

# One New and Three Newly Rpcorded Species of the Genus Fannia from Japan (Diptera : Muscidae)

メタデータ	言語: eng 出版者: 公開日: 2017-10-03 キーワード (Ja): キーワード (En): 作成者: メールアドレス: 所属:
URL	<a href="https://doi.org/10.24517/00011315">https://doi.org/10.24517/00011315</a>

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One New and Three Newly Recorded Species of the Genus  
*Fannia* from Japan  
(Diptera : Muscidae)

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(Received May 31, 1972)

**Abstract** Genus *Fannia* is a large taxon, including nearly 200 species at present, of which more than fifty species were recorded from Britain, whereas only 12 species have hitherto been recorded from Japan. Besides *F. coracina* (Loew), *F. pretiosa* (Schiner) and *F. serena* (Fallén), which are newly recorded here from Japan, the author describes a new species of genus *Fannia*, belonging to *serena* group. This new species is closely allied to *F. eremna* Chillcott and *F. cinerea* Chillcott, but can be distinguished from them by some characters as shown in Table 1.

*Fannia coracina* (Loew, 1873)

Japanese name: "Kumoma-kobuashi-himeiebae"

(*Homalomyia coracina* Loew, 1873, Berlin. Ent. Zeitschr. 17, p. 47)

*Type and type locality.* Herkulesbad ("Pannonia inferiori"). Type in the Zoologischen Museum, Berlin, Germany.

♂.-*Head.* Eyes about twice as deep as long, bare. Postoccipital setae irregular and pluriserial rows. Ground color of parafacialia, parafrontalia and frontal vitta black. From certain angles parafacialia and parafrontalia silvery pollinose. Frontal vitta light-brownish pollinose, distinctly throughout. Frontal setae 10 or 11, irregular in length, inconspicuously distinguished from a few of interstitials. Antennae black. Proboscis normal; theca dusted. Palpi black, filiform, longer than thecal length.

*Thorax.* Ground color black, very dark brownish pollinose, non-vittate. *Prest acr* triserial, median row irregular. *Post acr* quadserial and irregular rows. Accessory setulae on dorsum long and numerous. *Pra* not distinguished from other thoracic setulae. With 2 prostigmatal setae. *Dc* 2+3, *h* 2, *sl* 2, *ia* 2, *sa* 1, *stpl* 1: 1.

*Wings.* Infuscated. Veins of wing dark brown. Halteres brownish yellow. Squamae infuscated, lower one larger than upper one.

*Legs.* Entirely black. Fore tibia with a weak *ad* and 1 preapical *d*. Mid coxa without ventral spine. Mid tibia enlarged at basal two-thirds to form a glossy tubacle, with 1 *pd*, 1 *ad* and 1 preapical *d*, with erect ventral mat whose hairs are short. Mid metatarsus without tooth beneath at base. Hind coxa with 1 seta on inner posterior margin. Hind tibia with 5-7 *av* and 7-8 *ad*.

*Abdomen.* Without vitta, silvery gray pollinose with copper tinge on 2nd and 3rd tergites, and grayish pollinose on 4th and 5th tergites. Ground color black. Pollen very thick.

*Length.* 5.1-6.0 mm.

*Remarks.* Blackish species. This species has been found together with *Fannia manicata* (Meigen, 1826) at the subalpine zone of Mt. Hakusan. Japanese specimens agree with Chillcott's description of North American *F. coracina* rather than British one. British material somewhat differs from Japanese one in the following characteristics: with at least 12 frontal setae; *prest acr* with the outer rows more hair-like; squamae yellow; hind tibia with the rows of stronger *av* and longer *pv*; abdomen with triangular mark less distinctly limited.

*Records.* HONSHU: 2 ♂♂, Mt. Hakusan, Ishikawa, 31. VIII. 1969 (H. Kurahashi); 2 ♂♂, Mt. Hakusan, 4. IX. 1969 (K. Nishida); 2 ♂♂. Mt. Hakusan, 14. IX. 1969 (K. Nishida).

*Distribution.* Japan (Honshu), Finland, Sweden, Hungary, Germany, Austria, England, France, Corsica and North America.

*Fannia pretiosa* (Schiner, 1862)

Japanese name: "Usuiro-himeiebae"

(*Homalomyia pretiosa* Schiner, 1862. Fauna Austriaca 1, p. 654)

*Type and type locality.* Wien (Vienna), Austria. Type in Museum Wien.

