

Zoogeographical synopsis

The distribution record in each species is shown in Table 29. The subfamily Pristocerinae is abundantly distributed in the Ryukyus (12 species in 4 genera), the south of Yaku-shima island. While only a single species, *Acrepyris minuta*, has been occurred in Hokkaido, northern Japan.

The species number of the Epyrinae is marked most abundant in Honshu (28 spp.), and next in Kyushu (20 spp.). Six species in 3 genera are recorded from Hokkaido. However, the record of *Cephalonomia gallicola* should be artificial, it should be spread by human commerce. It is considered that the fewer number of species from the Ryukyus should be due to insufficient collecting effort.

The genus *Heterocoelia* in Mesitiinae, which has the largest generic diversity in the Palaearctic region and fewer in the Oriental and Ethiopian regions, has been collected only in the Kanto district of Honshu.

The subfamily Bethylinae marked abundant species number in the Ryukyus and southern Honshu. In Hokkaido, 4 species have been only known to occur. The genus *Bethylus*, which is widely distributed in the Palaearctic and Nearctic regions, shows the northern distribution pattern in Japan, distributing from Hokkaido through Tohoku district to the mountain region of central Honshu.

Table 27. Distributions of the species of Bethylinae of Japan.

Sa; Sakishima Is., O; Okinawa Is., A; Amami Is., Y; Yakushima I., K; Kyushu, S; Shikoku, Hn; Honshu, Hk; Hokkaido.

	Ryukyus						
	Sa	O	A	Y	K	S	Hn Hk
Subfamily Pristocerinae							
<i>Acrepyris ishigakiensis</i>	+						
<i>A. japonica</i>				+	+	+	+
<i>A. minuta</i>	+		+	+	+		+
<i>A. ryukyuensis</i>	+						
<i>Apenesia amamiensis</i>				+			
<i>A. bishamon</i>	+	+	+				
<i>A. daikoku</i>	+						
<i>A. elegans</i>			+	+			+
<i>A. kusigematii</i>	+	+					
<i>A. tengu</i>							+
<i>A. okinawensis</i>	+	+					
<i>A. kaguyahime</i>							+
<i>A. otohime</i>			+				

	Sa	O	A	Y	K	S	Hn	Hk
<i>Dissomphalus kyushuensis</i>				+	+			
<i>D. minutulus</i>				+				
<i>Pseudisobrachium ryukyuum</i>				+	+			
<i>P. nambui</i>							+	
<i>P. onoyamai</i>				+				
Subfamily Epyrinae								
Tribe Epyrini								
<i>Epyris asura</i>				+	+	+		
<i>E. emiae</i>							+	
<i>E. formosus</i>				+	+			
<i>E. hagoromonis</i>				+	+	+		
<i>E. hiten</i>				+	+			
<i>E. surusumi</i>				+	+			
<i>E. otome</i>							+	
<i>E. tenno</i>				+	+	+		
<i>E. blandus</i>				+	+			
<i>E. hachijoanus</i>							+	
<i>E. idaten</i>				+	+			
<i>E. minoensis</i>							+	
<i>E. niwoh</i>				+	+	+		
<i>E. nubatama</i>							+	+

	Sa	O	A	Y	K	S	Hn	Hk
<i>E. pectinatus</i>						+	+	
<i>E. shohki</i>						+	+	
<i>E. yakushmanus</i>					+			
<i>E. yamatonis</i>	+			+	+	+	+	
<i>Holepyris amamiinsulanus</i>						+		
<i>H. atamiensis</i>				+	+	+	+	+
<i>H. benten</i>						+	+	+
<i>H. tsugarensis</i>							+	
<i>H. yebisu</i>						+	+	
<i>H. yambaru</i>	+	+	+					
<i>Laelius nigrofemoratus</i>						+	+	
<i>L. yamatonis</i>						+	+	
<i>L. yokohamensis</i>							+	
Tribe Sclerodermini								
<i>Allobethylus tomoae</i>						+		+
<i>Sclerodermus harmandi</i>	+	+		+	+		+	+
<i>S. yakushimensis</i>						+		
Tribe Cephalonomiini								
<i>Plastanoxus amamiensis</i>				+			+	
<i>P. fukuokensis</i>							+	

	Sa	O	A	Y	K	S	Hn	Hk
<i>Cephalonomia gallicola</i>					+	+	+	+
<i>C. shirahamana</i>	+							
<i>C. tarsalis</i>						+	+	
Subfamily Mesitiinae								
<i>Heterocoelia inagiensis</i>							+	
<i>H. kamakurensis</i>							+	
Subfamily Bethylinae								
<i>Bethylus pirika</i>							+	+
<i>B. sarobetsuensis</i>							+	
<i>B. shigaensis</i>							+	
<i>Odontepyrus japonicus</i>							+	+
<i>Goniozus akitsushimanus</i>						+	+	
<i>G. eriae</i>						+	+	
<i>G. hoorai</i>	+	+						
<i>G. iyonus</i>							+	
<i>G. japonicus</i>	+	+	+	+	+	+	+	+
<i>G. kaiensis</i>							+	
<i>G. kusigematii</i>		+				+		
<i>G. tosaensis</i>						+	+	
<i>G. yezo</i>								+
<i>G. yoshikawai</i>						+	+	



	Sa	O	A	Y	K	S	Hn	Hk
<i>Sierola echigoana</i>								+
<i>S. shimotsukeana</i>								+

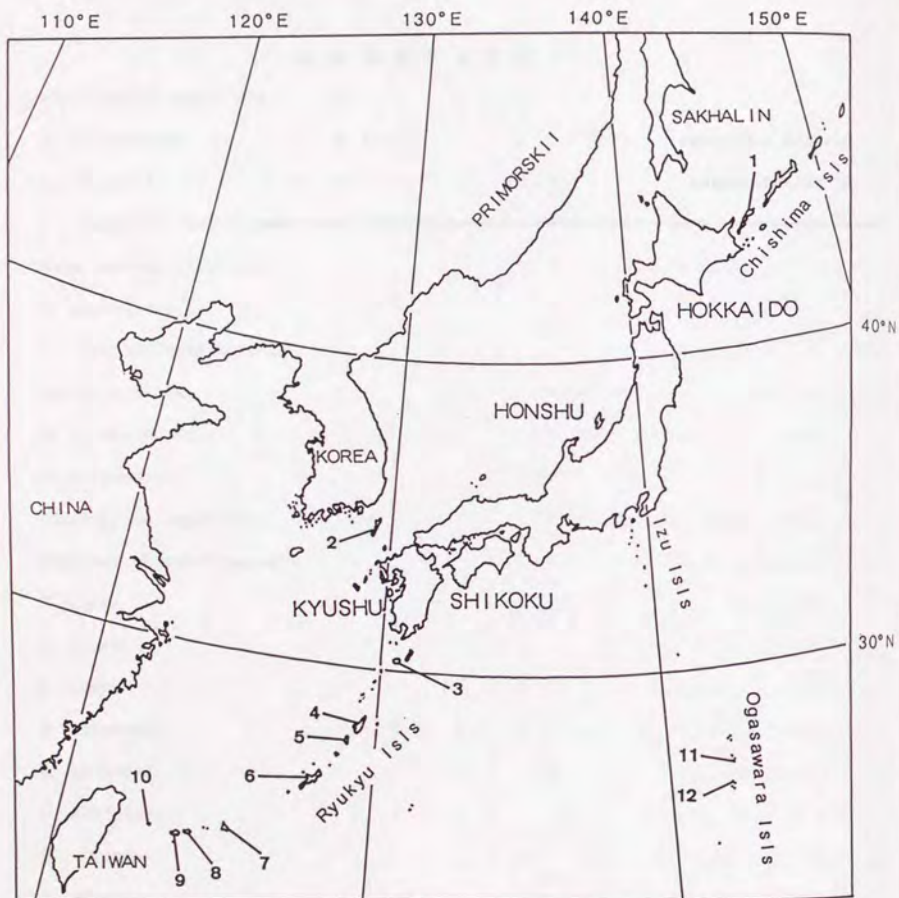


Fig. 138. Survey area showing Japan and its adjacent areas.

1. Etorofu I.; 2. Tsushima I.; 3. Yakushima I.; 4. Amami-oshima I.; 5. Tokuno-shima I.; 6. Okinawa-jima I.; 7. Miyako-jima I.; 8. Ishigaki-jima I.; 9. Iriomote-jima I.; 10. Yonaguni-jima I.; 11. Chichi-jima I.; 12. Haha-jima I.

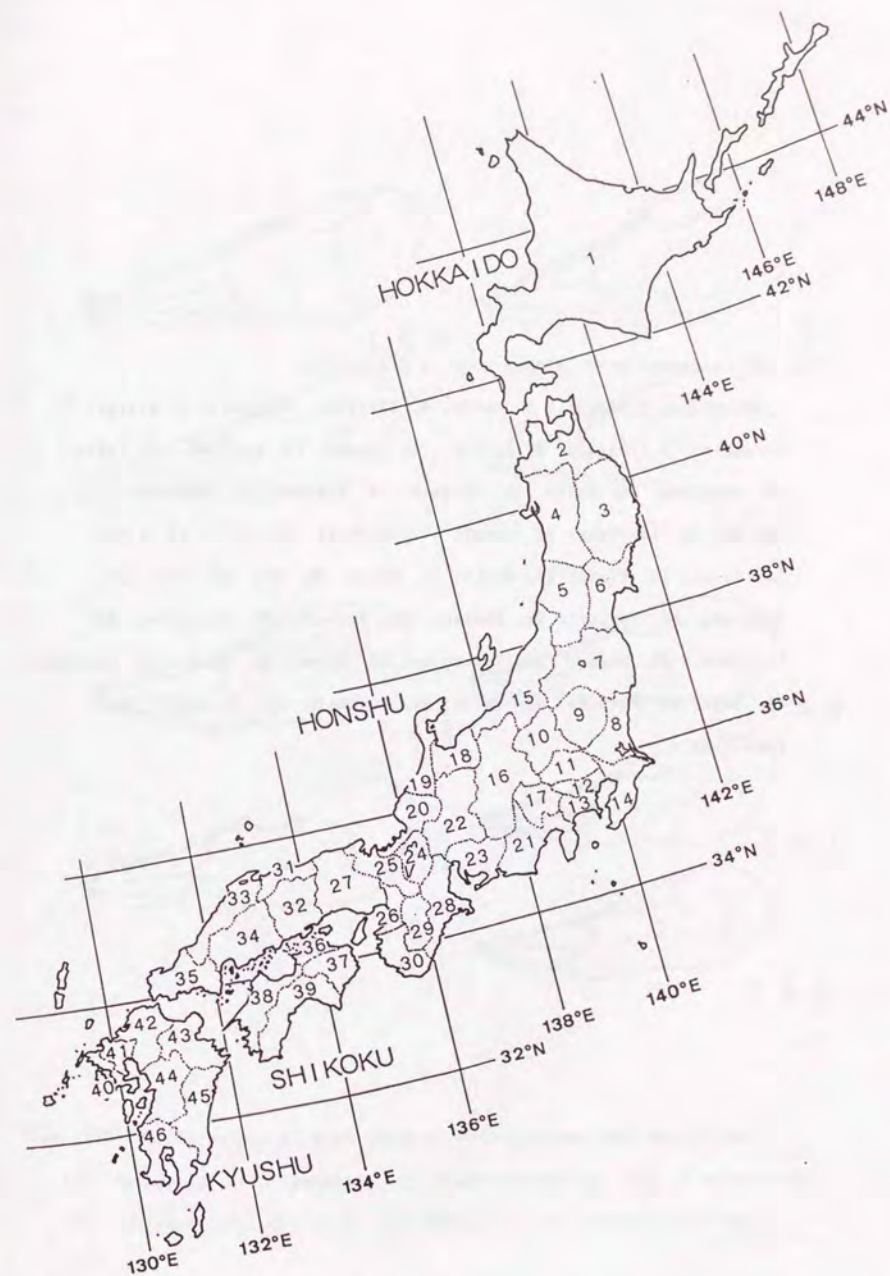
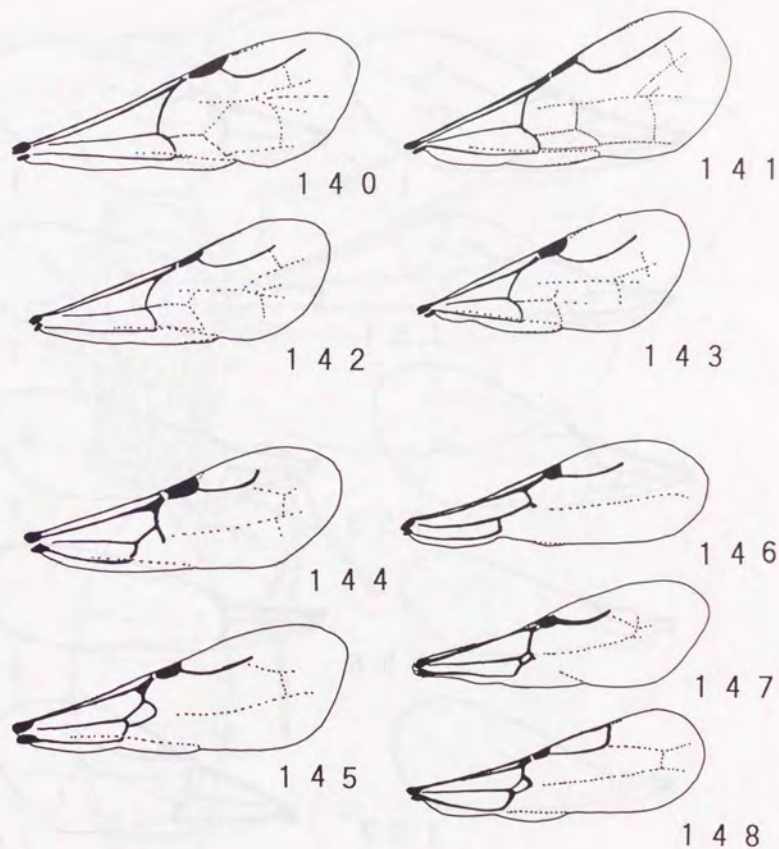


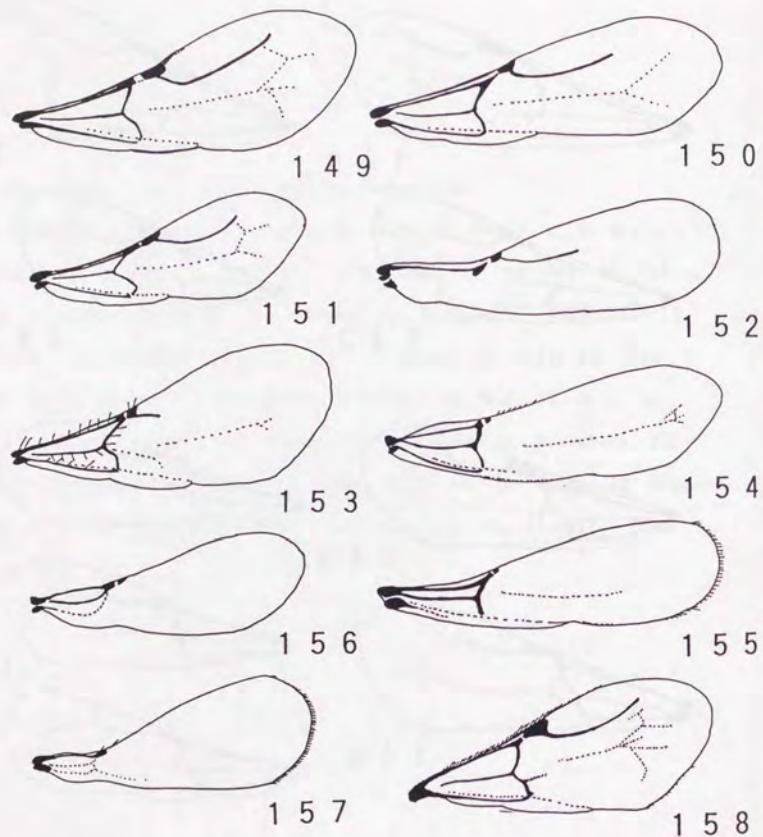
Fig. 139. Japanese main Islands showing Prefectures.

1, Hokkaido; 2, Aomori; 3, Iwate; 4, Akita; 5, Yamagata; 6, Miyagi; 7, Fukushima; 8, Ibaraki; 9, Tochigi; 10, Gumma; 11, Saitama; 12, Tokyo; 13, Kanagawa; 14, Chiba; 15, Niigata; 16, Nagano; 17, Yamanashi; 18, Toyama; 19, Ishikawa; 20, Fukui; 21, Shizuoka; 22, Gifu; 23, Aichi; 24, Shiga; 25, Kyoto; 26, Osaka; 27, Hyogo; 28, Mie; 29, Nara; 30, Wakayama; 31, Tottori; 32, Okayama; 33, Shimane; 34, Hiroshima; 35, Yamaguchi; 36, Kagawa; 37, Tokushima; 38, Ehime; 39, Kochi; 40, Nagasaki; 41, Saga; 42, Fukuoka; 43, Oita; 44, Kumamoto; 45, Miyazaki; 46, Kagoshima.



Figs. 140-148. Forewings of each genus of Pristocerinae and Bethylinae.

140, Acrepyris; 141, Apenesia; 142, Pseudisobrachium; 143, Dissomphalus; 144, Goniozus; 145, Goniozus; 146, Bethylus; 147, Odontepyris; 148, Sierola.



Figs. 149-158. Forewings of each genus of Epyrinae and Mesitiinae.
 149, Epyris; 150, Allobethylus; 151, Holepyris; 152, Plastanoxus; 153, Allepyris; 154, Sclerodermus; 155, Sclerodermus; 156, Cephalonomia; 157, Cephalonomia; 158, Heterocoelia.

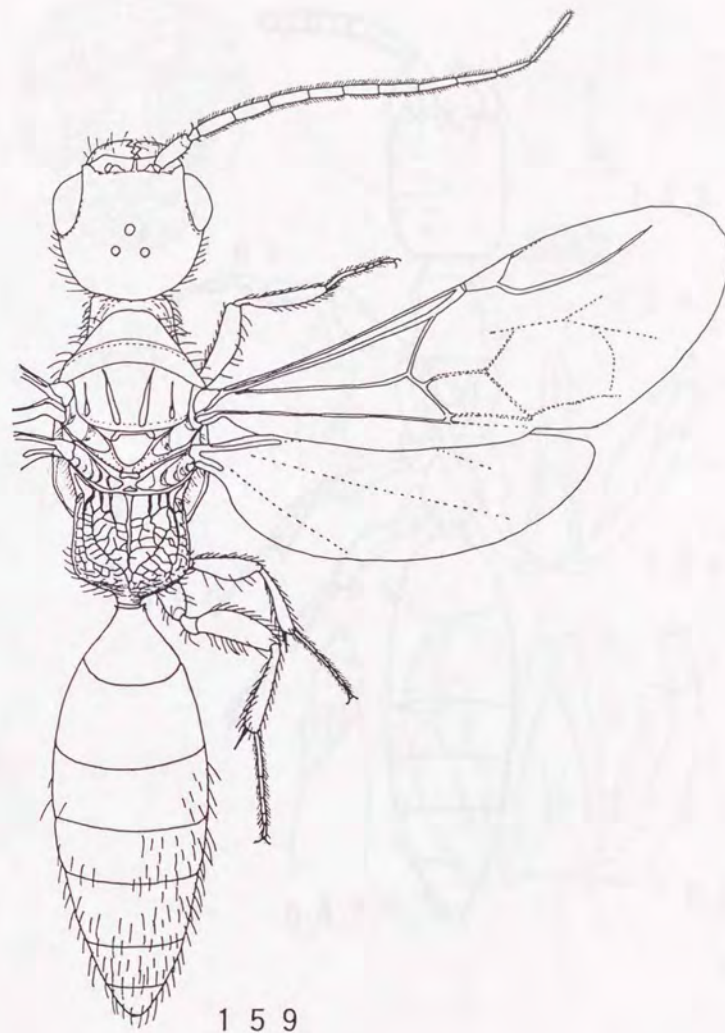


Fig. 159. *Acropyris japonica* (Yasumatsu), male.

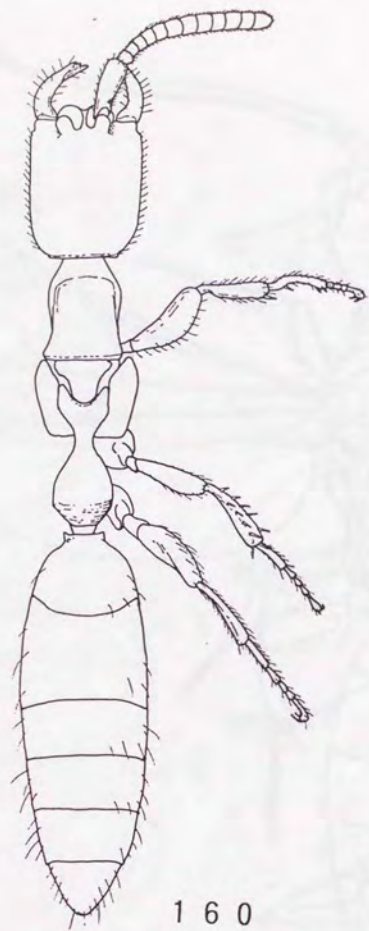
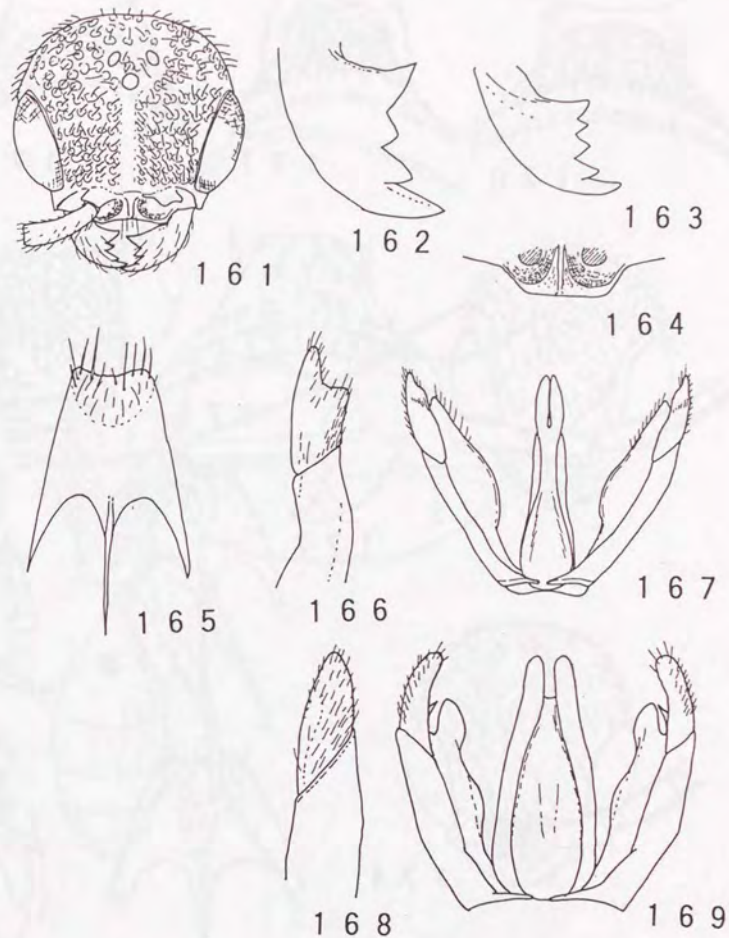


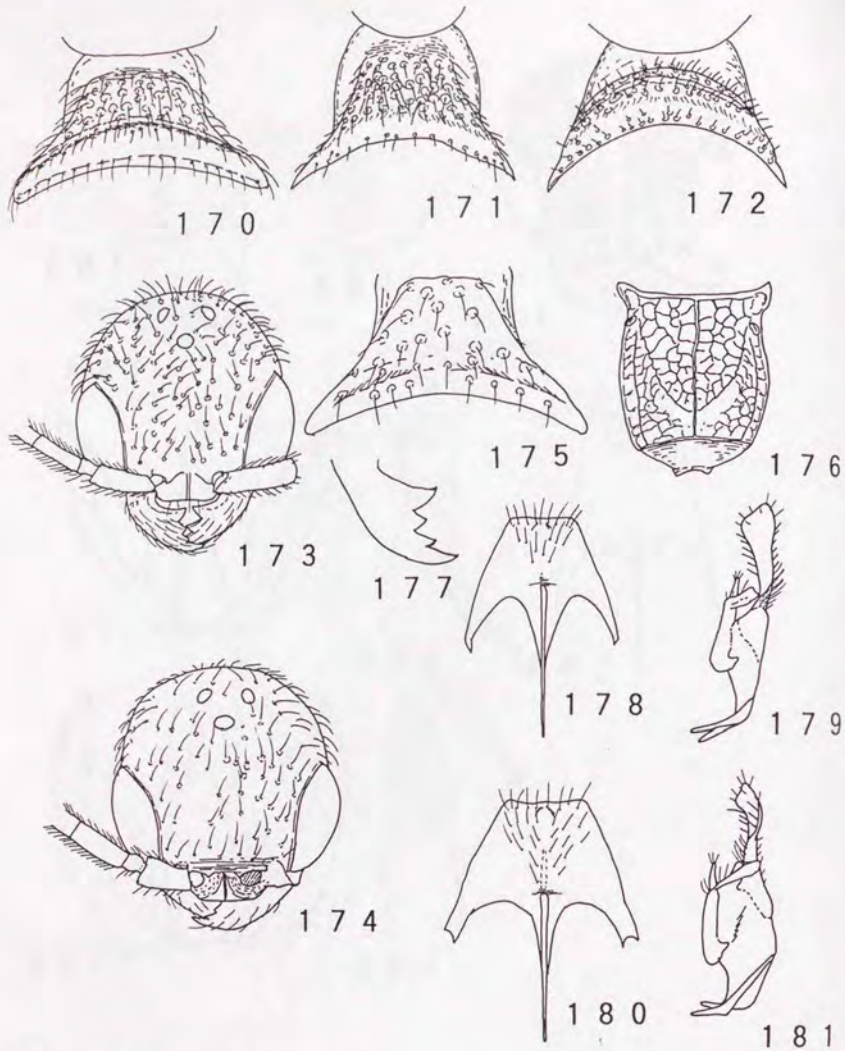
Fig. 160. *Acropyris japonica* (Yasumatsu), female.



