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Further Descriptions of the Species Belonging to the *Eriocampa albipes* Group (Hymenoptera, Tenthredinidae) Occurring in Japan

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Synopsis Three new species, *Eriocampa okui* sp. nov., *E. hakusana* sp. nov., and *E. notoana* sp. nov., are described and illustrated, and a key is provided for the species of the *albipes*-group occurring in Japan.

In 1980, I revised the Japanese species of the genus *Eriocampa* HARTIG. Recently, I received some specimens of the *albipes*-group from Dr. T. OKU. In addition, I found two species of the *albipes*-group in material collected by me in Ishikawa Prefecture. After studying these, I concluded that they are new to science.

In this paper, I am going to describe these three new species and to give a key to the species of the *albipes*-group occurring in Japan.

Before going further, I wish to express my sincere thanks to Dr. David R. SMITH, U. S. Department of Agriculture, Washington, D. C., for his kind advice and reading through this manuscript. I am much indebted to Dr. T. OKU, Tohoku Agricultural Experiment Station, Morioka, for his kindness in giving me the opportunity to examine his specimens.

Key to the Species-groups and the Species of the *albipes*-group of *Eriocampa*

1. Thorax entirely black; hind tibia milky white or yellowish white with apex black ..... *albipes*-group....2
— Thorax partially sanguineous; hind tibia black.....*mitsukurii*-group
2. Frontal margin of mesoscutellum angulate (Fig. 10).....3
— Frontal margin of mesoscutellum not angulate; sawsheath as in Fig. 15; food plant: *Juglans ailanthifolia* CARR.....*Eriocampa kurumivora* TOGASHI
3. Surrounding wall of frontal area nearly absent (Fig. 5); postocellar area nearly flattened as seen in lateral view; lancet as in Fig. 18...*Eriocampa notoana* sp. nov.
— Surrounding wall of frontal area distinct.....4
4. Circumocellar furrow distinct (Fig. 4); postocellar area pyramidally raised (Fig. 6); lancet as in Fig. 17.....*Eriocampa hakusana* sp. nov.
— Circumocellar furrow nearly absent.....5
5. Anterior half of mesoprescutum finely punctured; serrula of lancet without a

subbasal tooth; food plant: *Alnus japonica* STEUD.....
.....*Eriocampa albipes* MATSUMURA

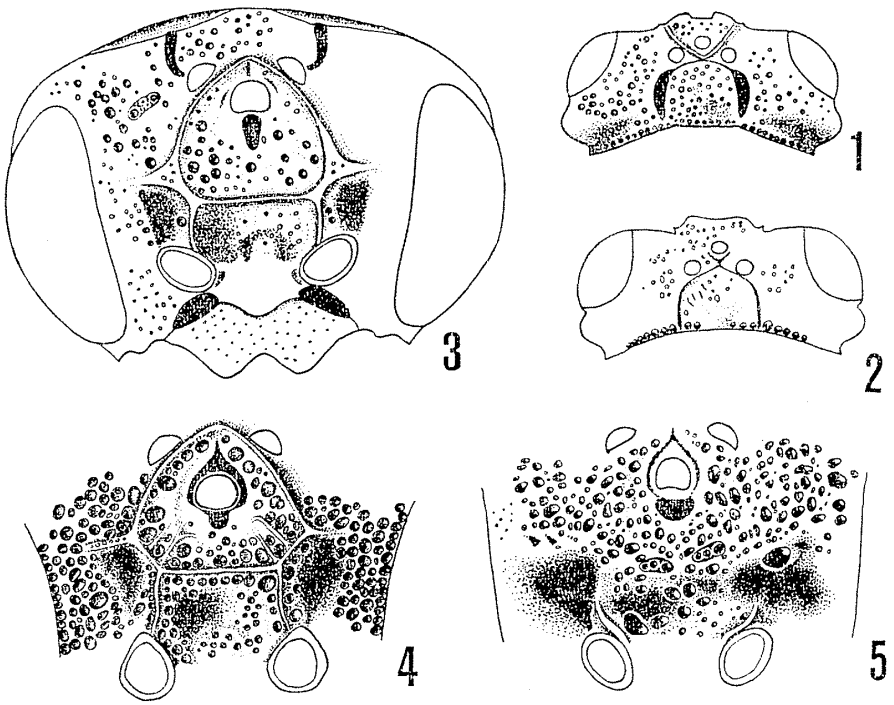
— Anterior half of mesoprescutum rather densely and evenly punctured; serrula of lancet with one posterior subbasal tooth (Fig. 16)...*Eriocampa okui* sp. nov.

Eriocampa okui sp. nov.

