

DESCRIPTION OF THE LARVA OF *ELACATIS*
KRAATZI REITTER (Elacatidae, Coleoptera)

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The Elacatidae is one of the small families of Cucujoidea though its extent has lately been increased by the inclusion of *Prostominia*, *Trogocryptus* and others, but there have been many opinions concerning the constitution of this family, and therefore, it has been given so many different places in the classification of the imagines, for instance, close to the Mycetophagidae or in the Tenebrionidae by many entomologists, that the natural position and range of the Elacatidae are at present by no means securely established.

Species of Elacatidae are known from the warmer part in America, Asia and Africa, but represented in Japan by two species, i. e., *Elacatis kraatzi* Reitter and *E. ocellaris* Lewis, and their feeding habits and larvae* scarcely seem to have been recorded.

As I have recently had an opportunity to examine the larva of *E. kraatzi* by making a comparison with that of *E. umbrosus*, I want to present the results here.

Before going further, I wish to express my gratitude to Prof. Dr. M. Chûjô of the Kagawa University for his constant guidance and for reading through this manuscript. I am also indebted to Dr. W. H. Anderson of the U. S. National Museum for kindly supplying me with material of *Elacatis* larvae.

***Elacatis kraatzi* Reitter**

Mature larva. Length up to 13 mm. Form elongate, orthosomatic, subparallel with segments slightly depressed. Body without pubescence, but very sparsely setose. Cuticle faintly rugose. General colour yellowish-brown with mandibles and tips of urogomphi testaceous. Ventral surface yellowish-white. Head hypognathous, somewhat depressed, transverse, widest just behind middle, with sides moderately rounded. Epicranial suture lyre-shaped, not reaching antennal foramina, without metopic branch. Clypeus apparently fused with frons, more or less rectangular, usually glabrous, with front margin very slightly curved. Labrum transversely oval, smooth, with front margin slightly produced medially, and bearing four setae of varying length on either side of the anterior margin. Epipharynx with an oval bare central area which is bounded by ♀-shaped cluster of minute sensillae, and dotted with about twelve small sensory spots; antero-lateral margin on each side with five short stiff setae. Antennae on raised bases; segments in approximate ratio of 15:19:11; first segment short, nearly cylindrical, and slightly longer than wide; second the longest and clavate; third segment

* Brief descriptions of the larva of *Elacatis umbrosus* have been given by A. G. Böving (1931), A. Peterson (1951), and of *E. delusus* by J. C. M. Gardner (1931).

pointed, and considerably narrower than second; a conical accessory segment present at end of second segment, ventral to third segment and of about one-third its length.

Ocelli five on either side, posterior to the antenna, of which a group of three is placed in a row dorso-ventrally, and two posterior to the rest. Mandible slightly asymmetrical, each with two incurved apical teeth, and with three ill-defined small serrations in intermediate part; mola distinct, faintly serrate; prostheca of left mandible sharply pointed and slightly hooked, of right mandible similar but smaller and more flattened. Mala nearly square, fused with stipes, and with a slight terminal incision near the inner margin; ventrally with a row of about 10 stout setae close to inner margin, and a few rigid spines present at the inner angle; lacinia with a horny and inwardly-directed uncus on the disto-lateral corner; galea obtuse, bearing ventrally on its anterior margin about 8 setae of varying length; outer margin of mala without setae. Labium free for almost half its length, widely separated from the maxilla on either side; mentum and submentum clearly demarcated, each with a triangular area asperate, and bearing a pair of setae; prementum broader than long bearing two biarticulate palps and two short setae; ligula linguiform, strongly protuberant. Hypopharyngeal sclerome H-shaped, and densely closed with fine hairs.

