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DESCRIPTION OF A NEW JAPANESE SPECIES OF OEDOPARENA, AN ASIO-AMERICAN DIPTEROUS GENUS (DRYOMYZIDAE)

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Abstract

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A new species of *Oedoparena* is described from Japan, based on specimens collected on seashore in Hokkaidô, partly from barnacle-tests. It differs from the 2 other known species of the genus, both from North America, by characters of the thoracic setal pattern, male genitalia and female abdomen. The genus *Oedoparena* is Asio-American in distribution, occurring in the northern Pacific area, and associated with barnacles.

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Introduction

The genus *Oedoparena* Curran, 1934, had long been represented by a single species, *O. glauca* (Coquillett, 1900) until Mathis & Steyskal (1980) revised the genus and added one new species, *O. nigrifrons*. According to them the genus is distributed on the west coast of North America from Alaska to California. Schlinger (1975, based on unpublished thesis of M. Knudsen) and Burger et al. (1980) reported that the larvae of *O. glauca* are predators of barnacles. Adult flies of *Oedoparena* are easily distinguished from those of other genera of Dryomyzidae by the lead-coloured body, prominently developed clypeus, distinctly concave face, many (1 or sometimes 2 presutural and usually 4 or 5 postsutural) *dc*, absence of prescutellar *acr*, and densely setose mesopleura. Recently I examined a lot of specimens of a seashore fly net-collected or reared from puparia found in empty barnacle-tests, all at Asari Beach, ca 25 km northwest of Sapporo, Hokkaidô, Japan. This fly undoubtedly belongs to *Oedoparena*, but is quite distinct from *glauca* and *nigrifrons*, so that it should be described as a new species. The genus *Oedoparena* is now known from Japan and the Pacific coast of North America, comprising 3 species, of which at least two are associated with barnacles. The specimens examined are deposited in the collection of the Entomological Institute, Hokkaidô University.

Description

Oedoparena minor sp. nov.

Material. Collected at Asari Beach, Otaru-shi, Hokkaidô, Japan. Sixteen ♂ (one the holotype) & 14 ♀, 22. v. 1977, I. Yasui leg.; 9 ♂ & 3 ♀ (in glycerin or 80% alcohol), reared from puparia found in empty tests of a barnacle, *Chthamalus challengeri* Hoek, 13. iv. 1978, I. Yasui leg.; 20 ♂ & 21 ♀, 9. iv. 1981, M. Suwa leg.; 34 ♂ & 37 ♀, reared from puparia found in empty tests of *Ch. challengeri*, 9. iv. 1981, M. Suwa leg. (em. 9–13. iv. 1981).

♂. Greyish and rather densely covered with hair-like setae. Wing-length (exclusive of epaulet) 4.2–7.0 (mean 5.6, in holotype 5.7) mm; body as long as or slightly shorter than the wing-length in some specimens, yet in most specimens distinctly shorter than the wing-length because of abdominal shrinkage in dried condition.

Body blackish in ground colour, and mainly bluish grey in pollinosity, slightly brownish in some lights. Frons dark brownish pollinose, more or less bluish green in some lights; antennae and palpi blackish; arista lustrous. Mesonotum mainly dark brownish pollinose, more or less bluish green in some lights, and partly bluish grey pollinose, namely along anterior margin, on humeral calli, on posterior half of notopleura, at a small area around inner end of each section of interrupted transverse suture, between 2nd *pa* and last postsutural *dc*, and at lateral bases of scutellum. Legs blackish in ground colour, and bluish grey in pollinosity; femora with apical third or fourth dark brownish pollinose dorsally; tibiae brownish pollinose dorsally. Wings slightly darkened along veins, and more or less tinged with brownish yellow on subcostal cell and near base; veins blackish or dark brownish; squamae opaque and brownish, with margins and marginal fringes blackish; halteres pale yellow at knob. (Older specimens are more reddish or brownish in pollinosity and in wing-colouration.)