Figs. 161-169. *Acropyris* spp., male.

161, 162, 165-167, *Acropyris japonica* (Yasumatsu); 163, 164, 168, 169, *Acropyris ishigakiensis* (Yasumatsu).

161, head, frontal view; 162, 163, mandible; 164, clypeus; 165, subgenital plate; 165, 168, aedeagus; 167, 169, genitalia.



Figs. 170-181. *Acropyris* spp., male.

170, *A. japonica* (Yasumatsu); 171, *A. ishigakiensis* (Yasumatsu); 172, *A. ryukyensis* sp. nov.; 174-181, *A. minuta* (Yasumatsu).
 170-172, 175, pronotum, dorsal view; 173, 174, head, frontal view; 176, propodeum, dorsal view; 177, mandible; 178, subgenital plate, material from Honshu; 179, paramere, material from Honshu; 180, subgenital plate, material from Iriomote-jima I.; 181, paramere, material from Iriomote-jima I.

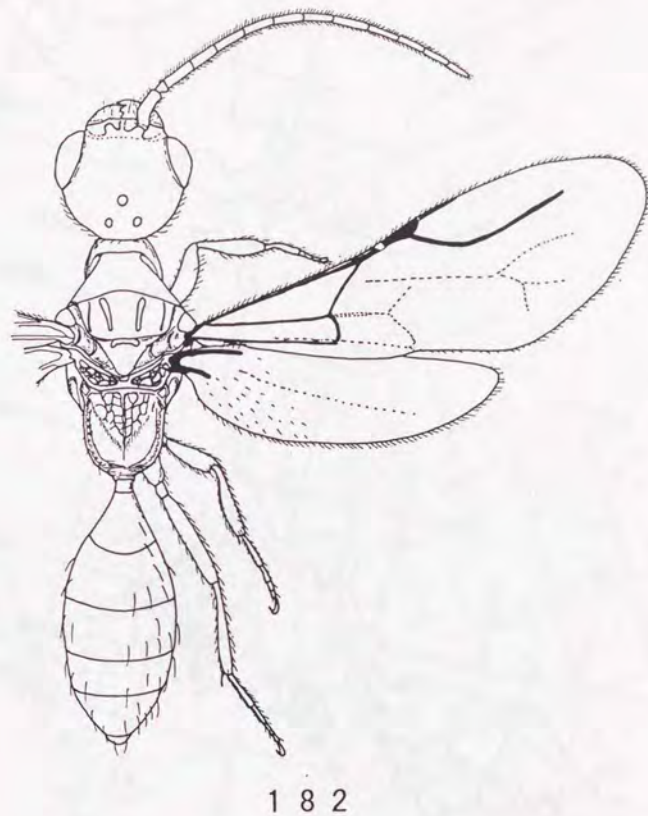


Fig. 182. *Acropyris minuta* (Yasumatsu), male.

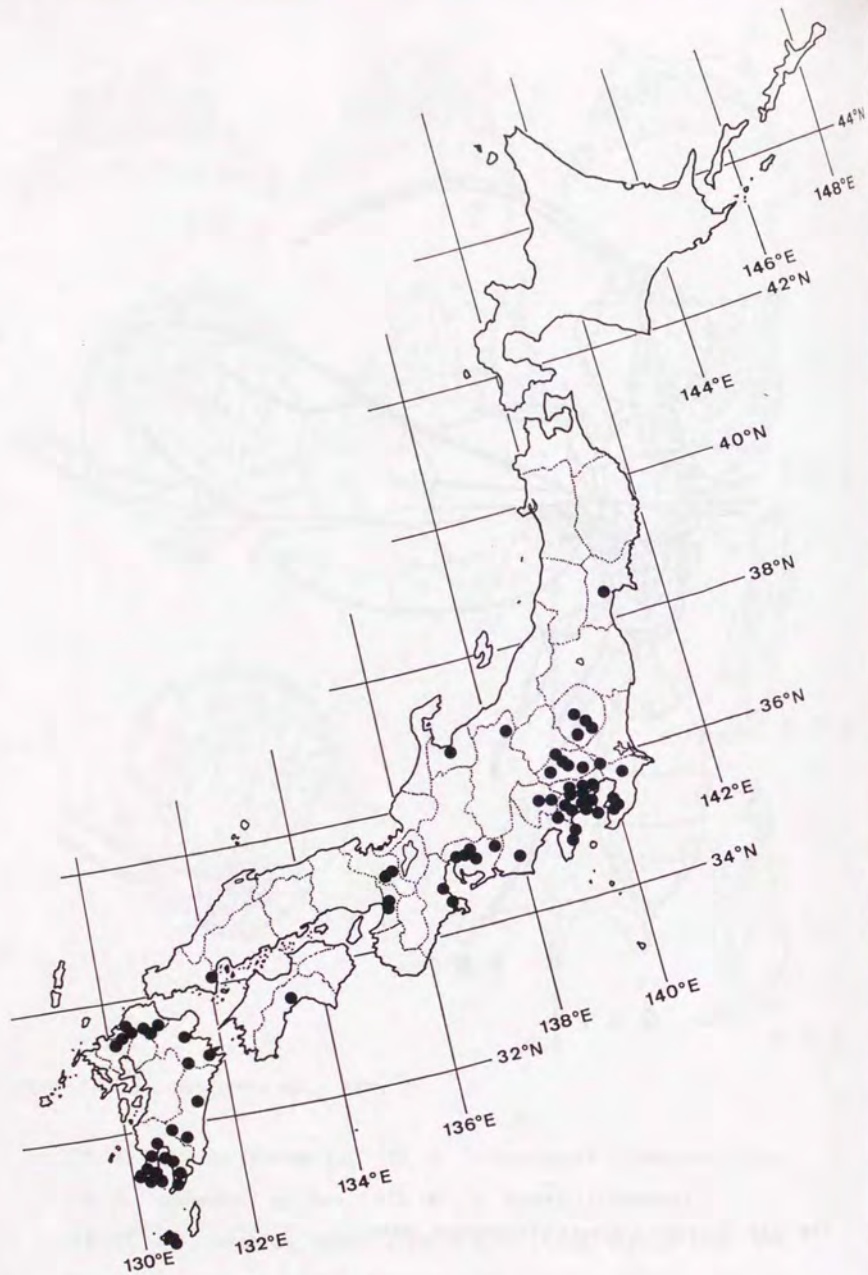


Fig. 183. Distribution of *Acrepyris japonica*.



Fig. 184. Distributions of *Acrepyris minuta*, *A. ishigakiensis*, and *A. ryukyuensis*.

●: *A. minuta*. ▲: *A. ishigakiensis*. ○: *A. ryukyuensis*.

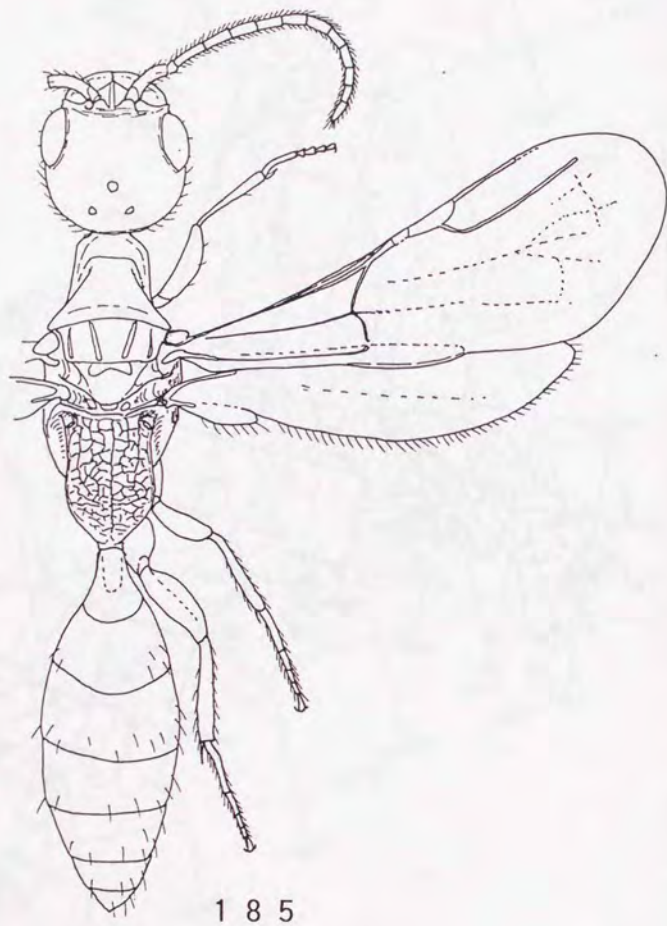
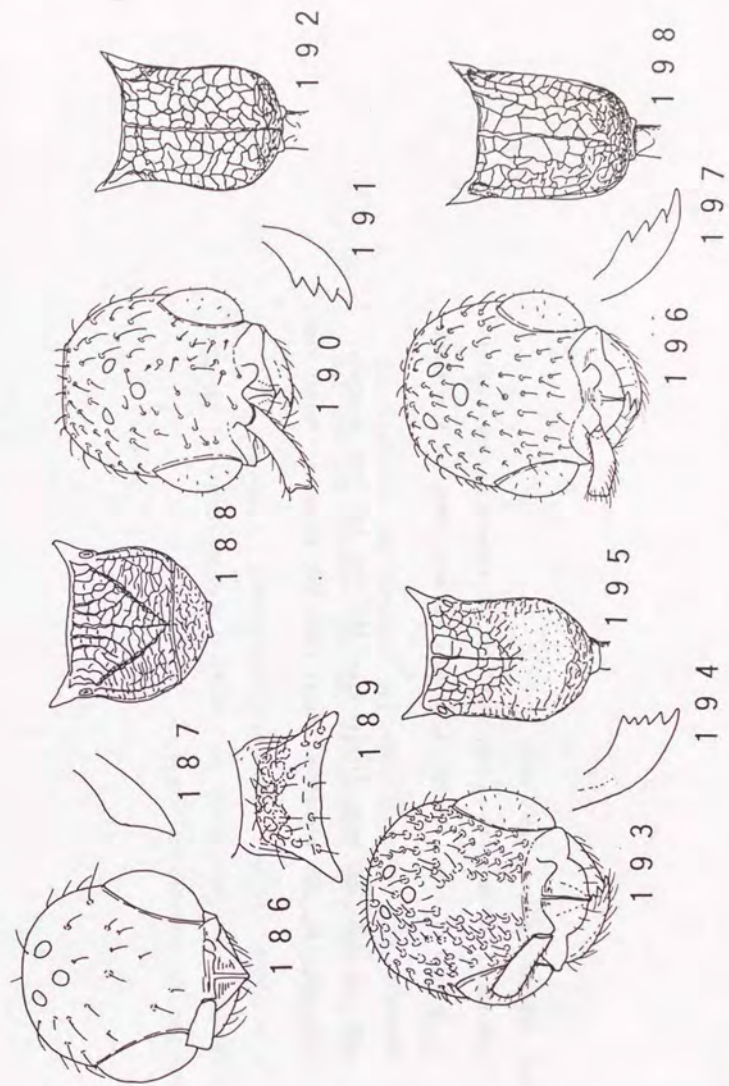


Fig. 185. *Apenesia elagans* sp. nov. male.



Figs. 186-198. *Apenesia* spp., male.

186-189, *A. okinawensis* sp. nov.; 190-192, *A. elegans* sp. nov.; 193-195,

A. daikoku sp. nov.; 196-198, *A. elegans* sp. nov., material from Amami
Is,

186, 190, 193, 196, head, frontal view; 187, 191, 194, 197, mandible;

188, 192, 195, 198, propodeum, dorsal view; 189, pronotum, dorsal view.

Figs. 199-210. *Apenesia* spp., male.

199-204, *A. kusigematii* sp. nov., material from Sakishima I.; 205-208;

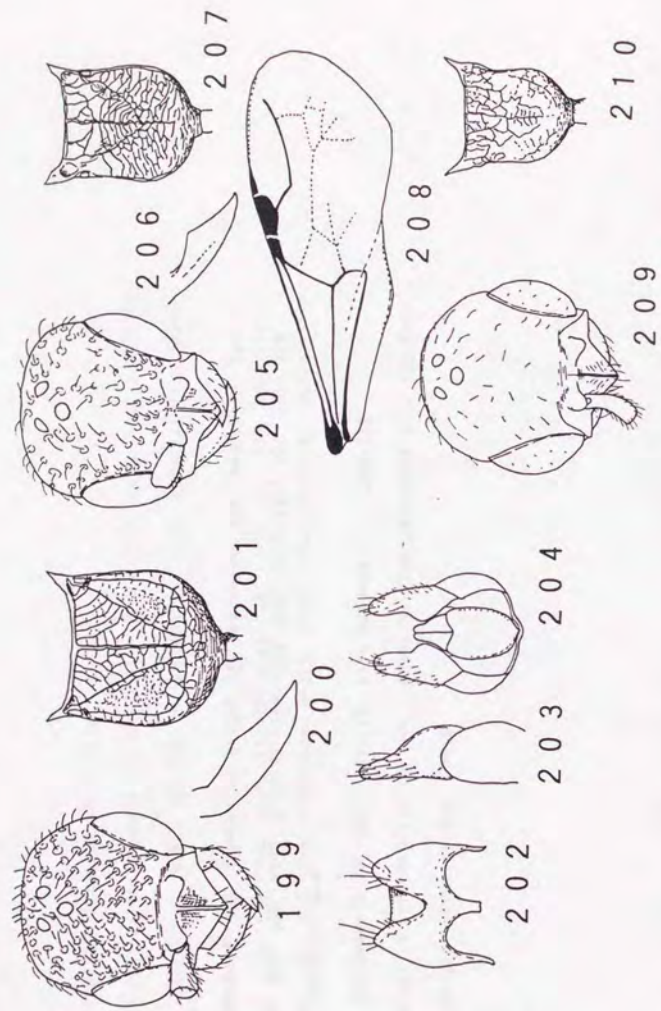
A. kusigematii sp. nov., material from Okinawa I.; 209-210,

A. tengu sp. nov.

199, 205, 209, head, frontal view; 200, 206, mandible; 201, 207, 210,

propodeum; 202, subgenital plate; 203, paramere; 204, genitalia; 208,

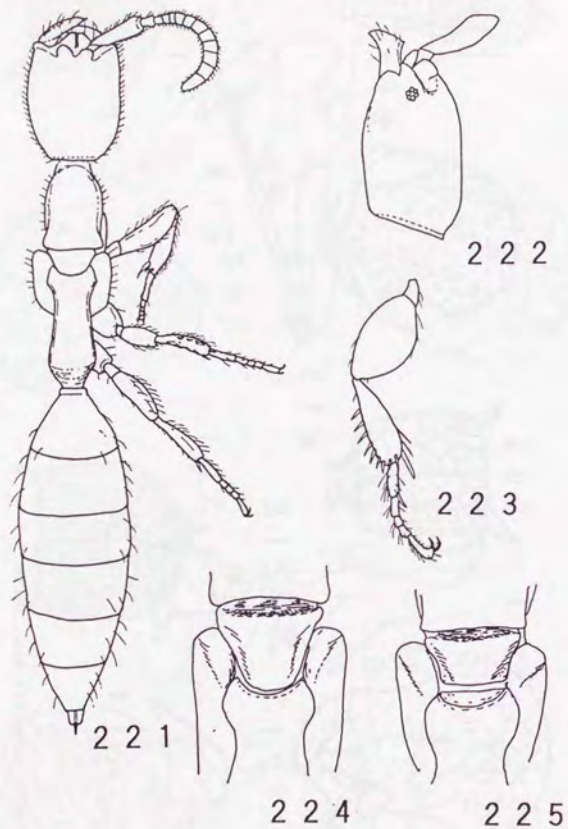
forewing.



Figs. 211-220. *Apenesia* spp., male.

211-215, *A. bishamon* sp. nov.; 216-220, *A. elegans* sp. nov., material from Okinawa Is

211, 216, head, frontal view; 212, 219, mandible; 213, 220, propodeum, dorsal view; 214, pronotal disc, dorsal view; 215, pronotal disc, lateral view; 217, 218, variation of anterior border of clypeus.



Figs. 221-225. *Apenesia kaguyahime* sp. nov. and *A. otohime*, sp. nov. females.

221-224, *A. kaguyahime*; 225, *A. otohime*.

221, profile, dorsal view; 222, head, lateral view; 223, middle leg;

224, 225, mesonotum, dorsal view.



Fig. 226. Distributions of *A. elegans*, *A. tengu*, and *A. kaguyahime*.

●: *A. elegans*. ■: *A. tengu*. ▲: *A. kaguyahime*.

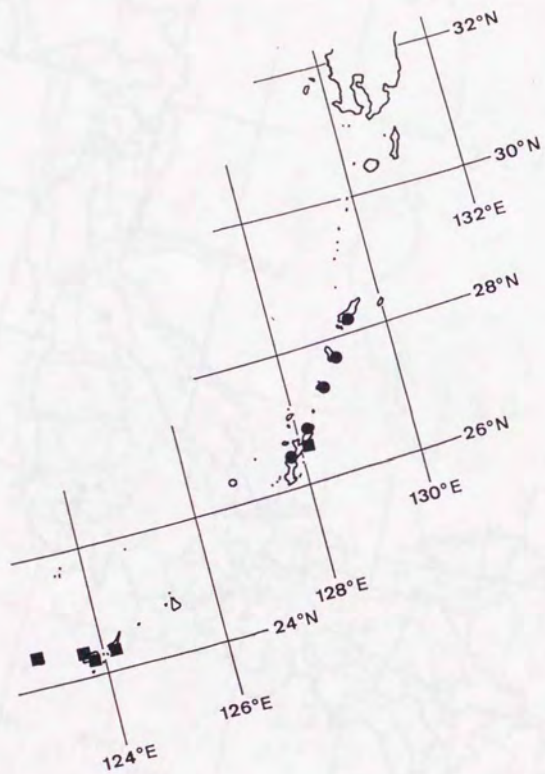


Fig. 227. Distributions of *Apenesia elegans* in Ryukyus, and *A. kusigematii*.

●: *A. elegans*. ■: *A. kusigematii*.

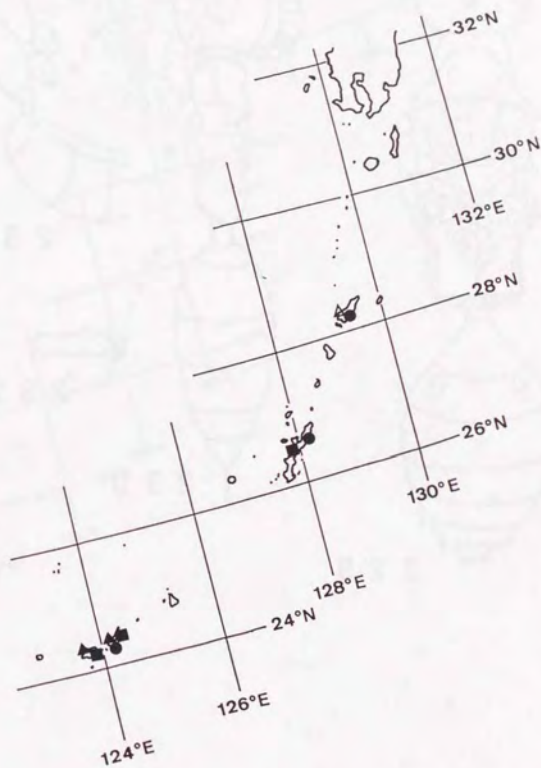
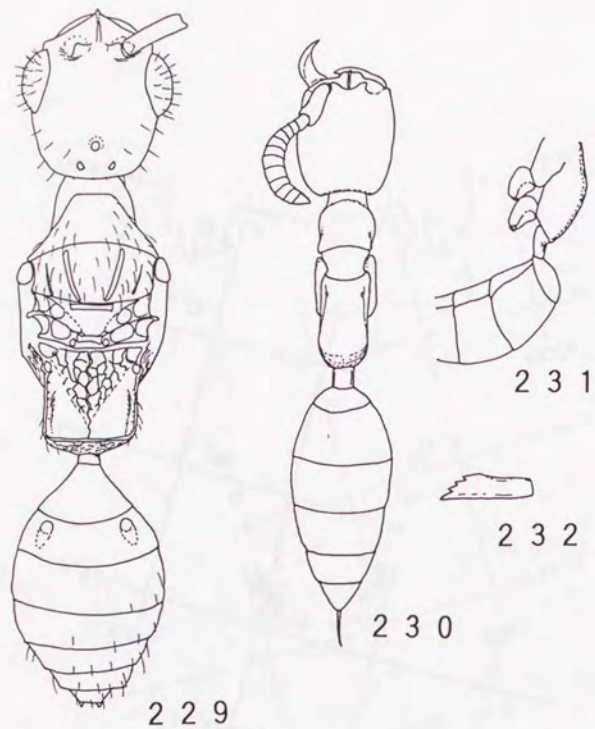


Fig. 228. Distributions of 4 species of *Apenesia*.

●: *A. bishamon*. ■: *A. okinawensis*. ▲: *A. daikoku*. △: *A. otohime*.



Figs. 229-232. *Dissomphalus kyushuensis* sp. nov., male, and *D. minutulus* sp. nov., female.

229, *D. kyushuensis*; 230-232, *D. minutulus*.

229, 230, profile, dorsal view; 231, propodeum and anterior half of gaster, lateral view; 232, mandible.

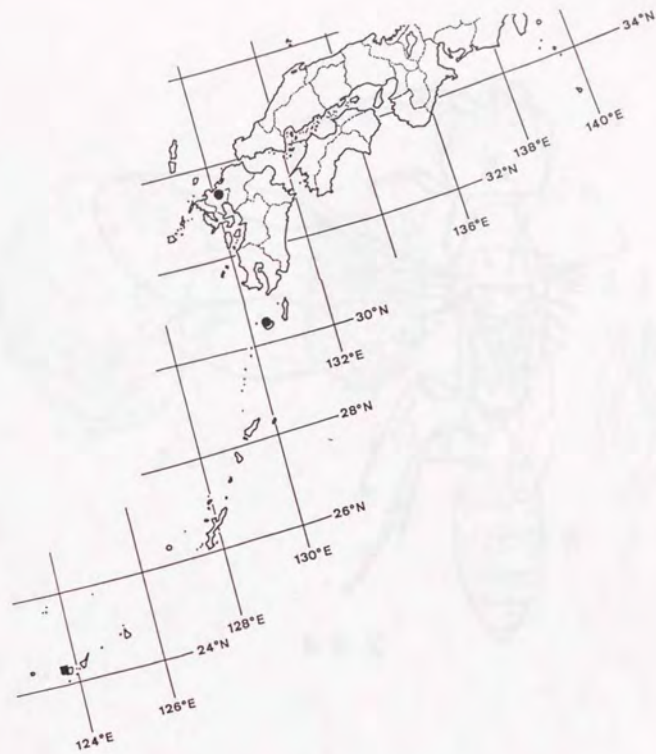


Fig. 233. Distributions of *Dissomphalus kyushuensis* and *D. minutulus*.

●: *D. kyushuensis*. ■: *D. minutulus*.

