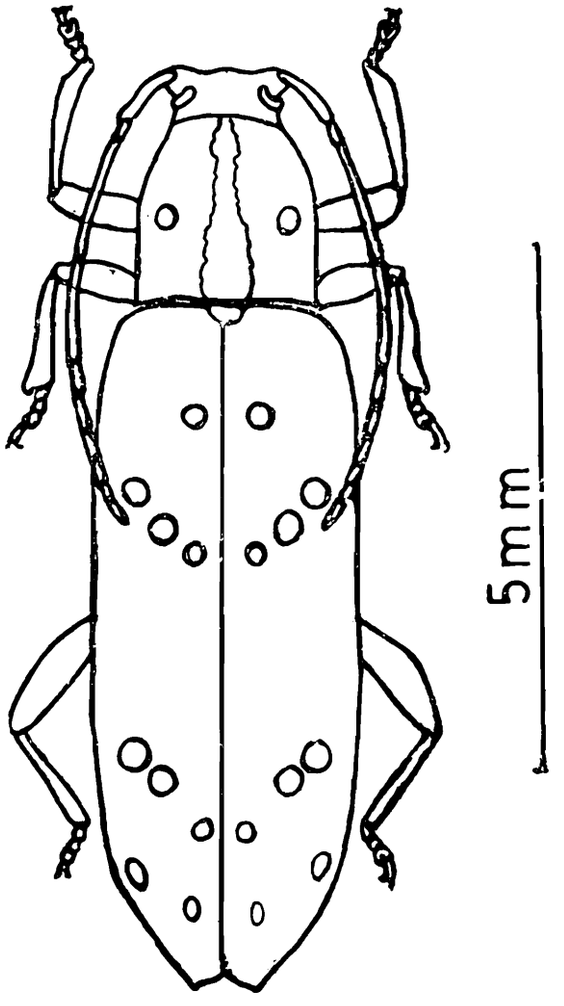
In the specimen under study pronotum have to mediin white spots and two laterally. The elytra have two distinct white patches, the premedian rising obliquely and the apical third composed of whitish spots.

4. **Apomechyna leucosticta** (Hope)

1831. *Callidium leucostictum* Hope, *Gray Zool. Misc.* p. 28.

1925. *Apomecyna lyteomaculata* Pic, *Mel. exot. ent.*, lxviii, p. 64.

Size small to medium (9-12 mm in length), shape strongly elongated (Fig. 4) Reddish, extremely finely covered with yellowish hairs. Pronotum with very narrow



Text-fig. 4

Fig. 4. *Ampomecyna leucosticta* (Hope)

ochraceous yellow longitudinal middle band. Scutellum ochraceous yellow. Each elytron with some ochraceous yellow rounded patches, one or two post basal, a few forming strongly laterally ascending premedian band, some forming laterally inclining

postmedian band another forming a preapical transverse band. One ochraceous small mark on sides of each abdominal segment.

Head and pronotum closely and strongly punctured. Antennae hardly reaching middle of elytra, 3rd and 4th antennal segment taken together a little longer than 5th and rest taken together. Apical margin hardly truncated, closely and strongly punctured. Metasternal disc convex and smooth and finely covered with yellowish pubescence in the middle, gradually sloping at sides and covered larger hairs and moderatly strong punctures. Femora moderately strongly punctured, punctures stronger towards apex.

Length 9-12 mm ; breadth 2-3 mm.

Material examined : Pashok, alt. 2000 ft. Darjeeling Dist., Himalayas, —vi.1916, L. C. Hartless, Coll.—1 ex ; Ukhrul, Manipur, 6400 ft., Lat. 25 N, Long. 94-95, Date—Nil, Revd. W. Pettigrew. Coll. 1 ex.

Distribution : INDIA : W. Bengal (Darjeeling), Sikkim, Meghalaya (Shillong), Manipur ; BHUTAN, BURMA and LAOS.

Remark : The description drawn from specimens of Manipur and the species can be easily distinguished by its elongated shape, prothorax as long as broad, pronotum with longitudinal narrow middorsal ochraceous yellow line and elytra with ochraceous yellowish patches. The material examined have the apical margin of the elytra obliquely truncated and the other tip is projected into a feeble spine.

5. **Apomecyna saltator** (Fabricius)

1781. *Lamia saltator* Fabricius, *Mant. Ins.* 1, p. 141.

1865. *Apomecyna neglecta* Pascoe, *Trans. ent. Soc. Lond.*, (3) iii, p. 152.

1868. *Apomecyna pertigera* Thomson, *Physis*, ii, p. 160.

