



Title	Some Japanese Species of Japyx
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Citation	Insecta matsumurana, 2(3), 151-155
Issue Date	1928-02
Doc URL	http://hdl.handle.net/2115/9148
Type	bulletin (article)
File Information	2(3)_p151-155.pdf



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SOME JAPANESE SPECIES OF *JAPYX*

By

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(With 2 Text Figures)

Since HALIDAY¹⁾ erected in 1864 the genus *Japyx* from the specimens of the southern Europe and Algeria, which is named *J. solifugus* as a group of Thysanura, more than sixty species have been described from different parts of the world. Up to the present *J. japonicus* which described by ENDERLEIN²⁾ in 1907 has been only a representative of the genus in the Japanese Empire. By the kind suggestion of Dr. H. OKAMOTO few years ago, I began to search on this insect group with great interest, and published a brief account of general survey in 1922³⁾. Prof. Dr. S. MATSUMURA has kindly placed at my disposal a lot of very interesting specimens of this insect which is preserved now in the Entomological Museum, Faculty of Agriculture, Hokkaido Imperial University. On closer examination, I found it probably new to science, and propose to give its description here, together with some remarks on the hitherto known species. My heartiest thanks are due to Prof. Dr. S. MATSUMURA for his kind advices during the progress of my work, and also to Drs. H. OKAMOTO and S. KINOSHITA for their kind help in many ways.

Genus *Japyx* (HALIDAY) VERHOEFF, 1904.

VERHOEFF⁴⁾ divided the genus into two subgenera, namely *Japyx* and *Megajapyx*, in 1904. According to his diagnoses the species covered in this paper belong to *Japyx* in *sensu restricto*. In Japan, there occur two species which can be readily distinguished in the following table:

- 1) HALIDAY, A. H.—*Iopyx*, a new genus of insects belonging to the stirps *Thysanura*, in the order *Neuroptera*. Trans. Linn. Soc., Vol. XXIV, pp. 441-447, Pl. 44 (1864). [Original not seen. Abstract in Rec. Zool. Literat., Vol. I, pp. 568-569 (1865)].
- 2) ENDERLEIN, G.—Über die Segmental-Apotome der Insekten und zur Kenntnis der Morphologie der Japygiden. Zool. Anz., Bd. XXXI, pp. 629-635 mit 8 Figg. (1907).
- 3) KUWAYAMA, S.—Notes on the Japygidae (In Japanese). Konchiu-Sekwai (Ins. World), Vol. XXVI, pp. 5-9, 37-39 with 1 Fig. (1922).
- 4) VERHOEFF, K. W.—Zur vergleichenden Morphologie und Systematik der Japygiden, zugleich 2. Aufsatz über den Thorax der Insekten. Arch. f. Naturgesch., Jahrg. 1904, Bd. I, H. 1., pp. 63-114, Taf. IV-V (1904).
Ditto—Zur Kenntnis der Japygiden (3. Aufsatz). Deutsch. Ent. Zeitschr., Jahrg. 1923, pp. 33-52, Taf. I-II (1923).

- A. Antennae 24-jointed. Both arms of forceps with no denticule on the proximal part of the inner margin; the inner margin between the two large teeth of the right arm straight, with subequal denticules... .. *J. japonicus* ENDERLEIN
- AA. Antennae 28-jointed. Both arms of forceps with some denticules on the proximal part; the inner margin between the two teeth of the right arm with a row of variously sized denticules. *J. beneserratus* sp. nov.

1. *Japyx japonicus* ENDERLEIN

J. japonicus ENDERLEIN, Zool. Anz., XXXI, pp. 632-635, Fig. 1-8 (1907); KUWAYAMA, Konchiu-Sekwai, XXVI, pp. 38-39 (1922).

As a supplement to ENDERLEIN's original description, the following points may be added:

Body dirty white, suffused with a light yellowish brown on the seventh to ninth segments; the tenth yellowish brown and the forceps shiny reddish brown. Right arm of forceps with two large teeth, one near the base and the other near the center of the margin; proximally from the first tooth the margin is somewhat concave and smooth, the space between the two teeth straight with a row of nine to eleven subequal denticules, and distally from the second tooth much concave with many indistinct denticules. Left arm with a quite large tooth, or process, near the base, and a larger tooth at a quarter part from the tip; the space between the two teeth slightly concave and a double row of blunt denticules, each row containing about twelve, distally from the second also slightly concave with four denticules near the tooth. Each arm of forceps carries, besides whitish sparse hair, two long light brownish hair-like bristles on the outer margin and at least three similar longer bristles on the inner side.