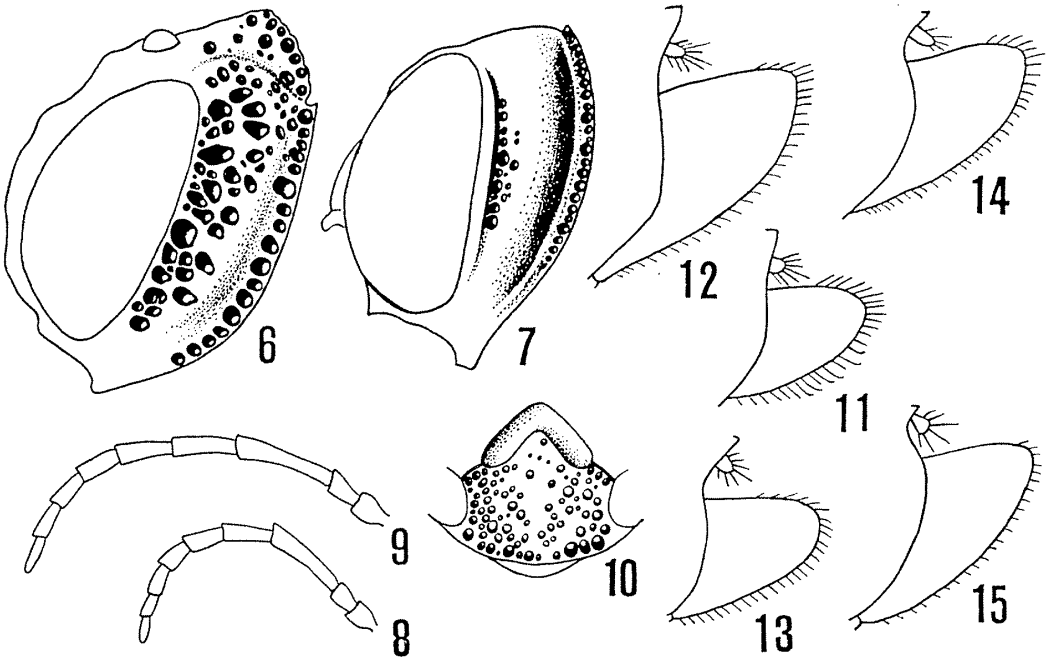
♀. Length 6 mm. Body including antenna entirely black, though apex of mandible reddish brown. Wings hyaline, stigma and veins black. Legs: all coxae and trochanters black; femora black, though apical half of dorsal surface of front femur and apical 1/3 of dorsal surface of mid femur yellowish white; anterior four tibiae and tarsi yellowish white; hind tibia yellowish white but apical portion blackish; hind tarsus dark brown but basal 2/3 of basitarsus yellowish white.

Head seen from above transverse; postocellar area gently convex; postocellar furrow linear; lateral furrows distinct and deep; OOL: POL: OCL=1.4: 1.0: 1.3; surrounding wall of frontal area distinct as in Fig. 3; area just in front of frontal ocellus distinctly pitted (Fig. 3); median fovea large, transverse (Fig. 3); lateral foveae large and deep, and connected with antennal foveae; postorbital groove rather distinct (Fig. 7); clypeus as in Fig. 3.

Antenna shorter than costa of fore wing (the ratio about 1.0: 1.3), relative lengths



Figs. 1–2. Dorsal view of head. —— 1, *hakusana* sp. nov.; 2, *okui* sp. nov. Fig. 3. Frontal view of head of *E. okui* sp. nov. Figs. 4–5. Frontal area. —— 4, *hakusana* sp. nov.; 5, *notoana* sp. nov.



Figs. 6–7. Lateral view of head. —— 6, *hakusana* sp. nov.; 7, *okui* sp. nov. Figs. 8–9. Antenna laterally. —— 8, *okui* sp. nov.; 9, *hakusana* sp. nov. Fig. 10. Mesoscutellum of *hakusana* sp. nov. Figs. 11–15. Sawsheath laterally. —— 11, *okui* sp. nov.; 12, *hakusana* sp. nov.; 13, *notoana* sp. nov.; 14, *albipes* Matsumura; 15, *kurumivora* Togashi.

of segments about 1.1: 1.0: 3.1: 2.0: 1.5: 1.1: 1.1: 1.0: 1.0 (Fig. 8).

Thorax similar to that of *E. albipes* MATSUMURA, though mesoscutellum slightly convex in lateral view.

Abdomen similar to that of *E. albipes* MATSUMURA. Sawsheath as in Fig. 12; lancet as in Fig. 16.

Punctation. Vertex and hind orbits covered with large but shallow punctures; upper half of inner orbits covered with large punctures (Fig. 3); punctures on frontal area as in Fig. 3; lower half of inner orbits, lower face below antennae, and clypeus covered with fine punctures; labrum very finely and very sparsely punctured; temples covered with fine punctures; pronotum, parapteron and mesopleura covered with crater-like punctures; anterior half of mesoprescutum covered with rather dense and even, medium-sized punctures, punctures becoming sparser and weaker latero-posteriorly; meso- and metascutellum covered with crater-like punctures; abdominal tergites nearly impunctate, shining.