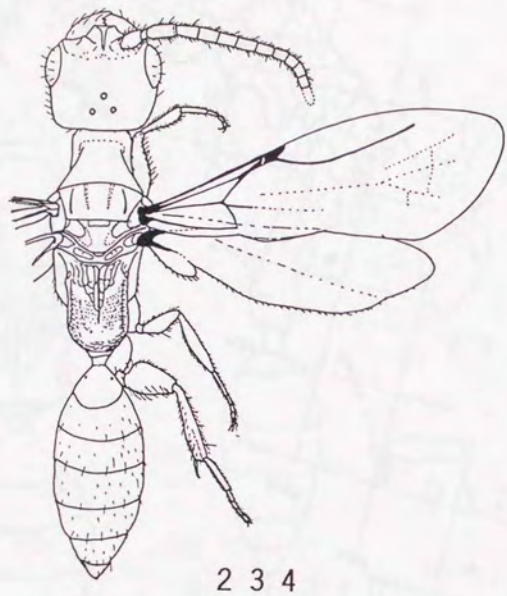
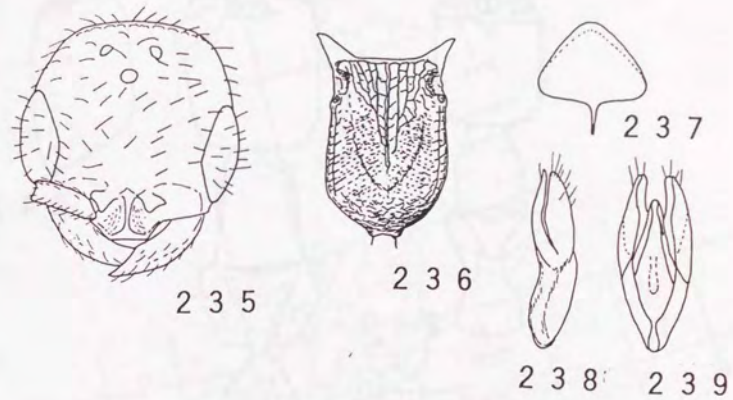
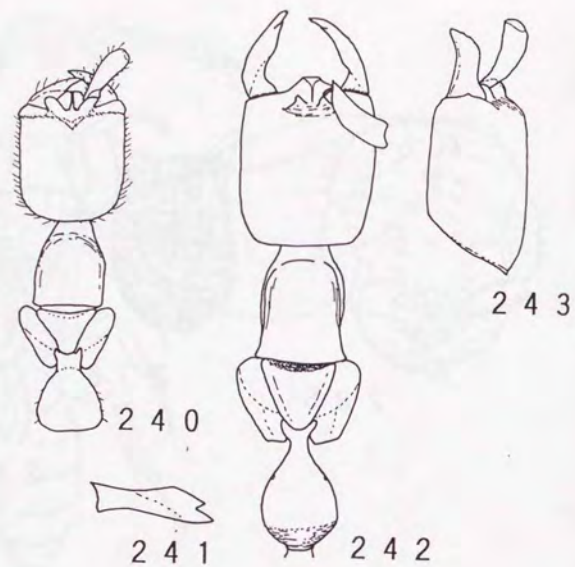


Fig. 234. *Pseudisobrachim ryukyunum* sp. nov., male.



Figs. 235-239. *Pseudisobrachim ryukyunum* sp. nov., male.

235, head, frontal view; 236, propodeum, dorsal view; 237, subgenital plate; 238, paramere, outer view; 239, genitalia.



Figs. 240-243. *Pseudisobrachium nambui* sp. nov. and *P. onoyamai* sp. nov., female.
 240, *P. nambui*, head and alitrunk, dorsal view; 241, *P. nambui*, mandible;
 242, *P. onoyamai*, head and alitrunk, dorsal view; 243, *P. onoyamai*, head, lateral view.



Fig. 244. Distributions of *Pseudisobrachium* spp.

●: *P. ryukyuum*. ■: *P. nambui*. ▲: *P. onoyamai*.

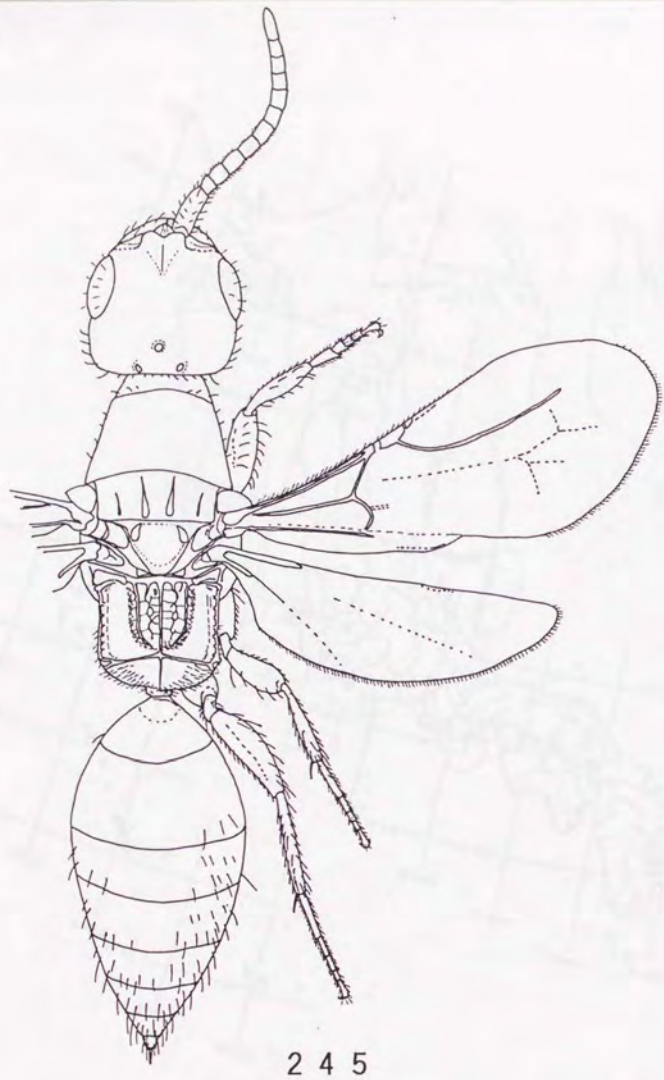
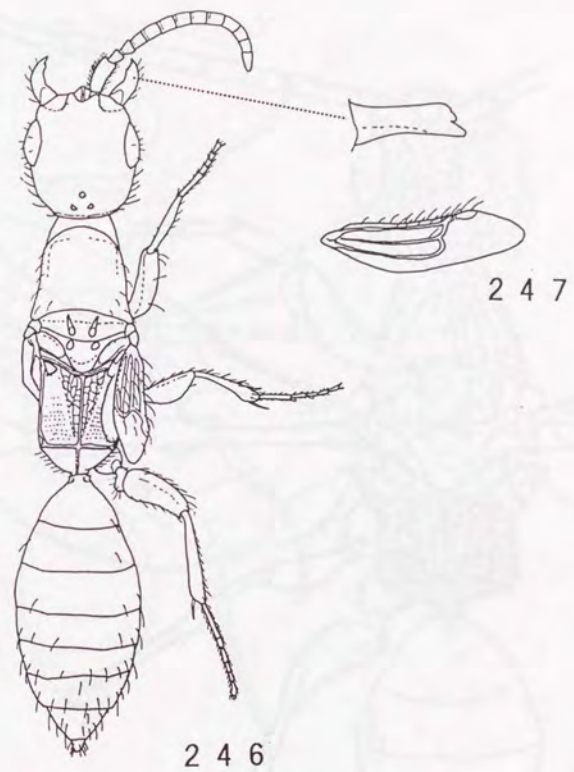
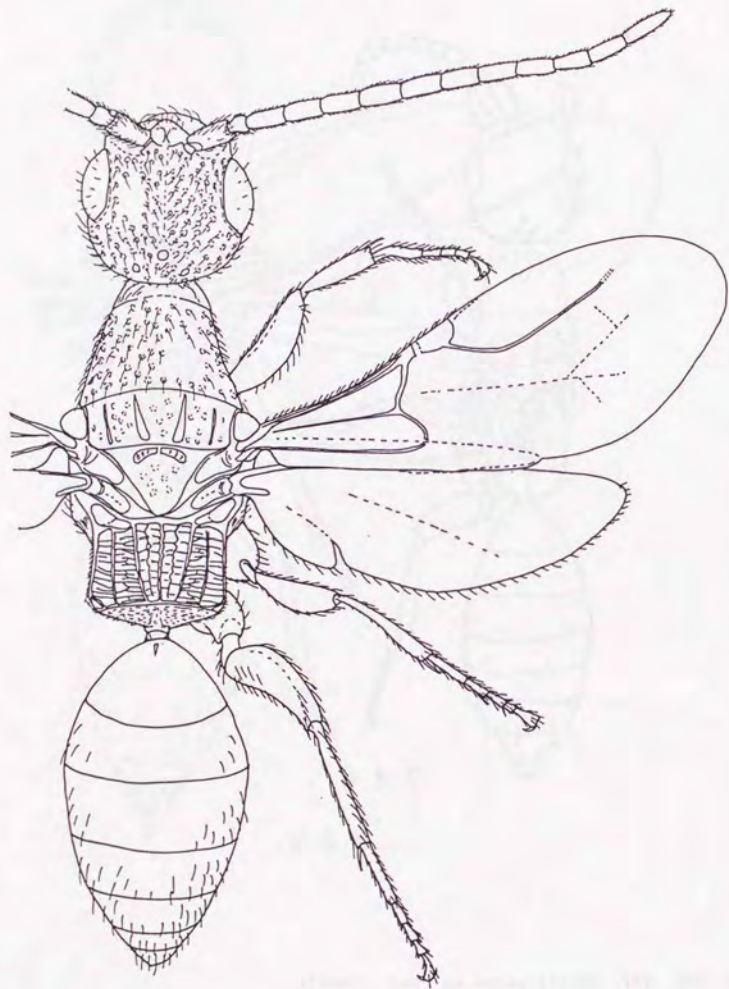


Fig. 245. *Epyris asura* sp. nov., female.



Figs. 246, 247. *Epyris emiae* sp. nov., female.

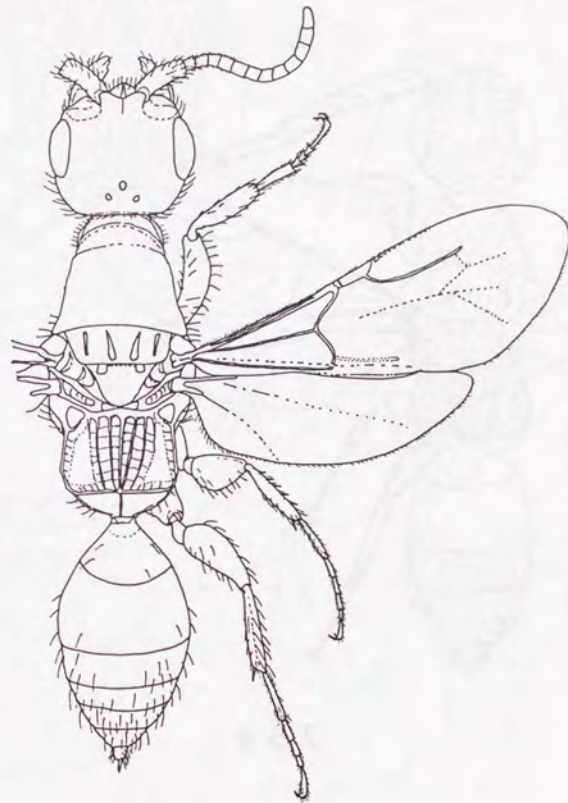
246, profile, dorsal view, and right mandible, lateral view; 247, forewing,



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Fig. 248. *Epyris yamatonis* sp. nov., male.

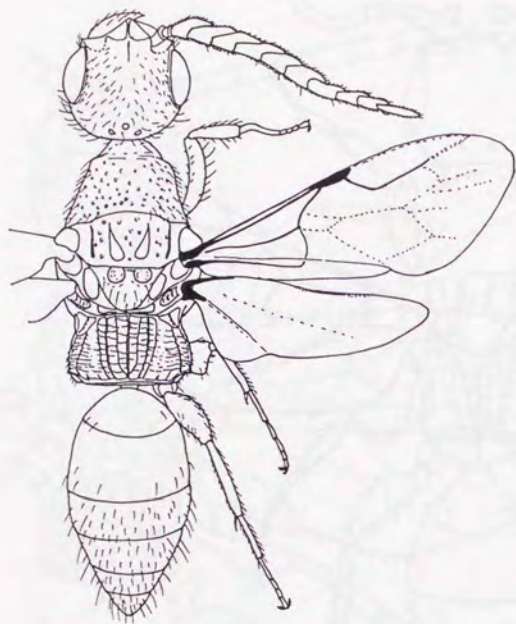
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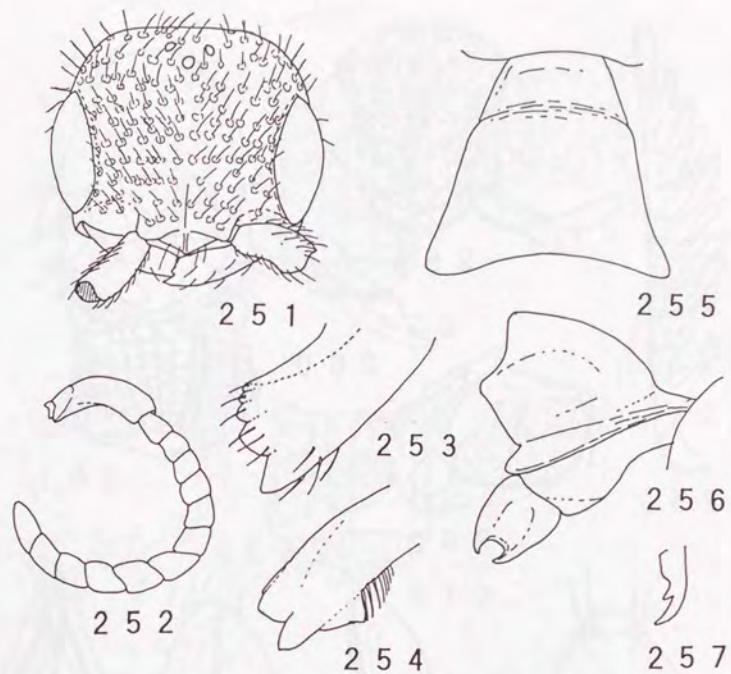
Fig. 249. *Epyris formosus* nom. nov., female.

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250

Fig. 250. *Epyris formosus* nom. nov., male.



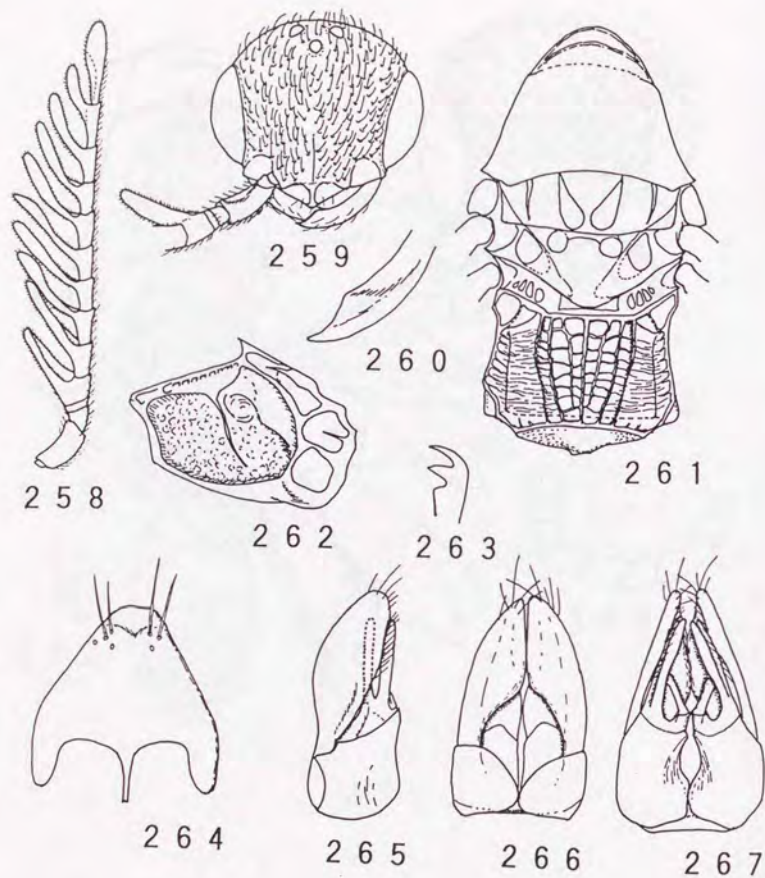
Figs. 251-257. *Epyris formosus* nom. nov., ♀ female. [drawn from the type,

Epyris apicalis Walker].

251, head, frontal view; 252, antenna; 253, mandible; 254, anterior

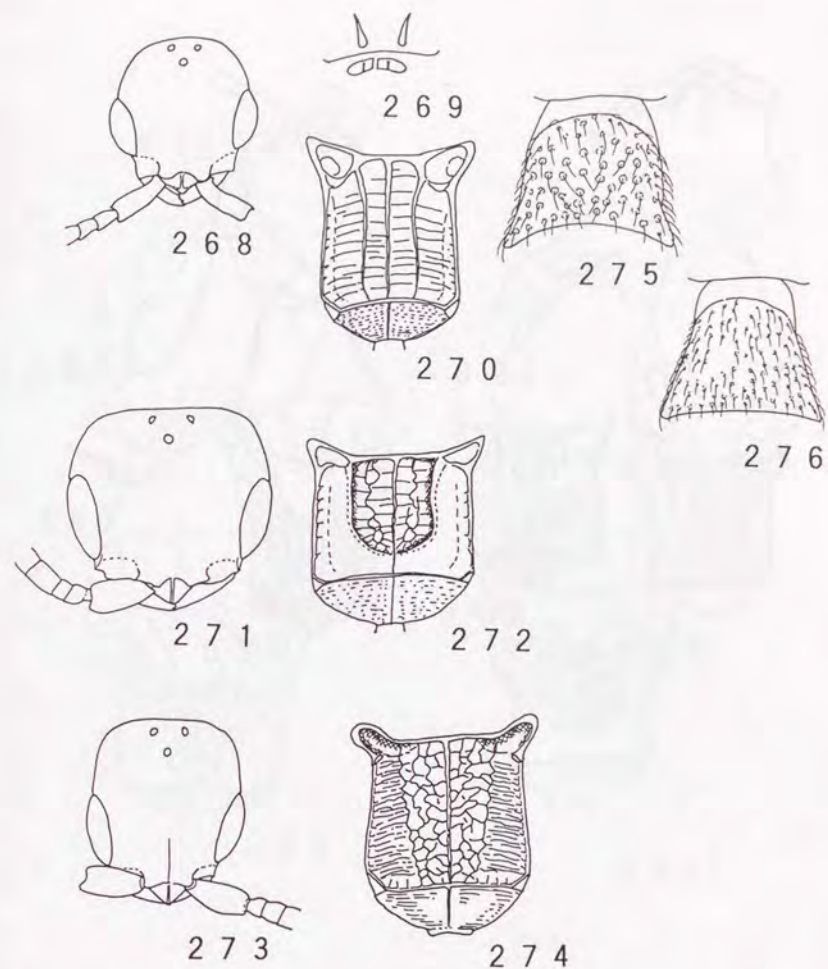
half of mandible, ventral view; 255, pronotum, dorsal view; 256,

pronotum, lateral view; 257, middle tarsal claw.



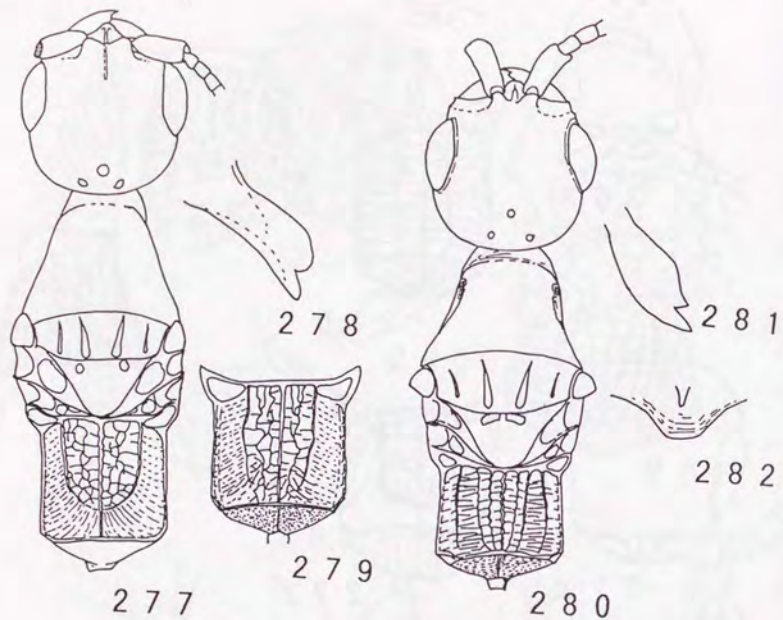
Figs. 258-267. *Epyris formasus* nom. nov., male.

258, antenna; 259, head, frontal view; 260, mandible; 261, alitrunk, dorsal view; 262, mesepisternum; 263, middle tarsal claw; 264, subgenital plate; 265, genitalia, lateral view; 266, genitalia, dorsal view; 267, genitalia, ventral view.



Figs. 268-274. Five female species of genus *Epyris*.

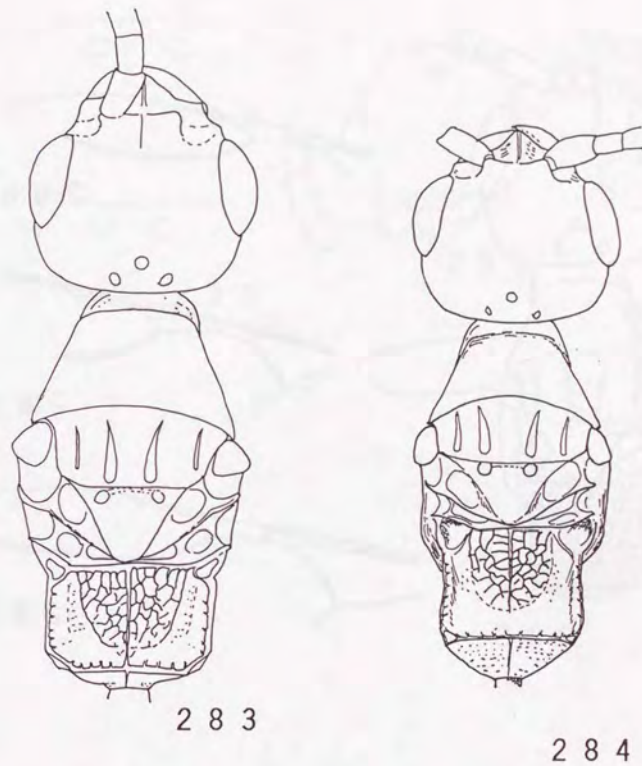
268-270, *E. hiten* sp. nov.; 271, 272, *E. asura* sp. nov.; 273, 274, *E. otome* sp. nov.; 275, *E. tennyo* sp. nov.; 276, *E. otome*, sp. nov.
258, 271, 273, head, frontal view; 269, notauli and scutellar pits;
270, 272, 274, propodeum, dorsal view; 275, 276, pronotum, dorsal view.



Figs. 277-282. *Epyris tennyo* sp. nov. and *E. hagaromonis* sp. nov., female.

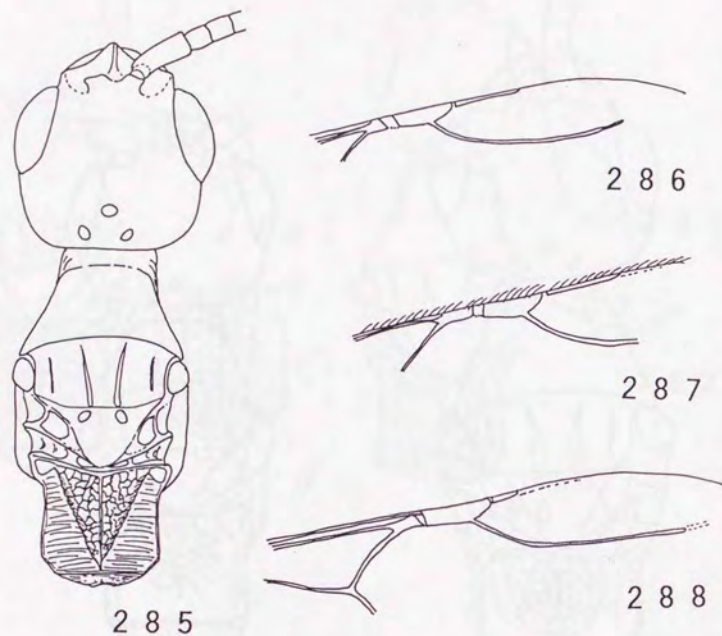
277-279, *E. tennyo*; 280-282, *E. hagaromonis*.

277, 280, head and alitrunk, dorsal view; 278, 281, mandible; 279, variation of propodeal disc; 282, anterior border of clypeus.

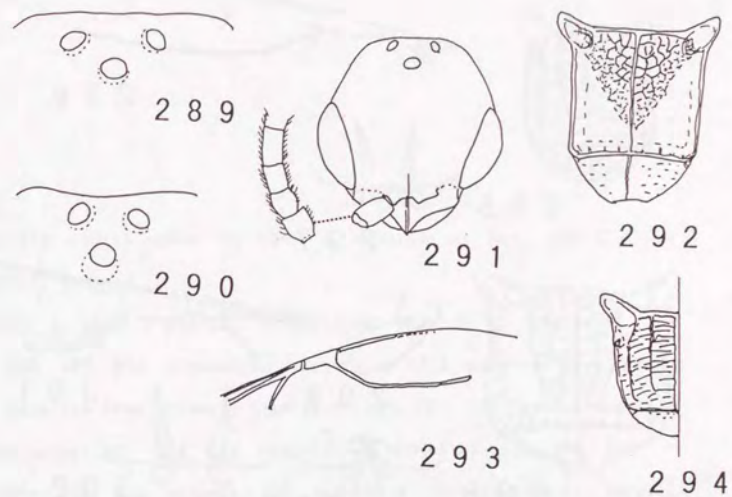


Figs. 283, 284. *Epyris niwoh* sp. nov. and *E. blandus* sp. nov., males.

283, *E. niwoh*, head and alitrunk, dorsal view; 284, *E. blandus*, head and alitrunk, dorsal view.