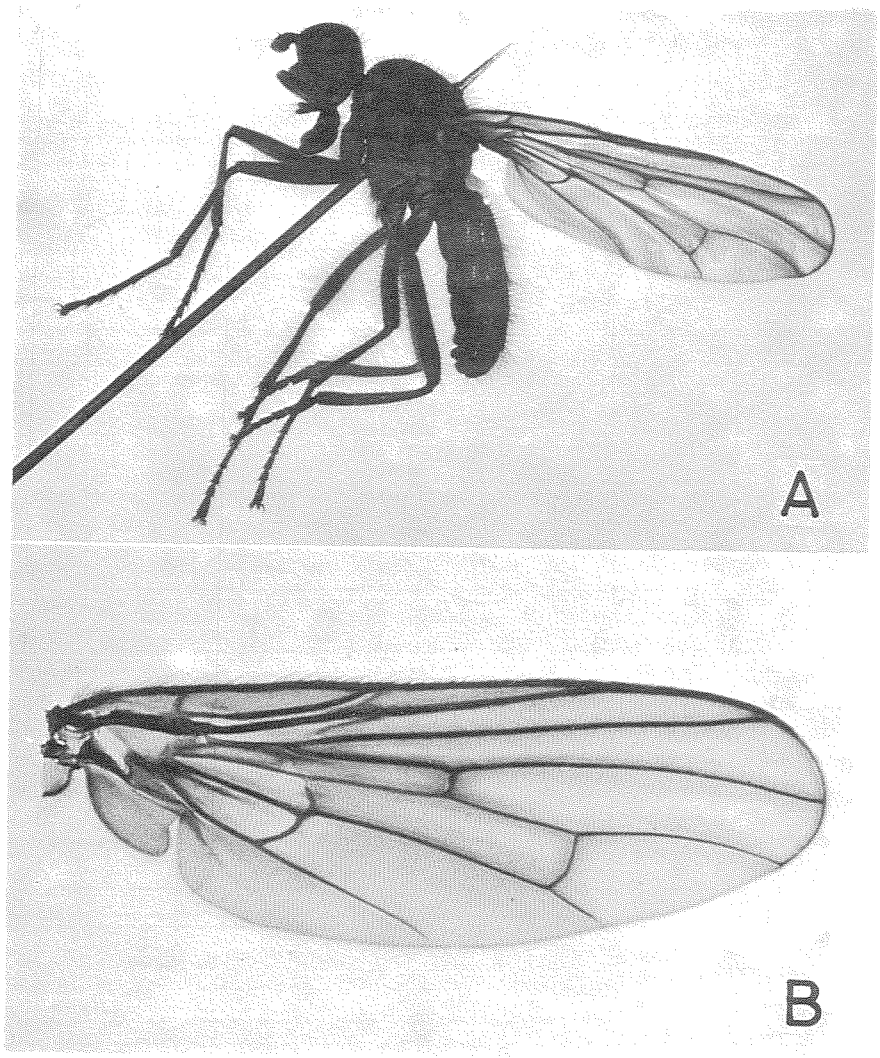
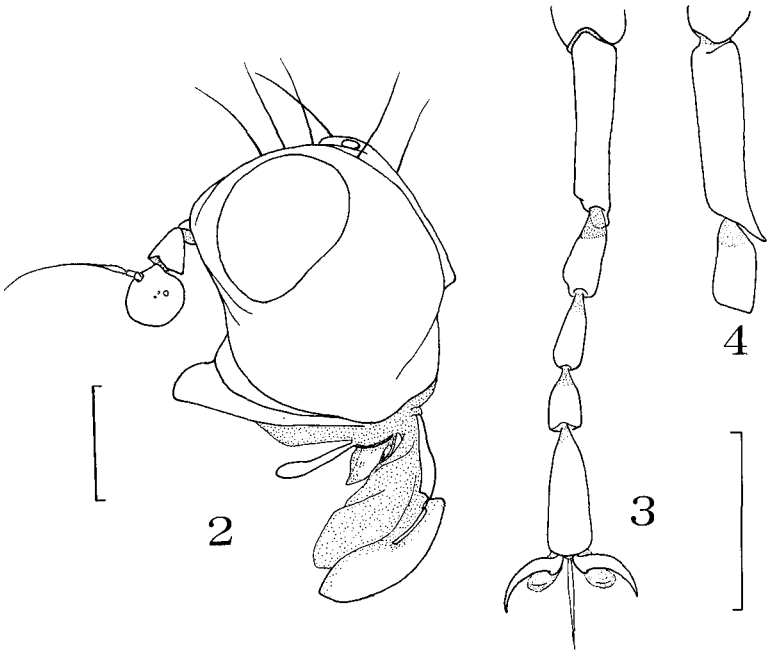


Fig. 1. *Oedoparena minor* sp. nov., ♂. A, General features, right wing removed; B, wing (right).

