THE GYRINIDÆ OF JAPAN

By

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About 50 years ago D. Sharp published his paper about the water-beetles of Japan in the Trans. Ent. Soc. Lond., 1873 and 1884, recording seven species which belong to the Gyrinidae. During these long days several members of the Gyrinid-species have been added to our faunal region, and also a considerable number of the material has been captured from hitherto un-investigated localities. Therefore, in the following paper I intended to reexamine the Gyrinid-fauna of this country. To enable me to do this Prof. Dr. S. Matsumura entrusted me the whole of the material belonging to this family which are preserved in the Entomological Museum of the Hokkaido Imperial University, and under his kind guidance I pursued this work, and to whom I must express my grateful acknowledgment in this occasion. Also to Mr. S. Kuwayama of the Hokkaido Agricultural Experiment Station, I must tender my cordial thanks for his kind suggestion and constant encouragement during the course of my study.

Historical Sketch

1866. For the first record of our Gyrinid-fauna V. de Motschulsky described one new species in the Bull. Soc. Nat. Mosc: Gyrinus curtus Motchulsky.


1882. The fundamental work of the regarding family was published by M. Régimbart under the title of "Essai Monographique de la Famille des Gyrinidae" in the Ann. Soc. Ent. Fr., 1882-1907. He described three new species, Dineutes Mellyi (1882), Gyrinus curtus and G. Gestroi (1883) together with the redescriptions of already known species from Japan.

1884. In this year D. Sharp again published “The Water-beetles of Japan” in the Trans. Ent. Soc. Lond., in this paper he described three new Orectochilus-species, under the names of Orectochilus agilis, O. punctipennis and O. regimbarti, and he regarded G. curtus Regimbart as a synonym of G. japonicus Sharp.

1887. H. J. Kolbe recorded in the Archiv. f. Naturg. that the Gyrius japonicus Sharp was captured in Korea.

In the same year “Cat. Col. Jap.” was published by Schönfeldt. In this paper he enumerated seven Gyrius-species as occurring in our faunal region: Dineutes marginatus Sharp, Gyrius curtus Motschulsky, G. Gestroi Regimbart, G. japonicus Sharp, Orectochilus agilis Sharp O. punctipennis Sharp and O. regimbarti Sharp.

1906. In his well known work “Thousand Insects of Japan, Vol. III”, S. Matsumura dealt with four Gyrius-species, namely Dineutes indicus Aubé, D. marginatus Sharp, Gyrius curtus Motschulsky and G. japonicus Sharp; among these the record of the D. indicus Aubé seems to be the first from our faunal region, but as I discuss later again, it may have been a mis-identification of D. mellyi Regimbart.


1916. The same author published “Catalogus Insectorum Japonicum Vol. II, Coleoptera”. In this, he enumerated all of the hitherto known species.

In the same year A. Zimmermann newly recorded three Gyrius-species from Formosa by the collection of H. Sauter in the Archiv f. Naturg., A, 5: Dineutes australis Fabricius, D. Mellyi Regimbart and D. marginatus Sharp.


1931. K. Kamiya in the Mushi no Kai Kenkyu-hokoku No. 1, redescribed three Orectochilus-species and recorded O. punctipennis Sharp as occurring also in Formosa.

Family GYRINIDAE

Key to the Subfamilies

1" Mesothoracic episternum reaching to the epipleura of the wing-case. ..... Orectochilinae
1′ Mesothoracic episternum not reaching to the epipleura of the wing-case.
2′ The longest part of the hind coxa situated nearer to the mesial line of the body. ..... Enhydrinae
The longest part of the hind coxa situated nearer to the epipleura of the wing-case than to the mesial line of the body.

Subfamily *Enhydrinae*

**Genus Dineutes M'LEAY**


**Key to the Species**

1'' Body long oval; wing-case (♂) with a short denticle at the outer apical angle.

2'' Upper surface of the body black, with a greenish luster; wing-case truncated at the apex, (♂) with a short denticle at the outer apical angle. 7.5-9.5 mm.

2' Upper surface metallic black, with a marginal yellow stripe; wing-case (♀♂) with two denticles at the apex. 8-9.5 mm.

1' Body round oval; upper surface iridescent greenish black; wing-case without any denticle at the outer apical angle. 9-11 mm.

