

## The Chrysomelidae of Japan and the Ryukyu Islands. I

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## The Chrysomelidae of Japan and the Ryukyu Islands. I<sup>1, 2)</sup>

By Shinsaku KIMOTO<sup>3)</sup>

### INTRODUCTION

The beetle family Chrysomelidae (in the broad sense) is one of the largest families of Coleoptera. Until today probably more than 50,000 species of the family have been described from all parts of the world. All of them are phytophagous and many of them have been known as serious pests taking an important role in the agricultural and the forest entomology. Although monographs or synopses of some subfamilies on the Japanese Chrysomelidae have been published, many subfamilies remain still untouched.

For these eleven years, I have studied the family Chrysomelidae chiefly at the Entomological Laboratory, Kyushu University, under the guidance of the late Dr. T. Esaki, Prof. K. Yasumatsu and Prof. Y. Hirashima.

In the course of the study, I have had a good opportunity to join the Entomology Department, Bernice P. Bishop Museum in Honolulu, U. S. A. as a Museum Fellow in Entomology. Under the good hospitality of Dr. A. Spöehr, former Museum Director and Dr. R. Force, present Museum Director, I have been able to conduct my research on the Chinese and Korean Chrysomelidae from March 1958 to August 1959 and from September 1961 to February 1962, under the kind guidance of Dr. J. L. Gressitt, who is one of the outstanding entomologists in U. S. A. and a world authority on the group. This research has been completed in 1962, and result has been published in a joint paper with Dr. J. L. Gressitt under the title of "The Chrysomelidae of China and Korea I-II" (1961 & 1963).

On my way back to Japan, I could spend about three months, from September to November 1959, working on the type specimens of

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the Far Eastern Chrysomelidae in the Continental United States and Europe, as a Bishop Museum Fellow in Entomology, to complete the research on the Chrysomelidae of China, Korea and Japan. In addition to this Dr. J. L. Gressitt kindly enabled me to see many photographs of type specimens which were taken chiefly by Mrs. Gressitt and partly by himself.

Meanwhile, Prof. M. Chûjô, Kagawa University, Takamatsu, an outstanding specialist on the group, and I published "Systematic catalog of the Japanese Chrysomelidae (1961)." In the course of editing this catalog, Prof. M. Chûjô gave me very helpful suggestions which were very important to complete this paper.

Historical review on the research on the Japanese Chrysomelidae was briefly discussed by Chûjô & Kimoto (1961). The first research on the Japanese Chrysomelidae was done by Hornstedt, 1788, who made a description of a new species from Japan. Since that time it has elapsed about 70 years during which no contributions to the Japanese Chrysomelidae has ever been done. At the middle of 19th century, Motschulsky published several papers on the Japanese Chrysomelidae. In the latter half of the 19th century, many important papers were published and most of the Japanese species have been described in this period. The most important ones are Baly's (1873 & 1874) and Jacoby's papers (1885), both of which were based on J. Lewis' collection. In addition to these, Harold (1877, 1878, 1879), Heyden (1879) and Gorham (1885) contributed much to the knowledge of Japanese Chrysomelidae.

Japanese entomologists have started their researches on the Japanese Chrysomelidae after the beginning of 20th century. They are the late Dr. Shônen Matsumura, Mr. Munemoto Yano, the late Umekichi Nawa, Prof. Kyûsaku Doi, Dr. Satoru Kuwayama, Dr. Kiriyo Yokoyama, Mr. Shûjirô Hirayama, Prof. Kazuo Kamiya, and some others. Most of the works made by the earlier workers are fragmental re-descriptions of certain species, iconographs, or lists of local faunas including several new species.

One of the characteristic aspect of the study on the Chrysomelidae in the first half of the 20th century is a more specialization by workers on certain subfamilies, such as Heikertinger on Alticinae, Spaeth on Cassidinae, Goecke on Donaciinae, Laboissière and Black on Galerucinae. Some of the subfamilies or genera occurring in Japan also have been worked out from the palaearctic or world view points by specialized authorities on respective group. At the same time, monographical or synoptical investigations on the local fauna of certain areas of Asia progressed remarkably, especially on Indian and Burman faunas by Maulik and Jacoby, and on Chinese fauna by Chen.

One of the remarkable development of the studies on the Chry-

somelidae in the past ten years is the phylogenic study on the higher categories, especially on the subfamily level, and bibliographical works on classical literature. The phylogenic study was contributed much by Crowson, Monrós, Jolivet, Chûjô and others and the bibliographical one was by Hincks, Monrós, Bechyně and others. During these ten years, monographical or synoptical works on the Asiatic Chrysomelidae were carried out rapidly. Those are on Taiwan fauna by Chûjô, Micronesian fauna by Gressitt, and Chinese and Korean faunas by Gressitt and myself.

Monographical or synoptical study on the Japanese Chrysomelidae was chiefly undertaken by Chûjô. Those are Megalopodinae and Zeugophorinae in 1932, Criocerinae and Hispinae in 1933, Lamprosomatinae, Donaciinae and Cassidinae in 1934, Alticinae from 1935 to 1937, Chlamisinae in 1942, Orsodacninae in 1949, and again Lamprosomatinae in 1958.

Dr. Hiroharu Yuasa had been engaged for a long time on the study of Chrysomelidae of Japan, and went to England in 1951, and worked on Baly's and Jacoby's types. It was so pity that he deceased in 1953 without publishing any papers on the result of his study on the types of the Japanese Chrysomelidae. His memorandum made in London has been kept in the Department of Entomology, National Institute of Agricultural Sciences, Tokyo.

Mr. Masao Ohno recently published revisional works on good numbers of genera, chiefly on Alticinae. Prof. M. Chûjô and I published "The systematic catalog of Japanese Chrysomelidae." Prof. M. Chûjô went to Europe in the spring of 1961 and worked on the types of Japanese Chrysomelidae.

Most of the Japanese Chrysomelidae described by foreign entomologists are of Baly and Jacoby. Except for a few species, Baly's types are preserved in the British Museum (Nat. Hist.). Jacoby's types are mostly preserved in the British Museum (Nat. Hist.), but partly in the Bowditch Collection in the Museum of Comparative Zoology, Harvard University, Cambridge. Pic's types are now in the Mus. Nat. d'Hist. Nat., Paris, but some of the types were already destroyed before the transfer to Paris. Most of Kraatz' types seem to be preserved in the Deutsche Ent. Inst., Berlin. Some of Weise's and Harold's types are in the Zool. Mus., Berlin.

The types which had been preserved in the Umeno Entomological Laboratory, Kurume City, Japan, were completely destroyed by the bomb during the World War II. Chûjô's types, which were described before the World War II are mostly preserved in the National Taiwan University and Agricultural Research Institute, Taipei, fairly in good condition.

Many specimens preserved in the European Museums, and labelled simply as "Japan, Kyoto" do not show the localities of the collected specimens but simply indicate that those specimens came from Hanzono Entomological Laboratory, which was located in Kyoto, and some of them seem to be of Formosan origin.

It is quite unfortunate that many of Motschulsky's types seem to be destroyed until today, and some of them are still in question in their taxonomic status.

The types described here are mostly preserved in the Entomological Laboratory, Kyushu University, Fukuoka.

The following abbreviations for Museums, Universities or Collections are used for indication of the place of deposition of type specimens which I had worked on.

BISHOP: Bishop Museum, Honolulu.

BM: British Museum (Nat. Hist.), London.

CAS: California Academy of Sciences, San Francisco.

CHUJO: M. Chûjô Collection (private), c/o Kagawa University, Takamatsu.

DEI: Deutsche Entomologische Institut, Berlin.

