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Supplementary Note on *Nomada issikii* Yasumatsu (Hymenoptera, Apidae) in the *roberjeotiana* Species Group of the Genus *Nomada*

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The data of the holotype of *Nomada issikii* Yasumatsu, 1939 in Mitai *et al*. (2003) is corrected, and a record newly from Kyushu, Japan is added. Based on these specimens, morphometric measurements of facial parts are compared geographically, and distinct geographical variation which was suggested by Tsuneki (1973) is not detected.

INTRODUCTION

Nomada issikii Yasumatsu was described based on one male, which was collected in Sakhalin by Adachi and Issiki in 1914. This species was placed in *roberjeotiana* species group by Alexander and Schwarz (1994), and Mitai *et al*. (2003) followed their treatment. In Japan, it has been recorded from Hokkaido, Honshu, and Shikoku (Mitai *et al*., 2003), and seems to be not common in general, but abundant in some places. In the present paper, we report the holotype data, a distributional record of this species from Kyushu for the first time, and the morphological variation on the facial parts based on the Japanese specimens and the holotype from Sakhalin.

Nomada issikii Yasumatsu, 1939

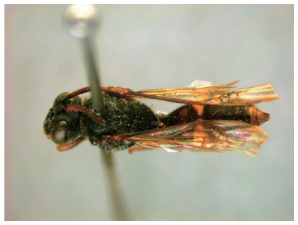

Fig. 1. Dorsal view of the holotype.

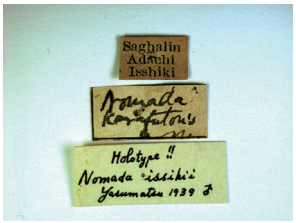

Fig. 2. Labels attached with the holotype.

Fig. 3. Underside of the top label in Fig. 2.

In the original description, the holotype of *Nomada issikii* was deposited in the Hokkaido University. However, in preparing a supplementary description of this species (Mitai *et al*., 2003), one male specimen with the same collecting data as the holotype was found in the insect collection of Entomological Laboratory, Kyushu University. The specimen was without the holotype label nor an identification label, but we considered it as the holotype of this species because the original description had been based on one male. After Mitai *et al*. (2003) published, the true holotype with the holotype label was found in the collection of the same Laboratory. The labels data are cited as follows (Figs. 2, 3).

Holotype: ♂, bearing three labels: "Saghalin/ Adachi/ Issiki" ["Otami/ viii, 12, 14" on the underside], "Nomada/ karafutonis", and "Holotype!!/ Nomada issikii/ Yasumatsu 1939 ♂" All labels are discolored white, rectangular with the handwritten letters. "Nomada karafutonis" is an unpublished name.

A new record from Kyushu

The collecting data of this species recorded from Kyushu are as follows:

1♀3♂, Tsuetate, Oguni, Kumamoto Pref., 20. ix. 1979, O. Tadauchi leg., deposited in the Entomological Laboratory, Kyushu University.

Morphological variation of facial parts

Tsuneki (1973) made some comments regarding morphological variation of facial parts of this species based on the specimens from Hokkaido and Honshu (mainly from Chubu District), measuring four items; the length of subantennal part, the length of clypeus, the width of clypeus at medio–anterior margin, and the minimum interocular distance. According to his analysis, the clypei of the specimens collected from Hokkaido tend to be shorter than those from Honshu (Chubu District) in both sexes, and together with the data of clinal variation in coloration, they show "considerably distinct tendencies toward the subspeciation" (Tsuneki, 1973. p. 36). However, he also mentioned the differences are small and "the range of variation is considerably

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Table 1. Measurements of facial parts in *Nomada issikii*

Item	Male				Female		
	Locality	Average ± S. D.	Maximum	Minimum	Average ± S. D.	Maximum	Minimum
A/D	Hokkaido	0.77 ± 0.02	0.81	0.74	0.70 ± 0.02	0.72	0.67
	Chubu	0.81 ± 0.03	0.87	0.72	0.74 ± 0.03	0.80	0.71
	Kyushu	0.77 ± 0.01	0.79	0.76	0.73	–	–
	Holotype	0.77	–	–	–	–	–
B/D	Hokkaido	0.40 ± 0.02	0.43	0.38	0.38 ± 0.02	0.40	0.34
	Chubu	0.41 ± 0.02	0.45	0.37	0.38 ± 0.01	0.40	0.36
	Kyushu	0.40 ± 0.01	0.41	0.38	0.34	–	–
	Holotype	0.40	–	–	–	–	–
C/D	Hokkaido	0.55 ± 0.03	0.60	0.50	0.56 ± 0.02	0.58	0.54
	Chubu	0.54 ± 0.03	0.59	0.47	0.54 ± 0.03	0.59	0.50
	Kyushu	0.54 ± 0.02	0.57	0.53	0.55	–	–
	Holotype	0.57	–	–	–	–	–
A/C	Hokkaido	1.41 ± 0.08	1.58	1.32	1.25 ± 0.06	1.31	1.15
	Chubu	1.50 ± 0.11	1.77	1.21	1.36 ± 0.08	1.50	1.28
	Kyushu	1.43 ± 0.06	1.48	1.36	1.32	–	–
	Holotype	1.33	–	–	–	–	–
B/D	Hokkaido	0.72 ± 0.05	0.84	0.67	0.67 ± 0.03	0.72	0.63
	Chubu	0.77 ± 0.05	0.92	0.66	0.70 ± 0.04	0.76	0.67
	Kyushu	0.73 ± 0.02	0.75	0.71	0.68	–	–
	Holotype	0.70	–	–	–	–	–

A: the length of subantennal part; B: the length of clypeus; C: the width of clypeus at medio-anterior margin; D: the minimum interocular distance. Specimens measured are as follows; 10♂6♀ from Hokkaido, ♂21♀8 from Chubu, ♂3♀1 from Kyushu. The holotype is from Saghalin.

overlapped, so that the separation of the individual specimen seemed to be rather difficult" (the same, p. 36).

We measured the same items of facial parts in our specimens, as measured in Tsuneki (1973), and analyzed the morphometric data among the specimens from Hokkaido, Honshu (Chubu District), Kyushu, and the holotype from Sakhalin (Table 1), combined with the data in Tsuneki (1973; his data are converted to ratio scale in order to combine with our data).

As the result, the morphometric data are widely overlapped in the range of variation, and any distinct geographical variation can not be detected among them. Therefore, the division into geographical groups at subspecies–level is not supported.

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