1. **Dineutes australis** FABRICIUS

*Gyrinus australis* FABRICIUS, Syst. Ent., p. 235 (1775).

*Gyrinus rufipes* FABRICIUS, Syst. Ent., I, p. 276 (1801).


Hab.—Loochoo (Miyako-jima, 3 ex., V. 1909, S. MATSUMURA; 3 ex., S. SAKAGUCHI; 1 ex., S. OGASAWARA) Formosa (Taichu, 1 ex., 27/VI. 1906, S. MATSUMURA; Koshun, 15 ex., 7/VII. S. MATSUMURA; Kanshirei, 24 ex., 14/IV. 1907, S. MATSUMURA; Kanshirei, 6 ex., 15/IV. 1907, S. MATSUMURA; Kanshirei, 1 ex., 11/V. 1908, I. NITORII; 3 ex., XII. 1911, S. MATSUMURA).

Distribution—Australia, Japan, Malay Archipelago, New Caledonia, New Zealand, Philippines.

Japanese Name: *Shirikire-o-mizusumashi*.

2. **Dineutes marginatus** SHARP

*Dineutes marginatus* SHARP, Trans. Ent. Soc. Lond., p. 56 (1873).


Hab.—Saghalien (after T. YOKOYAMA, Nippon no Kochu, p. 138, 1930) Hokkaido (Sapporo, 2 ex., 16/VI. 1904, S. MATSUMURA; Sapporo, 2 ex., 12/X. 1904, S. MATSUMURA; Sapporo, 3 ex., 10/VI. 1931, M. TAKIZAWA) Honshu (Tokyo, 1 ex., VII. 1903, S. MATSUMURA; Maiko, 3 ex., VII. 1903, S. MATSUMURA; Shizuoka, 1 ex., 24/VIII. 1912, H. TAKABAYASHI; 2 ex., 1916, C. TERANISHI; Shizuoka, 2 ex., 17/VII. 1917, H. TAKABAYASHI; Naoetsu, 1 ex., 27/VII. 1927, M. TAKIZAWA; Nagano, 2 ex., VII. 1928, M. TAKIZAWA; Nagano, 3 ex., 2/VIII. 1928, M. TAKIZAWA; Niigata, 3 ex., M. MAKUMURA; Takasago, 6 ex., S. MATSUMURA; Aomori, 2 ex., S. MATSUMURA; 3 ex., S. KUWAYAMA; Tokyo 3
ex.) Shikoku (Iyo, 2 ex., 28/VII. 1916, S. Matsumura; Iyo, 1 ex., S. Matsumura) Loochoo (1 ex., VIII. 1904, Miyagi; Miyako-jima, 4 ex., V. 1909, S. Matsumura; Miyako-jima, 6 ex., S. Sakaguchi; 7 ex., S. Sakaguchi) Formosa (Tansui, 2 ex., 24/VII. 1906, S. Matsumura; Tainan, 2 ex., 9/XII. 1909, M. Ishida; 4 ex., 1/II. 1912, S. Matsumura; Toen, 1 ex., X. 1914, Inamura; Koshun, 1 ex., 25/IV-25/V. 1918, J. Sonan, K. Miyake and M. Yoshino; Kotosho, 1 ex., 10/III-14/IV. 1920, T. Okuni) Korea (Suigen, 4 ex., 5-15/VII. 1922, T. Uchida and S. Takano; Kaishu, 1 ex., 28/III. 1923, Yuuki; Taiyudong, 4 ex., 1925, E. Gallois; Shorinri, 1 ex.).

Distr.—China, East Indies, India, Japan, Java, Manchuria.

J. N.: O-mizusumashi.

3. *Dineutes mellyi* Réginbarg


Remarks: *Dineutes insularis* Réginbarg was described by A. Réginbarg (1907) by the specimens from Loochoo, while *D. mellyi* Réginbarg was recorded by A. Zimmermann (1916) as occurring in Formosa by the specimens collected by H. Sauter. For the comparison of these two species here I may quote a Réginbarg’s description concerning to the former species; he writes that “Cet insecte n’est peut-être qu’une forme insulaire de *D. Mellyi* Ré.; il en diffère par la taille en general plus petite, par la forme un peu moins dilatée au milieu, moins gibbeuse à la région scutellaire, avec la situation externe des élytres encore plus effacée, par l’aspect plus opaque, la réticulation beaucoup plus imprimée et la ponctuation moins effacée et par la dent des fémurs antérieurs ô plus obtuse et moins saillante ; les traces des sillons aux élytres sont beaucoup plus indiquées latéralement.”