Prothorax transverse, about one and two-thirds times as broad as long; pronotum subquadrate, nearly straight on anterior and posterior margins; sides feebly rounded; in each anterior corner bearing three setae, and with a pair of paramedian fine setae near the hind margin; median suture not impressed. Meso- and metanotum each transversely rectangular and ornated with a transverse, somewhat curved, testaceous linear elevation along the anterior margin; a pair of paramedian fine setae present near the posterior margin; pleural tubercle roundly protuberant bearing one seta. 1st to 8th abdominal segments similar, each with sides feebly diverging behind middle; tergum with a pair of paramedian setae near the posterior margin, and also one short seta in each posterior margin with a linear elevation which is testaceous and undulate; pleuro-tergal suture distinct; pleural tubercle moderately protuberant and bearing one seta; pleura divided from the sterna by a definite pleuro-sternal suture. Abdominal sternum trapezoidal, with scattered microscopic spines laterally, and bearing about three pairs of short, fine setae. 9th segment subequal in length to the 8th, with sides feebly converging posteriorly, bearing a few scattered setae, especially on lateral margins, and terminating in a pair of fixed caudo-lateral urogomphi; each urogomphus with one distinct, sharp tooth on the mesal margin, and with an apical portion which is strongly sclerotized, densely setose, and bifurcated. 9th tergite with a transverse row of four short ferruginous spines near the posterior margin, and each with an apical seta. Ventro-cephalic margin of the 9th abdominal segment with the interrupted transverse row of asperities, of which two extremities being acute, and mostly developed; the number of asperities seems to be of little value as specific characters, for it is subject to great variation among the individuals of a single species. Thoracic spiracles oval, situated in anterior portion of each mesothoracic pleuron; abdominal spiracles annular, placed in paratergites of each of first eight abdominal segments, and with distinct vestiges of two small cham-

bers on the antero-dorsal margin of each; the atrium being furnished with a number of short spicule-like trabeculae projecting into lumen, which are only present beneath reflection of lip. Legs of moderate length, bearing several short, stout spines; unguiculus long and slender.

This larva resembles closely that of *E. umbrosus*, but may be readily distinguished from the latter by the apparent difference in chaetotaxy.

Remarks: The materials upon which this paper is based were found by myself under the fairly moist and loose bark of dead and fallen trees at Towada, Aomori Prefecture, Japan, on 3·VIII·1958. I observed that the larvae probably feed upon decaying vegetable matter, and there can surely be no ground for regarding *Elacatis* species as essentially predaceous.

Ten larvae of *Elacatis* sp. were kindly given me by the authorities of the United National Museum, through the favour of Dr. W. H. Anderson; these are labelled as follows:

- 1) *Othnius* sp. (det. Böving)
Guatemala or Honduras. Dec. 17, 1935. banana leaf.
- 2) *Othnius* sp.
St. Elena finca-2000 ft. above. Tecpan Guatemala, C. Amer. Oct. 11, 1932.
longleaf pine. C. N. Rinslie coll.
- 3) *Othnius* sp.
Bandelier, N. M. Aug. 7, 1956. Ponderosa pine. Hopk. U. S. No. 37203X.
- 4) *Othnius* sp. prob. *umbrosus* Lec. or *lugubris* Horn
Riggins, Idaho, June 10, 1941. *Pinus ponderosa*. T. T. Torrell coll. Hopk.
U. S. No. 22105-A.

In view of the larval character described above, it can be suggested that the *Elacatis* larva is most closely allied to that of Salpingidae, and it has also much affinity to the Boridae, rather less relationship to the Pythidae and Pyrochroidae and that the *Boros* larva may be regarded as much more akin to the *Pyrochroa* or *Pytho* than to the *Elacatis*. Although, from the result of my present study, the phylogenetical situation of the Elacatidae is more distinct to me than hitherto, its definition and constitution are in need of further investigation.

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Explanation of Plate 1

Larva of *Elacatis kraatzii* Reitter

A. Mature larva. Dorsal view. B. Right antenna. Ventral view. C. Left mandible. D. Right mandible. E. Head. Dorsal view. F. Thoracic spiracle. G. Right maxilla and labium. Ventral view. H. Epipharynx. I. Hypopharyngeal region. J. Left fore leg. K. Posterior end of abdomen. Ventral view.