♂.-*Head.* Frons not arched. Eyes more than twice as deep as long, bare. Frontal setae 7-8. Parafrontalia and parafacialia narrow and silvery pollinose densely. Postoccipital setae absent. Occipital setae short and regular in length. Parafrontalia fused each other medially. Arista subpubescent. Theca pollinose. Palpi filiform, about thecal length.

*Thorax.* Grayish-brown pollinose thinly, non-vittate. *Prest acr* biserial, *post acr* triserial. Scutellum yellowish brown. *Pra* 2, anterior one longer. With 2 differentiated prostigmatal setae. *Dc* 2+3, *h* 2, *sl* 2, *ia* 2, *sa* 1, *pa* 2, *stpl* 1:1. Accessory setulae on dorsum shorter and sparse.

*Wings.* Apical half of wing slightly infuscated, otherwise clear. Veins of wing brown, and yellowish at the base. Squamae pale yellow, with yellowish margin, lower one lobated. Halteres yellow.

*Legs.* Reddish-yellow except for all the tarsi and tips of hind femur darkened. Fore tibia with 1 preapical *d*. Mid coxa without ventral spine. Mid tibia slightly thickened apical half, with ventral mat along the whole length, the hairs of the ventral mat long and erect on apical half, also with 1 *pd*, 1 *ad* and 1 preapical *d*. Mid metatarsus without ventral crest. Hind coxa bare on inner posterior margin. Hind femur normally developed, with anteroventral row of hair-like setae curled over at the tips. Hind tibia dark yellow, with 1 *av*, 1 *ad*, 1 *d* and 1 preapical *d*.

*Abdomen.* With white pollen. 2nd tergite entirely yellow. 3rd and 4th tergites yellow, but blackish brown in part, 5th tergite black.

*Length.* 4.6-5.1 mm.

*Records.* HONSHU : 3 ♂♂, Mt. Asama, Nagano, 28. VII. 1970 (R. Kano); 1 ♂, Mt. Shirouma, Nagano, 16. VIII. 1970 (S. Shinonaga); 2 ♂♂, Mt. Zao, Miyagi, 28. VIII. 1970 (R. Kano & S. Shinonaga). HOKKAIDO : 1 ♂, Mt. Tokachidake, 2-4. VIII. 1970 (S. Shinonaga).

*Distribution.* Japan (Hokkaido, Honshu), South Finland, Germany, Austria, South Tyrol, France, Scotland, England and North America.

*Fannia peneserena* sp. nov.

Japanese name : "Kuro-chibi-himeiebae"

♂.-*Head.* Frons at narrowest point narrower than distance between posterior ocelli inclusive. Eyes about twice as deep as long, distinctly haired but sparsely. Ocellars directed forward. Postoccipital setae uniserial, but of irregular row. Occipital setae long and irregular in length, slender. Ground color of parafacialia, parafrontalia and frontal vitta black, from certain angles parafacialia and parafrontalia silvery pollinose, frontal vitta brownish gray pollinose. Parafrontalia almost contiguous. Parafacialia and parafrontalia very narrow. Frontal setae 8-12, with a few of tiny interstitials. Ground color of antennae black, with brownish pubescence, 2nd segment with a long setula among a few of very short setulae, 3rd segment twice as long as broad. Arista short, slightly longer than twice of the length of 3rd antennal segment, conspicuously thickened in basal fourth, subpubescent. Parafacialia at lunula about one-third width of 3rd antennal segment, bare. Proboscis short; theca subshining black. Palpi black, about thecal length, subspatulated.

*Thorax.* Black, non-vittate, with very dark brownish pollen. *Acr* biserial throughout, becoming longer towards scutellum, without ancillary setulae between the *acr* and *dc*. *Dc* 2+3, *h* 2, *ph* 2. *Ia* 2, with a few of accessory setulae between them, the anterior one slightly behind line of anterior *post dc*. *Sa* 1; *pra* 2, set apart from the other thoracic setulae, anterior one slightly stronger than posterior one. 1 strong prostigmatal setae, with a few of fine setulae around it. *Pa* 2. Propleural depression bare, with 2 setae on ridge beneath, the posterior one stronger. *Npl* 2, anterior one slightly stronger, otherwise disc of notopleuron bare. *Stpl* 1 : 1, anterior one weaker,

with a number of fine setulae between them, without ventral spine. Hypopleuron and pteropleuron bare. Scutellum black, with very dark brownish pollen, 1 pair of strong apical setae without setulae between them. 1 pair of laterals. 1 pair of weak subapical setae. Bare on side and beneath.