After my careful observations by the individuals from Formosa and Loochoo, I am unable to distinguish *D. mellyi* Réginbarg from *D. insularis* Réginbarg, and I consider that they may be but one species, varying considerably in individual respects.

*D. indicus* Aube that is known as a species, which has distinctly striated wing-case, has been recorded by S. Matsumura from Formosa and Loochoo, but I could not found no such specimens in the collection of the Entomological Museum of the Hokkaido Imperial University. According to my opinion it may perhaps be a misidentification of *D. mellyi* Réginbarg.

Hab.—Loochoo (2 ex., VI. 1905, H. Kurowa; Yonakuni, 1 ex., S. Sakaguchi) Formosa (Hoppo, 37 ex., 7/VIII. 1905, S. Matsumura; Otsubo, 2 ex., 2/V. 1907, S. Matsumura; Taipii, 1 ex., IX. 1910, T. Shiraki; Horisha, 1
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ex., V-VIII. 1918, H. KAWAMURA; Baibara, 1 ex., 20/VII. 1925, H. KÔNO; Rimogan, 1 ex., 21/VII. 1929, S. MINOWA and C. WATANABE). Distr.—China, India, Japan. J. N.: Okinawa-o-mizusumashi.

Subfamily Gyrininae

Genus Gyrinus


Key to the Species

1° Epipleurae of the prothorax and wing-case black with a metallic luster.

2° Body much convex; mesosternum with a deep and broad longitudinal groove; the punctures on the wing-case being more distinct and larger. 4.4-5.6 mm.

2' Body less convex; mesosternum with a longitudinal groove which only deeply dented at its apical end; the punctuation on the wing-case much smaller and indistinct. 5.2-7.4 mm.

3° Epipleurae of the prothorax and wing-case reddish brown or dark brown, without a metallic luster; mesosternum brown or pitchy brown, with a shallow linear median groove. 5.6-8 mm.

4a. Gyrinus curtus Motchulskey var. fulvescens nov.

Distinguished from the typical specimen by the entirely reddish brown ven-
tral surface.

Hab.—Honshu (Suwa, 1 ex., 1911, S. MATSUMURA; Nagano, 1 ex., VIII. 1929, M. TAKIZAWA; Aomori, 2 ex.) (Type in the Ent. Mus. Hokk. Imp. Univ.).

5. Gyrinus gestroi RÉGIMBART


Hab.—Honshu (Osaka, 4 ex., IV. 1917, C. TERANISHI; Takasago, 3 ex., S. MATSUMURA; Tokyo, 1 ex., IV. 1918, C. TERANISHI; Nagano, 2 ex., 10/IV. 1928, M. TAKIZAWA) Shikoku (Iyo, 4 ex., 21/VI. 1911, S. MATSUMURA).

Distr.—Japan.
J. N.: Ko-mizusumashi.

6. Gyrinus japonicus SHARP


Distr.—Japan.
J. N.: Hime-mizusumashi.

Subfamily Orectochilinae

Genus Orectochilus


Key to the Species

1° Outer apical angle of the fore tibia acute.
2° Upper surface jet-black; wing-case only pubescent at the lateral and posterior portions. 5.5 mm.
3° Labrum broad and semicircular. 6.25–7 mm.
4° Labrum narrow and rather elongated. 8–9 mm.
5° Labrum broad and semicircular. 6.25–7 mm.
6° Labrum narrow and rather elongated. 8–9 mm.

7. Orectochilus agilis SHARP


Hab.—Honshu (Fuji, 1 ex., 23/VI. 1911, S. MATSUMURA; Tamagawa, 3 ex., 1/VI. 1913, H. TAKABAYASHI; Tamagawa, 6 ex., 1/VI. 1913, E. GALLOIS;
8. *Orectochilus formosanus* sp. nov.