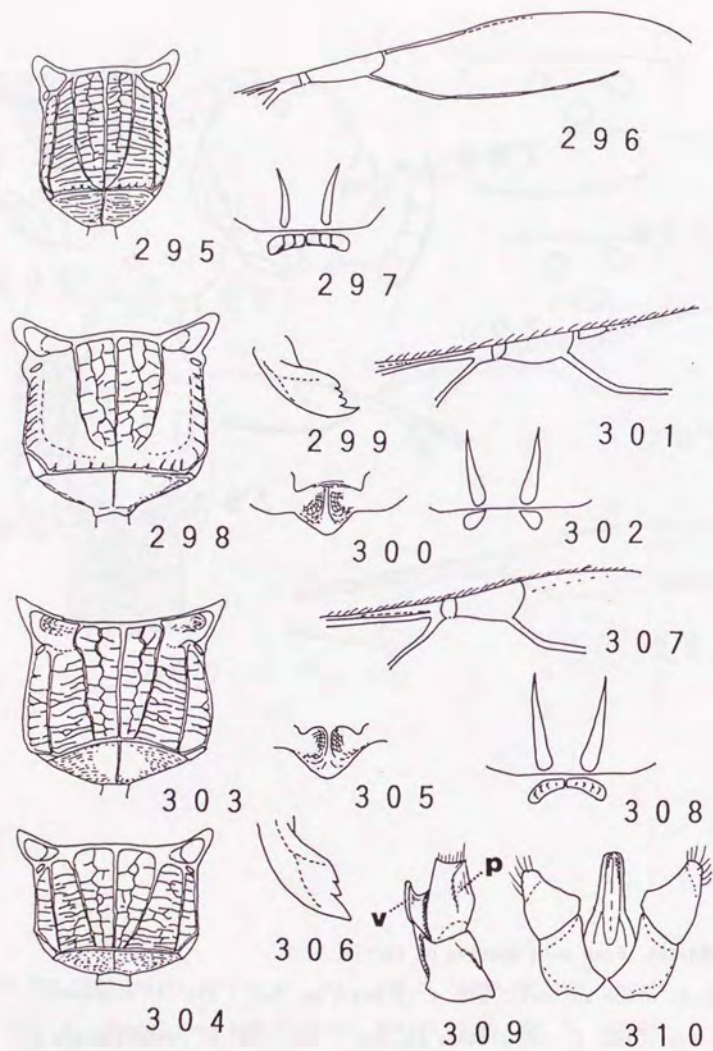


Figs. 285-288. *Epyris idaten* sp. nov., and *E. niwoh* sp. nov., males.
 285, *E. idaten*, head and alitrunk, dorsal view; 286, *E. idaten*,
 vein; 288, *E. niwoh*, matacarpus vein of forewing.



Figs. 289-294. Five male species of *Epyris*.

289, *E. niwoh* sp. nov.; 290, *E. blandus* sp. nov.; 291, *E. minoensis*
 sp. nov.; 292, *E. hachijoanus* sp. nov.; 293, 294, *E. yakushimensis* sp.
 nov.
 289, 290, ocellus; 291, head, frontal view, with first 4 segments of
 antenna; 293, matacarpus vein of forewing; 292, 294, propodeum.



Figs. 295-310. *Epyris shohki* sp. nov., *E. nubatama* sp. nov., and *E. yamatonis* sp. nov.

295-297, *E. shohki*; 298-302, *E. nubatama*; 303-310, *E. yamatonis*.

295, 298, 303, 304, propodeum, dorsal view (303, material from Honshu; 304, material from Iriomote-jima Is.); 296, 301, 307, metacarpus vein of forewing; 297, 302, 308, notauli and scutellar pits; 299, 306, mandible; 300, 305, clypeus; 309, genitalia, lateral view (v: volsella, p: paramere); 310, genitalia, dorsal view.



Figs. 311-315. *Epyris pectinatus* sp. nov., male.

311. antenna; 312. head, frontal view; 313. alitrunk, dorsal view; 314. genitalia; 315. subgenital plate.



Fig. 316. Distributions of *Epyris* (1). *E. formosus* in Japan and *E. pectinatus*.

●: *E. formosus*. ■: *E. pectinatus*.

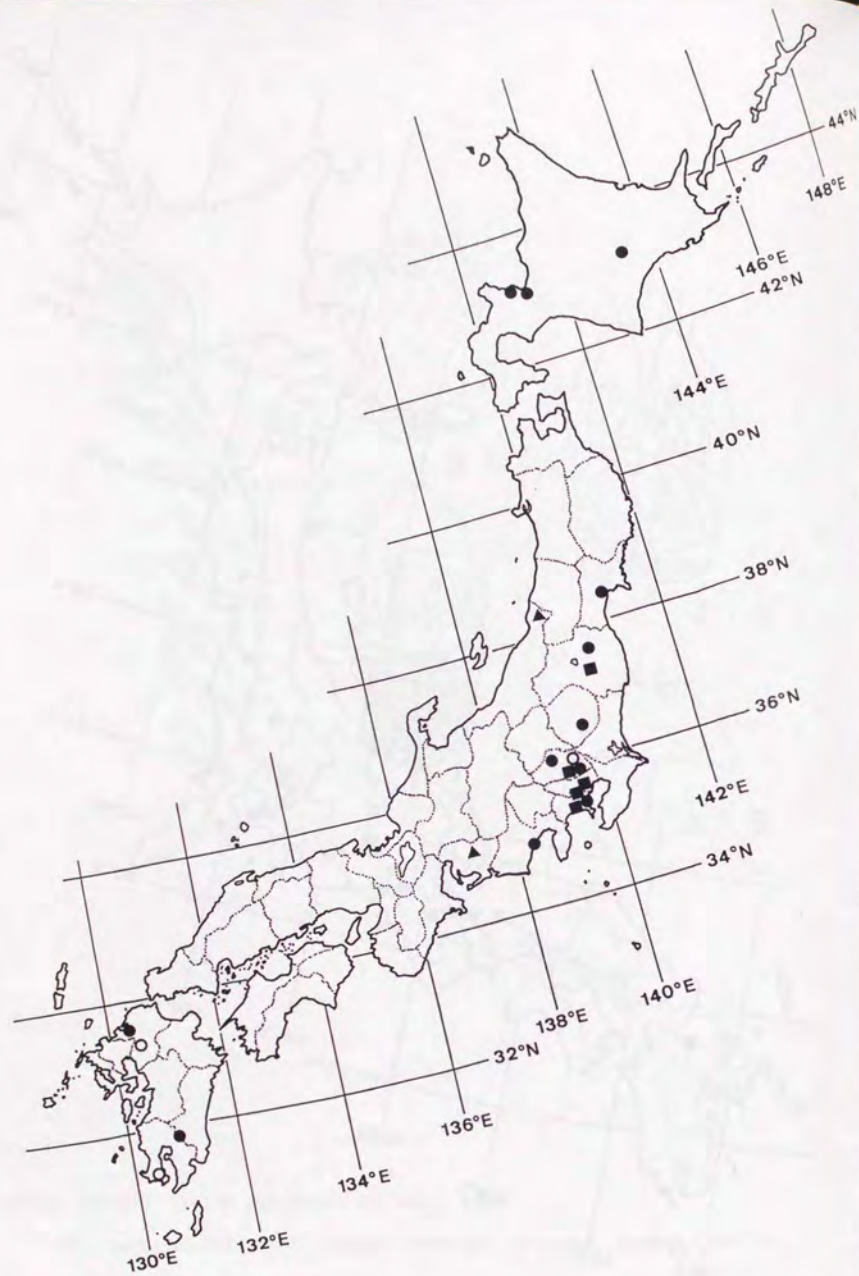


Fig. 317. Distributions of Epyris (2).

●: *E. asura*. ■: *E. emiae*. ▲: *E. otome*. ○: *E. hiten*.



Fig. 318. Distributions of Epyris (3).

●: *E. hagoromonis*. ■: *E. surusumi*. ▲: *E. tennyo*.

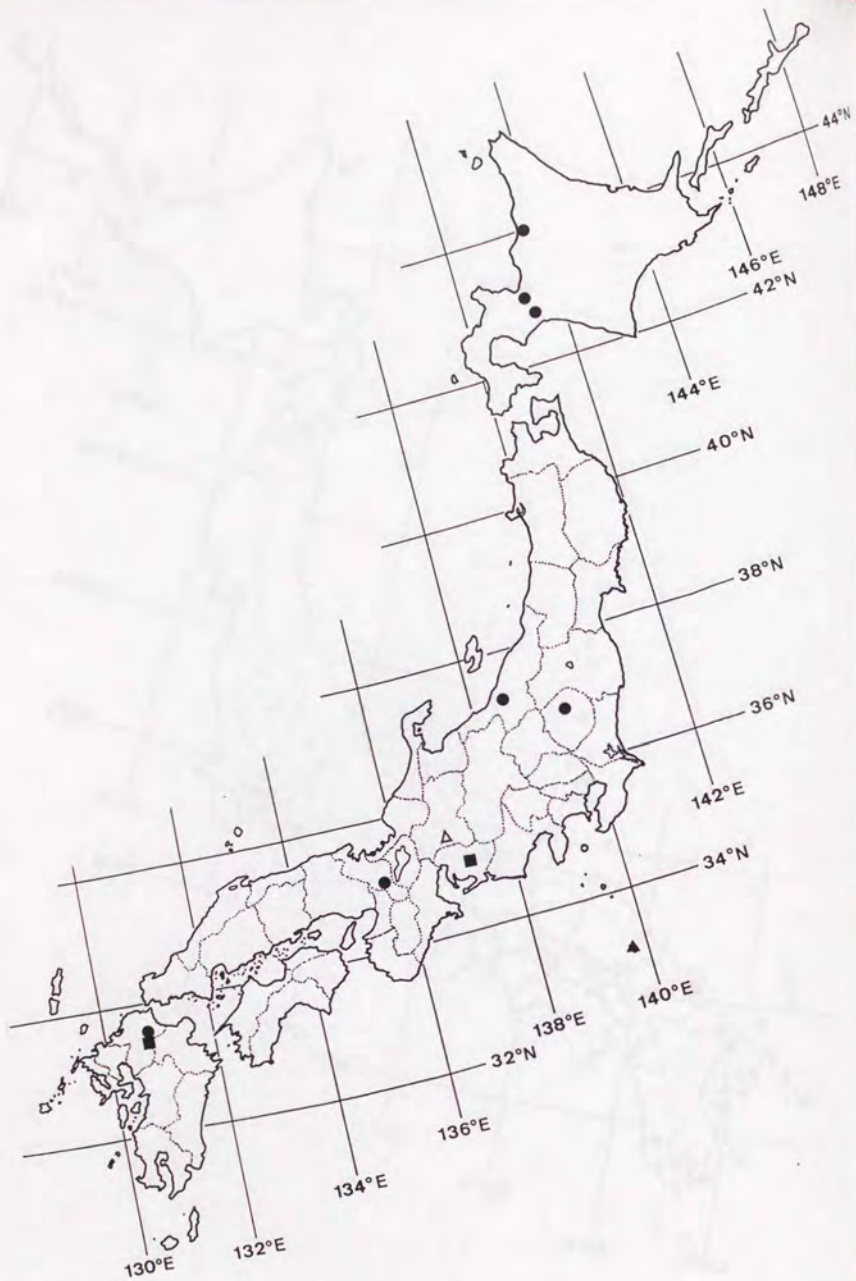


Fig. 319. Distributions of Epyris (4).

● : *E. niwoh*. ■ : *E. blandus*. ▲ : *E. hachijoanus*. △ : *E. minoensis*.

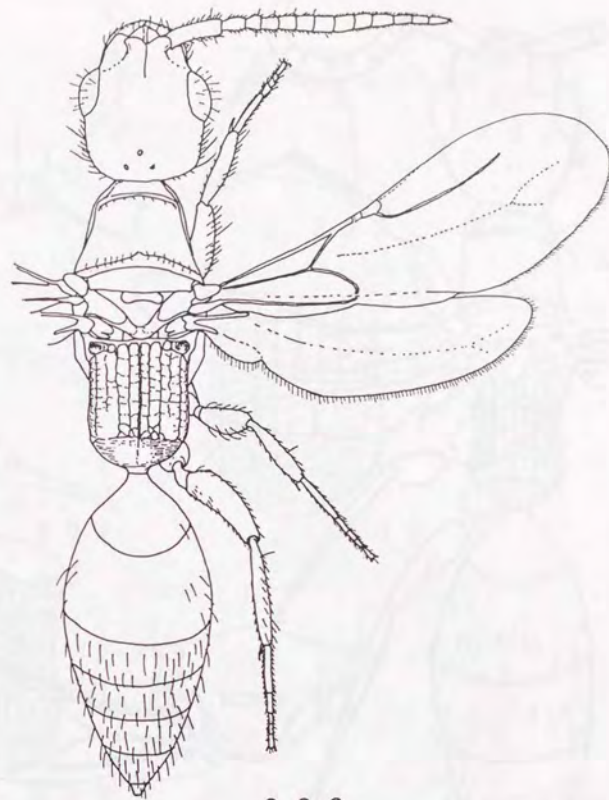


Fig. 320. Distributions of Epyris (5).

■ : *E. shohki*. ▲ : *E. nubatama*. ● : *E. idaten*.
△ : *E. yakushimanus*.

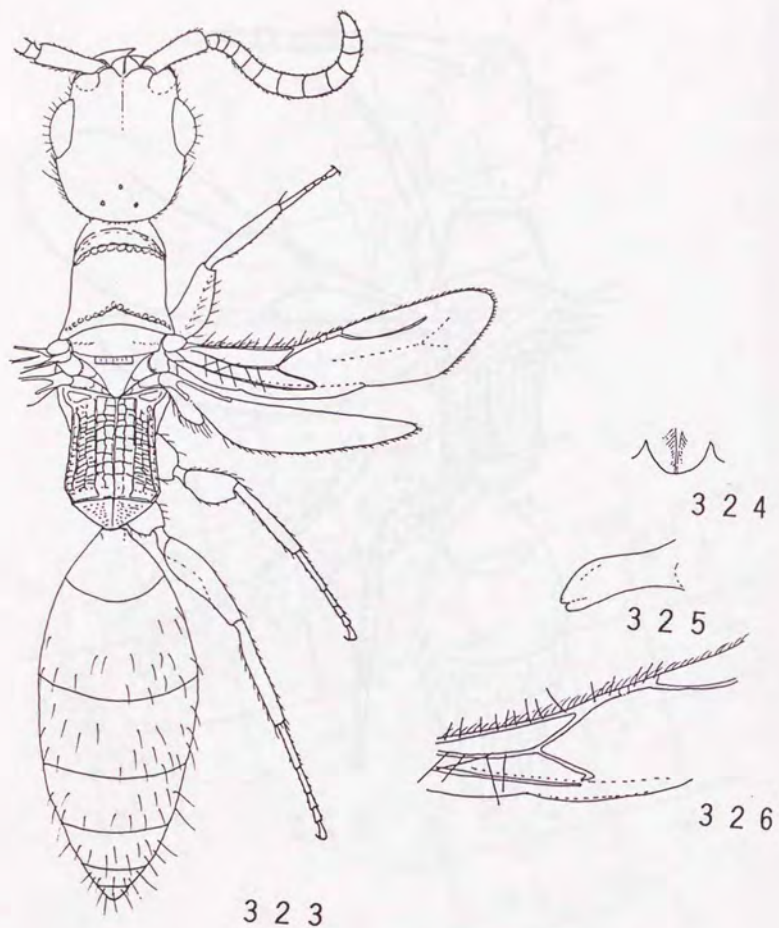


Fig. 321. Geographical distribution of *Epyris yamatonis*.

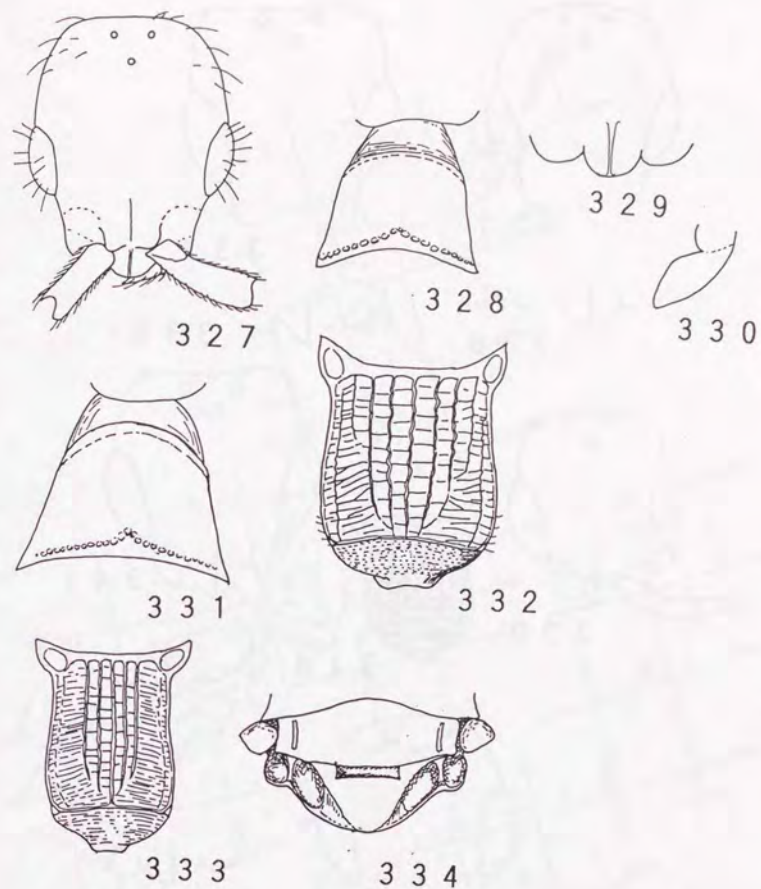


3 2 2

Fig. 322. *Holepyris benten* sp. nov., female.

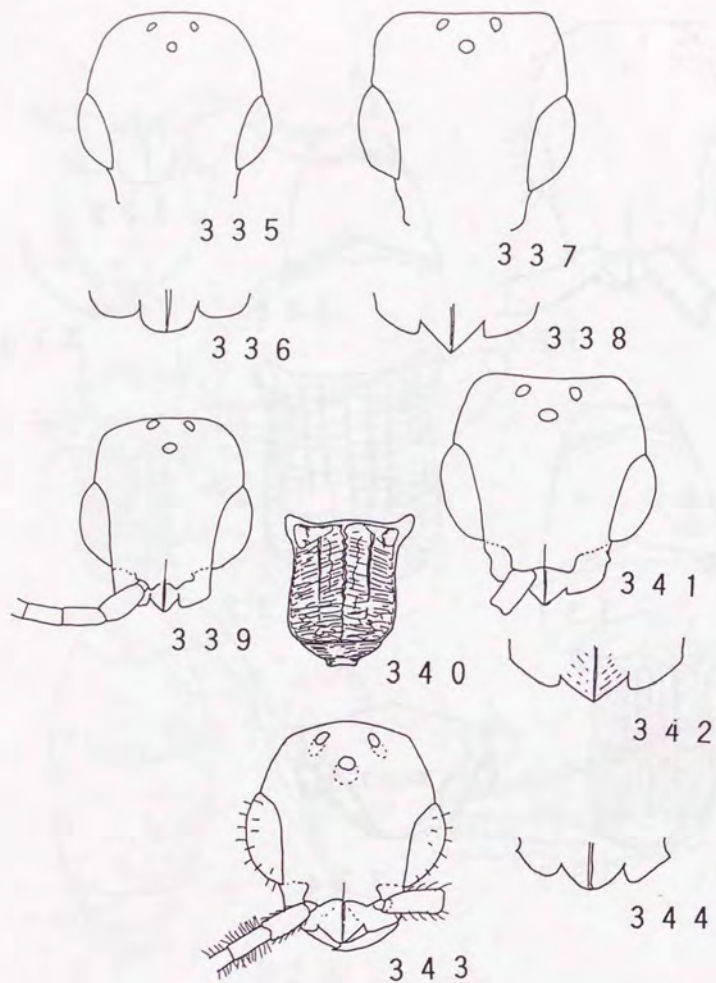


Figs. 323-326. *Holeyris tsugarensis* sp. nov. 323, profile, dorsal view; 324, median lobe of mandible; 325, mandible, lateral view; 326, forewing.



Figs. 327-334. *Holeyris* spp., female.

327-332, 334, *H. atamiensis* (Ashmead); 333, *H. amamiinsulanus* sp. nov.
 327, head, frontal view, drawn from holotype; 328, pronotum, dorsal view,
 ; 329, clypeus; 330, mandible; 331, pronotum, dorsal view, drawn from
 holotype; 332-333, propodeum, dorsal view; 334, mesonotum, dorsal view.



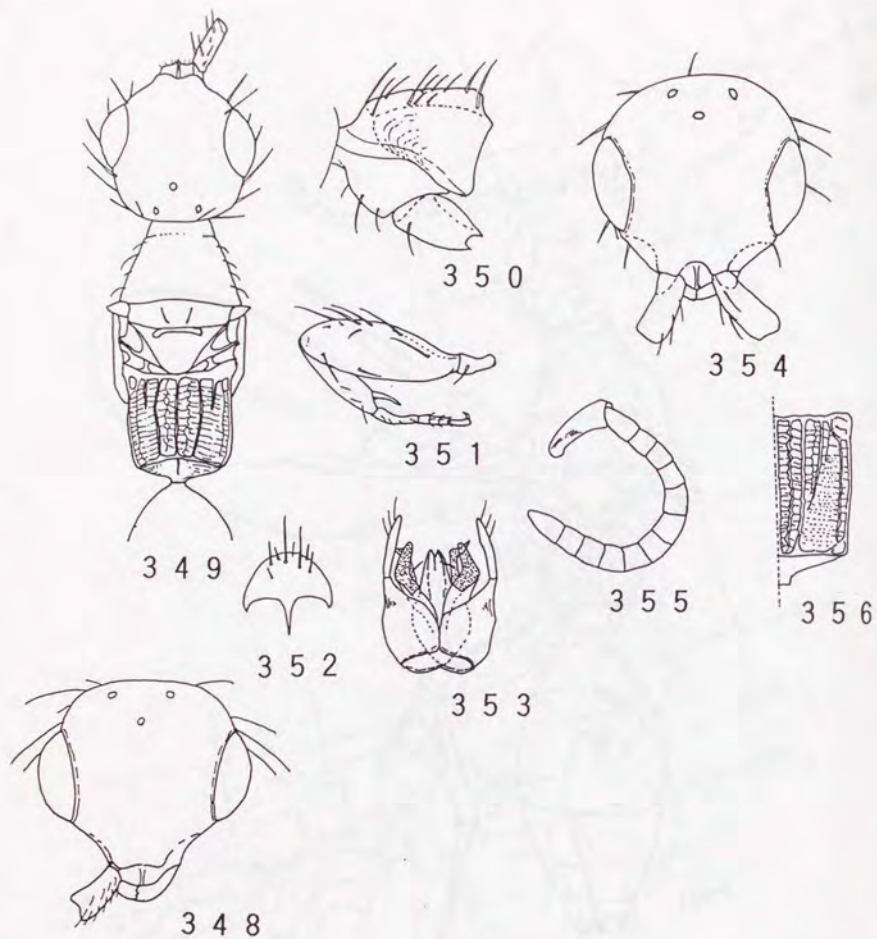
Figs. 335-344, *Holepyris* spp.

335, 336: *H. atamiensis*, female; 343, 344, *H. atamiensis*, male; 337, 338, *H. benten*, female; 339, 340, *H. yambaru*, male; 341, 342, *H. yebisu*, male.
 335, 337, 339, 341, 343, head, frontal view; 336, 338, 342, 344, clypeus; 340, propodeum, dorsal view.

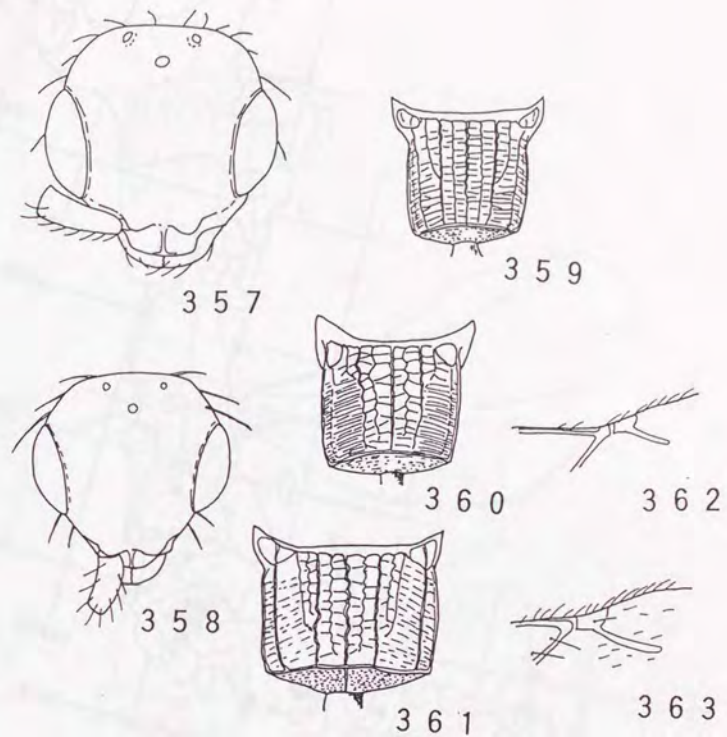


Fig. 345. Distributions of *Holepyris* (1).

●: *H. atamiensis*. ○: *H. amamiinsulanus*. ■: *H. yambaru*.