HOKKAIDO: Entomological Institute, Hokkaido University, Sapporo.

KU: Kyushu University, Fukuoka.

MCZ: Museum of Comparative Zoology, Harvard University, Cambridge.

NAKANE: T. Nakane Collection (private), c/o Kyoto Prefectural University, Kyoto.

NIAS: National Institute of Agricultural Sciences, Tokyo.

NSM: National Science Museum, Tokyo.

OHNO: M. Ohno Collection (private), c/o Tôyô University, Tokyo.

OMNH: Osaka Mus. Nat. Hist., Osaka.

PARIS: Museum Nationale d'Histoire Naturelle, Paris.

SHIROZU: T. Shirôzu Collection (private), c/o General Education Department, Kyushu University, Fukuoka.

USNM: United States National Museum, Washington, D. C.

ZMB: Zoologisches Museum der Humboldt-Universität zu Berlin.

Before going further I wish to acknowledge my indebtedness to the following gentlemen supporting my work. My gratitude is first due to the late Dr. T. Esaki, Prof. K. Yasumatsu and Prof. Y. Hira-shima, Kyushu University, Fukuoka, for their kind guidance and encouragement. To Prof. M. Chûjô, Kagawa University, Takamatsu, I am indebted for much valuable advice on the work. My particular thanks are due to Dr. A. Spoehr, the former Museum Director, Dr. R. Force, Museum Director, and Dr. J. L. Gressitt, Chairman of Entomology Department, B. P. Bishop Museum, Honolulu, for providing me various

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Table 1. Taxonomic representation of Japanese Chrysomelidae

	Genera	Species	Additional subspecies	New species
Orsodacninae	1	1		
Zeugophorinae	1	9		
Megalopodinae	1	1		
Donaciinae	3	14	1	
Criocerinae	4	27	1	
Clytrinae	3	9		
Cryptocephalinae	4	35		
Chlamisinae	1	9		
Lamprosomatinae	2	5	1	
Eumolpinae	19	42	4	
Synetinae	1	1		
Chrysomelinae	14	34	2	
Galerucinae	34	86	2	8
Alticinae	48	153	5	8
Hispinae	6	12		
Cassidinae	6	27		
--- Total ---	148	465	16	17

University, Dr. T. Uchida and Prof. C. Watanabe, Hokkaido University, Sapporo, Prof. T. Nakane, Kyôto Pref. University, Kyôto, Dr. Y. Kurosawa, and Dr. S. Uéno, National Sci. Mus., Tokyo, Mr. J. Hasegawa, Nat. Ins. Agricultural Sciences, Tokyo, Dr. S. Asahina, and Dr. K. Yasutomi, Nat. Ins. Health, Tokyo, Mr. I. Hiura, Osaka Museum of Nat. Hist., Osaka, Mr. R. Ishikawa, Tokyo, Mr. M. Ohno, Toyo University, Tokyo, Dr. K. Morimoto, Forest Experiment Station, Tokyo, Dr. Y. Murakami, Horticultural Experiment Station, Hiratsuka, and Mr. H. Kamiya, Fukui University, Fukui.

## TAXONOMY

The chrysomelid-beetles of Japan are classified here into 148 genera belonging to 16 subfamilies, and represents 465 species in total. Among them 17 species are described here as new to science. All trinominals I used as headings are intended to refer to subspecies.

### *Key to Japanese subfamilies*

1. Head normal, with vertex not projecting and with mouth parts directed forward and downward ..... 2
  - Head with vertex projecting strongly forward and mouth parts directed posteriorly below ..... 15
2. Antennae not closely inserted, separated by frons or vertex widely ..... 3
  - Antennae closely inserted, on front of head ..... 14
3. Head well exposed, more or less strongly constricted behind eyes; eyes always distinct from anterior margin of pronotum, pronotum always not marginate laterally ..... 4
  - Head usually deeply engaged in prothorax and far as or beyond the eyes and not strongly constricted behind the latter, pronotum margined laterally, but very rarely immargined ..... 9
4. Vertex without any grooves ..... 5
  - Vertex with distinct grooves ..... 8
5. Antennae filiform or robust, and in the latter preapical joints nearly as long as wide, hind femora generally not greatly enlarged, always unarmed with tooth or spine ..... 6
  - Antennae very robust, preapical joints transverse, dentate or serrate; hind femora large and strongly swollen, armed with one or more teeth or spines on the underside ..... Megalopodinae
6. Prothorax with one or several more or less prominent teeth at middle of each side, anterior coxal cavities open behind ..... Synetinae
  - Prothorax without prominent teeth; anterior coxal cavities fully closed behind ..... 7
7. Eyes weakly emarginate at each inner margin; antennae thicker; fore-tibiae armed with a single spur at each apex; claws appendiculate ..... Zeugophorinae

- Eyes with entire margin not emarginate; antennae very slender; fore-tibiae armed with a pair of spurs at each apex; claws bifidate ..... Orsodacninae
8. Antennae not separated by entire cephalic width, claws free, first abdominal sternite almost as long as the followings together ..... Donaciinae  
Antennae separated by entire cephalic width, claws free or connate, first abdominal sternite shorter than the remaining together ..... Criocerinae
9. Prothoracic pleura with deep grooves for the reception of antennae..... 10  
Prothoracic pleura without antennal grooves ..... 11
10. Dorsal surface smooth, without any tubercles, abdomen without intermediate sternites constricted in middle, pygidium not exposed ..... Lamprosomatinae  
Dorsal surface tuberculate, abdomen with intermediate sternites constricted in middle, pygidium usually exposed ..... Chlamisinae
11. Three middle abdominal sternites constricted in central portion ..... 12  
Three middle abdominal sternites not constricted ..... 13
12. Antennae short, with terminal joints serrate ..... Clytrinae  
Antennae long and filiform in general, but sometimes shorter, with terminal joints thickened ..... Cryptocephalinae
13. Fronto-clypeal suture absent, third tarsal segment usually very deeply bilobed ..... Eumolpinae  
Fronto-clypeal suture more or less distinct, third tarsal segment entire or feebly bilobed at apex ..... Chrysomelinae
14. Legs with hind femora not very thickened generally, prosternal process generally narrow, in some cases not developed towards intermediate area of fore-coxae ..... Galerucinae  
Legs with hind femora thickened generally, prosternal process generally broad, and widely separates fore coxae ..... Alticinae
15. Pronotum and elytra without broad marginal expansions, but often with spines; head never covered ..... Hispinae  
Pronotum and elytra with broad marginal expansions, in most cases the former covering head ..... Cassidinae

### Subfamily ORSODACNINAE

#### Genus *Orsodacne* Latreille

*Orsodacne* Latr., 1802, Hist. Nat. Crust. Ins. 3: 223.—Lacordaire, 1845, Mon. Phytoph. 1: 167.—Chapuis, 1874, Gen. Col. 10: 48.—Weise, 1882, Ins. Deutschl. 6: 3.—Jacoby, 1903, Gen. Ins. 14: 9; 1908, Fauna Ind., Col. 2: 15.—Crowson, 1946, R. Ent. Soc. Lond., Trans. 97 (4): 79, 93.—Chûjô, 1952, Kagawa Agr. Coll., Techn. Bull. 3 (3): 167.

#### *Orsodacne arakii* Chûjô (Fig. 1)

*Orsodacne arakii* Chûjô, 1942, Kontyû 16 (1): 33, fig. 1 (Mt. Tanzawa in Kanagawa Pref.); 1949, Ent. Rev. Japan 1 (2): 22, 24 (Honshu).—Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 119 (Japan).