*Legs.* Black, including knees. Fore coxa gray-dusted. Fore femur without differentiated *av*, *a* and *ad*; with long *pv*, *p* and *pd*, the setae directed apicad and curled over at the tips. Fore tibia with 1 preapical *d*. Mid coxa without ventral spine. Mid femur with 6-8 long and wide-spaced *av* on about basal two-thirds, changing gradually to a preapical comb of 11-14 setae; long *pv* curled at apex on basal two-thirds, and straightened on apical third; ventral hairs of double rows medially, and hairs of inner row weaker, and then making a comb preapically. Mid tibia gradually thickened to apex, with 1 *ad*, 1 *pd* and 1 preapical *d*, without *av* and *pv*; with ventral mat, the hairs of mat short basally, increasing in length on apical half. Mid metatarsus without ventral crest. Hind coxa without setae on inner posterior margin. Hind femur with a row of *pv*, bare on apical fourth; with a row of *ad*, 1 preapical *d* and 3-4 *av*. Hind tibia with 1 *ad*, 1 *d*, 1 *av* and 1 preapical *d*.

*Wings.* Brownish infuscated. Veins dark brown. Costal spine inconspicuously. Costa bare beneath. Squamae brown, lower one linear. Halteres brown.

*Abdomen.* Ground color black. With slightly brownish gray pollen. 2nd, 3rd and 4th tergites with a triangular mark, 5th tergite with a stripe, 5th sternite as wide as long, with short and thick setae on posterior part. Cercal plate broadened and faintly scalloped at the apex in caudo-ventral aspect. Surtylus in caudo-ventral aspect strongly curved, in lateral aspect very thickened and rounded basally, and abruptly slender apically. Bacilliform process distinct, spiralled (Figs. 7-9).

♀.-*Head.* Eyes sparsely haired. Parafrontalia dark grayish pollinose, ground color black, one-fourth as broad as long, separated by a frontal vitta. Frons at vertex slightly broader than an eye. Frontal vitta black, in certain angles brownish gray pollinose. Frontal setae 6-7. Parafrontal setae numerous, of one irregular row. Parafacialia silvery pollinose in certain angles, ground color black. Postoccipital setae of one row, wide-spaced at upper part. Palpi subspatulated; theca glossy and swollen, distinctly screlotized.

*Thorax.* More grayish than ♂ as a whole. Otherwise as in ♂.

*Legs.* Fore femur, *pv* long and wide-spaced. Fore tibia with 1 preapical *d*. Mid femur with 10 or 11 *av*, decreasing in length apicad, without such a preapical comb as in ♂; ventral surface setulose. Mid tibia without ventral mat, with 1 *ad*, 1 *pd* and 1 preapical *d*. Hind femur with 2-3 *av*, a row of *ad*, 1 *d* and 1 small preapical *pd*. Hind tibia with 1 *av*, 1 *ad*, 1 *d* and 1 preapical *d*.

*Wings.* Slightly infuscated. Veins dark brown. Squamae yellow, with deep yellowish margin. Halteres yellow.

*Abdomen.* Ground color black. Brownish gray pollinose. Ovipositor: subanal plate about as broad as long; cercus short; 8th sternite as broad as long, square, with

a number of setulae on the hind margin; 9th sternite as broad as long; 6th tergite containing both posterior spiracles, situated close to the margins; spermatheca 2, much elongated, surface fully corrugated (Fig. 6).

*Length.* ♂: 4.2–4.8 mm. ♀: 3.9–4.2 mm.

*Holotype*; ♂, Mt. Hakusan, Ishikawa, Japan, 14. IX. 1969 (K. Nishida). *Allotype*: ♀, the same data as holotype. *Paratypes*: 12 ♂♂, Mt. Hakusan, 4. IX. 1969 (K. Nishida), 14 ♂♂, the same data as holotype, 5 ♂♂, Mt. Hakusan, 20. VI. 1971 (K. Nishida).