Figs. 348-356. *Laelius yamatonis* sp. nov. and *L. microneurus* Kieffer.
 348, 352, 353, *L. yamatonis*, male; 249-351, *L. yamatonis*, female;
 354-356, *L. microneurus*, drawn from holotype.
 348, head, frontal view; 349, head and alitrunk, dorsal view; 350,
 pronotum, lateral view; 351, fore leg; 352, subgenital plate; 353,
 genitalia; 354, head, frontal view; 355, antenna; 356, right half of
 propodeum, dorsal view.



Figs. 357-363. *Laelius* spp., females.
 357, 361, 363, *L. yokohamensis* sp. nov.; 358, 360, 362; *L. nigrofemoratus*
 sp. nov.; 359, *L. yamatonis* sp. nov.
 357, 358, head; 359, 360, 362, propodeum, dorsal view; 362, 363,
 pterostigma and radial vein.

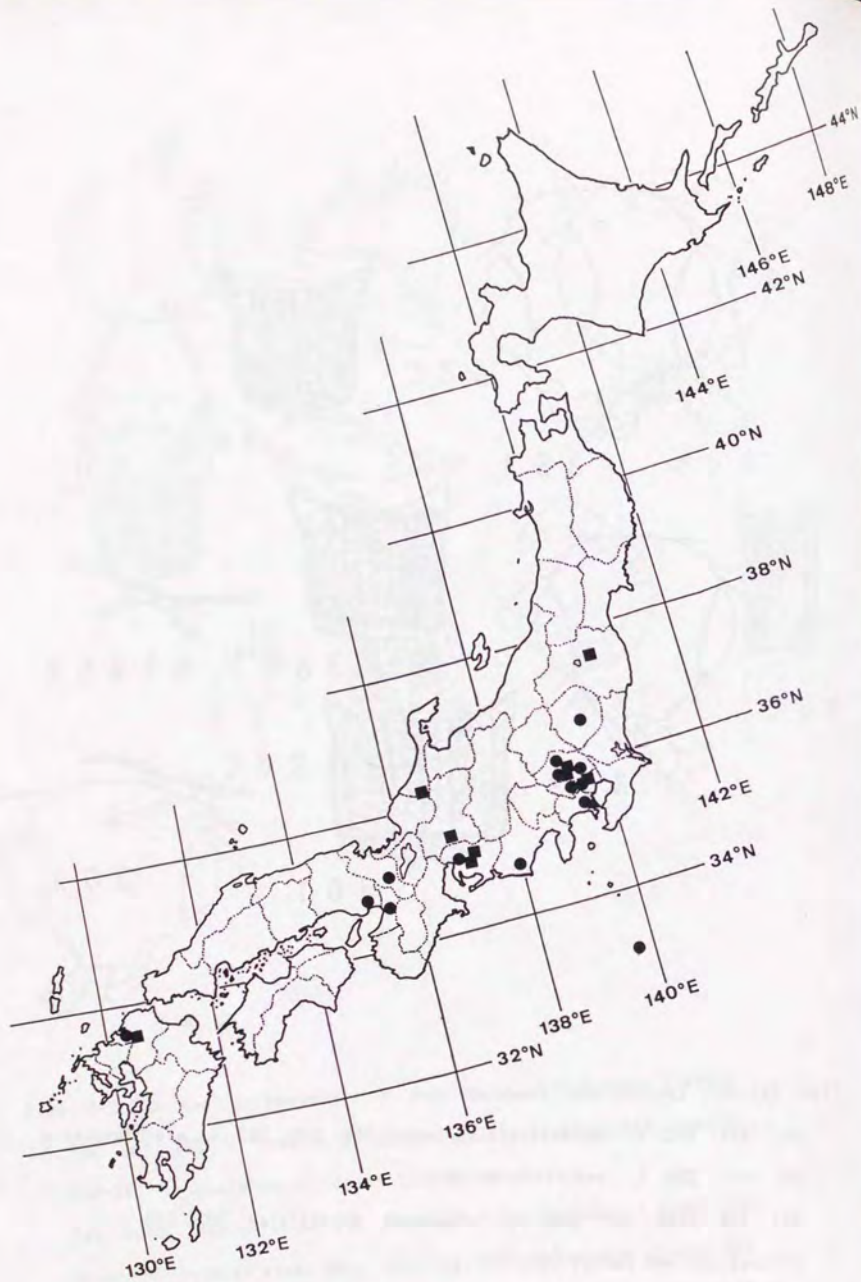
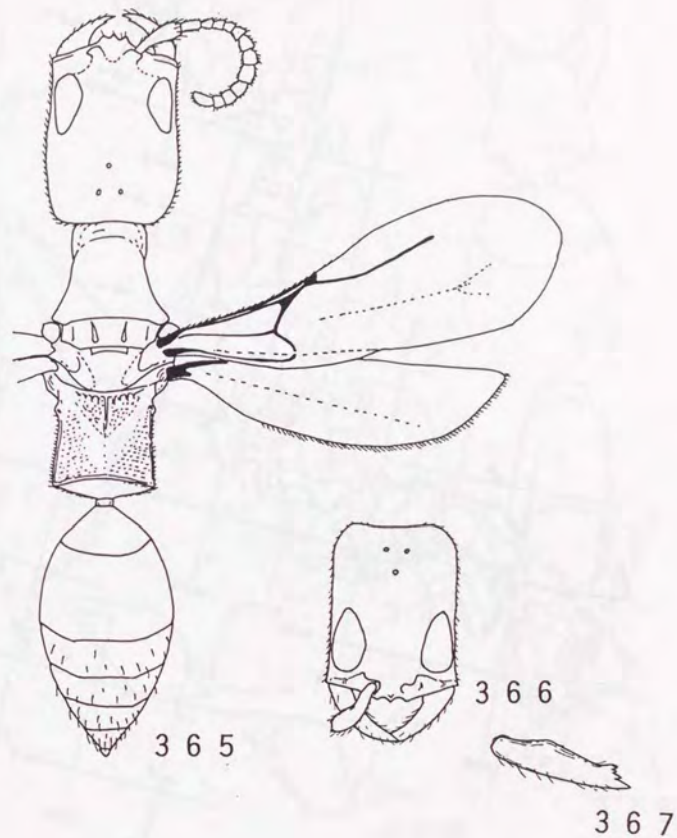


Fig. 364. Distributions of *Laelius* spp.

● : *L. yamatonis*. ■ : *L. nigrofemoratus*. ▲ : *L. yokohamensis*.

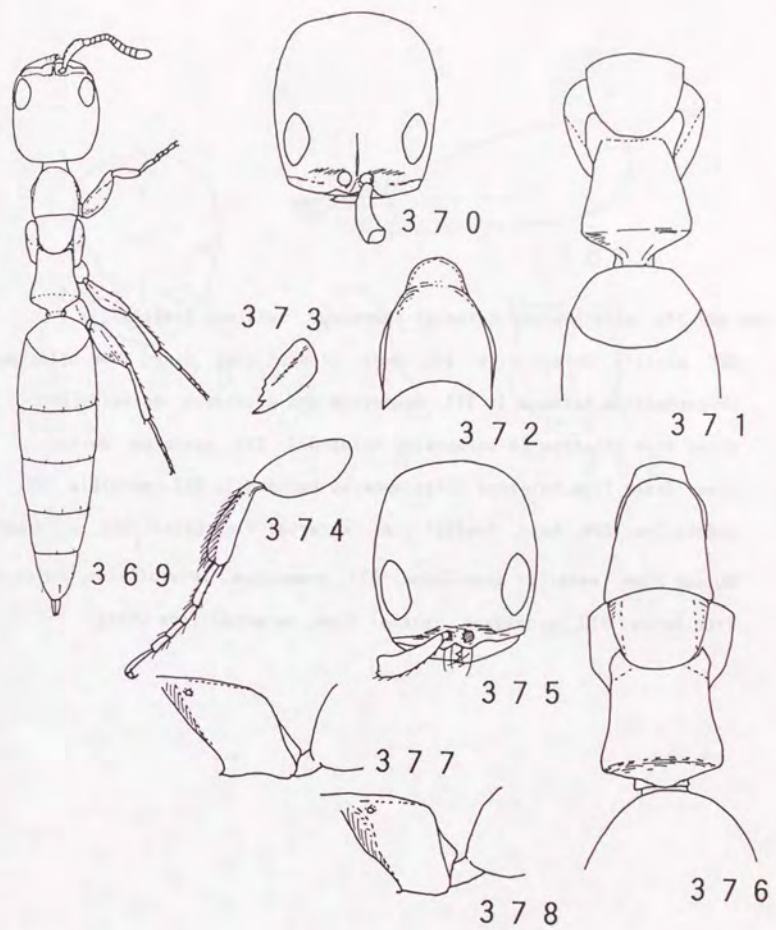


Figs. 365-367. *Allobethylus tomoae* sp. nov., female.

365, profile, dorsal view; 366, head, frontal view; 367, mandible.

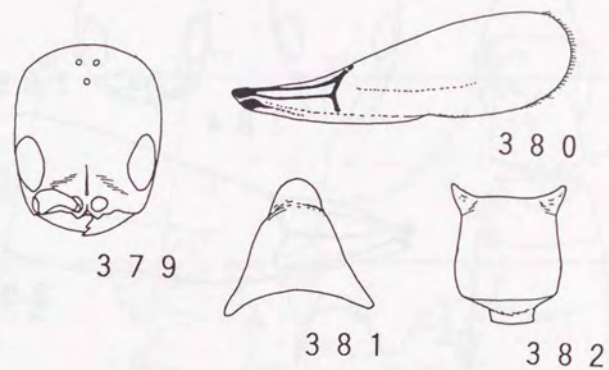


Fig. 368. Geographical distribution of *Allobethylus tomoae* sp. nov.



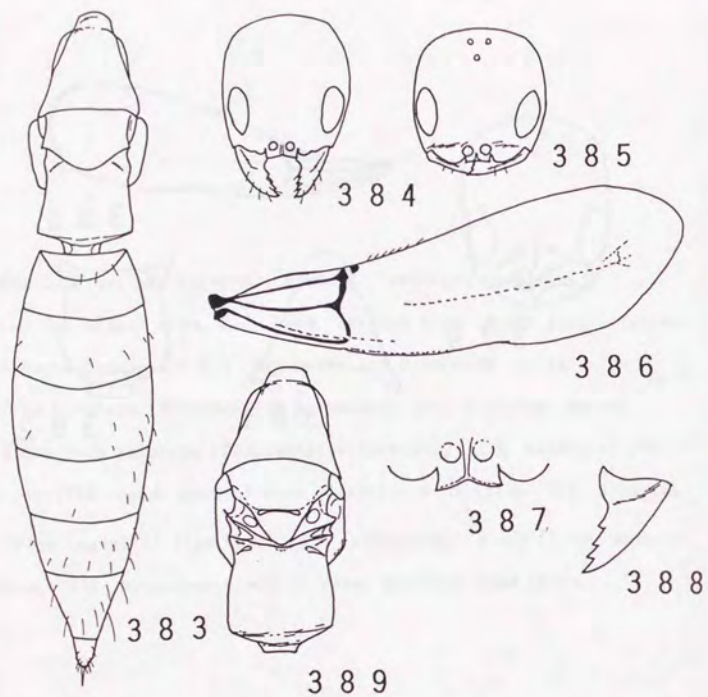
Figs 369-376. *Sclerodermus harmandi* (Buysson), apterous female.

369, profile, dorsal view; 370, head, frontal view, drawn from holotype [*Dissomphalus harmandi*]; 371, mesonotum and propodeum, dorsal view, drawn from holotype [*Dissomphalus harmandi*]; 372, pronotum, dorsal view, drawn from holotype [*Dissomphalus harmandi*]; 373, mandible; 374, middle leg; 375, head, frontal view, material from China; 376, alitrunk, dorsal view, material from China; 377, propodeum, lateral view, material from Korea; 378, propodeum, lateral view, material from China.



Figs. 379-382. *Sclerodermus harmandi* (Buysson), male.

379, head, frontal view; 380, forewing; 381, pronotum, dorsal view;
382, propodeum, dorsal view.



Figs. 383-388. *Sclerodermus yakushimensis* sp. nov.

383, 384, 387, 388. apterous female; 385, 386, 389. alate female.
 283. alitrunk and gaster, dorsal view; 384, 385, head, frontal view;
 386. forewing; 387. clypeus; 388. mandible; 389. alitrunk, dorsal view.

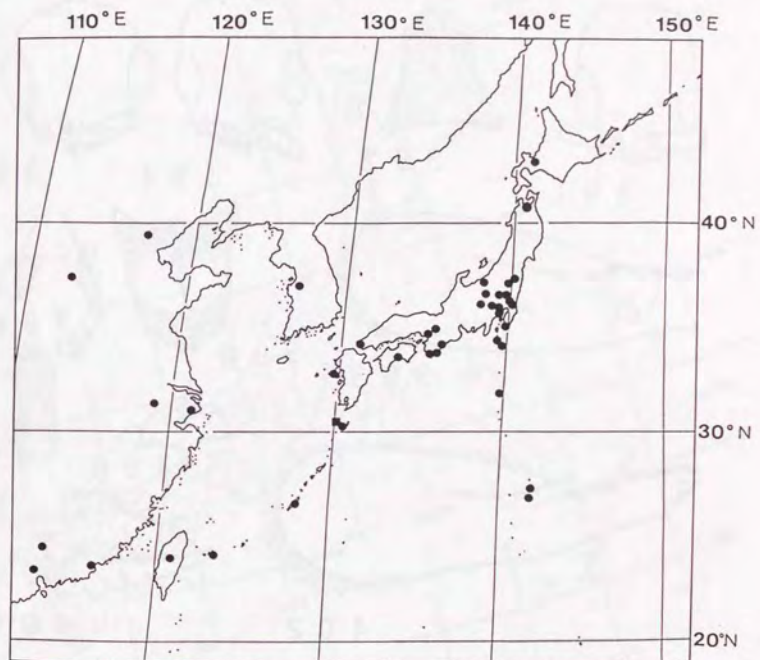
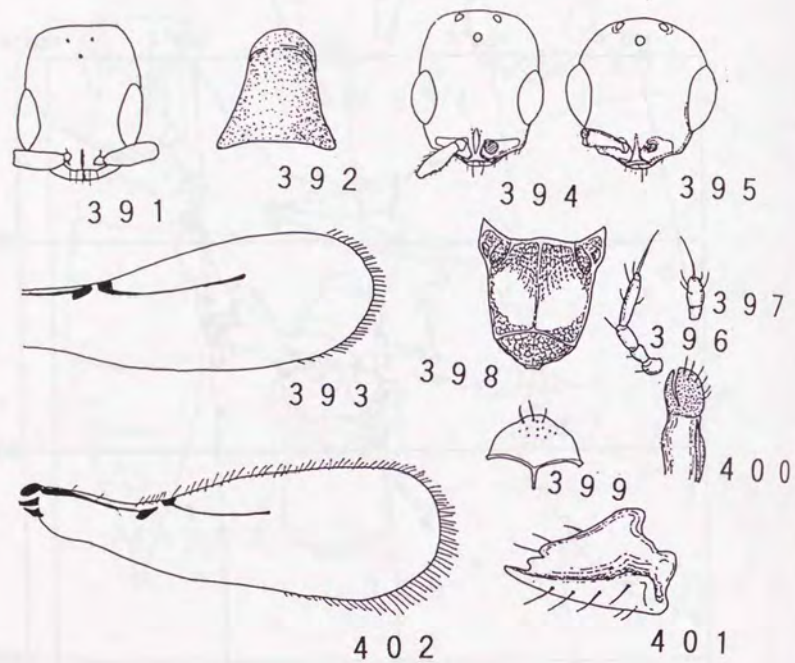


Fig. 390. Geographical distributions of *Sclerodermus harmandi* (Buysson) and *S. yakushimensis* sp. nov.

●: *S. harmandi*. ■: *S. yakushimensis*.



Figs. 391-401. *Plastanoxus fukuokensis* sp. nov. and *P. amamiensis* Terayama and Tachikawa.

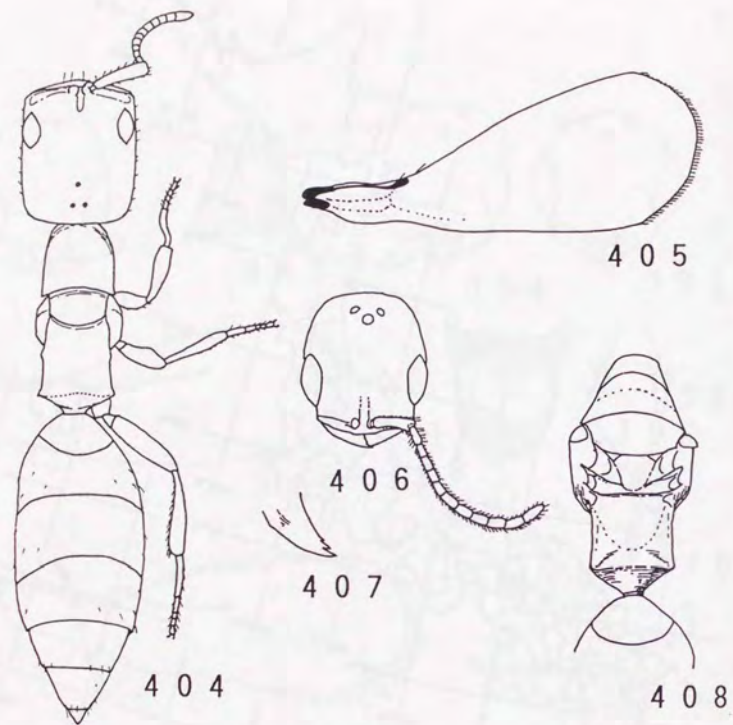
391-393, *P. fukuokensis*; 394-402, *P. amamiensis*.

391, head, frontal view, female; 392, pronotum, dorsal view, female; 393, forewing; 394, head, frontal view, female; 395, head, frontal view, male; 396, maxillary pulp; 397, labial pulp; 398, propodeum, dorsal view, female; 399, subgenital plate; 400, paramere of genitalia; 401, mandible; 402, fore wing.



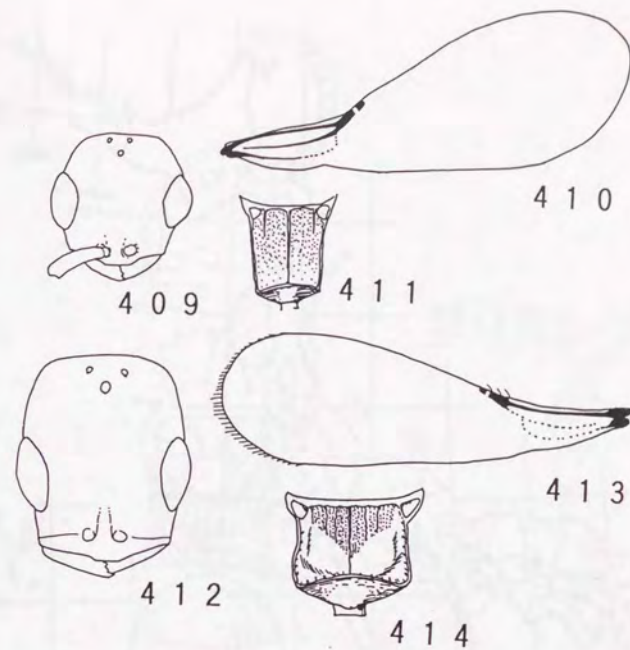
Figs. 403. Distributions of *Plastanoxus amamiensis* and *P. fukuokensis*.

●: *P. amamiensis*. ▲: *P. fukuokensis*.



Figs. 404-408. *Cephalonomia gallicola* (Ashmead)

404. profile, dorsal view, female; 405. forewing, male; 406. head, frontal view, male; 407. mandible; 408. alitrunk, male.



Figs. 409-414. *Cephalonomia tarsalis* (Ashmead) and *C. shirahamana* sp. nov.

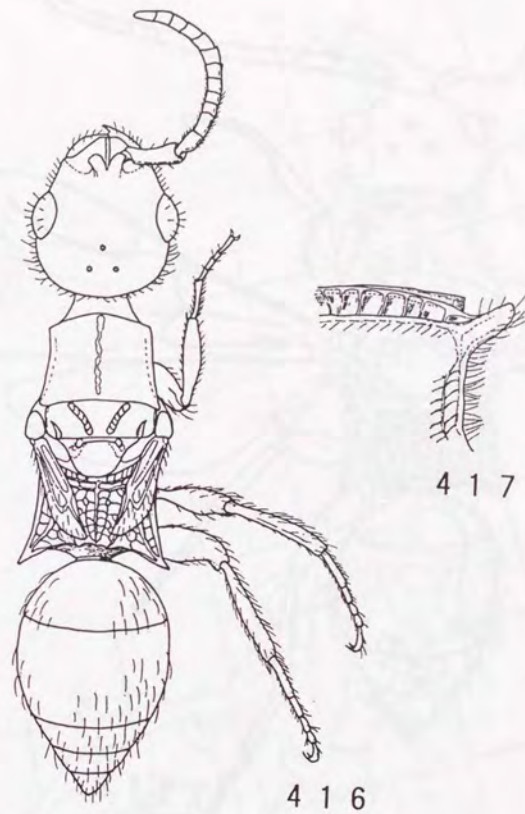
409-411, *C. tarsalis*; 412-414, *C. shirahamana*.

409, 412, head, frontal view; 410, 413, forewing; 411, 414, propodeum, dorsal view.



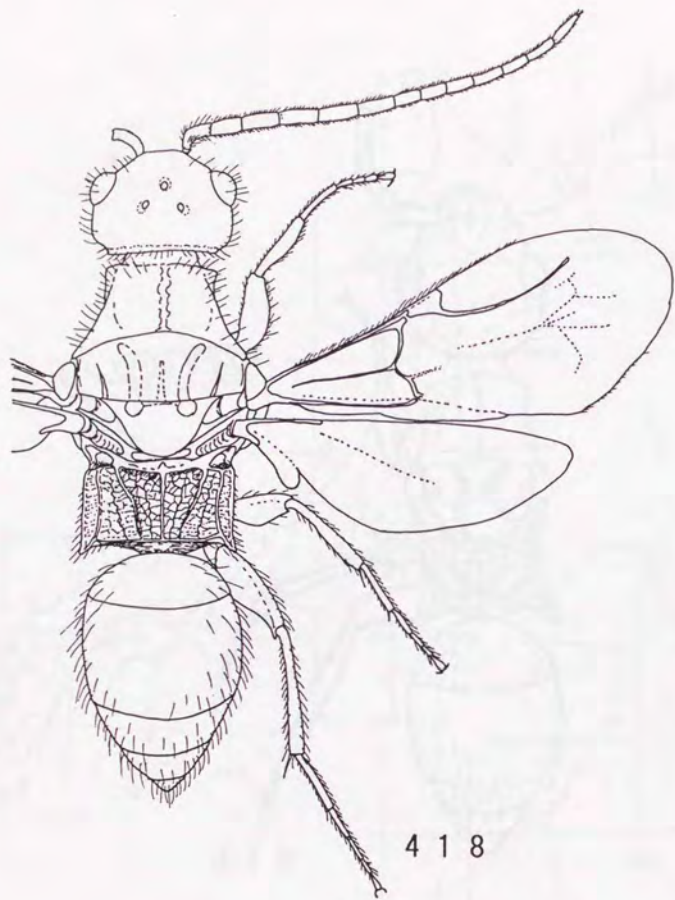
Fig. 415. Distributions of *Cephalonomia* spp.

●: *C. gallicola*. ■: *C. tarsalis*. ★: *C. shirahamana*.



Figs. 416, 417. *Heterocoelia inagiensis* sp. nov., female.

416, profile, dorsal view; 417, propodeal spine, lateral view.



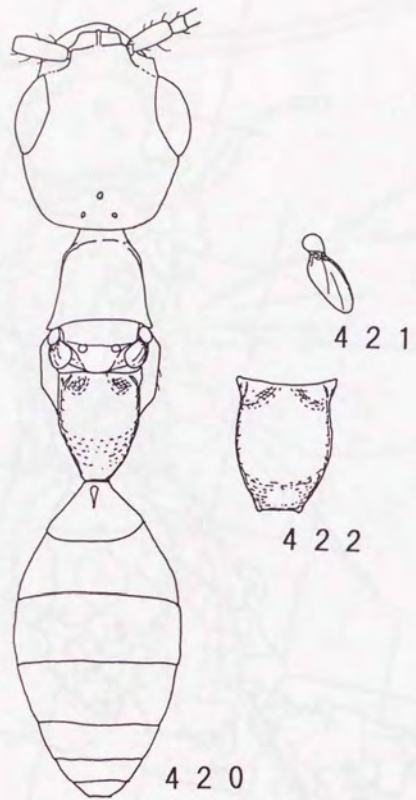
418

Fig. 418. *Heterocoelia kamakurensis* sp. nov., male.



Fig. 419. Geographical distributions of *Heterocoelia inagiensis* and *H. kamakurensis*.

●: *H. inagiensis*. ■: *H. kamakurensis*.



Figs. 420-422. *Bethylus sarobetsuensis* sp. nov.

420, profile, dorsal view, male; 421, forewing, female; 422, propodeum, dorsal view, female.