*Orsodacne nakanei* Chûjô, 1942, Kontyû 16 (1): 34, fig. 4 (Near the Marsh Oze-numa in Gumma Pref., Kamikochi in Nagano Pref.); 1949, Ent. Rev. Japan 1 (2): 22, 23 (Honshu).



***Orsodacne kurosawai*** Chûjô, 1949, Ent. Rev. Japan 1 (2): 22, 24, fig. 3 (Mt. Azumasan in Yamagata Pref.; CHÛJÔ).

Narrowly elongate, subparallel-sided, rather depressed above and very finely shagreened on whole surfaces ; coloration variable :

Head yellowish brown with black, or entirely black; antennae yellowish brown, in some cases apical joints infuscate; prothorax black or piceous with marginal area paler; scutellum black, in some cases apex deep yellowish brown; elytra: 1) yellowish brown, with sutural, lateral and apical margins piceous, and a large subtriangular black marking just behind middle, 2) piceous to pitchy black with lateral and apical areas paler, 3) entirely black ; underside piceous to black; legs generally yellowish brown but in some cases partly piceous or black; length 5.5—7.0 mm.

*Distribution* : Japan (Honshu, Shikoku).

*Tokushima*: Ken-zan (1 ex., 30. Aug. 1930, I. Hiura leg.). *Nagano*: Tokugo-toge (2 exs., 25. July. 1950, T. Tamaki leg. ).

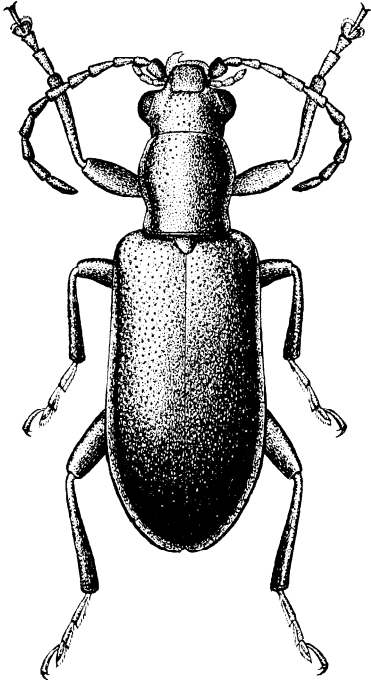


Fig. 1. *Orsodacne arakii* Chûjô.

## Subfamily ZEUGOPHORINAE

### Genus *Zeugophora* Kunze

*Zeugophora* Kunze, 1881, Neue Schrift. Ges. Halle 2 (4): 21.—Lacordaire, 1845, Mon. Phytoph. 1: 233.—Chapuis, 1874, Gen. Col. 10: 69.—Weise, 1882, Ins. Deutschl. 6 (1): 55.—Jacoby, 1903, Gen. Ins. 14: 10 ; 1908, Fauna India, Col. 2: 14.—Crowson, 1946, R. Ent. Soc. Lond., Trans. 97 (4):

94.—Chûjô, 1952, Kagawa Agr. Coll., Techn. Bull. 3 (3): 167.—Gressitt & Kimoto, 1961, Pac. Ins. Mon. 1A: 23, 24.

*Pedrillia* Westwood, 1864, Ent. Soc. Lond., Trans. ser. 3, 2: 280.—Jacoby & Clavareau, 1905, Gen. Ins. 33: 16.—Jacoby, 1908, Fauna India, Col. 2: 12.—Chûjô, 1932, Nat. Hist. Soc. Formosa, Trans. 22: 337, 338.—Crowson, 1946, R. Ent. Soc. Lond., Trans. 97 (4): 94.—Gressitt & Kimoto, 1961, Pac. Ins. Mon. 1A: 24. Subgenus.

### Key to Japanese species of *Zeugophora*

1. Eyes less strongly emarginate; frons with an impressed line between eyes posterior to fronto-clypeal suture ; basal angles of prothorax simple without lateral projecting setae (subgenus *Zeugophora*) ..... 2
- Eyes more strongly emarginate ; frons without a transverse impressed line posterior to fronto-clypeal suture ; basal angles of prothorax more or less tuberculate, bearing about three lateral projecting setae (subgenus *Pedrillia*) ..... 3

2. Pronotum yellowish brown ; head and elytra black with bluish luster; pro- and mesosternum yellowish brown, abdomen black; legs yellowish brown ; length 4.1 mm ..... *japonica*  
 Pronotum black, in some cases anterior and posterior margins reddish; head and elytra black with bluish luster, ventral surface black; legs yellowish brown ; length 3.0-3.5 mm ..... *kozumi*
3. Elytra unicolor, reddish brown ..... 4  
 Elytra not unicolor but with spots or markings ..... 6
4. Pronotum as long as broad or longer than broad; dorsal surface entirely reddish brown ..... 5  
 Pronotum distinctly wider than long; black, elytra yellowish brown ; length X7-5.0 mm ..... *nigricollis*
5. Prothorax very narrow, distinctly longer than broad ; yellowish brown, antennae more or less infusate; length 2.7—3.0 mm ..... *gracilis unicolor*  
 Prothorax as long as broad; reddish brown with meso- and metathorax, abdomen, and femora and tibiae of middle and posterior legs black; antennae black with one or two basal joints reddish ; length 3.0-4.0 mm . . . . . *varipes*
6. Pronotum with a transverse furrow subbasally which is interrupted at middle in some cases; pronotum 1 1/3 times as broad as long ..... 7  
 Pronotum without any transverse furrow basally; pronotum almost as long as wide ..... 8
7. Elytra with a large subrotundate obscure fulvous patch behind middle, which is margined with black tinge and in some cases with a stripe running from base to posterior patch; ground color yellowish brown but in some cases middle of prothorax, head, underside, and legs blackish in various degrees; length 4.2-4.8 mm..... *annulata*  
 Elytra black with a large marking yellow on middle and a small subapical spot yellowish; reddish brown, legs blackish with femora of anterior and posterior ones reddish brown, metasternum pitchy ; length 3.0 mm..... *flavonotata*
8. Interstices of punctures of pronotum distinctly granulate; vertex closely and distinctly punctate on middle; elytra black with a transverse band behind middle and in some cases humeri and basal area and a spot at apex also yellowish ; dark brown to pitchy brown; antennae reddish brown, legs reddish brown with a spot at anterior femora, apex of tibiae, and entire tarsi and posterior femora black; pronotum with lateral margins and a longitudinal median line yellowish; length 3.0 mm..... *unifasciata*  
 Interstices of punctures of pronotum distinctly granulate; vertex closely and distinctly punctate on sides but not on middle; elytra yellowish brown with marginal area (including elytral epipleurae) and a small spot behind middle blackish brown ; yellowish brown, seven apical joints of antennae, antero-basal portion of pronotum, meso- and metaepisternum blackish ; length 3.5 mm ..... *chujoi*

### Subgenus *Zeugophora* Kunze

#### *Zeugophora* (*Zeugophora*) *japonica* Chûjô

*Zeugophora japonica* Chûjô, 1951, Ins. Matsumurana 17 (3-4): 119, fig. 1 (Sapporo ; CHÛJÔ).—Chûjô & Kimoto, 1961, Pzc. Ins. 3 (1); 120 (Japan).

*Distribution*: Japan (Hokkaido).

I have not seen any specimen besides the type.

*Zeugophora (Zeugophora) hozumii* Chû jô (Fig. 2b)

*Zeugophora hozumii* Chû jô, 1953, Inst. Roy. d'Hist. Nat. Belgique, Bull. 29 (9): 1, 1 fig. (Otaki-san in Nagano Pref.; CHÛJÔ).—Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 120 (Japan).