Frons with 2 or sometimes 3 pairs of fronto-orbital setae (often with 2 setae on one side and 3 on the other), and at the level of anterior pair of the setae slightly wider than half head-width; outer vertical setae indiscernible; arista bare; 3rd antennal segment rounded.

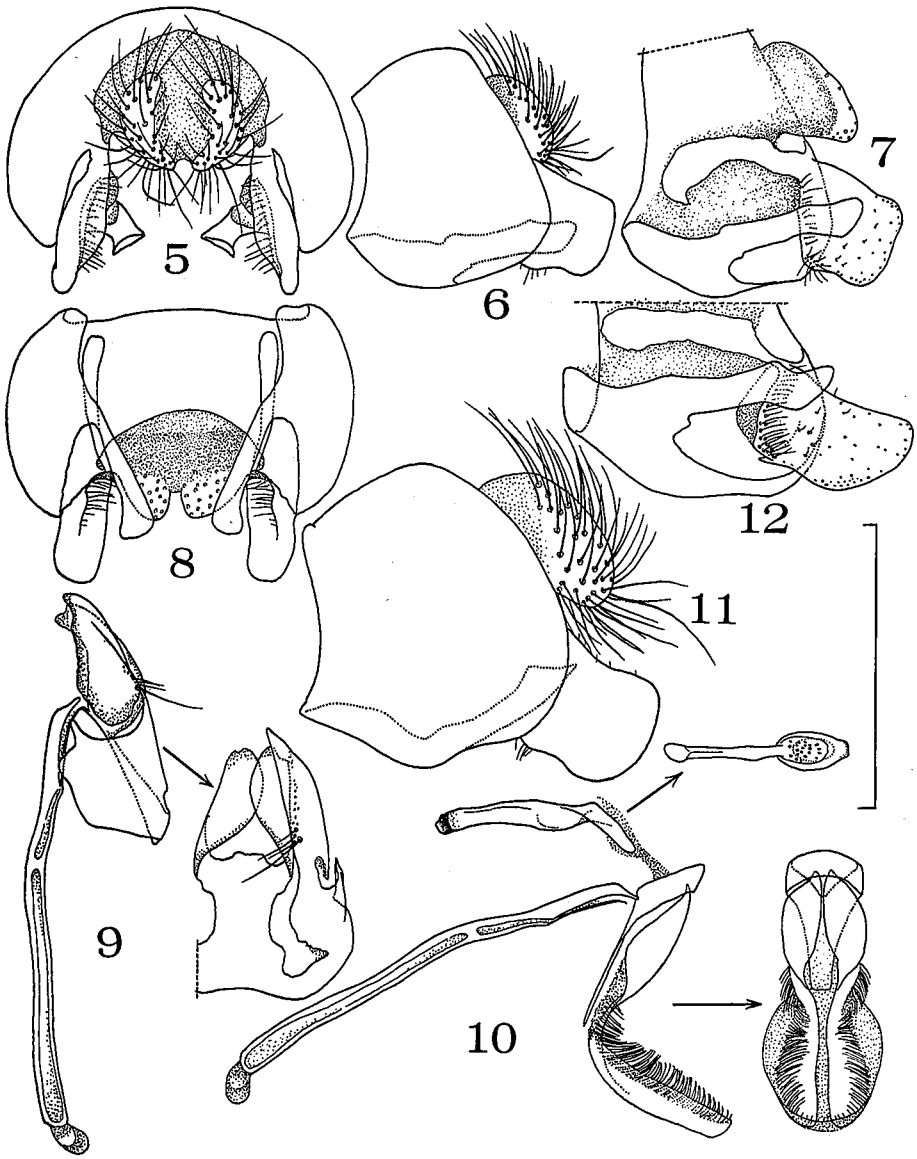
Mesonotum with no *acr*; 1 or rarely 2 presutural and usually 4–5 postsutural *dc* present, the presuturals and a few anterior setae of the postsuturals being weak and sometimes very fine; humeral calli with no humeral setae except for a fine one which is often hardly distinguishable from ground setae; notopleura densely setose, with anterior *ntpl* very fine and usually indistinguishable from ground setae, and with posterior *ntpl* always distinct; propleura densely setose, and with