♂. Length 6 mm. Similar to female in coloration and structure except for sexual segments. Penis valve as in Fig. 20.

Distribution. Japan (Honshu).

Holotype: ♀, Mt. Akasaka, Tamayama, near Mt. Hayachine, Iwate Prefecture, May 20, 1979, T. OKU leg. Deposited in the Entomological Laboratory of Kyushu University, Fukuoka (Type No. 2226).

Paratypes: 1 ♀ 4 ♂♂, data same as holotype. One paratype (female) preserved in the U. S. National Museum, Washington, D. C. The remaining paratypes deposited in the Biological Laboratory of Ishikawa Prefecture College of Agriculture, Ishikawa Prefecture.

Remarks. This new species is very closely allied to *E. albipes* MATSUMURA, but it is distinguished from *albipes* by the following table:

Characters	*albipes*	*okui*
Postorbital groove	rather ill-defined	distinct
Punctures on anterior half of mesoprescutum	very fine and sparse	coarse and dense
Mesoscutellum	nearly flattened	slightly convex
Serrulae of lancet	without a subbasal tooth	with one subbasal tooth

Eriocampa hakusana sp. nov.

♀. Length 9 mm. Body including antennae black, though apical portion of mandible reddish brown. Wings slightly smoky, hyaline; stigma and veins blackish. Legs black, with the following milky white: fore tibia except for under surface, mid tibia except for apical 1/3 of under surface, hind tibia except for apical 1/4, and all basitarsi except for apical portions. Apical four segments of all tarsi dark brown.

Head seen from above transverse (Fig. 1); postocellar area pyramidally raised, median portion with longitudinal carina along middle (Figs. 1 and 6); postocellar furrow linear; lateral furrows broad and deep (Fig. 1); OOL: POL: OCL=1.7: 1.0: 2.1; circumocellar furrow distinct (Fig. 4); surrounding wall of frontal area distinct (Fig. 4); median fovea rather quadrate and deep; lateral foveae deep and connected with antennal foveae; supraclypeal area nearly flattened.

Antenna (Fig. 9) slightly shorter than costa of fore wing (the ratio about 1.0: 1.1), relative lengths of segments about 1.1 : 1.0 : 3.1 : 2.1 : 1.8 : 1.4 : 1.1 : 1.1 : 1.3.

Thorax similar to that of *E. kurumivora* TOGASHI; mesoscutellum angulated at frontal margin, nearly flattened and slightly concave in middle.

Abdomen similar to that of *E. kurumivora* TOGASHI; sawsheath and lancet as in Figs. 11 and 17.

Punctation. Head covered with strong crater-like punctures, punctures becoming smaller towards lower face below antennae. Posterior corner of pronotum, parapteron, and mesopleuron covered with strong crater-like punctures; anterior half of mesoprescutum covered with medium-sized punctures, punctures becoming sparser and weaker latero-posteriorly; meso- and metascutellum covered with strong crater-like punctures; abdominal tergites nearly impunctate, shining.

♂. Unknown.

Distribution. Japan (Honshu).

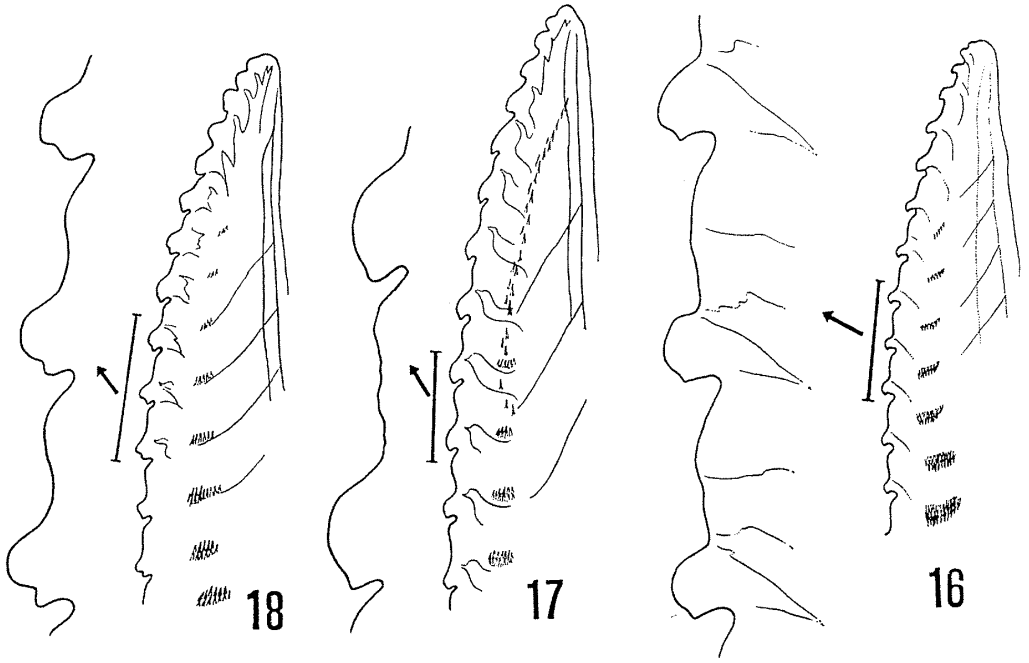
Holotype: ♀, Mt. Hakusan, Ishikawa Prefecture, July 8, 1977, I. TOGASHI leg. Preserved in the Entomological Laboratory of Kyushu University, Fukuoka (Type No. 2227).