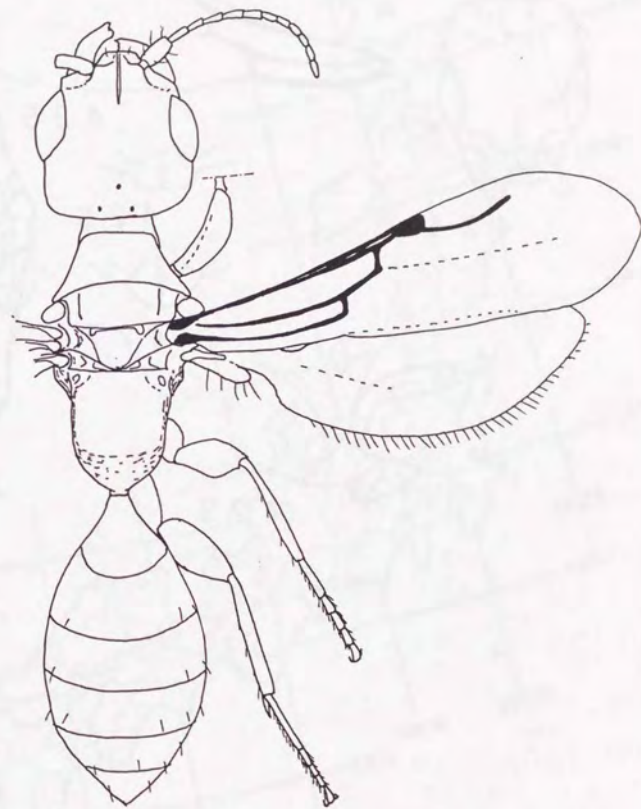
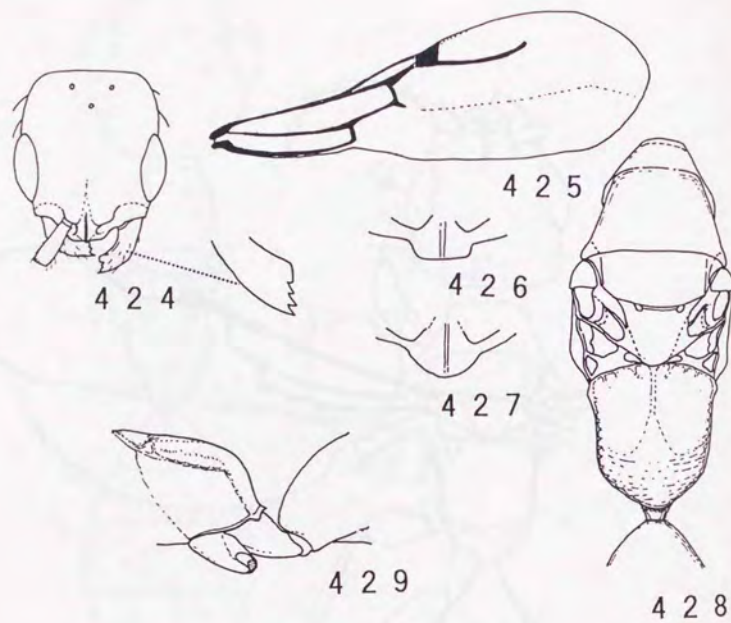


Fig. 423. *Bethylus shigaensis* sp. nov., female.



Figs. 424-428. *Bethylus shigaensis* sp. nov. and *B. pirika* sp. nov.

424, 426, 428, 429, *B. shigaensis*; 425, 427, *B. pirika*.

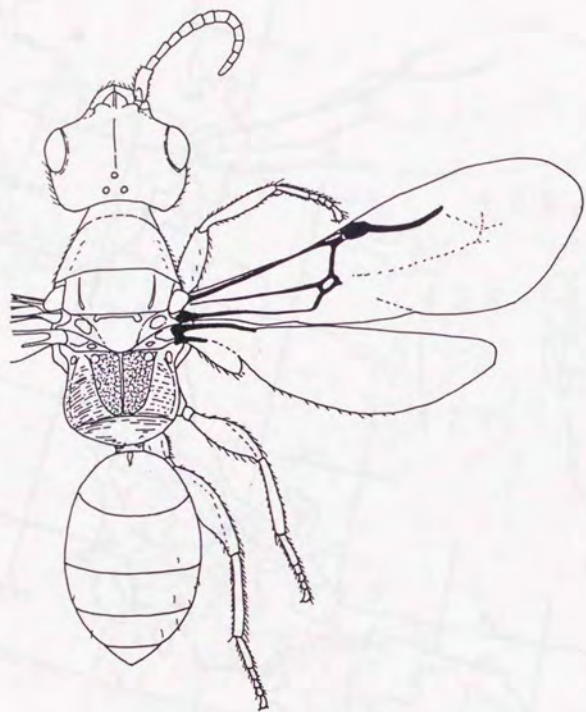
424, head, frontal view; 425, forewing; 426, 427, clypeus

: 428, alitrunk, dorsal view; 429, propodeum, lateral view.



Fig. 430. Distributions of *Bethylus* spp.

●: *B. pirika*. ▲: *B. sarobetsuensis*. ■: *B. shigaensis*.



4 3 1

431. *Odontepyrus japonicus* sp. nov., female.



Fig. 432. Geographic distribution of *Odontepyrus japonicus*.

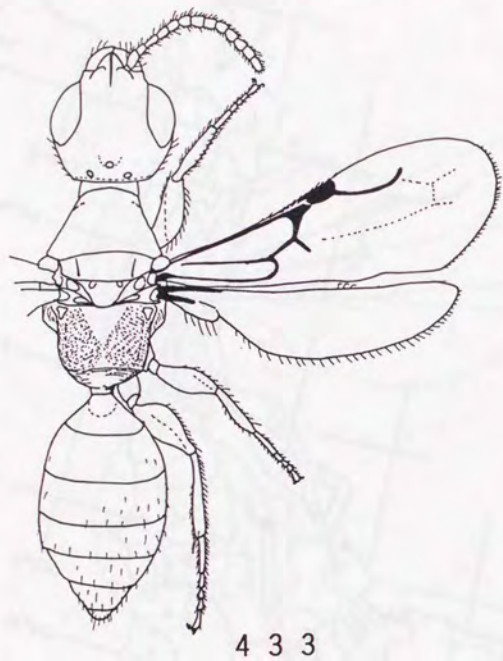
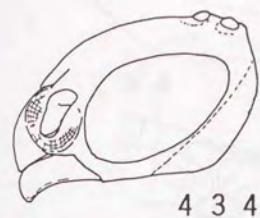


Fig. 433. *Goniozus japonicus* Ashmead, female.



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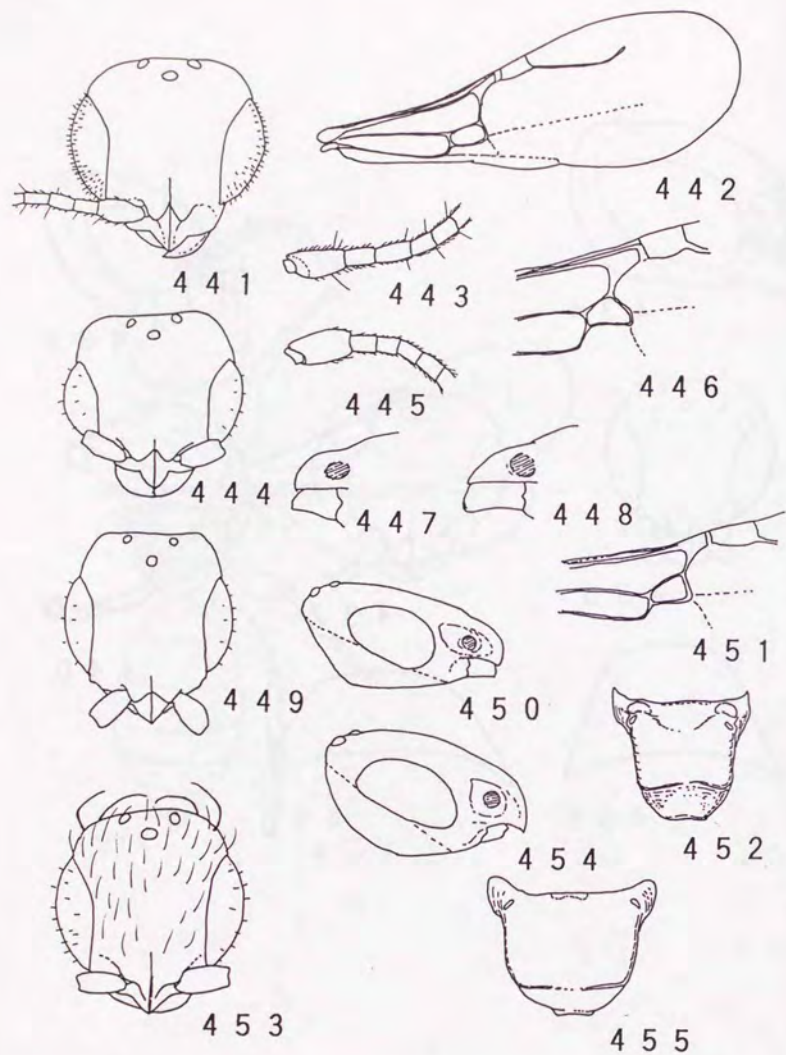
Figs. 434-440. *Goniozus japonicus* Ashmead and *G. kaiensis* sp. nov.

434-436, 439, 440, *Goniozus japonicus*; 437, 438, *G. kaiensis*.

434, head, lateral view; 435, 437, head, frontal view; 436, 438,

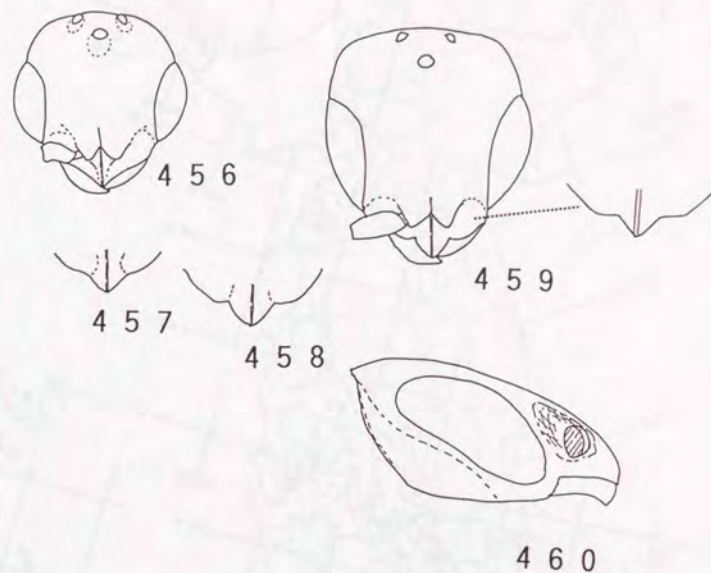
pronotum, dorsal view; 439, head, lateral view, drawn from holotype;

440, fore leg.



Figs. 441-455. *Goniozus* spp.

441-443, *G. tosaensis* sp. nov.; 444-447, *G. iyonus* sp. nov.; 448, *G. kusigematii* sp. nov.; 449-452, *G. yoshikawai* sp. nov.; 453, *G. hoorai* sp. nov.; 454, 455, *G. akitsushmanus* sp. nov.
 441, 444, 449, 453, head, frontal view; 442, 446, 451, forewing; 443, 445, first 4 segments of antenna; 447, 448, clypeus, lateral view; 450, 454, head, lateral view; 452, 455, propodeum, dorsal view.



Figs. 456-460. *Goniozus* spp.

456, 457, *G. yezo* sp. nov.; 458, *G. japonicus*; 459, 460, *G. eriae* sp. nov.
 456, 459, head, frontal view; 457, 458, anterior border of clypeus; 460, head, lateral view.

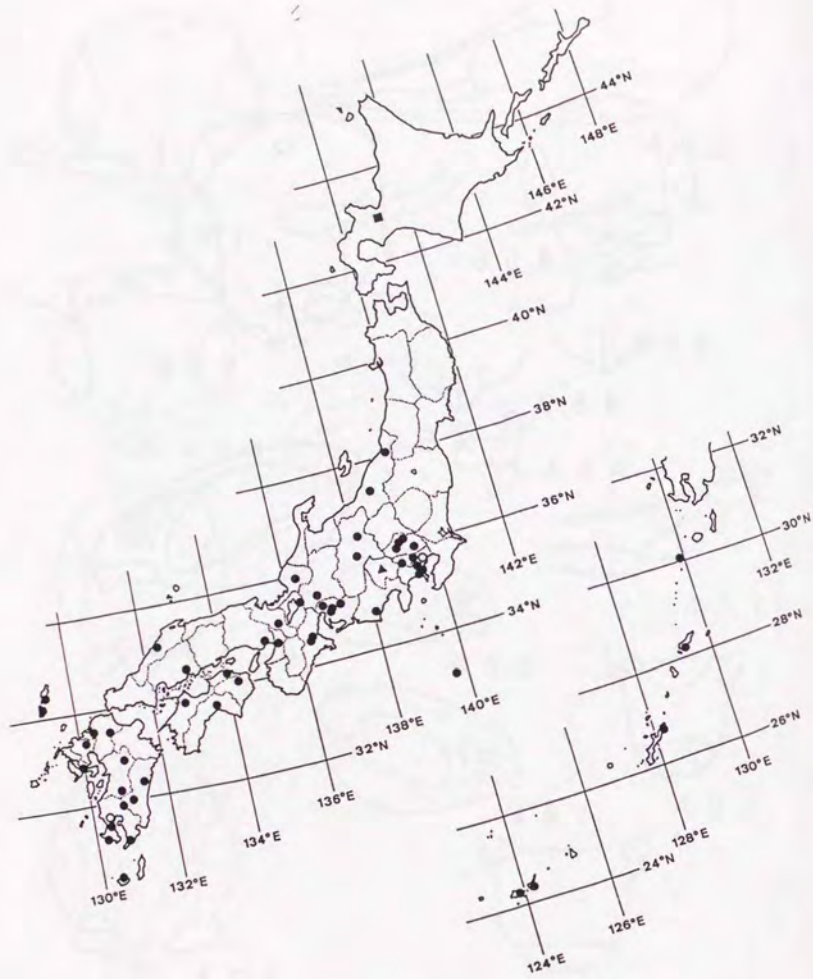


Fig. 461. Distributions of *Goniozus* spp. (1).

●: *G. japonicus*. ■: *G. yezo*. ▲: *G. kaiensis*. ○: *G. eriae*.



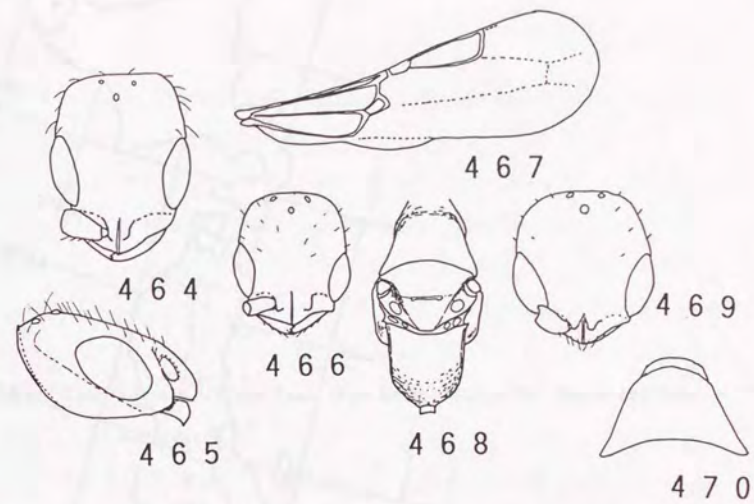
Fig. 462. Distributions of *Goniozus* spp. (2).

▲: *G. iyonus*. ■: *G. akitsushmanus*. ●: *G. tosaensis*.



Fig. 463. Distributions of *Goniozus* spp. (3).

▲: *G. yoshikawai*. ●: *G. kusigematii*. ■: *G. hoorai*.



Figs. 464-470. *Sierola sinensis* Fullaway, *S. echigoana* sp. nov. and *S.*

shimotsukeana sp. nov.

464, 465, *S. sinensis* from Macao, China, drawn from holotype; 466-468,

S. echigoana; 469, 470, *S. shimotsukeana*.

464, 466, 469, head, frontal view; 465, head, lateral view; 467, forewing; 468; alitrunk; 470, pronotum, dorsal view.

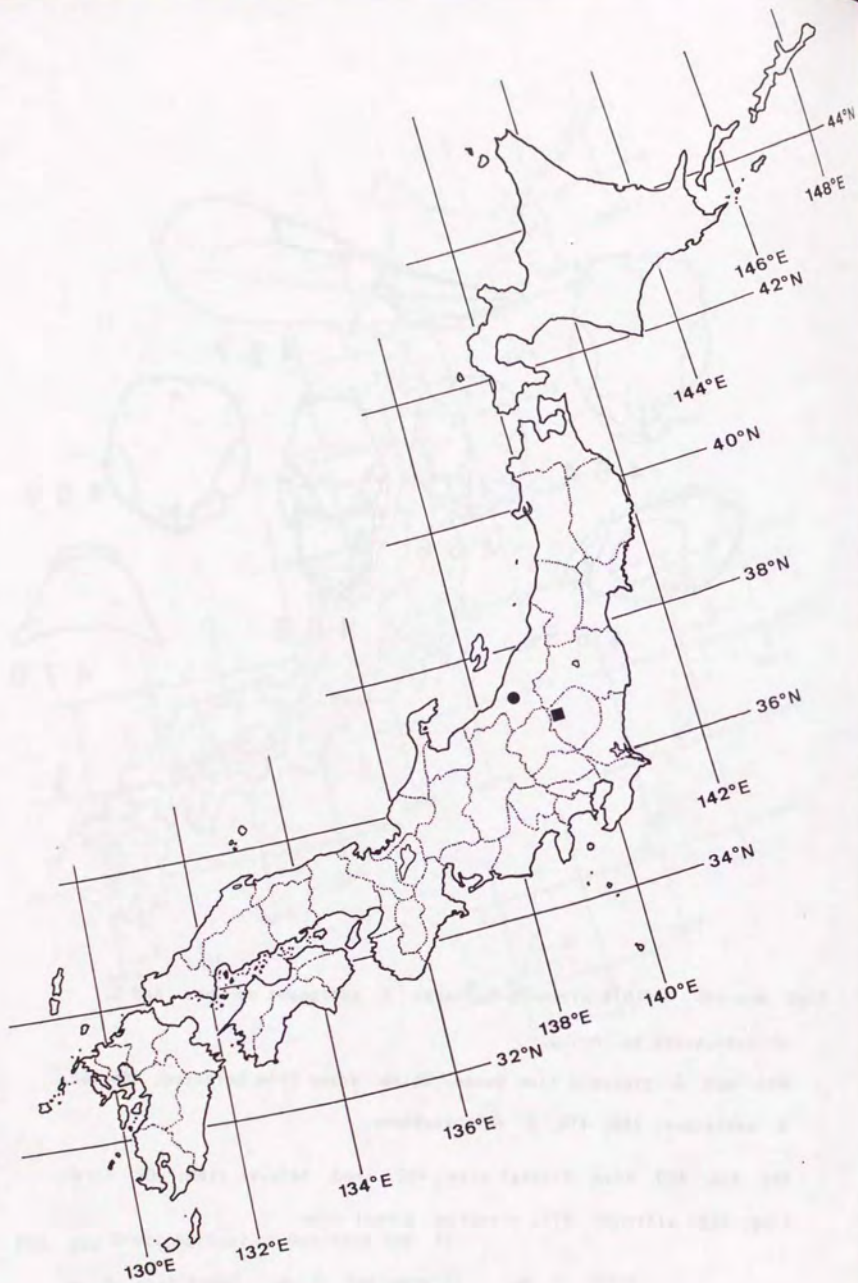


Fig. 471. Distributions of *Sierola echigoana* and *S. shimotsukeana*.

● : *S. echigoana*. ■ : *S. shimotsukeana*.

Part III. Descriptions of New Taxa from Asia, Australia, South America,
and Africa

1) A genus *Pristocera* from the East and Southeast Asias

Pristocera formosana Miwa & Sonan, 1935

(Figs. 472-478)

Pristocera formosana Miwa & Sonan, 1935. Trans. Nat. Hist. Soc. Formosa,
25: 91.

Pristocera formosana: Yasumatsu, 1955. Jour. Fac. Agr. Kyushu Univ., 10: 235.

Diagnosis. Male. HL 1.65-2.15 mm; HW 1.55-2.10 mm; TL 8.0-9.5 mm.

Head and alitrunk black; gaster dark reddish brown; mandibles, antennae
and legs reddish brown.

Head almost as long as wide, with convex posterior border in frontal view.
Mandibles with 4 teeth. Anterior border of clypeus very broadly rounded.
Pronotal dorsum with 2 transverse carina which present at anterior most and
posterior 1/3. Propodeum as in Fig. 472; subgenital plate as in Fig. 475.
Forewings 6.5-7.0 mm in length; hyaline; veins blackish brown.

Female. HL 1.20 mm; HW 1.00 mm; TL 5.0 mm.

Body testaceous; antennae and legs yellowish brown.

General shape of head as shown in Figs. 477; propodeum as in Fig. 478.

Specimens examined. Taiwan. Taichung, Lincuo, 25.V.1933 (holotype, male;
TARI; type No. 209.); 4f(paratypes; TARI, type Nos. 210-213), Shinchiku
(Shinzhu Hsien), 1-30.VII.1918. J. Sonan & K. Miwa leg.; 1f (paratype; TARI,

type No. 214), Funkiko (Chiayi Hsien), 26.VII.1927, J. Sonan & K. Miwa leg. ;
1f (paratype; TARI, type No. 215; head lacking), Taichung, Lincuo, 25.V.1933.;
1m, 1f, Tyokakurai, Daibu, 27.VII.1936, S. Asahina leg. [KUF]; 1m, Kenting
Park, Pingtung Hsien, 15.VI.1970, Y. Hori leg. [EUM]; 1m, Kagi (Chiayi),
25.V.1929, K. Sato leg. [NSMN].

Korea. 1m, 1f, Keikido, Suigen, 7.IX.1923, K. Sato leg. [NSMN]; 1m, Mt.
Sudosan, 400m alt., Kyongsangpuk-do, 17-18.VII.1971, K. Yamagishi leg. [TE];
2m, Mt. Sudo-san, Kyongsangpuk-do, 1400 m alt., 22.VIII.1990, K. Yamagishi
leg. [PMA].

Pristocera kinabarensis sp. nov.

(Figs. 479-482)

Holotype. Male, HL 1.95 mm; HW 1.98 mm; WF 1.20 mm; LA 3.95 mm; LP 1.45
mm; WPD 1.53 mm; FWL 7.1 mm; TL 10.3 mm.

Body black; gaster black with reddish tinge; mandibles blackish brown ex-
cept basal 1/3 and masticatory borders yellow; antennae black; legs
castaneous; basal half of forewings hyaline; apical half clouded with dark
brown; wing veins blackish brown.

Head round, as long as wide, smooth with large punctures moderately;
diameter of punctures ca. 0.10 mm. Mandibles with 5 teeth; apical tooth dully
angulate; apical 2nd to 4th broadly rounded. Anterior border of clypeus very

broadly rounded. First 5 segments of antennae in a ratio of 27:6:17:13:11 in length. Eyes slightly prominent; 0.85 mm in length; WF 1.41 x EL. Ocelli forming a compact triangle; OOL 1.57 x WOT.

Pronotal disc smooth with scattered punctures; 2 carinae present, one at anteriormost and the other at posterior 2/5. Mesonotum smooth, moderately punctate. Propodeum wider than long; posterior border convex; posterolateral borders rounded, not forming an angle in dorsal view; 2 median carinae present on anterior half of disc on posterior half; median carina on posterior half of disc weaker than that on anterior; sublateral carinae present; transverse carina absent; basal triangular area with transverse rugae; sublateral areas reticulate in most part.

Subgenital plate as in Fig. 482.

Holotype. Male, Mt. Kinabalu N. P., 1500 m, Sabah, Borneo, 15-24. V. 1987. A. Smetana leg. [PMA].

Pristocera changmaianus sp. nov.

(Figs. 483-485)

Holotype. Male, HL 1.70 mm; HW 1.75 mm; WF 1.05 mm; LA 3.10 mm; LP 1.28 mm; WPD 1.33 mm; FWL 5.7 mm; TL 8.6 mm.

Body black; one brownish red belt each with posterior borders of 1st and 2nd gastral tergites; mandibles blackish brown except apices reddish brown;

antennal scapes blackish brown except apical 1/5 reddish brown; pedicel reddish brown; flagellum blackish brown; coxae, trochanters and femora dark brown; basal 2/3 of fore tibiae dark brown, apical 1/3 yellow; middle and hind tibiae dark brown; tarsi yellow; wings hyaline; wing veins yellowish brown.

Head slightly wider than long, with almost straight, but weakly convex posterior border in frontal view; frons smooth and densely punctate; punctures relatively large, ca. 0.07-0.10 mm in diameter, separated by 0.5-1.0 x their own diameter; punctures of vertex less punctate than those on frons. Mandibles with 4 teeth. Anterior border of clypeus very broadly rounded. Antennae short; 3rd segment 1.7 x as long as wide; 4th 1.4 x as long as wide; first 5 segments in a ratio of 24:5:10:10:10 in length. Eyes 0.88 mm in length; WF 1.21 x EL. Ocelli forming a compact triangle; OOL 1.5 x WOT.