*Distribution*: Japan (Hokkaido, Honshu).

*Hokkaido*: Engaru in Abashiri (1 ex., 4. Aug. 1959, K. Morimoto leg.).

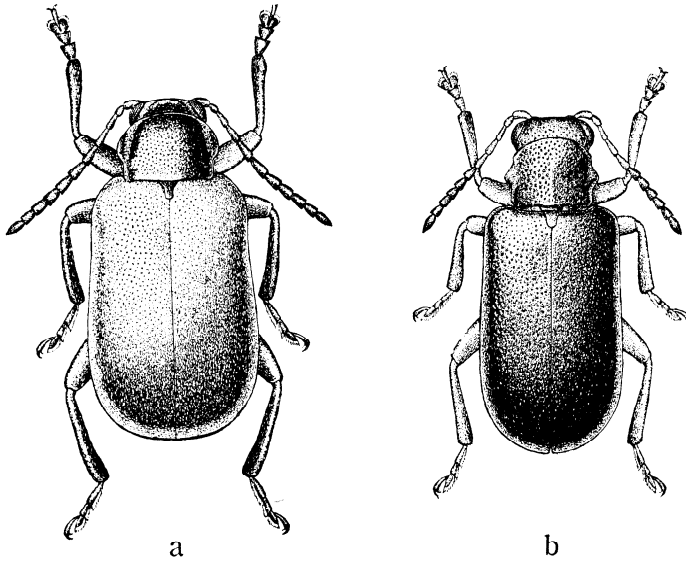


Fig. 2. a, *Zeugophora (Pedrillia) nigricollis* (Jacoby); b, *Z. (Zeugophora) hozumii* Chûjô.

Subgenus *Pedrillia* Westwood

*Zeugophora (Pedrillia) nigricollis* (Jacoby) (Fig. 2a)

*Pedrillia nigricollis* Jacoby, 1885, 2001. So c. Lond., Proc. 1885: 195 (Wada-toge, Fukushima; BM).—Chû jô, 1932, Nat. Hist. Soc. Formosa, Trans. 22 : 339, 340 (Honshu ; Korea).

*Zeugophora (Pedrillia) nigricollis*: Crowson, 1946, R. Ent. Soc. Lond., Trans. 97: 95 (Japan).—Gressitt & Kimoto, 1961, Pac. Ins. Mon. 1A:24, 27 (Korea, Japan).—Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 119 (Japan, Korea).

*Distribution*: (Japan, Shikoku), Korea.

*Nagano*: Karuizawa (1 ex., 7-14. July. 1959, K. Morimoto leg.); Shirahone (1 ex., 19. July. 1956, S. Kimoto leg.).

### ***Zeugophora (Pedrillia) gracilis unicolor* Chûjô**

*Zeugophora (Pedrillia) gracilis* subsp. *unicolor* Chûjô, 1958, Kagawa Univ., Mem. Fac. Lib. Arts & Educ. 2 (64): 1 (Yurudji in Okinawa Is.; CHÛJÔ).—Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 119 (Ryukyu Is.).

*Distribution*: Ryukyu Is. (Okinawa).

I have not seen any specimen besides the type.

### ***Zeugophora (Pedrillia) varipes* (Jacoby)**

*Pedrillia varipes* Jacoby, 1885, 2001. Soc. Lond., Proc. 1885 : 196 (Nikko, Chuzenji ; BM).—Chûjô, 1932, Nat. Hist. Soc. Formosa, Trans. 22 : 339, 342 (Honshu).

*Zeugophora (Pedrillia) varipes*: Crowson, 1946, R. Ent. Soc. Lond., Trans. 97: 95 (Japan).—Chûjô, & Kimoto, 1961, Pac. Ins. 3 (1) : 120 (Japan).

*Distribution*: Japan (Honshu, Shikoku, Kyushu).

*Oita*: Mt. Sobo (1 ex., 6. Aug. 1954, H. Kamiya leg.). *Tottori*: Hoki-Daisen (1 ex., 8. June. 1955, S. Kimoto leg.). *Nagano*: Omachi City (1 ex., 8. May. 1960, K. Oshima leg.).

### ***Zeugophora (Pedrillia) annulata* (Baly)**

*Pedrillia annulata* Baly, 1873, Ent. Soc. Lond., Trans. 1873 : 79 (Japan ; BM).—Chûjô, 1932, Nat. Hist. Soc. Formosa, Trans. 22: 339 (Hokkaido, Honshu).

*Pedrillia annulata* var. *disconotata* Pic, 1906, L'Echange, Rev. Linn. 23 : 27 (Japan).

*Zeugophora (Pedrillia) annulata* : Crowson, 1946, R. Ent. Soc. Lond., Trans. 97: 95 (Japan).--Gressitt & Kimoto, 1961, Pac. Ins. Mon. 1A: 24, 25 (E. Siberia, Japan).

— Chûjô, & Kimoto, 1961, Pac. Ins. 3 (1): 119 (Japan, E. Siberia).

*Zeugophora (Pedrillia) annulata* f. *inannulata* Chûjô, 1959, Kagawa Univ., Mem. Fac. Lib. Arts & Educ. 2 (81): 1 (Mt. Ozaki in Aomori Pref.).

*Zeugophora (Pedrillia) annulata* f. *melanaria* Chûjô, 1959, t. c. (Mt. Ozaki in Aomori Pref.).

*Distribution*: Japan (Hokkaido, Honshu, Shikoku, Kyushu), E. Siberia.

*Fukuoka*: Mt. Hiko. *Nagasaki*: Mt. Tara. *Kochi*: Kajigamori in Nagaoka-gun. *Tottori*: Hoki-Daisen. *Kyoto*: Kibune. *Osaka*: Mino. *Niigata*: Mt. Myoko. *Nagano*: Karuizawa. *Yamanashi*: Masutomi ; Kiyosato. *Aomori*: Yunomata in Shimokita Pen. *Hokkaido*: Asahidake at Mt. Daisetsu.

*Hosts*: *Euonymus alatus*; *Euonymus Sieboldianus*; *Tripterygium Regelii* (after Chûjô & Kimoto, 1961).

### ***Zeugophora (Pedrillia) flavonotata* (Chûjô)**

*Pedrillia flavonotata* Chûjô, 1935, Nat. Hist. Soc. Formosa, Trans. 25 : 69 (Iriomote).

*Zeugophora (Pedrillia) flavonotata*: Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 119 (Ryukyu Is.).

*Distribution*: Ryukyu Is. (Iriomote, Ishigaki).

*Sakishima group*: Ishigaki Is. (after Nakane & Kimoto 1961).

### ***Zeugophora (Pedrillia) unifasciata* (Jacoby)**

*Pedrillia unifasciata* Jacoby, 1885, 2001. Soc. Lond., Proc. 1885 : 197, pl. 11, fig. 4 (Nikko; BM).—Chûjô, 1932, Nat. Hist. Soc. Formosa, Trans. 22: 339, 340 (Honshu).

*Zeugophora (Pedrillia) unifasciata*: Crowson, 1946, R. Ent. Soc. Lond., Trans. 97: 95 (Japan).—Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 119 (Japan).

*Distribution*: Japan (Honshu, Shikoku).

*Kochi*: Makiyama-mura in Kami-gun (1 ex., 28. Aug. 1954, K. Morimoto leg.).

### *Zeugophora (Pedrillia) chujoi* Ohno

*Zeugophorachujoi* Ohno 1961, Kontyû 29 (1): 36 (Kawairi, Mt. Iide in Fukushima Pref., OHNO).

*Distribution*: Japan (Honshu).