Remarks. This new species closely resembles *E. kurumivora* TOGASHI, but it differs from the latter species in the angulated frontal margin of mesoscutellum (in *kurumivora*, the front margin of mesoscutellum not angulate), in the form of the lancet, and in having a distinct circumocellar furrow (in *kurumivora*, a circumocellar furrow nearly absent).

Eriocampa notoana sp. nov.

♀. Length 9 mm. Very closely allied to *E. hakusana* sp. nov. in coloration and general features but differing from the latter in the following points:

1. Postocellar area nearly flattened (in *hakusana*, postocellar area pyramidally raised).
2. Lateral furrows of postocellar area narrow (in *hakusana*, lateral furrows broad and deep).
3. OOL as long as OCL (in *hakusana*, OOL shorter than OCL, with the ratio of about 1.0: 1.25).
4. Surrounding wall of frontal area nearly absent (Fig. 5) (in *hakusana*, surrounding wall distinct).
5. Postorbital groove distinctly depressed as in Figs. 2 and 7 (in *hakusana*, postorbital groove ill-defined as in Figs. 1 and 6).



Figs. 16–18. Lancet. —— 16. *okui* sp. nov.; 17, *hakusana* sp. nov.; 18, *notoana* sp. nov.

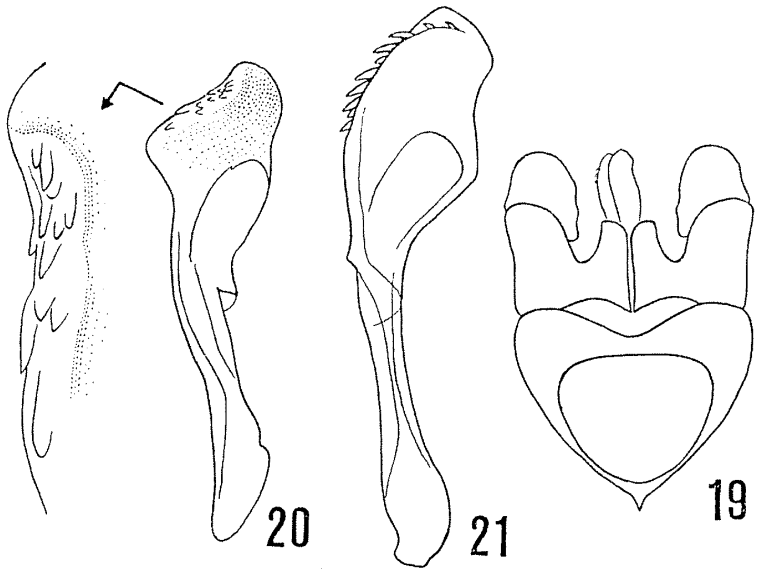


Fig. 19. Genitalia of *okui* sp. nov. Figs. 20–21. Penis valve. —— 20, *okui* sp. nov.; 21, *albipes* Matsumura.

6. Mesoscutellum slightly convex (in *hakusana*, mesoscutellum nearly flattened and slightly concave in the middle).

7. Sawsheath and lancet as in Figs. 13 and 18.

♂. Unknown.

Distribution. Japan (Honshu).

Holotype: ♀, Mt. Yamabushi, Noto Peninsula, Ishikawa Prefecture, May 4, 1963, I. TOGASHI leg. Deposited in the Entomological Laboratory of Kyushu University, Fukuoka (Type No. 2228).

Remarks. This new species is allied to *E. kurumivora* TOGASHI, but it is distinguished from the latter by the nearly absent surrounding wall of the frontal area (in *kurumivora*, the frontal area is surrounded by distinct wall), by the nearly flattened postocellar area (in *kurumivora*, the postocellar area is convex), and by the form of the lancet.

Literature

TOGASHI, I., 1980. Sawflies of the genus *Eriocampa* HARTIG in Japan. *Kontyû, Tokyo*, **48**: 35–41.