Type specimens are preserved in the National Science Museum, Tokyo. Two ♂ paratypes are presented to the British Museum (Nat. Hist.), London, U. S. National Museum, Washington, D. C. and Canadian National Collection of Insects, Ottawa, respectively.

*Distribution.* Japan (Hokkaido, Honshu).

*Remarks and relationships.* Blackish species. This species could be found at the subalpine zone of Mt. Hakusan and Mt. Tokachidake. The material collected at the Mt. Hakusan on June is darker than that of September. This species seems to belong to the *serena* subgroup of *serena* group, Chillcott (1961: 167–176). *Fannia eremna* Chillcott, 1961 and *Fannia cinerea* Chillcott, 1961 of this subgroup, are closely allied to this new species. Genitalia of this species is rather similar to *F. cinerea* than to *F. eremna*. But, this new species differs from these two Chinese species in such characteristics as shown in Table 1. The eyes with sparse and distinct hairs in addition to the lateral view of surstylus are important and characteristic of this form.

Table 1. Differentiation of three closely related species of the *serena*-subgroup.

	<i>F. eremna</i>	<i>F. cinerea</i>	<i>F. peneserena</i> sp. nov.
Frontal setae	10–12	8	8–12
Interstitial setulae	0	0	0–3
Parafrofrontalia	dark brown pollinose	silvery pollinose	silvery pollinose
Eyes	bare	bare	sparsely haired
Postoccipital setae	1 full and 1 partial rows	1 irregular full row	1 partial irregular row
Setae of 2nd antennal segment	1 strong and 1 median setae	single strong seta	single strong seta
Arista	distinct pubescent	subpubescent	subpubescent
Palpus	subspatulate	linear	subspatulate
Stigmatal setulae	about 10	2–3	5–10
Mesopleural setulae	numerous	sparse	numerous
Squamae	dark brown	pale yellow	brown
Wings	moderately infuscated	pale yellow-brown	infuscated
Halters	brown	yellow	brown

*Fannia serena* (Fallén, 1825)

Japanese name: "Chibi-himeiebae"

(*Musca serena* Fallén, 1825, Mon. Musc. Suec. 8, p. 76)

*Type and type locality.* Skåne, Sweden. Type location not known.

♂.-*Head.* Frons at narrowest point narrower than distance between posterior ocelli inclusive. Eyes bare. One irregular and incomplete rows of postoccipital setae. Occipital setae irregular in length. Ground color of parafrontalia, parafacialia and frontal vitta black. From certain angles, parafacialia, parafrontalia and frontal vitta silvery pollinose. Parafrontalia very narrow and almost contiguous. Parafacialia narrow and bare. Frontal setae 8-12, rarely with 1-2 short interstitials. Antennae black, 2nd segment with 1 long setula and a few of tiny setulae around it dorsally. Arista subpubescent, twice as long as length of 3rd antennal segment. Proboscis black; theca dusted. Palpi about equal to thecal length, weakly spatulated toward apex.