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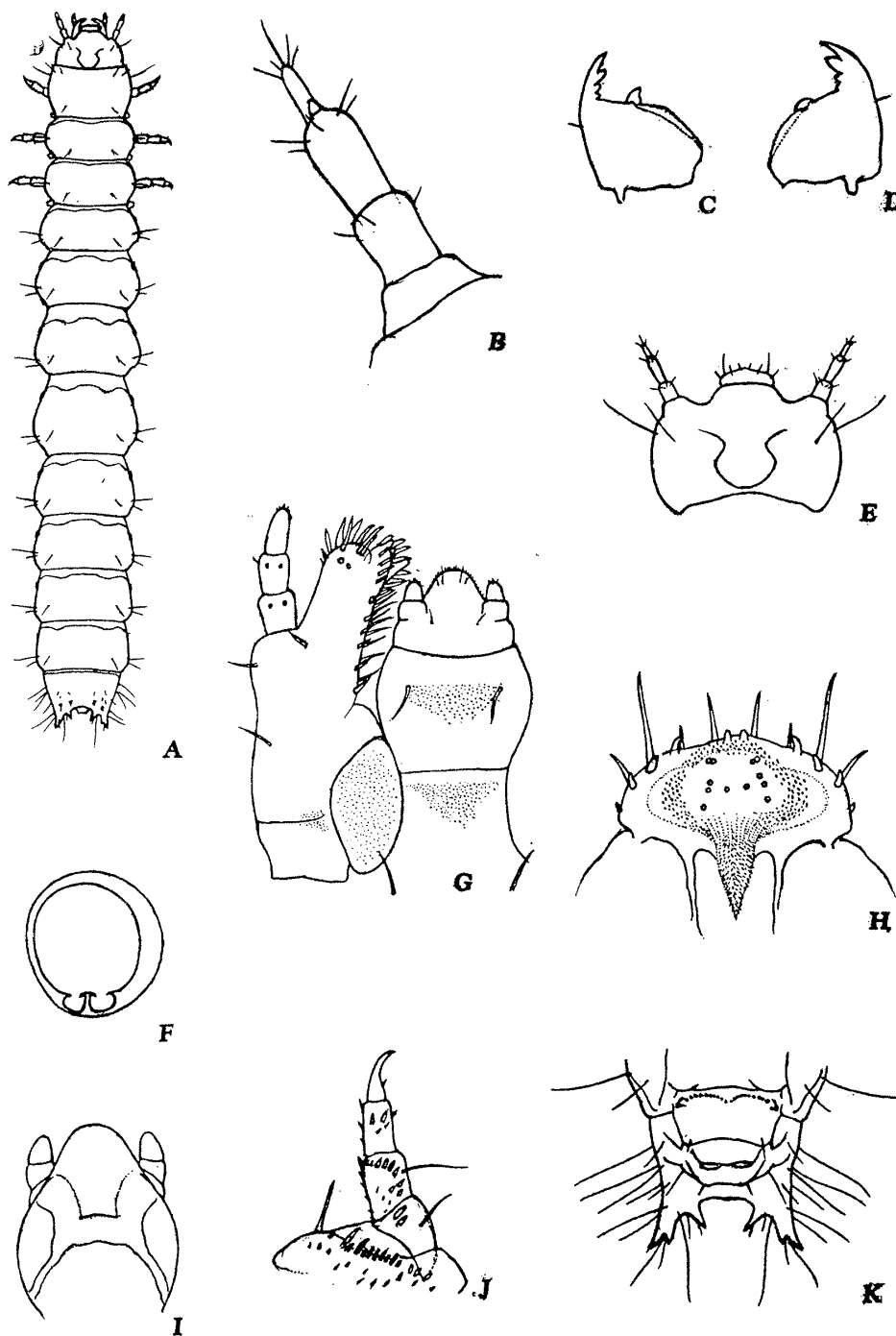
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ヤサイゾウムシの染色体数

安 江 安 宣

ヤサイゾウムシ *Listroderes costirostris obliquus* Klug の染色体数については川村満（げんせい、2巻：21～26；1953）が卵巣組織の体細胞において $2n=28$ とし、4倍性の種類である可能性があることをのべた。

他方1955年来、倉敷の筆者研究室や香川産の材料をもとにした竹内恭（Annot. Zool. Japon., Vol. 30, 38～41；1957）の報告によれば、卵原細胞において33個の染色体をみつけて、本種は11を基本数とする3倍体であることを確定した。これは Suomalainen（1940～1955）が多年にわたって発表している単為生殖をおこなうゾウムシ類が3倍体であるという事実と合致するものである。成熟分裂像については川村、竹内ともに観察できなかつたので、本種の成熟分裂は卵巣内ではなくて産下後の卵内において起るものとおもわれると両氏はのべている。



Fukuda — Larva of *Elacatis kraatzi*.