

Notes on the genera and species of Lepturinae (Coleoptera, Cerambycidae) with special reference to their male genitalia*

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(WITH 1 PLATE)

As already mentioned by Nakane (1954)**, one of the authors of the present paper, the shape and structure of the male genitalia may serve in Lepturinae, at least partly, for the separation of genera and species as in other groups of beetles. In this paper we have dealt with the results of our further study in Lepturinae including some of the type species.

I On the genus *Leptura* Linné, 1758

Most of the species included in the genus *Leptura* in Japan form a rather homologous group having to each other similarly constructed male genitalia, which resemble also that of *L. quadrifasciata* Linné, the type of the genus. The following species may be included in this group (*Leptura* s. str.):

<i>subtilis</i> Bates	<i>ochraceofasciata</i> Motschulsky
<i>kusamai</i> Ohbayashi et Nakane	<i>aethiops</i> Poda + ssp. <i>dimorpha</i> Bates
<i>duodecimguttata</i> Fabricius	<i>arcuata</i> Panzer + ssp. <i>mimica</i> Bates
<i>latipennis</i> Matsushita	+ <i>tsumagurohana</i> Ohbayashi

Some of the species in the genus *Leptura* are, however, differentiated from the typical form of the genus in the male genitalia as well as in the external structure and would require other or new generic names which will be referred below.

Genus *Macroleptura* gen. nov. (Type: *Leptura thoracica* Creutzer)

Leptura thoracica Creutzer and *Strangalia regalis* Bates have both very robust body and short but rather robust antennae which are not or a little getting beyond the middle of elytra in the male and not reaching the middle in the female. Further, the 3rd joint of hind tarsi is cleft from middle to apex in middle, and in the male the anal sternite is very broadly and conspicuously hollowed and its sides are laminate and expanded downwards. The parameres of the male genitalia are very long and only a little narrowed to the apex but not dilated apically. These characteristics are not found in the typical *Leptura* and we propose here a new genus *Macroleptura* for the two species above-cited.

Genus *Etorofus* Matsushita, 1933 (Type: *Etorofus variicornis* Matsushita)

In *Leptura vicaria* Bates the parameres of the male genitalia are fused to each other at the base above the penis and narrowed gradually towards apex and at the apex sparsely bearing rather long hairs. These features are quite different from that of the typical *Leptura* and rather resemble that of the species included in the genus *Pedostrangalia*. *Leptura vicaria* also differs from the latter genus in having longer legs and not sulcate under surface of hind tarsi. The specialization in *L. vicaria* is found again in *Leptura circaocularis* Pic = *Etorofus variicornis* Matsushita (non *variicornis* Dalman). The genus *Etorofus* may be valid for the reception of the two species and *Leptura adumbrata* Bates

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which is considered to be a local form of *vicaria* Bates.

Gressitt (1947) reduced *Leptura vicaria* to a subspecies of North American *L. obliterata* Haldeman. But his opinion is untenable, because of the following differences between them: the head is in front of eyes about twice as long as the diameter of an eye in *vicaria*, whereas in *obliterata* it is about as long as the eye diameter; the antennae are much longer in *vicaria* than in *obliterata*; the prothorax is more strongly narrowed in front in *vicaria*; and the punctures of head and pronotum are finer and denser in *vicaria* than in *obliterata*.

Genus *Pedostrangalia* Sokolow, 1896 (Type: *Pedostrangalia Kassjanowi* Sokolow)

Leptura xanthoma Bates from Japan may belong to this genus. In this species the parameres of the male genitalia are somewhat broader and shorter than that of *Etorofus* and fitted closely to each other along the inner margin.

Genus *Paranaspia* Matsushita et Tamanuki, 1940

(Type: *Leptura anaspidooides* Bates)

The genus was established as a subgenus of *Strangalia* (= *Leptura* in the present sense) for a Japanese species, *Leptura anaspidooides* Bates. The male genitalia of this species are differentiated from the typical *Leptura* by the following points: the protuberance at the outside of the articulating point of the parameres is less remarkable, the parameres are narrow, with long and shorter hairs at apex, and the penis is broad up to a point just before the apex, then suddenly terminated and the middle of the apex is a little produced and pointed. The body is nearly parallel-sided and markedly different from others. Basing upon the above mentioned characteristics we treat here *Paranaspia* as a separate genus.