I have not seen any specimen besides the type.

## Subfamily MEGALOPODINAE

### Genus *Temnaspis* Lacordaire

*Temnaspis* Lacordaire, 1845, Mon. Phytoph. 1: 716.—Chapuis, 1874, Gen. Col. 10: 92.—Jacoby & Clavareau, 1905, Gen. Ins. 33: 12 (type: *Megalopus javana* Guer.).—Jacoby, 1908, Fauna India, Col. 2: 87.—Chûjô, 1932, Nat. Hist. Soc. Formosa, Trans. 22: 311; 1951, Kagawa Agr. Coll., Techn. Bull. 3 (2): 60.—Gressitt & Kimoto, 1961, Pac. Ins. Mon. 1A: 29, 32.

*Colobaspis* Fairmaire, 1894, Soc. Ent. Belg., Ann. 38: 225 (type: *C. flavonigra* Fairm.).—Jacoby & Clavareau, 1905, Gen. Ins. 33: 13.—Jacoby, 1908, Fauna India, Col. 2: 91.—Chûjô, 1932, Nat. Hist. Soc. Formosa, Trans. 22: 312; 1951, Kagawa Agr. Coll., Techn. Bull. 3 (2): 63.

### *Temnaspis japonicus* Baly (Fig. 3a)

*Temnaspis japonicus* Baly, 1873, Ent. Soc. Lond., Trans. 1873: 78 (Nagasaki; BM).—Chûjô, 1932, Nat. Hist. Soc. Formosa, Trans. 22: 312 (Honshu).—Gressitt & Kimoto, 1961, Pac. Ins. Mon. 1A: 32 (Japan).—Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 120 (Japan).

Large in size; elongate, subparallel-sided; rather closely covered with suberect hairs; thorax subquadrate, constricted at base and apex; posterior femora thickened, armed beneath near apex with arcuate teeth; black, thorax, elytra and abdomen yellowish brown; length 7.8-8.8 mm.

*Distribution*: Japan (Honshu, Kyushu).

*Fukuoka*: Fukuoka City (1 ex., 4 May. 1953, T. Yoshida leg.); Mt. Atago in Kokura City (1 ex., 24. Apr. 1954, T. Takashima leg.). *Osaka*: Mino (1 ex., 23. Apr. 1939).

## Subfamily DONACIINAE

### Key to genera of Donaciinae

1. Tarsi flattened with dense pilosity below; third joint bilobed, fourth shorter than three preceding joints combined; claws divergent ..... 2  
Tarsi subcylindrical and almost glabrous below; third joint entire or almost so, fourth longer than three preceding joints combined ..... *Macrolea*
2. Elytral suture normal; female without sclerotized ovipositor ..... *Donacia*  
Elytral suture inverted at apex, so that the internal margin becomes external one; female without sclerotized ovipositor ..... \* ..... *Plateumaris*

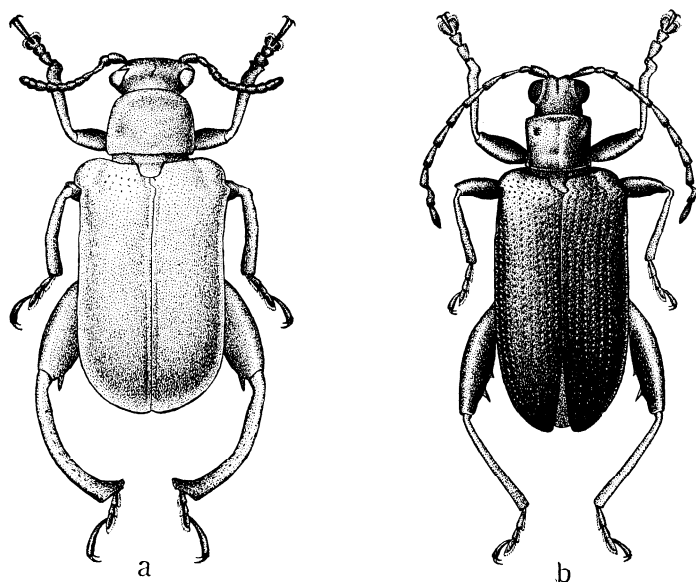


Fig. 3. a, *Temnaspis japonicus* Baly ; b, *Donacin (Donacia) ozensis* Nakane.

### Genus *Macroplea* Samouelle

*Macroplea* Samouelle, 1819, Ent. Compend., 211.—Curtis, 1830, Brit. Ent. 7: 319 (type : *Donacia zosteræ* F.).—Barber & Bridwell, 1940, Brooklyn Ent. Soc., Bull. 35 (1) : 5.—Monrós, 1959, Opera Lilloana 3 : 102.—Gressitt & Kimoto, 1961, Pac. Ins. Mon. 1A: 13.

*Apelma* Billberg, 1820, Enum. Ins. Mus. Billberg (Holmiae), 53.—Barber & Bridwell, 1940, Brooklyn Ent. Soc., Bull. 35 (1): 5 (validation and designation of *D. zosteræ* F. as type).

*Haemonia* Megere, 1821, in Dajean, Cat. Col. ed. 2, 114.—Lacordaire, 1845, Mon. Phytoph. 1: 205.—Chapuis, 1874, Gen. Col. 10: 60.—Weise, 1882, Naturg. Ins. Deutschl. 6 : 10.—Jacoby & Clavareau, 1904, in Wytzman, Gen. Ins. 21: 2.—Reitter, 1920, Best.-Tab. eur. Col. 88: 21.—Chûjô, 1934, Nat. Hist. Soc. Formosa, Trans. 24 : 522.—Barber & Bridwell, 1940, Brooklyn Ent. Soc., Bull. 35 (1): 6 (*D. zosteræ* F. designated as type).—Chen, 1941, Sinensia 12 (1-6): 8.

### *Macroplea japana* (Jacoby)

*Haemonia japana* Jacoby, 1885, Zool. Soc. Lond., Proc. 1885 : 190, pl. 11, fig. 1 (Bukunji ; BM).—Chûjô, 1934, Nat. Hist. Soc. Formosa, Trans. 24: 522 (Japan, Loo-chaos).

*Macroplea japana* : Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 122 (Japan, Ryukyu Is.).

Dorsal surface testaceous ; head, antennae, anterior margin, three longitudinal stripes on thorax and entire ventral surface black; elytra with five double rows of black punctures, and their apex produced into a spine; apex of femora, tibiae, and tarsi spotted with black; length 4.2 mm.

**Distribution** : Japan (Honshu, Kyushu), Ryukyu Is. (Okinawa).

**Fukuoka** : Kashii in Fukuoka City (1 ex., 18. Oct. 1962, S. Miyamoto leg.) **Hyogo** : Takarazuka (3 exs., 15. Apr. 1949, S. Uéno leg.).

**Hosts** : *Carex* spp. (after Chûjô & Kimoto, 1961).

## Genus *Donacia* Fabricius

*Donacia* Fabr., 1775, Syst. Ent. 195 (incl. *D. crassipes*, *simplex*).—Lacordaire, 1845, Mon. Phytoph. 1: 205.—Chapuis, 1874, Gen. Col. 10 : 57 (type : *D. crassipes* F. ; Europe, Siberia).—Weise, 1882, Ins. Deutschl. 6 : 10.—Jacobson, 1892, Soc. Ent. Ross., Horae 26: 417.—Jacoby & Clavareau, 1904, in Wytzman, Gen. Ins. 21: 3.—Reitter, 1920, Best.-Tab., eur. Col. 88 : 26.—Chûjô, 1934, Nat. Hist. Soc. Formosa, Trans. 24 (135): 523.—Monrós, 1959, Opera Lilloana 3 : 94.—Gressitt & Kimoto, 1961, Pac. Ins. Mon. 1A: 14.