Figs. 2–4. *Oedoparena minor* sp. nov., ♂. 2, Head, lateral view, setae omitted except for some strong ones near vertex; 3, hind tarsus (right), dorsal view, setae omitted; 4, ditto, 1st and 2nd segments, anterior view. Figures are made from a specimen preserved in glycerin. Scale 0.5 mm.

Table 1. Number of setae on pteropleura in *Oedoparena minor* and *Oedoparena glauca*.

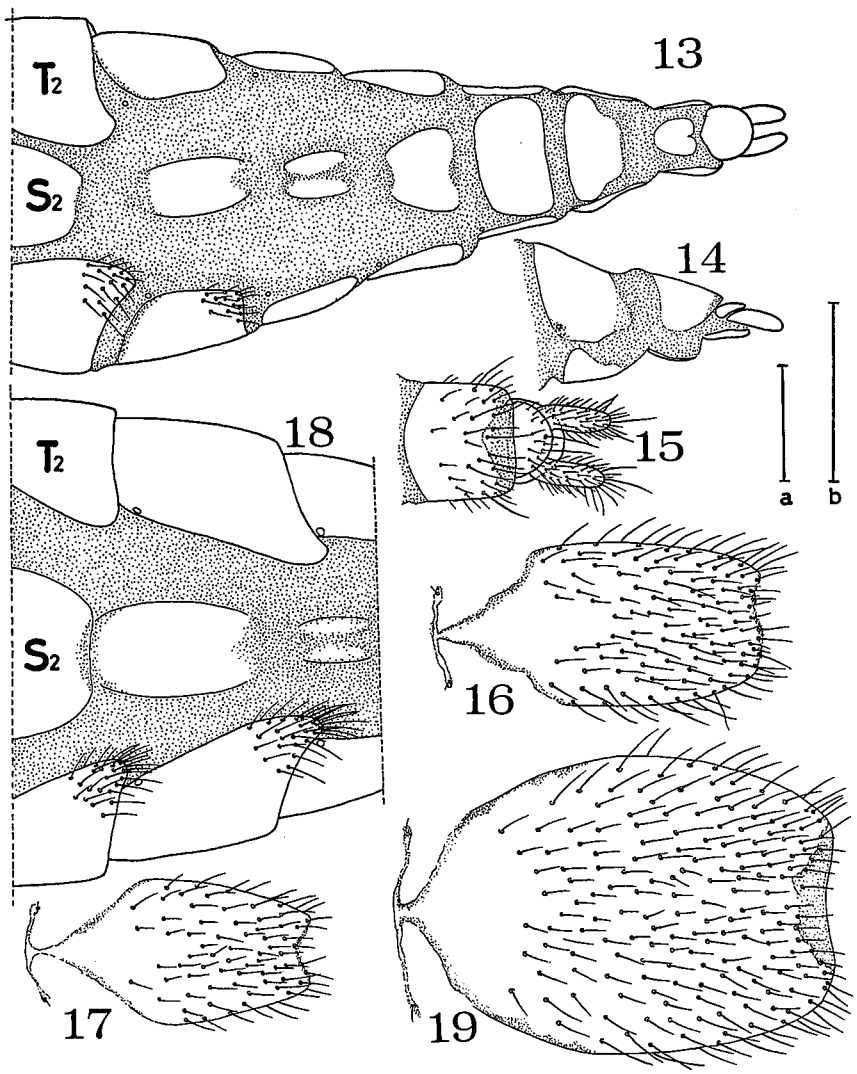
Number of setae (one side : the other)	Number of specimens			
	O. minor		*O. glauca*	
	♂	♀	♂	♀
0 : 0		1		
0 : ?		3		
0 : 1	3	3		
1 : 1	37	33		
1 : ?	10	6		
1 : 2	18	16		
2 : 2	5	8		1
2 : ?	5	3	1	1
2 : 3		2		
3 : ?			1	2
3 : 4	1			
4 : ?			1	4
5 : ?			1	4
5 : 7				1
4 : 8			1	
Total	79	75	5	13