The elytra of *P. anaspidooides* are, as Bates described, dark red in the female, while those are, as far as we know, black in the male. *Leptura mikadoi* Pic is, according to our study, a name given for this male form. Though the name *mikadoi* Pic has been referred repeatedly by Japanese authors, the beetle was practically unknown to us. The difference of the ground colour of elytra in *P. anaspidooides* is probably a sexual, but we treat provisionally *mikadoi* Pic as a form of *anaspidooides* in the following list.

Genus *Paranaspia* Matsushita et Tamanuki

Strangalia subg. *Paranaspia*, Matsus. et Taman., 1940, Ins. Matsum., XV, 1 & 2, p. 5;
Tamanuki, 1942, Fauna Nipponica, Cerambyc. 2, Lepturinae, p. 141, 182.

Generotype: *Leptura anaspidooides* Bates.

Paranaspia anaspidooides (Bates) n. comb.

Leptura anaspidooides, Bates, 1873, Ann. Mag. nat. Hist., (4) XII, p. 196.

m. *mikadoi* (Pic) n. comb.

Leptura mikadoi Pic, 1906, Longicornia, VI, 1, p. 16.

Genus *Rutpela* gen. nov. (Type: *Leptura maculata* Poda)

Leptura maculata Poda has long been assigned in Europe and Japan as the generotype of *Strangalia*, but Van Dyke (1930) and Gressitt (1947) both denied this type designation and chose *S. luteicornis* Fabricius, as the type of *Strangalia* and *L. quadrifasciata* as the type of *Leptura*. After we have accepted the selection of the type species by American Coleopterists, *L. maculata* Poda is, of course, included in the genus *Leptura*. But if we examined the male genitalia, we find remarkable difference between *L. maculata* and the typical *Leptura*-species. Further, in the outer structure *L. maculata* bears certain peculiarities, especially in the male. Under the circumstances we propose a new generic name

with outer angle acutely produced in a spine,
only one abdominal tergite uncovered,
Legs straight, hind tarsal joints without a
sulcus beneath.

narrowly truncate with outer angle not pointed,
two abdominal tergites uncovered,
Legs extremely slender, hind tarsal joints with
a sulcus beneath.

III On the genus *Anoplodera* Mulsant, 1839

The genus *Anoplodera* (type: *Leptura sexguttata* Fabricius) has long been treated as a subgenus of the genus *Leptura* in Europe and Japan, but as mentioned above Gressitt chose *L. quadrifasciata* Linné as the type of *Leptura*, and consequently *Anoplodera* took the place of *Leptura* in older sense.

Gressitt (1947) transferred some Japanese species, *sucedanea*, *variicornis*, *pyrrha*, etc., formerly placed in the genus *Leptura*, to *Anoplodera*. Nevertheless, the Japanese species concerned are clearly differentiated from *A. sexguttata* in the external appearance and in the male genitalia. The male genitalia of *A. sexguttata* are rather closely allied to that of *Anoploderomorpha*-species, i.e. the parameres are not connate above the penis but articulated, and bearing one or two long hairs at apex. *A. rubra* Linné (formerly considered to be the type of *Leptura*) and its allies are now lost their generic name, so we propose a new generic name for this group of beetles.

Genus *Aredolpona* gen. nov. (Type: *Leptura rubra* Linné)

In this genus the parameres of the male genitalia are entirely connate at the base just above the penis, subparallel-sided and pubescent at the apex.

The genus is somewhat allied to the genera *Vadonia* Mulsant and *Neovadonia* Kaszab, but the prothorax is distinctly constricted just behind the neck.

The following species found in Japan may be placed in this genus:

<i>rubra</i> <i>sucedanea</i> Lewis	<i>variicornis</i> Dalman
<i>igai</i> Tamanuki	<i>pyrrha</i> Bates
<i>scotodes</i> Bates	

Genus *Anoploderomorpha* Pic, 1901* (Type: *Leptura excavata* Bates)

The genus contains four Japanese species:

<i>cyanea</i> Gebler	<i>excavata</i> Bates
<i>monticola</i> Nakane	<i>kishiii</i> Nakane

This genus is rather closely related to *Anoplodera* in the structure of the male genitalia and the external features are also similar.