*Cyphogaster* Goecke, 1934, Kol. Rundsch. 20 (6): 215 ; 1935, Archiv f. Hydrobiol. Suppl. 14 (Tropische Binnengewässer 6): 286 ; 1936, Ent. Blätt. 32 (5): 220.—Chen 1941, Sinensia 12 (1-6): 8 (type : *Donacia provostii* Fairm., designated as type).—Chûjô, 1951, Kagawa Agr. Coll., Techn. Bull. 3 (1): 49.—Monrós, 1959, Opera Lilloana 3: 96.—Gressitt & Kimoto, 1961, Pac. Ins. Mon. 1A: 14. Subgenus.

*Cyphogaster* Goecke has been treated as a subgenus of *Donacia* but the character separating it from the nominate subgenus is based on merely these secondary sexual character described in the key. The species belonging to this subgenus have close affinity with some species of the nominate subgenus, especially with *D. ozensis*, *gracilipes* and so on, and the subgenus may sink a synonym of the nominate subgenus. However, the nominate subgenus of *Donacia* is consisted by heterogenous species, so that it is possible that the genus is divided into certain subgenera and *Cyphogaster* may remain as a valid one, including some species of the nominate subgenus of *Donacia*.

## Key to Japanese species of *Donacia*

1. ♂: First abdominal segment with a pair of small tubercles on middle (subgenus *Cyphogaster*) ..... 3  
    ♂: First abdominal segment without such tubercles (subgenus *Donacia*) ..... 3
2. Third antennal joint 1 1/2 to 12/3 times as long as second; supra-antennal area strongly developed ; ♂: hind-femora armed with a single general denticle on each lower side before apex, and which is usually followed by one to three minute teeth or serrulations; length 5.0—9.0 mm ..... *provostii*  
    Third antennal joint only slightly longer than, or almost as long as, second one; supra-antennal area not strongly developed ; ♂: hind-femora armed with another distinct denticle a little before general preapical one and moreover with some fine serrulation between them ; length 6.0—8.0 mm ..... *lenzi*
3. Prothorax nearly glabrous ..... 4  
    Prothorax densely covered with fine hairs, broadest at lateral swellings ; pronotum with a median groove which is sometimes lacking; not very densely, and irregularly punctured ; anterior tibiae produced externally at apex; length 7.5-9.0 mm ..... *fukiensis*
4. Elytra very shiny, with coarse oblique or transverse corrugations, generally

- without transverse micro-sculpture ; elytral punctures fairly uniform, not much finer posteriorly; legs generally long ..... 5
- Elytra slightly shiny or dull, with very fine and close transverse micro-sculpture, particularly on first two interspaces; elytral punctures at least twice as fine posteriorly as anteriorly; elytral disc with a depression near suture anterior to middle ..... 6
5. Pronotum subquadrate, as long as wide, finely rugulose but not punctate; oblique or transverse corrugations of elytra coarse but subequally cover entire surface ; antennae and legs entirely metallic; length 7.8–8.2 mm ..... *gracilipes*
- Pronotum transverse ; 1 1/3 times as wide as long; finely punctate and obsoletely rugulose on submarginal area ; transverse corrugations cover lateral and apical areas only; legs reddish brown with apical half of femora greenish ; antennae bicolored, basal portion of each joint reddish brown and apical portion bronzy green; length 7.5-10.0 mm ..... *ozensis*
6. Antennae and legs dark or metallic ..... 7.
- Antennae and legs partly pale ..... 8
7. Hind femora with a strong tooth; elytra impressed with very fine and close transverse micro-sculpture ; metallic brown ; length 8.5-10.0 mm ..... *thalassina*
- Hind femora with a small tooth subapically ; elytra impressed with moderately fine and close transverse micro-sculpture which is less distinctly impressed on disc; metallic dark green, with strong cupreous shimmer; a broad longitudinal cupreous red stripe on middle of elytra; length 7.5-9.0 mm ... *japana*
8. Elytral apex slightly emarginate, with sutural and external angles distinct; golden green (in the European specimens sometimes subsutural area with a broad purplish stripe); length 6.0-10.0 mm ..... *vulgaris*
- Elytral apex truncate, with blunt angles; elytral punctures weak posteriorly ; disc green or blue; length 7.0–10.0 mm (Fabricius, 1775; Europe, Siberia, -Mongolia) ..... *simplex*\*

### Subgenus *Cyphogaster* Goecke

#### *Donacia (Cyphogaster) provostii* Fairmaire

*Donacia provostii* Fairm., 1885, Soc. Ent. France, Ann. ser. 6, 5 (Bull.): LXIV (Peking).—Chûjô, 1934, Nat. Hist. Soc. Formosa, Trans. 24 : 528 (Japan ; Formosa; China).

*Donacia (Cyphogaster) provostii* : Goecke, 1934, Kol. Rundsch. 20 (6): 218, 5 photos. (E. Siberia, Japan, Korea, Manchuria, China, Indo-China); 1935, Archiv f. Hydrobiol., Suppl. 14 (Tropische Binnengewässer 6): 290; 1936, Ent. Blätt. 32: 228.—Chûjô, 1951, Kagawa Agr. Coll., Techn. Bull. 3 (1): 49 (E. Siberia, Manchuria, China, Indo-China, Korea, Japan, Formosa).—Gressitt & Kimoto, 1961, Pac. Ins. Mon. 1A: 20 (E. Siberia, China, Korea, Japan, Taiwan).—Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 120 (China, Formosa, Indo-China, E. Siberia, Korea, Japan).

*Distribution*: China, Taiwan, Indo-China, E. Siberia, Korea, Japan (Honshu, Sado I., Shikoku, Kyushu).

*Fukuoka*: Shimohirokawa in Yame-gun; Fukuoka City; Mt. Fukuchi.



*Hosts* : *Brasenia Schreberi*; *Oryza sativa* (after Chûjô & Kimoto, 1961).

### ***Donacia (Cyphogaster) lenzi* Schönfeldt**

*Donacia aeraria* : Baly, 1873 (nec Baly, 1865), Ent. Soc. Lond., Trans. 1873: 69 (Nagasaki, Hiogo).—Lewis, 1893, Entomolog. 26 : 153 (corrected as *D. lenzi* Schijnfeldt).

*Donacia lenzi* Schdnfeldt, 1888, Ent. Nachr. 14 : 33 (Hiogo).—Jacobson, 1892, Soc. Ent. Ross., Horae 26 : 419 (Japan).—Chûjô, 1934, Nat. Hist. Soc. Formosa, Trans. 24 : 527 (Japan).

*Donacia (Cyphogaster) lenzi* : Goecke, 1934, Kol. Rundschau 20: 225, 5 photos. (Japan, Korea, China); 1935, Archiv f. Hydrobiol., Suppl. 14 (Tropische Binnengewässer 6): 291; 1936, Ent. Blätt. 32 : 228.—Chûjô, 1951, Kagawa Agr. Coll., Techn. Bull. 3 (1) : 53 (Japan, Korea, Formosa, Philippines and N.-E. China).—Gressitt & Kimoto, 1961, Pac. Ins. Mon. 1A: 19 (Japan, Korea, E. China, Taiwan).—Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 120 (Japan, Korea, China, Formosa, Philippines).

*Distribution* : Japan (Honshu, Shikoku, Kyushu), Korea, China, Taiwan, Philippines.

*Fukuoka* : Shimohirokawa in Yame-gun. *Kyoto* : Kyoto City; Kibune.