Pronotal disc with 3 transverse carinae; 1st one at almost anteriormost, 2nd at midlength, and the 3rd at posterior 1/6; surface smooth with a few punctures. Median area of mesoscutum smooth and mostly impunctate; lateral areas densely punctate; scutellum smooth with about 20 punctures. Propodeum as long as wide, with 3 discal carinae; median carina long, reaching near the posterior end of disc, submedian carinae short, present on basal half of disc; sublateral areas strongly reticulate.

Holotype. Male, Doi Pui, 1300 m, Chiangmai, 8.VI.1965, S. Asahina leg. [PMA].

Pristocera carinata Magretti

(Figs. 486-491)

Pristocera carinata Magretti, 1897. Ann. Genoa. Museo. Civi. Stor. Nat., Ser. 2, 17: 316.

Redescription of holotype. Male. HL. 1.70 mm; HW 1.70 mm; WF 1.00 mm; LA 3.00 mm; LP 1.00 mm; WPD 1.20 mm; FWL 5.5 mm; TL 7.9 mm.

Body black; gaster blackish brown; mandibles blackish brown; antennal scapes and 2nd segments blackish brown; 3rd to apical segments almost black; legs and pronotal collar brown.

Head as long as wide, with convex posterior border in frontal view, smooth and shining with punctures. Clypeus slightly produced anteriorly with straight anterior border. Mandibles with 4 teeth. First 5 segments of antennae in a ratio 11:2:5:5:5 in length. Eyes 0.80 mm in length; WF 1.45 x EL. POL:AOL = 12:11; OOL 1.5 x WOT; AOL 0.13 mm.

Pro- and mesonotal dorsum smooth and shining, only scantily punctate. Propodeum 1.2 x as wide as long; median carina almost reaching the posterior border; 2 pairs of submedian carinae present; basal triangular area reticulate.

Gaster 3.3 mm in length; subgenital plate as in Figs. 490 and 491.

Material examined. Male, Carin Cheba, 900-1100 m, [Burma], V. 88, L. Fea leg. [holotype; MCSN].

2) Taiwanese species of the Genus *Pristocera* and *Acrepyris*

Key to the Taiwanese species of *Pristocera* and *Acrepyris*

1. Male (wings present)..... 2
- Female (completely wingless)..... 4
2. Gaster petiolate; subgenital plate deeply incised, so divided into two lobes *Pristocera formosana* Miwa & Sonan
- Gaster sessile; subgenital plate simple, not divided into two lobes 3
3. Propodeum without transverse carina, sublateral areas reticulate; mandibles with 5 teeth..... *Acrepyris tainanensis* sp. nov.
- Propodeum with transverse carina, sublateral areas mostly smooth; mandibles with 4 teeth..... *Acrepyris takasago* sp. nov.
4. Anterior border of propodeum V-shaped..... *Pristocera formosana* Miwa & Sonan
- Anterior border of propodeum U-shaped..... *Acrepyris mieae* sp. nov.

Pristocera formosana Miwa & Sonan, 1935

(Figs. 472-478)

Pristocera formosana Miwa & Sonan, 1935. Trans Nat. Hist. Soc. Formosa, 25:

91.

Pristocera formosana: Yasumatsu, 1955. Jour. Fac. Agr. Kyushu Univ., 10: 235.

Diagnosis. Male. HL 1.65-2.15mm; HW 1.55-2.10mm; WF 1.00-1.40 mm; AL 2.85-3.70 mm; LP 1.00-1.10 mm; WPD 1.10-1.45 mm; FWL 5.2-6.4 mm; TL 8.0-9.5 mm.

Head and alitrunk black; gaster dark reddish brown; mandibles, antennae, and legs reddish brown.

Head almost as long as wide. Mandibles with 4 teeth. Anterior border of clypeus broadly rounded. Antennae short, not reaching the posterior end of propodeum; funiculus with short subdecumbent and long erect hairs (Fig. 473). Eyes 0.70-0.85 mm in length.

Pronotal disc trapezoidal, 0.36 x as long as wide; anterior border carinate; surface smooth with scattered with shallow punctures. Propodeum slightly wider than long; median carina almost reaching the posterior corner of disc; basal and sublateral areas reticulate.

Gaster petiolate; subgenital plate as in Fig. 475; genitalia as in Fig. 476.

Female. HL 1.20 mm; HW 1.00 mm; AL 1.85 mm; LP 0.98 mm; WPD 0.53 mm; TL 5.0 mm.

Body castaneous; legs and antennae yellowish brown.

Head as shown in Fig. 477, smooth and shining and moderately punctate; punctures of occiput fewer than those on front. Pronotal disc smooth and shining, with scattered relatively large punctures; mesonotum smooth and shining, impunctate. Propodeal disc as in Fig. 478, smooth and shining and impunctate; declivity with transverse rugulae.

Specimens examined. Taiwan. 1m, Taichung, Lincuo, 25.V.1933 [holotype; TARI; Type No. 209.]; 4m, Shinchiku (Shinshu Hsien), 1-30.VII.1918, J. Sonan & K. Miwa leg. [paratypes; TARI]; 1m, Funkiko (Chiayi Hsien), 26.VII.1927, J. Sonan & K. Miwa leg. [paratype; TARI]; 1m, Taichung, Lincuo, 25.V.1933 [paratype; TARI]; 1m, 1f, Tyokakurai, Daibu, 27.VII.1936, S. Asahina leg. [KUF]; 1m, Kenting Park, Pingtung Hsien, 15.VI.1970, Y. Hori leg. [EUM].

Host. *Melanotus tamsuyensis* and *Agonischius obscuripes* (Coleoptera: Elateridae) (Miwa & Sonan, 1935).

Distribution. Taiwan, Korea.

Acrepyris mieae sp. nov.

(Fig. 493)

Holotype. Female. HL 1.23 mm; HW 0.94 mm; AL 1.90 mm; TL 6.3 mm.

Head and alitrunk black; gaster brown; mandibles reddish brown; antennal scapes reddish brown; funiculus and legs yellowish brown.

Head 1.3 x as long as wide, with straight posterior border and rounded posterolateral corners; anterior half of lateral borders parallel in frontal view; surface shining and very weakly microreticulate, with strong punctures; punctures separated by 1-2 x their own diameter. Mandibles with 4 teeth. Anterior clypeal margin broadly rounded with a median notch. Antennae with 13 segments; scape widest at apical most, 2.9 x as long as wide; 2nd and 3rd segments each as long as wide; 4th to 12th each wider than long; apical segment 1.5 x as long as wide. Eyes 0.06 mm in diameter, each consisting of 4 facets.

Pronotal disk slightly longer than wide, weakly microreticulate and rather smooth and shining; median longitudinal portion impunctate; lateral and anterior portions moderately punctate. Mesonotal dorsum with about 12 punctures. Propodeal disc with U-shaped anterior border; maximum width 2.5 x minimum width; anterior 4/5 of surface smooth and shining with scattered punctures; posterior 1/5 and declivity strongly microreticulate. Dorsal surface of mesopleura smooth and shining, with 4-5 punctures; lateral surfaces almost smooth to weakly microreticulate and moderately punctate.

Gaster ca. 3.0 mm in length; maximum width 1.05 mm as seen from above.

Holotype. Female. Fenchifu, Chiayi Hsien, 1.VI.1981, M. Isono leg. [TE].

Paratype. 1f, Wushe, Nantou Hsien, 1.V.1929. [NASM].

Acrepyris tainanensis sp. nov.

(Figs. 494-497)

Holotype. Male. HL 1.78 mm; HW 1.73 mm; WF 1.15 mm; LA 3.60 mm; LP 1.30 mm; WPD 1.20 mm; FWL 6.1 mm; TL 8.6 mm.

Body black; gaster black with brownish tinge; tip of mandibles reddish brown; legs blackish brown; forewings subhyaline and tinged with brown; hindwings almost hyaline.

Head as long as wide with convex posterior border in frontal view, coarsely punctate; punctures strong, separated by less than 0.5 x their own diameter. Mandibles with 5 teeth. Clypeus truncate apically. Eyes 0.70 mm in length, WF 1.64 x EL. First 5 segments of antennae in a ratio of 27:5:21:18:18 in length. Ocelli forming a compact triangle; OOL 1.4 x WOT.

Pronotal disc trapezoidal, with 6-7 relatively irregular transverse ruga. Mesoscutum coarsely punctate; scutellum rather smooth scattered small punctures. Propodeum almost as long as wide; weak but complete transverse carina present; punctures as in Fig. 497.

Holotype. Male, Raisha, 30.VIII.1927, J. Sonan & K. Shibata leg. [HUS].

Paratypes. 1m, Kanshirei, 20.XI.1926, J. Sonan leg. [HUS]; 1m, Kuanzuling, Tainan Hsien, 10.IX.1980, M. Terayama leg. [TE].

Acrepyris takasago sp. nov.

(Figs. 498-501)

Holotype. Male. HL 1.13 mm; HW 1.08 mm; WF 0.65 mm; LA 2.23 mm; LPD 0.75 mm; WPD 0.68 mm; FWL 4.2 mm; TL 6.1 mm.

Head and alitrunk black; gaster blackish brown; mandibles yellow except apices reddish; antennae yellowish brown; legs yellowish brown, basal 2/3 of femora darker; wings hyaline.

Head oval, slightly longer than wide, with strongly convex posterior border in frontal view; surface smooth and shining with moderately punctate; punctures rather small, separated by 1.5-2.5 x their own diameter. Mandibles with 4 teeth. Clypeus slightly produced; anterior border straight. First 5 segments of antennae in a ratio of 16:4:11:10:10 in length; 2nd segment as long as wide, 3rd 3.7 x as long as wide. Eyes 0.48 mm in length; WF 1.37 x EL. POL:AOL = 4:3, OOL 1.5 x WOT.

Pronotal disc 0.46 x as long as wide; anterior border broadly rounded; surface smooth with moderately punctate. Mesonotum smooth, punctures fewer than those on pronotum. Propodeal disc 1.1 x as long as wide, with distinct transverse carina; median carina reaching the transverse carina; basal triangular area longer than wide, reticulate; sublateral areas smooth in most part.

Metacarpus veins with length 1.25 x pterostigma; subdiscoidal veins not reaching the margin of the wing.

Holotype. Male, Tokkasha, Nantou Hsien, 17.III.1978, A. Shinohara leg.

[NASM].

Paratype. 1m, Shaorin, Formosa, 26.VII.1929, C. Watanabe leg. [HUS].

3) Three new species of the genus *Pseudisobrachium* from Thailand

Pseudisobrachium fulleri sp. nov.

(Figs. 501-502)

Holotype. Male, HL 0.83 mm; HW 0.75 mm; FW 0.53 mm; LA 0.85 mm; LP 0.80 mm; WPD 0.48 mm.

Head and alitrunk black; gaster blackish brown and 1st to 4th segments each with a yellow band at near posterior border; mandibles and antennae brown; legs yellow.

Head slightly longer than wide, with very weakly convex posterior border, strongly microreticulate with shallow punctures. Mandibles with 5 teeth; apical tooth acute and developed; others small and blunt. Anterior border of clypeus trapezoidal. First 5 segments of antennae in a ratio of 13:3:6:6:5.5 in length. Eyes 0.35 mm in length; FW 1.51 x EL. POL:AOL = 4:3; OOL 1.1 x WOT.

Pronotum and mesoscutum strongly microreticulate; notauli weakly inscribed and present on basal half of mesoscutal disc; microreticulatum on scutellar disc weaker than that on pro- and mesoscuta. Propodeum 1.67 x as long as wide; median carina strong, present at basal 3/5 of propodeum; lateral areas rather smooth, very weakly striate.

Variation. Paratypes vary in head length from 0.60 mm to 1.70 mm, and in head width from 0.55 mm to 1.70 mm.

Holotype. Male, Doi Inthanon National Park, 1300 m, Chiang Mai, Thailand, 7-12.V.1990, E. Fuller leg.

Paratypes. 1m, same data as holotype; 8m, Nakhon Ratchasima, Khao Yai National Park, 700-800 m, 18-24.IV.1990, E. Fuller leg.; 9m, same data 12-18.IV.1990, E. Fuller leg.; 4m, same data, 11-18.IV.1990, E. Fuller leg.; 4m, Bangkok, 180 km N.E., Khao Yai N.P., 780 m, Thailand, 11-18.IV.1990, B.V. Brown leg.; 3m, same data, 18-24.IV.1990, B.V. Brown leg.; 1m, same data, 10-16.IV.1990, B.V. Brown leg.; 1m, same data, 20-24.IV.1990, B.V. Brown leg.; 1m, Chiang Mai, 70 km, Doi Inthanon N. P., 800 m, 7-11.V.1990, B.V. Brown leg.; 2m, Khao Yai Nat. Park, 40 km S of Park Chong, 10-17.II.1989, T. W. Thormin leg.

Type depository. All the types are preserved in the collection of the Provincial Museum of Alberta, Canada.

Pseudisobrachium silvicolum sp. nov.

(Fig. 503)

Holotype. Male, HL 0.93 mm; HW 0.78 mm; FW 0.58 mm; LA 1.05 mm; LP 0.98 mm; WPD 0.60 mm; FWL 3.7 mm; TL 4.5 mm.

Head and alitrunk black; gaster blackish brown; mandibles and antennae reddish brown; legs yellowish brown.

Head elongate, 1.19 x as long as wide, with straight posterior border in

frontal view, strongly microreticulate with shallow punctures. Mandibles with 5 teeth; apical tooth acute and developed, others blunt and small. Anterior border of clypeus trapezoidal. First 5 segments of antennae in a ratio of 17:5:8:6.5:6.5 in length. Eyes 13 mm in length. Front angle of ocellar triangle acute; POL:AOL = 2:3; OOL 1.86 x WOT.

Pronotum and mesoscutum strongly microreticulate; notauli absent; scutellar disc weakly microreticulate. Propodeum 1.63 x as long as wide; median carina long, almost reaching the declivity face; disc microreticulate and irregularly striate.

Variation. The paratypes vary in head length from 0.60 mm to 0.95 mm, and in head width from 0.53 mm to 0.83 mm.

Holotype. Male, Chiang Mai, Doi Inthanon N. P., 2200 m, 28. IV.-6. V. 1990, B. V. Brown leg.

Paratypes. 3m, same data as holotype; 3m, 70 km S.W., Chiang Mai, Doi Inthanon N. P., 2200 m, 6-12. V. 1990, B. V. Brown leg.; 1m, 70 km S. W., Chiang Mai, Doi Inthanon N. P., 1700 m, 3-12. V. 1990, B. V. Brown leg.; 1m, Chiang Mai, Doi Inthanon National Park, 1300 m, 7-12. V. 1990, E. Fuller leg.; 1m, Doi Inthanon Nat. Park, 70 km SW Chiang Mai, 2470 m, 31. I-7. II. 1989, T. W. Thormin leg.; 1m, Doi Inthanon Nat. Park, 70 km SW Chiang Mai, 790 m, 31. I-7. II. 1989, T. W. Thormin leg.

Type depository. All the types are preserved in the Provincial Museum of Alberta, Canada.

Pseudisobrachium lepidum sp. nov.

(Figs. 504-510)

Holotype. Male. HL 0.75 mm; HW 0.65 mm; FW 0.40 mm; LA 1.58 mm; LP 0.70 mm; WPD 0.48 mm; FWL 3.7 mm; TL 3.5 mm.

Head black; alitrunk castaneous; gaster brown; mandibles and antennae reddish brown; coxae, trochanters and femora brown except anterior 1/4 of femora yellow; fore and middle tibiae brown, except anterior and posterior portions yellow; hind tibiae yellow; tarsi yellow.

Head elongate, 1.15 x as long as wide, with straight posterior border in frontal view, coarsely microreticulate with shallow but large punctures densely. Mandibles with 4 teeth of which basal 2nd smallest. Anterior border of clypeus trapezoidal. First 5 segments of antennae in a ratio of 17:3:10:8:8 in length; scape and 3rd segment relatively long. Eyes 0.28 mm in length; FW 1.43 x EL. Ocelli forming a regular triangle; OOL 1.43 x WOT.

Pronotal disc trapezoidal, 0.42 x as long as wide. Anterolateral portion of mesoscutum strongly depressed; notauli present but weak. Propodeum 1.46 x as long as wide, without discal carina, reticulate.

Gaster petiolate; petiole long 2.3 x as long as wide.

Legs long, hind femur 0.73 mm in length.

Holotype. Male, Chiang Mai, Doi Inthanon N. P. 2200 m, 28. IV.-6. V. 1990, B. V. Brown leg.

Type depository. The holotype is deposited in the collection of the

4) A new Species of the genus *Pseudisobrachium* from Hong Kong

Pseudisobrachium hongkongensis sp. nov.

(Figs. 511-513)

Holotype. Female. HL 1.00 mm; HW 0.73 mm; LA 1.80 mm; LP 0.83 mm; WPD 0.43 mm; TL 5.8 mm.

Head and alitrunk blackish brown; gaster brown; mandibles and antennae reddish brown; legs yellow.

Head 1.37 x as long as wide, with straight posterior border in frontal view, smooth with large punctures. Mandibles with 4 teeth (teeth of the left mandible was broken). Clypeus trapezoidal, with a small median angulation. First 5 segments of antennae in a ratio of about 20:4:4:4 in length; scape long, 4.0 x as long as wide, broadest at apex; 2nd to 5th segments each almost as long as wide. Eyeless.

Pronotum 2.1 x as long excluding collar as wide in dorsal view; 0.33 mm in dorsal width; dorsal surface smooth with strong punctures except to median area which is impunctate, lateral surfaces microreticulate. Mesonotum 1.1 x as wide as long, smooth with scattered large punctures. Propodeum 1.93 x as long as wide; maximum width 3.0 x minimum width; surface smooth and rather subopaque, with scattered punctures. Mesopleura mostly smooth, moderately punctate.

Gaster sessile; 0.58 mm in dorsal maximum width. Middle tibiae spinose.
Holotype. Female, Taipo, Hong Kong, 1. IV. 1989, M. Terayama leg. [NIAES].

5) Taiwanese species of the genus *Apenesia*

Key to the Taiwanese species of *Apenesia*

1. Mandibles with an apical tooth only; discoidal vein arising well down on transverse median vein.....2
- Mandibles with 3-5 teeth; discoidal vein interstitial with median vein or nearly so.....3
2. Head microreticulate; median carina of propodeum present at 1/2 of disc.....*A. formsimonticola* sp. nov.
- Head smooth; median carina reaching the transverse carina.....*A. pingtongensis* sp. nov.
3. Eyes without hair; clypeus broadly rounded without median angulation; mandibles with 5 teeth.....*A. chitouensis* sp. nov.
- Eyes with short erect hairs; clypeus with a median angulation; mandibles with 3 or 4 teeth.....4
4. Head elongate, 1.2 x as long as wide; mandibles with 3 teeth.....*A. liukueiensis* sp. nov.
- Head almost as long as wide; mandibles with 4 teeth.....*A. meifuiae* sp. nov.

Apenesia chitouensis sp. nov.

(Figs. 514-516)

Holotype. Male. HL 1.08 mm; HW 0.95 mm; WF 0.60 mm; LA 1.98 mm; LP 0.88 mm; WPD 0.60 mm; FWL 4.1 mm; ca. TL 5.4 mm.

Head black; alitrunk blackish brown; gaster castaneous, each posterior border of tergites with yellow band; mandibles yellow; antennal 1st to 3rd segments yellow, 4th to terminal segments brownish; legs yellow.

Head 1.14 x as long as wide, with weakly convex posterior border in frontal view, smooth and moderately punctate. Mandibles with 5 teeth; apical tooth acute and longest. Clypeus with a broad U-shaped emargination. First 5 segments of antennae in a ratio of about 14:4:12:11:10 in length; 2nd segment as long as wide; 3rd 3.7 x as long as wide. Eyes 0.50 mm in length; WF 1.2 x EL. POL:AOL = 8:7; OOL 1.3 x WOT.

Pronotal disc trapezoidal; maximum width 1.89 x its median length, 2.43 x minimum width; surface smooth and shining with scattered punctures. Mesonotum smooth and moderately punctate. Propodeum long, 1.47 x as long as wide, with parallel sides in dorsal view; median carina weak, present on basal 2/3 of propodeum; basal area reticulate; sublateral areas coarsely microreticulate with rugosity; transverse carina absent.

Gaster sessile. Discoidal vein of forewings arising slightly down on transverse median vein; length of metacarpus vein 1.22 x pterostigma.

Holotype. Male, Chitou, Nantou Hsien, 6.III.1968, T. Kunou leg. [NIAES].

Apenesia formosimonticola sp. nov.

(Figs. 520-522)

Holotype. Male. HL 1.26 mm; HW 1.10 mm; WF 0.70 mm; LA 2.45 mm; LP 0.93 mm; LPD 0.63 mm; WPD 0.70 mm; FWL 4.6 mm; TL 6.0 mm.

Head and alitrunk black; gaster blackish brown; mandibles, antennae and legs brownish yellow.

Head slightly longer than wide, with convex posterior border in frontal view; posterolateral borders not forming an angle; surface strongly microreticulate with relatively large punctures densely; punctures separated by 0.5-1.0 x their own diameter. Mandibles with an acute apical tooth alone. Anterior border of clypeus triangular, forming an obtuse angle. First 5 segments of antennae in a ratio of 17:4:10:10:10 in length; 2nd segment almost as long as wide; 3rd 2.9 x as long as wide. Eyes 0.53 mm in length; WF 1.33 x EL. Ocelli forming a regular triangle; OOL 1.64 x WOT.

Pronotal disc trapezoidal; maximum width 1.86 x its minimum width; surface smooth with punctures moderately. Mesonotum smooth; median area impunctate in most part. Propodeal disc 0.90 x as long as wide; median carina weak, present at anterior 1/2 of disc; transverse carina present, but indistinct at middle; basal triangular area depressed with oblique rugae; sublateral areas coarsely microreticulate.

Gaster sessile. Discoidal vein of forewings arising well down on

transverse median vein; metacarpus vein short, 0.5 x as long as pterostigma.

Holotype. Male. Meifeng-Sung kang, Nantou Hsien, 4.V.1978, A. Shinohara leg. [NASM].

Apenesia liukueiensis sp. nov.

(Figs. 528-530)

Holotype. Male. HL 0.68 mm; HW 0.58 mm; WF 0.35 mm; LA 1.25 mm; LP 0.49 mm; WPD 0.30 mm; FWL 2.1 mm; TL 3.5 mm.

Head blackish brown; alitrunk castaneous except propodeum dark brown; gaster castaneous; lateral and posterior portion of 1st gastral tergite yellow; antennae, mandibles and legs yellowish brown with reddish tinge.

Head longer than wide, with strongly convex posterior border; posterolateral corners not forming an angle in frontal view; surface weakly microreticulate with scattered shallow punctures. Mandibles with 3 teeth. Clypeus broadly truncate apically, with a small median angulation. First 5 segments of antennae in a ratio of 10:3:4:4:4 in length. Eyes with short erect hairs; 0.30 mm in length; WF 1.17 x EL. Ocelli forming a regular triangle.

Pronotal disc trapezoidal and microreticulate; maximum width 3.2 x minimum width; transverse fovea present at posteriorly. Mesonotum microreticulate. Propodeum 1.63 x as long as wide; transverse carina absent; surface of disc with strong rugae.

Gaster sessile. Discoidal vein interstitial with median vein.

Holotype. Male. Liukuei, Kaohsiung Hsien, 29.IV.1971, N. Fukuhara leg. [NIAES].

Apenesia meifuiae sp. nov.

(Figs. 523-527, 530)

Holotype. Male. HL 0.90 mm; HW 0.85 mm; WF 0.53 mm; AL 1.78 mm; LP 0.73 mm; WPD 0.55 mm; FWL 3.2 mm; TL 4.9 mm.

Head and alitrunk blackish brown; head and propodeum much darker than other portion of alitrunk; gaster reddish brown; mandibles yellowish brown; clypeus reddish brown except median carina blackish; antennae and legs yellow.

Head slightly longer than wide, with convex occipital border; posterolateral borders not forming an angle in frontal view; surface microreticulate and moderately punctate; punctures relatively shallow, separated by 1-2 x their own diameter. Mandibles with 4 teeth. Median lobe of clypeus broad, forming obtuse angle. Eyes 0.38 mm in length, with scattered erect hairs; WF 1.39 x EL. First 5 segments of antennae in a ratio of 14:3:8:8:7 in length; 3rd segment 2.7 x as long as wide. Front angle of ocellar triangle obtuse; OOL 1.3 x WOT.

Pronotal disc trapezoidal, microreticulate with shallow punctures; maximum width 3.1 x minimum width. Mesonotum microreticulate. Propodeum 1.33 x as

long as wide; transverse carina absent; median carina present on basal half of propodeum; basal triangular area strongly reticulate.

Gaster sessile. Discoidal vein of forewings interstitial with median vein; metacarpus vein 1.59 x as long as pterostigma.

Variation. The paratypes are smaller than the holotype; head length from 0.73 mm to 0.80 mm, head width from 0.63 mm to 0.70 mm, and punctures on head weaker. Gaster varies in color from reddish brown to blackish brown, and antennae from yellow to yellowish brown.

Holotype, Male, Wushe, Nantou Hsien, 14.VII.1982, M. Terayama leg. [TE].

Paratypes. 1m, Nanshanchi, nr. Puli, Nantou Hsien, 15.III.1979, A. Shinohara leg. [NASM]; 1m, Tokkasha, Nantou Hsien, 20. III. 1978, A. Shinohara leg. [NASM].

Apenesia pingtungensis sp. nov.