Genus *Japanostrangalia* gen. nov. (Type: *Leptura dentatipennis* Pic)

Leptura dentatipennis, the type of the genus, was included in the genus *Leptura* s. str. by Matsushita (1933), in the subgenus *Anoploderomorpha* (gen. *Leptura*) by Tamanuki (1933, 1942), in the subgenus *Anoploderomorpha* (gen. *Anoplodera*) by Gressitt and in *Anoplodera*(?) by Hayashi (1955). Nakane (1955) suggested that the species is not of the genus *Anoploderomorpha*, but would belong to the genus *Strangalomorpha*. But in this species the metasternum bears a pair of longitudinal carinae in the male and each elytral apex is distinctly emarginate, with both angles sharply pointed. In this respect it appears to be near the genus *Ischnostrangalis* Ganglbauer, but its prothorax is not constricted just behind the front margin and not longitudinally canaliculate in the middle.

* vide Nakane, T. (1955): Studies on the Japanese longicorn beetles with special reference to their male genitalia (1), Akitu, I, 1, p. 11-13, 4 figs.

Genus *Pachypidonia* Gressitt, 1933

The unique species of this genus is *Leptura bodemeyeri* Pic = *Pachypidonia crassicornis* Gressitt.* Tamanuki (1942) referred it to the subgenus *Vadonia* of the genus *Leptura* (= *Anoplodera* in the present sense), but it is obviously incorrect. The species differs strikingly from *Vadonia livida* Fabricius (the type of the genus *Vadonia*) in the external structure as well as in the male genitalia. Pic mentioned in his original description that this species is nearly related to *Leptura bangi* Pic (now in the genus *Judolia*), and our observation lead us to the same conclusion. At any rate the genus *Pachypidonia* may be valid, though it stands near *Judolia*. (* = *L. kochiana* Matsushita)

Genus *Judolia* Mulsant, 1863 (Type: *Leptura sexmaculata* Linné)

This genus is distinct from *Anoplodera* and its allied genera in the shape of the male genitalia. *J. parallelpipeda* Motschulsky from our faunal region is probably a separate species, though very closely allied to *J. sexmaculata* Linné. *Strangalia japonica* Tamanuki should be placed in this genus. Because it has *Judolia*-type male genitalia and its elytral pattern resembles that of the two above-mentioned species.

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EXPLANATION OF PLATE

Male genitalia of Lepturinae (l. parameres, m: apex of penis, p. both in profile.)

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|------------------------------------------------|-----------------------------------------------|
| Fig. 1 <i>Leptura quadrifasciata</i> Linné | Fig. 7 <i>Anoplodera sexguttata</i> Fabricius |
| 2 <i>Etorofus circaocularis</i> Pic | 8 <i>Vadonia livida</i> Fabricius |
| 3 <i>Paranaspia anaspoides</i> Bates | 9 <i>Neovadonia steveni</i> Sperk |
| 4 <i>Rutpela maculata</i> Poda | 10 <i>Judolia sexmaculata</i> Linné |
| 5 <i>Mimostrangalia dulcis</i> Bates | 11 <i>Judolia parallelpipeda</i> Motschulsky |
| 6 <i>Mimostrangalia kurosonensis</i> Ohbayashi | 12 <i>Judolia japonica</i> Tamanuki n. comb. |

摘 要

本報に於ては花天牛亜科に属する甲虫の属種の分類について交尾器の調査結果を顧慮して検討し、又属模式種 *generotypes* の変更等に伴って起る所属の変化にも言及した。この結果として欧州及び本邦の種を *type* とする 6 属を設定した。即ち

- Macroleptura* n. g. (type: *Leptura thoracica* Creutzer)
Rutpela n. g. (type: *Leptura maculata* Poda)
Aredolpona n. g. (type: *Leptura rubra* Linné)
Mimostrangalia n. g. (type: *Strangalia kurosonensis* Ohbayashi)
Idiostrangalia n. g. (type: *Strangalia contracta* Bates)
Japanostrangalia n. g. (type: *Leptura dentalipennis* Pic)

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