*Hosts* . *Brasenia Schreberi* ; *Nymphaea* sp. ; *Nymphoides indica* (after Chûjô & Kimoto, 1961).

### Subgenus ***Donacia*** Fabricius

#### ***Donacia (Donacia) fukiensis* Goecke**

*Donacia fukiensis* Goecke, 1944, Ent. Blätt. 40: 9, fig. 5 (China: Fukien).—Chûjô & Kimoto, 1960, Niponius, Takamatsu 1 (4): 1 (Miyata-machi in Fukuoka Pref.).—Gressitt & Kimoto, 1961, Pac. Ins. Mon. 1A: 17 (E. Siberia, China, Japan).—Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 121 (China, Japan).

*Distribution* : E. Siberia, China, Japan (Kyushu).

*Fukuoka* : Miyatamachi in Kurate-gun (10 exs., May. 1948, M. Yano leg.).

*Host* : *Carex* sp. (after Chûjô & Kimoto, 1961).

#### ***Donacia (Donacia) gracilipes* Jacob y**

*Donacia gracilipes* Jacoby, 1885, 2001. Soc. Lond., Proc. 1885 : 191 (Junsai; BM, MCZ).—Jacobson, 1892, Soc. Ent. Ross., Horae 26 : 425 (Japan).—Reitter, 1920, Best.-Tab., eur. Col. 88: 32 (Amur, Japan).—Chûjô, 1934, Nat. Hist. Soc. Formosa, Trans. 24: 529 (Japan, Amur).—Gressitt & Kimoto, 1961, Pac. Ins. Mon. 1A: 17 (Japan, Siberia).—Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 121 (Japan, E. Siberia).

*Distribution* : E. Siberia, Japan (Hokkaido).

*Hokkaido* : Tenninkyo at Mt. Daisetsu (7 exs., 27. July. 1955, Y. Hirashima & K. Morimoto leg.); Sannonuma at Mt. Daisetsu (1 ex., 23. June. 1955, S. Kimoto leg.).

#### ***Donacia (Donacia) ozensis* Nakane (Fig. 3b)**

*Donacia ozensis* Nakane, 1954, Soc. Res. Ozegahara Moor: 739 (Oze, between Gumma

and Fukushima Pref. ; NAKANE). Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 121 (Japan).

*Distribution*: Japan (Honshu).

*Nagano*: Karuizawa (3 exs., 25. July. 1918, M. Suzuki leg.). *Yamagata*: Shimokeda in Nishikawada-gun (2 exs., 11. Sept. 1955, K. Shirahata leg.).

*Host*: *Nupar pumilum* var. *ozense* (after Chûjô & Kimoto, 1961).

### *Donacia (Donacia) thalassina* Germar

*Donacia thalassina* Germ., 1811, Neue Schrift. Ges. Halle 1 (6): 29 (Europe).-- Jacobson, 1892, Soc. Ent. Ross., Horae 26: 430 (Europe, Siberia).--Reitter, 1920, Best.-Tab., eur. Col. 88: 36 (N. & M. Europe, Siberia).--Gressitt & Kimoto, 1961, Pac. Ins. Mon. 1A: 18 (Europe, Siberia, Mongolia, Sinkiang).--Kimoto, 1961, Kontyû 29 (3): 160 (Hokkaido).

*Donacia impressa*: Lewis, 1893, Entomolog. 26 (360): 153 (Ishikari River, Sapporo).--Chûjô, 1934, Nat. Hist. Soc. Formosa, Trans. 24: 531 (Japan).-- Chûjô & Kimoto, 1960, Niponius, Takamatsu 1 (4): 2 (as *D. obscura* Gyllenhal).

*Donacia obscura*: Chûjô & Kimoto, 1960, Niponius, Takamatsu 1 (4): 2 (Sapporo and Tenryu-numa in Hokkaido).--Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 131 (Japan).--Kimoto, 1961, Kontyû 29 (3): 160 (corrected as *D. thalassina* Germar).

*Distribution*: Europe, Siberia, Japan (Hokkaido).

*Hokkaido*: Sapporo (1 ex., 1883, G. Lewis leg., in the coll. Brit. Mus. (N. H.) ; Tenryu-numa (1 ex, 18. July. 1953, M. Konishi leg.).

### *Donacia (Donacia) japana* Chûjô & Goecke

*Donacia aquatica*: Chûjô, 1934, Nat. Hist. Soc. Formosa, Trans. 24: 526, 530 (Kyoto).

*Donacia (Donacia) japana* Chûjô & Goecke, 1956, Akitsu (Kyoto Ent., Trans. 5 (3): 60, 1 fig. (Midoro-ga-ike in Kyoto Pref. ; CHÛJO).--Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 121 (Japan).

*Distribution*: Japan (Honshu, Kyushu).

*Fukuoka*: Fukuoka City. *Kyoto*: Midorogaike in Kyoto City. *Wakayama*: Koyasan.

*Host*: *Carex* sp. (after Chûjô & Kimoto, 1961).

### *Donacia (Donacia) vulgaris* Zschach

*Donacia vulgaris* Zschach, 1788, Mus. Leskeanum : 27 (Europe).--- Jacobson, 1892, Soc. Ent. Ross., Horae 26: 431 (Europe, Siberia).--Reitter, 1920, Best.-Tab. eur. Col. 88: 37 (Europe, Siberia).--Chûjô & Kimoto, 1960, Niponius, Takamatsu 1 (4): 2 (Hakone, Hakodate).--Gressitt & Kimoto, 1951, Pac. Ins. Mon. 1A: 19 (Europe, Siberia, N. E. China).--Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 121 (Europe, Siberia, Japan).

*Donacia simplex*: Harold, 1878, Deutsche Ent. Zeitschr. 22 (1): 87 (Tokyo).--Chûjô, 1934, Nat. Hist. Soc. Formosa, Trans. 21: 518 (Japan).--Chûjô & Kimoto, 1960, Niponius, Takamatsu 1 (4): 2 (corrected as *D. vulgaris* Zsch.).

*Distribution*: Europe, Siberia, Manchuria, Japan (Hokkaido, Honshu).

*Kanagawa*: Hakone (3 exs., 17. Apr. & 19. Apr. 1880, G. Lewis leg., in the coll. Brit. Mus. (N. H.)). *Hokkaido*: Hakodate (1 ex., 31. June & 2. Aug. 1880, G. Lewis leg., in the coll. Brit. Mus. (N. H.)).

**Hosts:** In Europe, *Acrorus* spp.; *Carex* spp.; *Sparganium* spp.; *Typha* spp. (after Chûjô & Kimoto, 1961).

### Genus *Plateumaris* C. G. Thomson

*Plateumaris* Th., 1866, Skand. Col. 8: 121.—Weise, 1882, Ins. Deutschl. 6: 44.—Jacobson, 1892, Soc. Ent. Ross., Horae 26: 433.—Jacoby & Clavareau, 1904, in Wytzman, Gen. Ins. 21: 9.—Reitter, 1920, Best.-Tab. eur., Col. 88: 39.—Chûjô, 1934, Nat. Hist. Soc. Formosa, Trans. 24: 532.—Chen, 1941, Sinensia 12 (1-6): 6.—Monrós, 1959, Opera Lilloana 3: 92 (type: *Plateumaris geniculata* C. G. Thoms., = *P. discolor* Panz.; Europe).—Gressitt & Kimoto, 1961, Pac. Ins. Mon. 1A: 22.