Measurements:

Specimens	Total body length*	Length of antennae	Length of abdomen	Width of abdomen	Length of last abdominal segment and forceps	Length of forceps
	mm.	mm.	mm.	mm.	mm.	mm.
Larger specimen	12.0	5.0	8.2	1.4	2.4	1.2
Smaller specimen	6.8	1.7	4.4	0.8	1.2	0.6

* Including forceps, but excluding antennae.

Local Distribution: Kanagawa, Prov. Sagami (leg. H. SAUTER, after ENDERLEIN) [type locality]; Honmachi, Kamisuwa, Prov. Shinano (Two specimens, April 4, 1915, leg. S. KINOSHITA) [in the author's collection].

General Distribution: Honshu.

Japanese Name: *Hasami-tobimushi*.

Remarks: According to ENDERLEIN the body lengths are ranged from 7 to 9 mm. by the measurements of his types, while the specimens at my disposa

may be represented as two extremes on our present knowledge.

2. *Japyx beneserratus* sp. nov.

Body dirty white, except the ninth abdominal segment of light straw-colour, the tenth of light yellowish brown with a red-brownish edge near each lateral margin, with a reddish brown triangular shield at the middle of the hind margin. Forceps shiny reddish brown being darker near the inner margin. Mandibles reddish brown. Claws of the legs light brownish yellow. The chitinous forks on the thoracic sternites are mostly dark brown.

Head quadrangular, rounded at each corner, about one eighth longer than broad; antennae rather short, 28-jointed, the segments subcylindrical, gradually decreasing in size apically, with moderately dense hair. Prothorax pentagonal, being truncate at the hind margin, about three fifths as broad as the head, and as long as broad; meso- and metathorax similar in size, being about twice as long as the prothorax, and about five eighths to five sevenths as broad as long; meso- and meta-thoracic apotoms about one fifth as long as the main parts, and also narrower. Abdomen with first seven segments slightly convex at the sides, the seventh being the broadest. The first segment as broad as long and rounded at the hind corners, the apotom being narrower; each segment from the second to the fifth about twice as broad as long, the hind corners being angular but not extended; the hind corners of the sixth dilated to a triangle, the apex being directed inwardly; the hind margin of the seventh concave and the acute hind corners directed inwardly, but the styli of the sternite being not revealed, as in the case of *J. japonicus*. The last three segments straight, almost parallel on each side, and somewhat narrower than any preceding segment; the length of the eighth is less than a half of the breadth, the hind corners being dilated; the ninth the smallest and its length being less than one third of the preceding segment, the tenth rectangular, about one seventh longer than broad. Forceps as long as the last, or tenth segment. The styli of the abdominal sternites, or abdominal appendages, present on the first to seventh segments.

Forceps asymmetrical, broadly based, sharply pointed, and curved inwardly. The right arm with two large obvious teeth on the inner margin and the space from the base to the first tooth slightly concave, with one or two small denticles at the middle and two near the tooth; interspace between the two large teeth with a row of not more than ten variously sized acute denticles, the distal

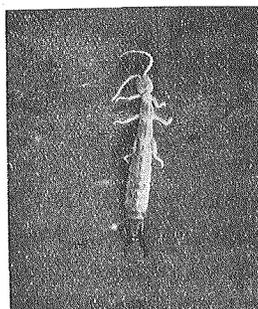


Fig. 1.