Figs. 5–10. *Oedoparena minor* sp. nov., ♂ (holotype). 5, Hypopygium, dorsocaudal view; 6, ditto, lateral view; 7, ditto, inside lateral view; 8, ditto, ventral view; 9, hypandrium and associated structures; 10, distiphallus and associated structures. Figs. 11 & 12. *Oedoparena glauca* (Coquillett), ♂. 11, Hypopygium, lateral view; 12, ditto, inside ventrolateral view. Scale 0.5 mm.

1 or rarely 2 slender propleural setae; mesopleura densely setose; pteropleura usually with 1–2 setae anterodorsally (Table 1), otherwise bare; scutellum with 2–3 pairs of setae laterally (Table 2), and with no ground setae.

Abdomen with ground setae much longer than those on mesonotum, and with no strong setae; genital structures as in Figs. 5–10. Hind metatarsus with a



Figs. 13–17. *Oedoparena minor* sp. nov., ♀. 13, Abdomen, ventral view, setae omitted except on right posterolateral corners of 2nd and 3rd tergites; 14, terminalia, lateral view; 15, ditto, dorsal view; 16 & 17, 2nd sternite. Figs. 18 & 19. *Oedoparena glauca* (Coquillett), ♀. 18, Abdomen, 2nd to 4th segments, ventral view; 19, 2nd sternite. T_2, 2nd tergite; S_2, 2nd sternite. Scale 0.5 mm, a for Figs. 13, 14 & 18, and b for Figs. 15–17, & 19.

flattened process at apex ventrally (Figs. 3 & 4).

♀. Wing-length 4.0–6.4 (mean 5.3) mm. Body with ground setae shorter and less dense and with primary setae distincter than in male respectively. Abdomen with 1st to 6th spiracles present on membrane near lateral sides of corresponding tergites, and with 7th spiracles on anterolateral membraneous corners of 7th tergite (3rd to 7th spiracles shown in Figs. 13 & 14). Hind metatarsus with no apical process.

Table 2. Number of setae on scutellum in *Oedoparena minor* and *Oedoparena glauca* (% in parentheses).

Number of setae (one side: the other)	Number of specimens			
	O. minor		*O. glauca*	
	♂	♀	♂	♀
2 : 2	15 (19.0)	16 (21.3)		
2 : 3	24 (30.4)	26 (34.7)		
3 : 3	40 (50.6)	33 (44.0)	2	12
3 : 4			3	
4 : 5				1
Total	79	75	5	13

In having the less protruded frons, setose propleura and pteropleura, blunt apex of male surstyli, and shorter cerci of female terminalia, the present species is more closely related to *glauca* than to *nigrifrons*. Fortunately, I have had the opportunity to examine some specimens collected by Dr. H. Takada in Canada (5♂ & 13♀, VBC Shore, Vancouver, 26. iv. 1969), determined as *glauca* by myself. I have found that they are different from the specimens from Asari in the following aspects: – Larger, wing-length 7.0–7.8 mm; pteropleura usually 3–5 setae (Table 1); scutellum at least with 3 pairs of setae (Table 2); male hypopygium with ventromedial processes more strongly crooked (Figs. 11 & 12); female abdomen with 3rd and 4th spiracles present on lateral edges of corresponding tergites (Fig. 18); female 3rd tergite distinctly protruded at posterolateral corners, thereon with setae rather densely (Fig. 18); female 2nd sternite more rounded in outline (Fig. 19). The two species differ so remarkably, especially in the female abdomen, that I have no doubt that they are distinct.

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