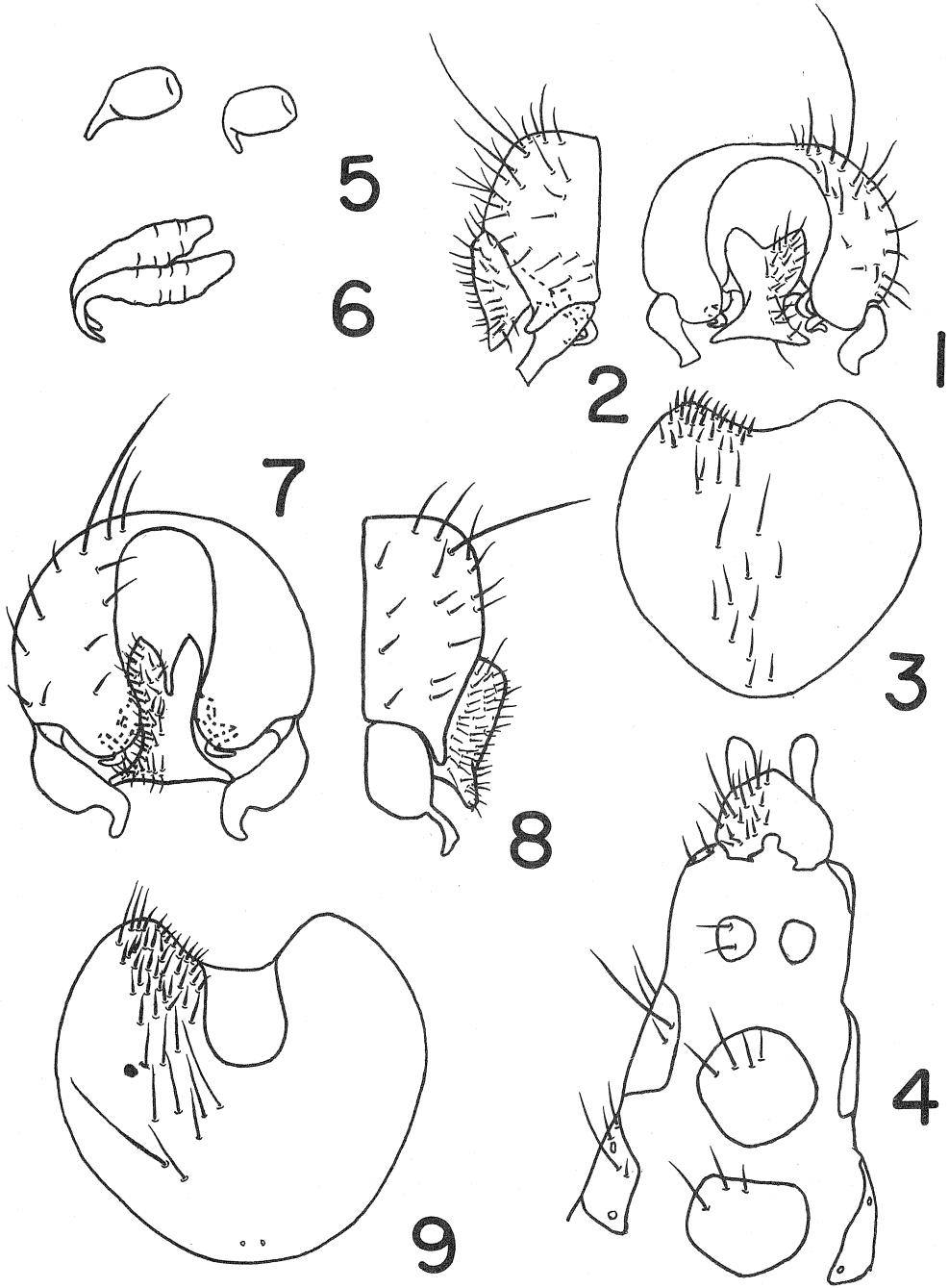
*Thorax.* Ground color black, non-vittate, dark brown pollinose on dorsum. *Acr* biserial throughout, *pra* 2, *dc* 2+3, *h* 2, *ph* 2, *ia* 2. Ancillary setulae very sparse on dorsum. Propleural depression bare; with 2 developed setae on ridge beneath. 1 well developed prostigmatal seta, with a few of fine and long setae around it. *Stpl* 1: 1, with a number of setulae between them, without ventral spine. Scutellum black, with dark brown pollen, bare on side and beneath.

*Legs.* Black, including knees. Fore coxa grayish pollinose. Fore femur without well developed *av*, *a* and *ad*; with well developed *pv*, *p* and *pd*. Fore tibia with only 1 preapical *d*. Mid coxa without spine. Mid femur with 6-7 well developed *av* on basal two-thirds, and then following 10-12 short setulae; ventral hairs doubled medially; on posteroventral surface with a full row of long hairs. Mid tibia with ventral mat, hairs of the mat longer apicad, but shorter than diameter of tibia; with 1 *ad*, 1 *pd* and 1 preapical *d*. Mid metatarsus without ventral crest. Hind coxa bare on inner posterior margin. Hind femur without *pv*, with 2 *pv*, 1 *d* and 3-4 *ad*. Hind tibia with 1 *d*, 1 *av*, 1 *ad* and 1 preapical *d*.

*Wings.* Brownish infuscated. Veins dark brown. Costal spine inconspicuously. Costa bare beneath. Squamae brown, lower one linear. Halteres brownish yellow.

