

DISTRIBUTIONAL PATTERNS OF INDIAN SPECIES OF *LEMA* FABRICIUS (CRIOCERINAE : CHRYSOMELIDAE)

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The family Chrysomelidae is one of the largest families of the Coleoptera and contains about 30,000 known species and is very largely represented in India. The genus *Lema* Fabricius, on which the present studies are based belong to the subfamily Criocerinae. This subfamily is represented in the Indian fauna mainly by the genus *Lema*, of which 88 species are known from India alone out of 117 species from Oriental region.

Jacoby and Clavareau (1904) reviewed the beetles of the subfamily including characters and the geographical distribution of the species. Jacoby (1908) in the fauna of British India, Vol. I, has given a detailed description of the Indian species alongwith their distribution.

The genus *Lema* is best recognised by the constriction at sides of thorax and by partly united claws at the base. The other diagnostic characters are head generally constricted posteriorly, antennae filiform, eyes frequently notched, elytra punctate-striate, legs elongate, femora moderately thickened, first ventral segment much longer, prosternum narrow. The species vary greatly in size and colouration but none can be called large.

DISTRIBUTIONAL ANALYSIS

Studies on the distribution of the genus were carried out with reference to the Indian species in the Indian faunal limits which include the present day

political boundaries of India and zoogeographical analysis made.

The genus *Lema* is largest in the subfamily criocerinae and comprises 117 species from the Oriental region including 88 from India alone. The species of this genus are thus very numerous represented in India and the tropics in general. The genus is known to have universal distribution except New Zealand, so far as is known. Many species have restricted distribution and are known only from higher altitude, but some species show widespread distribution.

The distribution of these beetles show a high percentage of 84.1 per cent endemic species. It is interesting to note that none of the Indian species are known from other zoogeographical regions except one species *L. lacertosa* from Palearctic region and one doubtful record of *L. solani* from North America.

The endemic species of the genus *Lema* are : *L. oblitterata* Jac. (= *manipurensis*) *semi-regularis* Jac., *malabarica* Jac., *hopei* Jac., *balyana* Jac., *globicollia* Baly, *rotundicollis* Jac., *epipleuralis* Jac., *intacta* Jac., *praeclara* Clark, *andamensis* Jac., *amethysina* Jac., *flavimana* Jac., *tranguabarica* Fab., *atkinsoni* Jac., *sufobrunnea* Jac., *subtuberculata* Jac., *singularis* Jac., *carinata* Jac., *wallardiensis* Jac., *subiridea* Jac., *impotens* Lacordaire, *castanea* Jac., *cerea* Jac., *antonii* Clavareau, *longifemorata* Jac., *mahensis* Jac., *rugifrons* Jac., *assamensis* Jac., *decolorata* Jac., *suturella* Baly, *doronesi* Baly, *juvenilis* Jac., *viridisuturata* Jac., *trifasciata* Jac., *lycaon* Jac., *bretinghami* Baly, *ornatipennis* Jac., *constrictofasciata* Jac., *lateralis* Jac., *semivittata* Clark, *spoliata* Jac., *ornaticollis* Jac., *obscurifrons* Jac., *occipitalis* Jac., *crassipalpis* Duviv., *cardoni* Jac., *bimaculata* Baly, *maindroni* Jac., *signatipennis* Jac., *praeusta* Fab., *terminata* Lacord, *admirabilis* Jac., *arrogans* Jac., *binghami* Jac., *fulzofrontalis* Jac., *fulvimana* Jac., *rufofrontalis* Jac., *psyche* Baly, *paradoxa* Jac., *gahani* Jac., *atrocrerulea* Clark, *nitidissima* Jac., *nilgriensis* Jac., *purpurea* Jac., *nigroviolacea* Jac., *mandarensis* Jac., *funerea* Jac. and *belgaumensis* Jacoby.

Twenty six species are known from higher altitudes while four species namely *andamensis* Jac., *palpalis* Lacord., *binaculata* Baly and *quadripuncta* Olivier, are known from as far as Andaman Islands. The widely distributed species in the genus are *coromandeliana* Feb., *palpalis* Lacord, *fulvula* Lacord, *quadripunctata* Oliv. and *Cyanea* Fabricius.

It is clear from the studies that the Indian species of *Lema* show a high degree of endemism.

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