J. beneserratus sp. nov.
(Holotype. Natural size.)

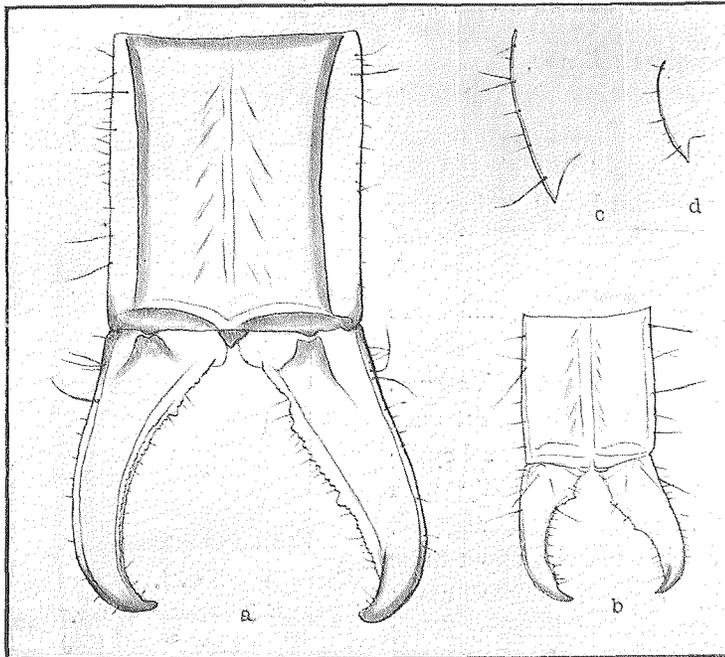


Fig. 2.

- a. Tenth abdominal segment and forceps of *J. beneserratus*.
 b. Ditto of *J. japonicus*.
 c. Lateral side of the seventh abdominal tergite of *J. beneserratus*.
 d. Ditto of *J. japonicus*.

(All figures are equally much enlarged, and drawn by the aid of camera lucida.)

margin from the second tooth with about a dozen or more blunt denticules. Left arm with a single large tooth at a quarter part from the base, proximally with two smaller denticules and two blunt ones near it; the distal portion from this tooth concave, with many blunt denticules in two subequal rows, which disappear towards the tip.

The whole body covered sparsely with yellowish brown hair-like bristles, being scarce above and the densest on the underside, except the tenth abdominal and thoracic segments. The arrangement of the bristles on the tergites similar to that of *J. japonicus*. The legs uniform, with moderately dense hair.

Measurements:

Specimens	Total body length	Length of antennae	Length of abdomen	Width of abdomen	Length of last abdominal segment and forceps	Length of forceps
	mm.	mm.	mm.	mm.	mm.	mm.
Holotype	23.0	5.8	15.0	3.0	5.0	2.8
Paratopotype 1	21.4	6.0	13.0	3.0	4.8	2.6
" 2	16.2	2.8	11.0	1.8	3.2	1.4
" 3	15.0	3.2	9.8	1.8	3.2	1.5
" 4	14.5	3.0	9.4	2.0	3.0	1.4
" 5	14.0	2.4	9.3	2.0	3.1	1.4
" 6	10.0	2.0	6.6	1.5	2.3	1.1
" 7	8.4	1.4	5.2	1.2	1.8	0.9

Local Distribution: Kumamoto, Prov. Higo (Eight specimens, without date, leg. H. KAWAMURA) [in the collection of the Entomological Museum, Faculty of Agriculture, Hokkaido Imperial University].

General Distribution: Kyushu.

Japanese Name: *Ô-hasami-tobimushi*.

Remarks: At a glance this species appears to be very closely related to *J. japonicus*, but differs in larger size, number of joints in the antennae, as well as in the peculiar dentation of the forceps.

摘 要

日本に産するハサミトビムシ科 (Japygidae) の昆虫は従来唯一種 ハサミトビムシ (*Japyx japonicus* ENDERLEIN) が知られてゐたのみである。然るに北海道帝國大學農學部昆虫學教室に所蔵せらるる九州熊本産の酒精浸標本は既知種とは全く異なるもので、而かも新種に屬するものと認め、茲に恩師理農學博士松村教授の許可を得て オホハサミトビムシ (*Japyx beneserratus* KUWAYAMA) と名付け發表することゝした。觸角環節数の前者が二十四節、後者が二十八節なること、鋏子の内縁に於ける齒列状態が非常に相違せること等をその主なる區別点とする。

BEITRAG ZUR KENNTNIS DER JAPANISCHEN *CIMBEX*- UND *AGENOCIMBEX*-ARTEN (HYM.)

VON

TOICHI UCHIDA

(Mit 3 Textfiguren)

Im Jahre 1790 wurde die Gattung *Cimbex* von OLIVIER¹⁾ ausgestellt, welche über ganz Europa, Nordamerika und den grössten Teil von Asien mit Ausnahme des tropischen Gebietes verbreitet ist.

Eine Art von dieser Gattung, nämlich *C. japonica*, wurde von W. F. KIRBY²⁾

1) OLIVIER:—Enc. Méth. Ins., Vol. V, p. 762 (1790).

2) KIRBY:—List Hym. Brit. Mus., Vol. I, p. 4 (1882).