*Juliusina* Reitter, 1920, Best.-Tab., eur. Col. 88: 41.—Monrós, 1959, Opera Lilloana 3: 92 (type: *Donacia braccata* Scopoli; Europe, Siberia, Turkestan, Kaukasus).—Gressitt & Kimoto, 1961, Pac. Ins. Mon. 1A: 22.

### **Key to Japanese species of *Plateumaris***

1. Pronotum impressed with fine punctures, and their interstices largely smooth and shining; antennae and legs dark reddish brown with apical joints of antennae and subapical portion of femora much darker; length 10—12 mm ..... 2
- Pronotum strongly and closely rugose ..... 3
2. Dorsal surface obscure cupreous ..... *constricticollis constricticollis*  
Dorsal surface brownish aeneous ..... *constricticollis babai*
3. Third joint of antennae distinctly shorter than fourth ..... 4  
Third joint of antennae subequal to fourth in length; dorsal surface black with purplish, greenish, golden green, coppery, or bronzy, shining; underside black; antennae varying from reddish to blackish; legs reddish brown but in some cases femora of male black and of female bronzy; length 6.0-9.0 mm ..... *consimilis*
4. Antennae slender, fourth joint more than twice as long as second; antennae and legs reddish brown ..... 5  
Antennae rather robust, fourth joint distinctly shorter than twice as long as second; antennae and legs metallic; dorsal surface bluish black, blue, violet, green, purplish or golden red, coppery, bronzy, etc.; length 7.0-11.0 mm ..... *sericea*
5. Antennae rather robust, each of eight to tenth nearly twice as long as wide, and each of three or four apical joints infuscate apically; transverse or oblique corrugations of elytra rather coarse; length 8.0-8.5 mm .....  
..... *hirashimai*  
Antennae slender, each of eighth to tenth nearly 2 1/2 times as long as wide, and entirely reddish brown, transverse or oblique corrugations of elytra much closer than *hirashimai*; length 7.0 mm ..... *morimotoi*

### *Plateumaris consimilis* (Schrank)

*Leptura consimilis* Schrank, 1781, Enum. Ins. Austriae 292, ♂ (Europe).

*Plateumaris consimilis*: Jacobson, 1892, Soc. Ent. Ross., Horae 26: 436 (M. & S. Europe; Siberia; Japan).—Chûjô, 1934, Nat. Hist. Soc. Formosa, Trans. 24: 535 (Europe, Siberia, Japan).

*Plateumaris (Juliusina) consimilis* : Reitter, 1920, Best.-Tab., eur. Col. 88 : 42 (Europe, Siberia, Japan).—Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 122 (Hokkaido).

This species was recorded by Jacobson but not a single record has been done on the specimens collected in Japan. I have never seen any specimens of the species collected in Japan.

*Distribution* : Europe, Siberia, Japan (3 Hokkaido).

***Plateumaris constricticollis constricticollis* (Jacoby)**

*Donacia constricticollis* Jacoby, 1885, Zool. Soc. Lond., Proc. 1885 : 192, pl. 11, fig. 2 (Lake at Junsai; BM).

*Plateumaris constricticollis* : Jacobson, 1892, Soc. Ent. Ross., Horae 26: 434 (Japan).—Chûjô, 1934, Nat. Hist. Soc. Formosa, Trans. 24: 535 (Japan).—Chûjô & Kimoto, 1961, Pac. Ins. 3 (1) : 122 (Japan).

*Distribution* : Japan (Hokkaido, Honshu).

*Niigata* : "Echigo" (2 exs., 15. June. 1934). *Fukushima* : Sawa, nr. Aizu-wakamatsu (2 exs., 30. May. 1947, Y. Kurosawa leg.).

***Plateumaris constricticollis babai* Chûjô**

*Plateumaris constricticollis* subsp. *babai* Chûjô, 1959, Kagawa Univ., Mem. Fac. Lib. Arts & Educ. 2 (81): 2 (Yoshigahira in Mt. Sumon in Niigata Pref. ; CHTJ JÔ).—Chûjô & Kimoto, 1961, Pac. Ins. 3 (1) : 122 (Japan).

*Distribution* : Japan (Honshu).

*Yamagata* : Namaichi at Sakata City (2 ex., 14. June. 1955, K. Shirahata leg.).

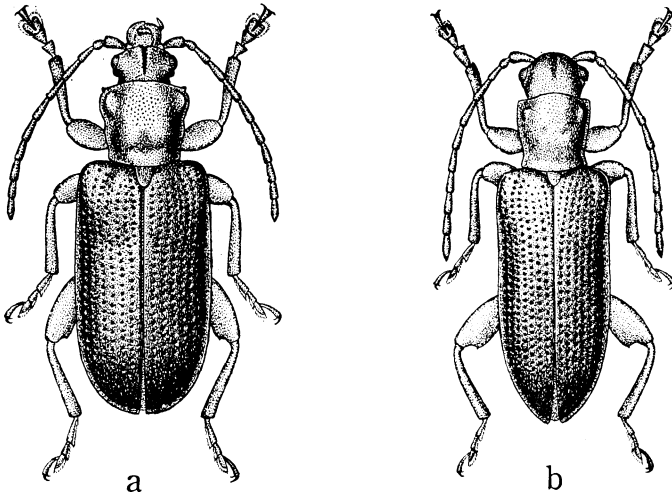


Fig. 4. a. *Plateumaris hirashimai* Kimoto ; b. *P. zueisei* Duviv. (from Siberia).

***Plateumaris sericea* (Linnaeus)**

*Leptura sericea* Linn., 1768, Fauna Suecica 2: 196 (Europe).

*Donacia sericea* var. *sibirica* ? : Jacoby, 1883, Zool. Soc. Lond., Proc. 1885: 193 (Nikko).

*Plateumaris sericea* : Jacobson, 1892, Soc. Ent. Ross., Horae 26 : 434 (Europe, Siberia, Transcaucasia, Japan).—Reitter, 1920, Best.-Tab., eur. Col. 88: 41 (Europe, Transkaukasien, Siberia, Japan).—Chûjô, 1934, Nat. Hist. Soc. Formosa, Trans. 24: 533 (Europe, Transkaukasien, Siberia, Japan).—Chûjô & Kimoto, 1961, Pac. Ins. 3 (1): 122 (Europe, Transcaucasia, Siberia, Sachalin, Japan).

*Distribution*: Europe, Transcaucasia, Siberia, Sachalin, Japan (Hokkaido, Honshu, Kyushu).

*Fukuoka*: Shimohirokawa in Yame-gun. *Kyoto*: Asiu. *Nagano*: Kamikochi. *Gumma*: Ose-ga-hara. *Tochigi*: Nikko. *Niigata*: Myoko-san. *Aomori*: Towada. *Hokkaido*: Asahidake, Yukomanbetsu, Nukabira, Antaroma and Sannonuma in Mt. Daisetsu; Ashoro in Tokachi; Kamuikotan; Nakanosawa nr. Oshamanbe.

*Hosts*: *Carex* spp.

### *Plateumaris hirashimai* Kimoto (Fig. 4a)

*Plateumaris hirashimai* Kimoto, 1963, Fragm. Col., Kyoto, (3) : 13 (Ashoro in Tokachi, Akan in Kushiro; KU).

*Distribution*: Japan (Hokkaido).

*Hokkaido*: Ashoro in Tokachi, Akan in Kushiro (after Kimoto, 1963).

### *Plateumaris morimotoi* Kimoto

*Plateumaris morimotoi* Kimoto, 1963, Fragm. Col., Kyoto, (3): 13 (Tenninkyo at Mt. Daisetsu ; KU).

*Distribution*: Japan (Hokkaido).

*Hokkaido*: Tenninkyo at Mt. Daisetsu (after Kimoto, 1963).