Upper surface black; under surface largely pitchy black. Mouth-part, basal and terminal three joints of the antennae and the fore legs reddish brown; the middle and hind legs (except their coxae) more or less yellowish; abdomen dark brown, gradually changing to a light colour towards the extremity.

Head: highly shining, almost entirely devoid of pubescence except at the gena, nearly impunctate, but some quite fine punctures being recognizable at the apical and lateral parts; labrum broad, semicircular, not so producing forwards.

Thorax: pronotum scantly pubescent, shining, in the posterior part with regularly disposed, distinct punctations, anteriorly with the punctures closer and finer, at the discal part with very sparse and minute punctures and nearly devoid of pubescence. Wing-case pubescent excepting the discal part, seen from the sides obliquely truncated at the outer apical angle, the punctation more or less distinct than that of the pronotum. Scutellum smooth and shining, without puncture nor pubescence. Fore leg with the claws nearly in equal length with each other; the outer apical angle of the tibia being acute. Length 5.5; width 2.3 mm.

This species is very close to *O. punctipennis* Sharp; the difference in the colour of the body, however, are sufficient to separate these two species, and the density of the pubescence on the upper surface, together with the shape of the wing-case may be cited in substantiation of the differences. The comparison of these different points between these two species may be written as follows:

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<th><em>O. formosanus</em></th>
<th><em>O. punctipennis</em></th>
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4. Wing-case: More tapering at the apical end; pubescence more sparse, lacking at the discal portion; punctures larger.

Hab.—Formosa (Daitonzan, 1 ♂, 8/XI. 1925, T. KANO) (Type in the Ent. Mus. Hokk. Imp. Univ.).
Distr.—Japan.
J. N.: Taiwan-onaga-mizusumashi.

9. Orectochilus punctipennis Sharp

Hab.—Honshu (Nakano, 7 ex., VIII. 1906, S. Matsumura; Fuji, 4 ex., 23/VI. 1911, S. Matsumura; Iwate, 1 ex., T. Ogasawara) Kyushu (after K. Kamiya, Mushi no Kai Kenkyu-hokoku, No. 1, p. 16, 1931) Formosa (Toroen, 2 ex., 19/IV. 1907, S. Matsumura; 2 ex., 20/V. 1911).
Distr.—Japan.
J. N.: Ko-onaga-mizusumashi.

10. Orectochilus regimbarti Sharp

Hab.—Honshu (Tamagawa, 1 ex., II/IX. 1915, E. Gallois; Iwate, 2 ex., 1/VIII. 1920, T. Ogasawara).
Distr.—Japan.
J. N.: Onaga-mizusumashi.

Table of Geographical Distribution

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<th>Other localities</th>
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<td>Kariyado</td>
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<tr>
<td>1. Dinenticus australis Fabricius</td>
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<td>2. D. marginitus Sharp</td>
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<td>3. D. mellyi Regimbart</td>
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<td>4. Gyrosed curvit Motschulsky</td>
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<td>a) var. fulvescens Takizawa</td>
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<td>5. G. gestroi Regimbart</td>
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<td>6. G. japonicus Sharp</td>
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### 摘要

著者は北海道帝園大学昆虫学教室に保有される所の標本により、日本産豆類の甲虫を研究し、十種一變種を発見したけれども、之れを比較観察させ。其中包括名として一変種を新種及び新変種と見做し、之れを本文章中に記載せり。

本邦産豆類の和名を記すべき次の如し。

1. *Dinonites australis* Fabricius ジリキレオホミグスマシ (新種)
2. *D. marginatus* Sharp
3. *D. melyi* Regimbart
4. *Gyrinus curtus* Motchulsky
   a). *G. laevigatus* Takizawa (var. nov.)
5. *G. jostro Regimbart*
6. *G. japonicus* Sharp
7. *Orectochilus agilis* Sharp
8. *O. formosanus* Takizawa (sp. nov.) タイゾウナガミグスマシ (新種)
9. *O. punctipennis* Sharp
10. *O. regimbarti* Sharp ヌナガミグスマシ

何、従来沖縄群島より知られた *Dinonites intusubis* Regimbart 又同群島に臺灣より知られる *D. indicus* Matsumura (ne Aube) を *D. melyi* Regimbart の異名とせり。