*Abdomen.* Normal shape, ground color black, with slightly brownish gray pollen. 2nd, 3rd and 4th tergites with a triangular mark. 5th tergite with a stripe. 5th sternite as wide as long, with some of short setae on posterior part. Cercal plate strongly broadened apically and scalloped at the apex in caudo-ventral aspect. Surstylus in caudo-ventral aspect curved, in lateral aspect thickened at the base. Bacilliform process distinct, spiralled (Figs. 1-3).

♀.-*Head.* Frons at vertex broader than an eye. Parafrontalia evenly pollinose, subshining, one-third as broad as long. Frontal vitta black, brownish pollinose. Frontal setae 6-8. Parafrontal setae numerous, in one regular row. Parafacialia



Figs. 1-5. *Fannia serena* (Fallén). 1, hypopygium, in caudo-ventral view; 2, ditto, in lateral view; 3, ♂ 5th sternite; 4, ovipositor, in ventral view; 5, spermatheca.  
Figs. 6-9. *Fannia peneserena* sp. nov. 6, spermatheca; 7, hypopygium, in caudo-ventral view; 8, ditto, in lateral view; 9, ♂ 5th sternite.



silvery pollinose in certain angles, ground color black. A few of postoccipital setae present on lower part, in one incomplete row. Palpi flattened; theca swollen and glossy.

*Thorax.* As in ♂.

*Legs.* Fore femur without developed *av*, *v* and *pv*. Fore tibia with 1 preapical *d*. Mid femur without row of *av*, with 3-4 long preapical *pd*. Mid tibia with 1 *ad* and 1 *pd*, without ventral mat. Hind coxa bare on inner posterior margin. Hind femur with 4 *ad*, 1 *d* and 2 *av*. Hind tibia with 1 *av*, 1 *ad*, 1 *d* and 1 preapical *d*.

*Wings.* Clear. Veins dark brown. Squamae pale yellow, with yellow margin, lower one linear, Halteres pale yellow.

*Abdomen.* Subshining black, with thin grayish pollen. Ovipositor: subanal plate broader than long, setulose on disc. Cercus nomal. 8th sternite slightly broader than long, with a some setulae on posterior margin. Spiracles 6 and 7 situated in 6th tergite. Spermatheca two, barrel-shaped (Figs. 4 and 5).

*Length.* ♂ : 4.7-5.1 mm. ♀ : 4.1-5.1 mm.

*Records.* HONSHU : 12 ♂♂, 12 ♀♀, Ichinose, Mt. Hakusan, Ishikawa, 24. V. 1971 (S. Shinonaga & K. Nishida). 2 ♂♂, Ichinose, Mt. Hakusan, Ishikawa, 30. V. 1971 (K. Nishida).

*Distribution.* Japan (Honshu), Ural, Asia Minor, Scandinavia, Hungary, Germany, France, Holland, North Italy, Scotland, England and North America.

*Remarks and relationships.* Above specimens were collected in a small valley at the foot of Mt. Hakusan. This newly recorded species belongs to the *serena* subgroup of *serena* group, Chillcott (1961: 167-176). This is very similar to the preceding *F. peneserena* sp. nov., but is separated from it by the following external characteristics: frons slightly wider; ancillary setulae numerous on sternopleuron; eyes haired; hairs of ventral mat shorter; hind femur with a row of *pv*; halteres dark brown; abdominal marks broader.

*F. serena* from Britain somewhat varies from that of Japan in the following respects: frons wider; parafacialia wider; ancillary setulae on sternopleuron finer; veins of wings paler; squamae more yellowish; halteres less yellowish.

#### Acknowledgments

The author wishes to express his sincere thanks to Mr. Adrian C. Pont of the Department of Entomology, British Museum (Nat. Hist.), for his kindness in sending European specimens of *F. serena* and *F. coracina* for comparison and in giving valuable suggestions. He is very grateful to Dr. R. Kano and Mr. S. Shinonaga of the Department of Medical Zoology,<sup>†</sup> Tokyo Medical & Dental University, who kindly offered the specimens of *F. pretiosa* and *F. serena*. He also wishes to express his hearty thanks to Mr. H. Kurahashi of the Department of Anatomy, Faculty of Medicine, Kanazawa University, for his kindness in offering the specimens of *F.*

*coracina*, and his valuable suggestion and advice.

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