(Figs. 517-519)

Holotype. Male. HL 1.20 mm; HW 1.10 mm; WF 0.65 mm; LA 2.05 mm; LPD 0.50 mm; WPD 0.75 mm; FWL 3.5 mm; TL 5.4 mm.

Body black; mandibles, antennae, and legs reddish brown.

Head slightly longer than wide, with weakly convex posterior border in frontal view; surface smooth and densely punctate; punctures relatively large and strong, separated by ca. 0.5 x their own diameter. Mandibles with an api-

cal tooth only; 2 longitudinal straight rugae present as in Fig. 518. Anterior border of clypeus triangular, forming a right angle. First 5 segments of antennae in a ratio of 15:3:7:6.5:6.5 in length; 3rd segment 2.0 x as long as wide. Eyes 0.53 mm in length, without hair; WF 1.21 x EL. Front angle of ocellar triangle slightly less than a right angle; OOL 1.33 x WOT.

Anterior border of pronotal disc round, disc 0.5 x as long as maximum width, smooth and punctate; punctures separated by ca. 1.0 x their own diameter. Mesonotum smooth with scattered punctures. Propodeal disc 0.67 x as long as wide; transverse carina present but weak; median carina reaching the transverse carina; basal triangular area with longitudinal rugae; sublateral areas with transverse rugulae.

Gaster sessile. Discoidal vein arising well down on transverse median vein. Metacarpus vein shorter than pterostigma.

Holotype. Male, Kentin Park, Pingtung Hsien, 16.III.1968, T. Okadome leg. [NIAES].

6) Asian species of the genus *Dissomphalus*

Genus *Dissomphalus*

Dissomphalus thaianus sp. nov.

(Figs. 531-534)

Holotype. Male. HL 1.10 mm; HW 1.10 mm; FW 0.68 mm; LA 1.63 mm; LPD 0.50 mm; WPD 0.75 mm; FWL 3.4 mm; TL 4.5 mm.

Head and alitrunk black; gaster dark brown, posterior borders of each tergites with reddish brown band; mandibles, antennae and legs cream yellow.

Head as long as wide, microreticulate and coarsely punctate. Mandibles with a sharp apical tooth only. Clypeus with 2 dull angles and a median tooth as in Fig. 531. First 5 antennal segments in a ratio of about 14:4:5:5:5 in length. Eyes 0.50 mm in length. Ocelli forming a regular triangle; OOL 1.3 x WOT.

Pronotal disc 0.26 x as long as wide, microreticulate with shallow punctures densely. Mesonotum microreticulate, more sparsely punctate than those on head and pronotum. Propodeal disc 0.67 x as long as wide; median carina present on basal 9/10 of disc; basal triangular area strongly reticulate; sub-lateral areas smooth and shining.

Constriction of 2nd gastral tergite as in Fig. 534.

Variation. Specimens examined vary in head length from 0.48 mm to 1.10 mm, and in head width from 0.48 mm to 1.10 mm. Gaster of small individuals are uniformly black to blackish brown.

Holotype. Male, Nakhon Ratchasima, Khao Yai National Park, 700-800m, Thailand, 18-24. IV. 1990, E. Fuller leg. [PMA].

Paratypes. 57m, same data as holotype [PMA]; 63m, same locality, 12-18. IV. 1990, E. Fuller leg. [PMA]; 1m, 70 km S. W., Chiang Mai, Doi Inthanon, N. P., 1700 m, 27. IV-3. V. 1990, B. V. Brown leg. [PMA]; 23m, Bangkok 180 km N. E., Khao Yai N. P., 780 m, Thailand, 10-16. IV. 1990, B. V. Brown leg. [PMA]; 22m, same locality, 11-18. IV. 1990, B. V. Brown leg. [PMA]; 12m, same locality, 16-24. IV. 1990, B. V. Brown leg. [PMA]; 4m, same locality, 16-20. IV. 1990, B. V. Brown leg. [PMA]; 6m, same locality, 18-24. IV. 1990, B. V. Brown leg. [PMA]; 12m, same locality, 20-24. IV. 1990, B. V. Brown leg. [PMA]; 10m, same locality, 27. IV-3. V. 1990, B. V. Brown leg. [PMA]; 7m, same locality, 3-12. V. 1990, B. V. Brown leg. [PMA]; 1m, same locality, 7-11. V. 1990, B. V. Brown leg. [PMA]; 4m, Khap Yai Nat. P., 40 km S of Pak Chong, Thailand, 10-17. II. 1989, T. W. Thormin leg. [PMA]; 1m, Doi Inthanon Nat. Park, 70 km SW Chiang Mai, Thailand, 31. I-7. II. 1989, T. W. Thormin leg. [PMA]; 1m, Doi Inthanon National Park, 1300 m, Chiang Mai, Thailand, 7-12. V. 1990, E. Fuller leg. [PMA].

Other materials examined. 1m, Karnataka, Bangalore, 916 m, India, 11-20. IX. 1988, K. Ghorpade leg.; 3m, same locality, 1-10. IX. 1988, K. Ghorpade leg.; 2m, Tamil Nadu, Mudumalai Natl. Pk., 900 m, India, 20-30. VII. 1984, B. Gill leg.; 5m, Karnataka, Yellapur, 12 km sw., 500 m, India, 7. VI-

14.VIII.1984, B. Gill leg.

Dissomphalus Chiangmaiensis sp. nov.

(Figs. 535-537)

Holotype. Male. HL 0.75 mm; HW 0.80 mm; FW 0.49 mm; LA 1.25 mm; LPD 0.40 mm; WPD 0.53 mm; FWL 2.8 mm; TL 2.9 mm.

Body black; mandibles yellowish brown; antennal scapes and pedicels yellowish brown; flagellums brown; legs yellow except trochanters dark brown.

Head almost 0.94 x as long as wide, microreticulate with shallow punctures relatively sparsely. Mandibles with 2 teeth. Median lobe of clypeus rather narrow, forming an acute angle as in Fig. 535. First 5 segments of antennae in a ratio of 10:3:3:3.5:3.5 in length. Eyes 0.33 mm in length.

Front angle of ocellar triangle less than a right angle; POL:AOL = 6:5; OOL 1.43 x WOT.

Pronotal disc 0.32 x as long as wide, microreticulate and impunctate; anterior border emarginate. Mesonotum microreticulate, impunctate. Propodeal disc 0.75 x as long as wide; median carina present on basal 2/3 of disc; basal triangular area reticulate; sublateral areas smooth and shining.

Constriction of 2nd gastral tergite as in Fig. 537.

Variation. Paratypes vary in head length from 0.53 mm to 0.85 mm, and in head width from 0.53 mm to 0.81 mm.

Holotype. Male, Chiang Mai, Doi Inthanon National Park, 1700 m, Thailand, 29. IV.-7. V. 1990, E. Fuller leg. [PMA].

Paratypes. 4m, same data as holotype [PMA]; 8m, 70 km S. W., Chiang Mai, Doi Inthanon N. P. 38 km, 1700 m, Thailand, 27. IV.-3. V. 1990, B. V. Brown leg. [PMA]; 4m, same locality, 3-12. V. 1990, B. V. Brown leg. [PMA].

Dissomphalus browni sp. nov.

(Figs. 538-540)

Holotype. Male. HL 0.98 mm; HW 1.00 mm; FW 0.63 mm; LA 1.53 mm; LPD 0.50 mm; WPD 0.78 mm; FWL 3.0 mm; TL 3.8 mm.

Body black; mandibles yellowish brown, antennae and legs yellow.

Head almost as long as wide, microreticulate and weakly punctate. Mandibles with 5 teeth; apical tooth acute; subapical smaller and blunt; basal 3 smallest and obscure. Median lobe of clypeus broad, with a small median angulation as in Fig. 538. First 5 segments of antennae in a ratio of 9:4:3:4:4 in length. Eyes 0.48 mm in length. Ocelli almost forming a regular triangle; OOL 1.3 x WOT.

Pronotal disc 0.26 x as long as wide, microreticulate with shallow punctures moderately. Mesonotum microreticulate with shallow punctures. Propodeal disc 0.64 x as long as wide; median carina reaching the transverse carina; basal triangular area strongly reticulate as in Fig. 539; sublateral areas al-

most smooth but very weakly microreticulate.

Constriction of 2nd gastral tergite as in Fig. 540.

Variation. Head length varies from 0.68 mm to 0.98 mm, and head width from 0.68 mm to 1.00 mm.

Holotype. Male, 70 km S. W., Chiang Mai, Doi Inthanon, N. P. 38 km 1700 m, Thailand, 3-12.V.1990, B. V. Brown leg. [PMA].

Paratypes. 4m, same data as holotype [PMA]; 2m, same locality, 27.IV.-3.V.1990, B. V. Brown leg. [PMA]; 1m, Nakhon Ratchasima, Khao Yai N. P., 700-800 m, Thailand, 12-18.IV.1990, E. Fuller leg. [PMA]; 1m, same locality, 11-18.IV.1990, E. Fuller leg. [PMA]; 1m, same locality, 18-24.IV.1990, E. Fuller leg. [PMA]; 2m, 180 km N. E., Bangkok, Khao Yai N. P., 780 m, Thailand, 11-18.IV.1990, B. V. Brown leg. [PMA].

Dissomphalus philippinensis sp. nov.

(Figs. 545-548)

Holotype. Male. HL 0.65 mm; HW 0.70 mm; FW 0.38 mm; LA 1.00 mm; LPD 0.30 mm; WPD 0.45 mm; FWL 1.9 mm; TL 2.5 mm.

Head blackish brown; alitrunk and gaster castaneous; mandibles, antennae and legs yellow.

Head slightly wider than long, strongly microreticulate with scattered

very weak punctures. Mandibles with 3 teeth; apical tooth acute and developed; basal 2 minute and obscure. Clypeus tridentate as in Fig. 545. First 5 segments of antennae in a ratio of about 8:2:2:2:2.5 in length. Eyes 0.35 mm in length. Ocelli forming a compact regular triangle; OOL 1.29 x WOT.

Pronotal disc 0.29 x as long as wide, strongly microreticulate and impunctate. Mesonotum microreticulate, impunctate. Propodeal disc 0.67 x as long as wide; median carina present on basal 2/3 of disc; basal triangular area reticulate; sublateral areas smooth except posterolateral portions moderately reticulate.

Constriction of 2nd gastral tergite as in Figs. 547 & 548.

Holotype. Male, Leyte, Baybay, Philippines, 6.II.1983, C. K. Starr & M. Tumilap leg. [PMA].

Dissomphalus wushenus sp. nov.

(Figs. 541-542)

Holotype. Male. HL 0.73 mm; HW 0.75 mm; FW 0.45 mm; LA 1.30 mm; LPD 0.40 mm; WPD 0.55 mm; FWL 2.5 mm; TL 3.2 mm.

Head black; alitrunk blackish brown; gaster brown; mandibles; antennae and legs yellow.

Head as long as wide, strongly microreticulate with shallow punctures coarsely. Mandibles with 3 teeth; apical tooth largest and acute; middle

acute triangular; basal tooth broad and round. Median lobe of clypeus with 2 blunt angles and a median tooth. First 5 antennal segments in a ratio of 11:4:4.5:4:4.5 in length. Eyes 0.30 mm in length. Ocelli relatively large, forming a regular triangle; OOL 1.38 x WOT.

Pronotal disc 0.31 x as long as wide, strongly microreticulate; anterior half with shallow punctures. Mesonotum microreticulate, impunctate. Propodeal disc 0.73 x as long as wide; median carina present on basal 2/3 of disc; basal triangular area rather densely reticulate; sublateral areas smooth and shining except for posterolateral portions weakly microreticulate.

Constriction of 2nd gastral tergite as in Fig. 542.

Variation. The smallest individual with the following measurements: HL 0.48 mm; HW 0.48 mm; TL 2.8 mm.

Holotype. Male, Wushe, 1150 m, Taiwan, 23.III.1988, H. & M. Townes leg. [PMA].

Paratypes. 2m, same data as holotype [PMA].

Dissomphalus kinabalensis sp. nov.

(Figs. 543-544)

Holotype. Male. HL 0.83 mm; HW 0.81 mm; FW 0.53 mm; LA 1.30 mm; LPD 0.45 mm; WPD 0.55 mm; FWL 2.9 mm; TL 3.1 mm.

Body black; mandibles cream yellow; antennal scapes and pedicels cream

yellow; flagellums brown; legs cream yellow.

Head as long as wide, microreticulate and impunctate. Mouth parts not dissected, but at least one acute apical tooth is recognizable. Clypeus produced anteriorly; median portion dully angulate as in Fig. 543. First 5 segments of antennae in a ratio of 13:4:3.5:4:4 in length; scape relatively long, 4.3 x as long as wide. Eyes 0.35 mm in length, with very short erect hairs. Front angle of ocellar triangle acute; POL:AOL = 4:5; OOL 1.25 x WOT.

Pronotal disc 0.29 x as long as wide, microreticulate and impunctate; anterior border carinate. Mesonotum microreticulate. Propodeal disc 0.82 x as long as wide, smooth and shining, without basal triangular area; median carina present on basal 3/4 of disc.

Constriction of 2nd gastral tergite as in Fig. 544; long suberect hairs present.

Holotype. Male, Sabah, Mt. Kinabalu N. P., 1580 m, Borneo, Indonesia, 17.V.1987, A. Smetana leg. [PMA].

Paratypes. 1m, same data as holotype [PMA]; 2m, same locality, 1560 m, 23.V.1987, A. Smetana leg. [PMA].

Dissomphalus nepalensis Terayama

(Figs. 549-551)

Dissomphalus nepalensis Terayama, [This paper.]

Diagnosis. Male. HL 0.70-0.95 mm; HW 0.70-0.98 mm; FW 0.40-0.55 mm; TL 2.5-3.0 mm.

Head as long as wide to slightly wider than long, densely microreticulate with shallow punctures. Mandibles with 5 teeth. Anterior clypeal margin broadly rounded, with a median tooth.

Propodeal disc 0.65 x as long as wide; median carina present on basal 4/5 of disc; basal triangular area mostly shining and weakly reticulate; sub-lateral areas smooth and shining.

The constriction of 2nd gastral tergite as in Fig. 551.

Material examined. 1f, Lothar 450 ft., nr. Birganj, Nepal, 6-12.IX.1967 [holotype; CNC]; 2m, same locality, 30.VIII.-5.IX.1967 [paratypes, CNC]; 1m, same locality, 1.IX.1967 [paratype, CNC]; 1m, same locality, 12-19.IX.1967 [paratype, CNC]; 3m, Kakani forest 2070 m, Nepal, 1-15.IX.1984, H. G. Allen leg. [paratype, CNC]; 1m, Karnataka, Bangalore, 916 m, India, 1-7.IX.1987, K. Ghorpade leg. [PMA].

Distribution. Nepal, Northern India.

7) Descriptions of three new species of the genus *Dissomphalus* of Asia based on the females

Dissomphalus borneensis sp. nov.

(Figs. 554-555, 557)

Holotype, Female. HL 0.40 mm; HW 0.31 mm; LA 0.65 mm; LP 0.40 mm; WPD 0.17 mm; TL 2.0 mm.

Body brown; mandibles, antennae and legs yellow.

Head 1.29 x as long as wide, with convex posterior border in frontal view, microreticulate with scattered shallow punctures. Mandibles with acute apical and preapical teeth and 2 small basal teeth. Anterior border of clypeus trapezoidal. Antennae with 13 segments; scape broadest at posteriormost, 2.3 x as long as wide; 2nd segment slightly longer than wide; 3rd to 12th segments each wider than long; terminal segment 1.2 x as long as wide. Eyes each consisting of 6 ommatidia.

Pronotum 1.2 x as long as wide in dorsal view, microreticulate. Mesonotum 2.5 x as long as wide. Propodeum 2.35 x as long as wide; maximum width 0.86 x minimum width; surface microreticulate, but microreticulation weaker than that on pronotum.

Maximum width of gaster 0.43 mm as seen from above.

Holotype, Female, Borneo, Indonesia, 16.VIII.1989 [NIAES].

Dissomphalus khaoyaiensis sp. nov.

(Figs. 553, 559)

Holotype. Female. HL 0.55 mm; HW 0.40 mm; LA 0.88 mm; LP 0.44 mm; WPD 0.23 mm; TL 2.5 mm.

Body reddish brown; petiole and most part of 1st and 2nd gastral tergites blackish brown; mandibles, antennae and legs yellow.

Head 1.28 x as long as wide, with straight posterior border in frontal view, microreticulate and moderately punctate. Mandibles with 2 acute teeth. Anterior border of clypeus broadly rounded. Antennae with 13 segments; scape 3.0 x as long as wide; 2nd segments slightly wider than long, 3rd to 12th segments each wider than long; apical segments 1.2 x as long as wide. Eyes each consisting of 5 ommatidia

Pronotum 1.0 x as long as wide excluding collar in dorsal view, strongly microreticulate. Mesonotum 0.43 x as long as wide. Propodeum 1.91 x as long as wide; maximum width 0.89 x minimum width in dorsal view.

Gaster smooth and shining, maximum width 0.53 mm as seen from above.

Holotype. Female, 180 km N. E. Bangkok, Khao Yai N. P., 780 m, 11-18. IV. 1990, B. V. Brown leg. [PMA].

Dissomphalus chiponensis sp. nov.

(Fig. 552, 556, 558)

Holotype. Female, HL 0.65 mm; HW 0.53 mm; LA 1.05 mm; LP 0.53 mm; WPD 0.30 mm; TL 3.0 mm.

Body brown, with reddish tinge; mandibles brown; antennae and legs yellow.

Head rectangular, 1.23 x as long as wide, with weakly convex posterior border in frontal view; surface rather weakly microreticulate with shallow but relatively large punctures moderately, anterior border of clypeus with 3 pairs of small teeth; median projection as in Fig. 552. Mandibles with 3 teeth; apical tooth acute and developed; basalmost blunt and small. Antennae with 13 segments; scape 3.4 x as long as wide; 2nd segment of antennae almost as long as wide, 3rd to 12th wider than long; terminal segment 1.4 x as long as wide. Eyes each consisting of 7 ommatidia.

Pronotum 1.0 x as long as wide excluding collar in dorsal view, strongly microreticulate with large but relatively weak punctures. Mesonotum 0.39 x as long as wide. Propodeum 1.77 x as long as wide; maximum width 0.75 x minimum width; disc strongly microreticulate.

Gaster smooth, maximum with 0.70 mm as seen from above.

Holotype. Female, Chipen, Taitong Hsien, Taiwan, 10. VIII. 1980, M. Terayama leg. [NIAES].

8) Descriptions of new species of the genera *Parascleroderma*
and *Apenesia* from Asia

Genus *Parascleroderma*

Parascleroderma atayal sp. nov.

(Figs. 561-567)

Holotype. Male. HL 0.73 mm; HW 0.73 mm; WF 0.53 mm; LA 0.83 mm; LPD 0.58 mm; WPD 0.55 mm; FWL 2.9 mm; TL 5.0 mm.

Head and alitrunk black; gaster blackish brown; mandibles and antennae black; coxae and femora blackish brown; fore femora almost black; tibiae brown; tarsi yellowish brown.

Head as long as wide, with almost straight but very weakly concave posterior border in frontal view, microreticulate with shallow punctures very sparsely. Mandibles with 5 teeth; basal 2nd and 3rd teeth smaller than the others. Median lobe of clypeus small, broadly rounded. First 5 segments of antennae in a ratio of 11:5:5:4:4 in length. Eyes 0.33 mm in length, without hair; WF 1.61 x EL. Ocellar triangle flat; OOL 1.1 x WOT.

Pro- and mesonotum microreticulate. Propodeal disc 1.05 x as long as wide; broadest at posterior 1/3 in dorsal view; disc microreticulate with a median carina.

Subgenital plate as shown in Fig. 565; genitalia as in Figs. 566 & 567.

Holotype. Male, Ren-ai Xian 1700 m alt., Nantou Hsien, Taiwan, 28.III.1989, M. Terayama leg. [TE].

Parascleroderma bangkokensis sp. nov.

(Figs. 569, 571)

Holotype. Male. HL 0.73 mm; HW 0.60 mm; 0.38 mm; LA 1.38 mm; LPD 0.45 mm; WPD 0.45 mm; FWL 2.3 mm; TL 3.8 mm.

Body black; gaster castaneous; antennal scapes brown cexcept anterior 1/5 yellow; 2nd and 3rd segments yellow; 4th to terminal segments brown; coxae and femora dark brown; tibiae and tarsi yellow.

Head 1.22 x as long as wide, with straight posterior border, microreticulate and scattered shallow small punctures. Median lobe of clypeus small, broadly rounded. First 5 segments of antennae in a ratio of 10:4:4:3.5:3.5 in length. Eyes 0.30 mm in length. POL:AOL = 5:2; OOL 1.0 x WOT.

Pro- and mesonotum microreticulate; notauli linear and paralleled. Propodeal disc as long as wide, weakly microreticulate.

1st and 2nd gastral tergites smooth and shining; 3rd to 6th targites very weakly microreticulate. Median vein of forewings arining at anterior 3/4 of subcosta.

Holotype. Male, Khao Yai N. P., 780 m alt., Thailand, 10-16. IV. 1990, B. V.

Brown leg. [PMA].

Paratypes. 1m, same locality of holotype, 16-24. IV. 1990, B. V. Brown leg. [PMA]; 1m, same locality, 700-800 m alt., 18-24. IV. 1990, E. Fuller leg. [PMA]; 1m, same locality, 10-17. II. 1989, T. W. Thormin leg. [PMA].

Parascleroderma longicephala sp. nov.

(Figs. 570)

Holotype. Male. HL 0.51 mm; HW 0.40 mm; WF 0.24 mm; LA 0.95 mm; LPD 0.33 mm; WPD 0.26 mm; FWL 1.7 mm; TL 2.5 mm.

Body blackish brown; mandibles yellowish brown; antennal scapes, 1st and 2nd segments yellow; 4th to apical segments dark brown; coxae and femora dark brown; tibiae and tarsi yellowish brown.

Head elongate, 1.28 x as long as wide, with concave posterior border; posterolateral corners not forming an angle; surface weakly microreticulate. Anterior border of clypeus broadly rounded. First 5 segments of antennae in a ratio of 7:3:2.8:2.5:2.5 in length. Eyes 0.23 mm in length; WF 1.04 x EL. POL:AOL = 3:1; OOL 1.33 x WOT.

Microreticulatum of pro- and mesonotal discs coarser than that on head. Propodeal disc 1.27 x as long as wide, smooth and shining.

Gaster smooth and shining. Median vein of forewings arising anterior 2/3 of subcosta.

Holotype. Male. Khao Yai N. P., Thailand, 18-24. IV. 1990, B. V. Brown leg. [PMA].

Paratypes. 2m, same data as holotype [PMV]; 1m, same locality, 700-800 m alt., 18-24. IV. 1990, E. Fuller leg. [PMA]; 1m, same locality, 10-17. II. 1989, I. W. Thormin leg. [PMA].

Genus *Apenesia*

Apenesia takasago sp. nov.

Holotype. Male. HL 0.50 mm; HW 0.43 mm; WF 0.25 mm; LA 0.80 mm; LPD 0.38 mm; WPD 0.25 mm; FWL 1.7 mm; TL 2.4 mm.

Head and alitrunk castaneous; 1st to 3rd segments of gaster castaneous, 4th to 7th segments blackish brown; mandibles, antennae and legs yellowish brown.

Head 1.16 x as long as wide, with convex posterior border, smooth and shining with scattered punctures. Anterior border of clypeus broadly rounded. First 5 segments of antennae in a ratio of 6:3:3:3.5:3 in length. Eyes 0.18 mm in length, with short erect hairs; WF 1.43 x EL. Ocelli large, forming a regular triangle; OOL 1.6 x WOT.

Pro- and mesonotum smooth, with scattered punctures. Propodeal disc 1.52 x as long as wide, with a median carina; sublateral areas with 2-3 relatively

irregular longitudinal carinae.

Metacarpus vein longer than pterostigma.

Holotype. Male, Yangming Shan, Taipei Hsien, Taiwan, 11.VIII.1968, S. Suzuki leg. [NIAES].

Apenesia sarawakensis sp. nov.

(Fig. 568)

Holotype. Male. HL 0.53 mm; HW 0.44 mm; WF 0.25 mm; LA 0.95 mm; LPD 0.35 mm; WPD 0.28 mm; FWL 1.6 mm; TL 2.1 mm.

Head blackish brown; alitrunk brown with reddish tinge; 1st to 3rd gastral tergites as in alitrunk; 4th to 7th darker; antennae and legs dark brown.

Head 1.20 x as long as wide, with convex posterior border; posterolateral borders not forming an angle; surface smooth, with small punctures sparsely. Mandibles with 5 teeth; apical and subapical teeth large. Anterior border of clypeus moderately convex. First 5 segments of antennae in a ratio of about 6:2:3:3:2.5 in length; scape microreticulate; 2nd segment as long as wide; 3rd and 4th segment each 1.5 x as long as wide. Eyes 0.23 mm in length, with erect hairs; WF 1.09 x EL. POL:AOL = 3:2; OOL 1.23 x WOT.

Pro- and mesonotal dorsa smooth and impunctate in most part. Propodeum 1.25 x as long as wide; median carina present at posterior 2/3 of propodeum; disc reticulate.

Metacarpus vein of forewings as long as pterostigma.

Holotype. Male, Sarawak, Sri Aman, Malaysia, 3.II.1987, A. T. Finnamore & C. Baxfield leg. [PMA].