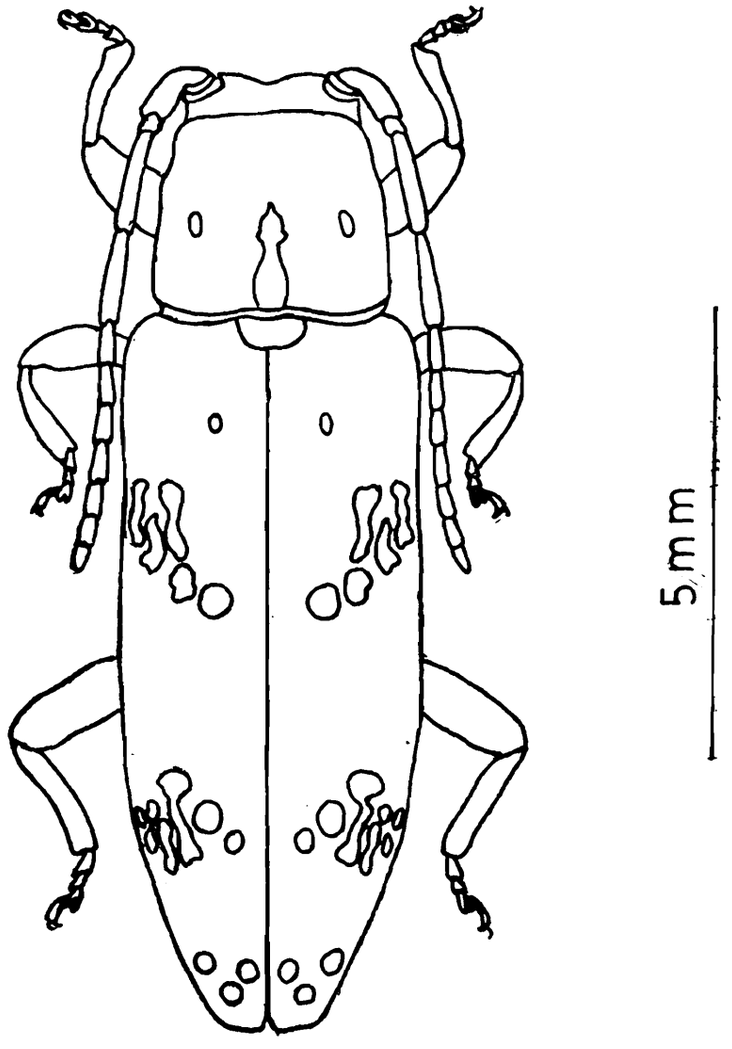
1918. *Apomecyna multinotata* Pic, *Mel. exot. ent.* xxviii, p. 5.

1942. *Apomecyna excavaticeps* Gressitt, *Lingn. Nat. Hist. Serv. Mus.* Spec. Publ., 8, p. 25.

Size small to medium (8-14 mm in length), shape cylindrical (Fig. 5). Dark, brown, covered with pale reddish brown pubescence. Pronotum with feely marked longitudinal post median band and some ill defined white lateral patches. Elytra with white patches forming one laterally ascending premedian transverse band, and another broedly oblique postmedian and other narrow preapical transverse band. Antennae pale reddish brown, the 4th segment in basal 3/4th whitish.

Antennae hardly extending upto middle of the eytra, a little thick. 5th and rest antennal segment together a little longer than 3rd and 4th taken together, 3rd a little longer than 4th. Ventral optical lobe twice as long as gena. Head and pronotum rather closely and finely punctured. Pronotum transverse. Scutellum semicircular. Apical margin of elytra feebly truncated, lateral margin rounded, rather closely and finely punctured.

Material examined : Andaman Island, Dated—Nil, Coll.—Nill, 2 exs ; Calcutta, At light, Date—Nil, F. H. Gravely, Coll—1 ex ; Pashok, alt. 3590 ft. Darjeeling dist., E. Himalayas, —vi.1916, L. C. Hartless Coll.—1 ex. ; Pashok, alt. 3500 ft. Darjeeling dist. E. Himalayas, 26.v—14.iv.1916, F. H. Gravely, Coll.—2 ex ; Calcutta, Behala 21.vi.1968, R. K. Kacker Coll. 1 ex ; Darjeeling dist, Singla, 1500 ft, May 1918, Carmichael Coll., 5 exs ; Maldah, Date—Nil, Coll—Nil, 1 ex ; Sureil, 5000 ft, Darjeeling dist, E. Himalayas, 11—31.x.1917, N. Annandale, F. H. Gravely Coll. 1 ex ; Peradeniya, Ceylon, Date—Nil ; Coll.—Nil, 2 exs.



Text-fig 5

Fig. 5. *Apomecyna saltator* (F.)

Distribution : INDIA, SINGAPORE and TAIWAN ISLAND.

Remark : Fabricius described the species without any definite locality data. The specimen under study agrees fully with the above description.

Biology : *A. saltator* has been recorded in *Coccinia indica*, *Cucurbita moschaeta*, *Lagenaria vulgaris*, *Luffa acutangula*, *L. aegyptiea*. The life history is recorded by Lefroy

(1910) (under the name of *Apomecyna pertigera*). The beetle feeds on and lays eggs in the stems of living pumpkin and the larva tunnels along the pith and surrounding tissues. The life cycle is 35-45 days in the hot weather with 3 or 4 generations in a year. Emergence from dry climbers of the overwintered generation occurs from May to September.

6. **Apomecyna fallaciosa** Breuning

1938. *Apomecyna fallaciosa* Breuning, *Novit. Ent. fasc.* viii., p. 50.

Similar to *A. saltator* F., but the 5th and rest antennal segment together much longer than 3rd and 4th together, apical margin of elytra strongly truncated. Elytra without preapical markings, anterior markings, irregularly united at elytral disc, one obliquely inclined towards the lateral side premedian and another wavy postmedian.

Length 11 mm ; breadth 3 mm.

Material examined : Not examined.

Distribution : Breuning described the species on specimen from Northwest India (British Museum)—U. P. (Museum, Dehradun).

Summary

The present paper deals with 6 species of *Apomecyna* Lacordaire known from India. Detailed descriptions with illustrated figures, synonymic references, geographical distribution and biological informations are furnished. A key to the 19 Indian genera of the tribe and keys to the species of the genus *Apomecyna* known from India are also provided.

Acknowledgement

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