

Korean Spiders of Genus *Cybaeus* (Araneae, Argyronetidae)

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韓國產 굴독거미屬(물거미科)의 分類學的 研究

—2 新種과 1 未記錄種—

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(Received Feb. 10, 1966)

摘 要

굴독거미屬(*Cybaeus*)은 물거미科(*Argyronetidae*)에 屬하는 거미로서 지금까지 全世界에서 約 62 種이 記載되었는데 그 地理的 分布를 보면 新北區에 40 種, 舊北區에 18 種, 新熱帶區에 3 種, 에치오피아區에 1 種의 順으로 되어 新北區가 絕對多數인 67%를 차지하고 있다. 舊北區의 16 種은 歐洲產이 5 種, 蒙古產이 1 種, 中國 本土產이 1 種, 日本產이 11 種 記載되어 있다.

韓國產 굴독거미屬에 對해서는 著者(1962)가 小白山產의 *Cybaeus* sp. 1 (2 우우)과 *Cybaeus* sp. 2 (2 Y 우우)를, 南宮氏(1964)가 忠州產의 *Cybaeus* sp. 를 報告하였을 뿐이다.

今般 韓國產 굴독거미屬의 거미를 整理한 結果 著者가 報告한 *Cybaeus* sp. 1 과 南宮氏가 報告한 *Cybaeus* sp. 는 同一種으로서 新種에 該當함을 알았으며 이 밖에도 1 新種과 1 未記錄種을 얻었기에 이에 記載하였다. 卽

未記錄種: *Cybaeus nipponicus* (Uyemura, 1938)

新 種: *Cybaeus longus* sp. nov., *Cybaeus triangulus* sp. nov.

The spiders belong to genus *Cybaeus*, up to date, had been reported a few uncertain species from Korea by Paik (1962) and Namkung (1964); i.e.,

Paik, 1962.....*Cybaeus* sp. 1, 2 우우, *Cybaeus* sp. 2, 2 immature 우우

Namkung, 1964*Cybaeus* sp. 우우

The author's investigation, however, proved the *Cybaeus* sp. reported by Paik and Namkung to be the same species. The author described it as a new species in the present paper. Furthermore, the author described another new species and one unrecorded species from Korea. The types are deposited in Kyungpook National University.

Fam. Argyronetidae

Gen. *Cybaeus* L. KOCH, 1868

Typ. *C. tetricus* (C.L. Koch)

Cybaeus nipponicus (Uyemura, 1938) (Figs. 1, 4, 5 and 6)

Korean name: Kakshi-kultuck-komi (각시굴독거미)

Bansaia nipponica: Uyemura, 1938, P. 136; Yaginuma, 1941, P. 123

Cybaeus nipponica: Yaginuma, 1960, P. 78

Cybaeus nipponicus: Yaginuma, 1961, P. 30; 1962, P. 35

Female: The size very different in individual. Carapace longer than width, yellowish brown; head have a tinge of black. Longitudinal thoracic groove reddish brown. The ratio of the width of the head to that of thorax is 0.68—0.69. Cervical groove and radial furrow evident. Clypeus slightly less than 3 times the diameter of anterior median eye.

Anterior eyes row straight in frontal view, posterior eyes row slightly recurved. Anterior median eye smallest, the remainders subequal. Eye ratio, AME<ALE=PME=PLE (8 : 12 : 12 : 12). Anterior median eyes black, the others pearl white. Anterior median eyes separated from each other by three-fourth their diameter, from anterior lateral eyes by their radius. Posterior eyes equidistant, separated by five-sixth of the diameter of posterior median eye. Median ocular area wider in behind than in front in ratio 22 : 34, wider than long in ratio 34 : 31.

Chelicerae dark brown, distended at base, but not conspicuous as *Cybaeus longus*. Lateral condyle evident, but not conspicuous as *C. longus* and *C. triangulus*. Upper margin of fang furrow with three teeth and scopula. Lower margin with eight teeth diminishing proximally. Maxillae and labium dark brown, but their anterior margin yellowish white. The outer edges of maxillae parallel. Labium wider than long in ratio 38 : 35, slightly exceed middle of maxillae; basal articular notches about one-fifth its length. Sternum heart shaped, longer than width, the end produced between hind coxae; yellowish brown with darker margin.

Legs yellowish brown, femora with three dark annulations and tibiae with two dark annulations. Leg formula 4, 1, 2, 3. The number of spines on each segment as follows;

		Dorsal	Prolateral	Retrolateral	Ventral
Femur	I	1, 1, 0-1	0, 0, 0, -1	0	0
	II	1, 1, 0-1	0, 0-1, 0-1	0, 0-1, 0	0
	III	1, 1, 0-1	0, 1, 1	0, 1, 1	0
	IV	1, 1, 1	0	0, 0, 1	0
Tibia	I	(1, 1)	1, 0, 0-1	0	2, 2, 2, 0-2
	II	(1, 1)	1, 1, 1	0	2, 2, 1, 0-2
	III	1, 1	0-1, 1, 0-1	0, 1, 1	1, 2, 2, 1-2
	IV	1, 1	0-1, 1, 0-1	0, 1, 1	1-2, 1, 1-2

(The figures in brackets signify the number of degenerated fine spines. The figure of ventral spines included a pair on apical end.)

Abdomen oval; black in back ground, dorsum with several pairs of white markings. Belly yellowish white.

Measurements (mm.)

Female 1 (VII 31, '62, Mt. So-paik)

Body length	4.38		
Carapace length.....	2.27	width.....	1.53
Abdomen length.....	2.22	width.....	1.69
Sternum length.....	1.08	width.....	1.01
Labium length.....	0.28	width.....	0.39

		Fem.	Pat.	Tib.	Met.	Tar.	Total
Leg	I	1.62	0.71	1.54	1.28	0.95	5.96
	II	1.52	0.68	1.39	1.25	0.88	5.59
	III	1.32	0.61	1.08	1.18	0.85	4.94
	IV	1.66	0.64	1.55	1.62	1.01	6.38

Female 2 (VII 24, '64, Kabe, Keuze Isl.)

Body length	8.23		
Carapace length.....	4.01	width.....	2.95
Abdomen length.....	4.43	width.....	3.01
Sternum length.....	1.95	width.....	1.69
Labium length.....	0.60	width.....	0.65

		Fem.	Pat.	Tib.	Met.	Tar.	Total
Leg	I	3.27	1.37	3.22	2.74	1.79	12.02
	II	3.06	1.32	2.85	2.69	1.63	11.34
	III	2.74	1.16	2.11	2.59	1.53	10.03
	IV	3.38	1.16	2.95	3.48	1.74	12.61

Locality: Kabe, Keuze Isl. (1 ♀, VII 24, '64, K.Y. Paik), Quelpart Isl., Kwaneumsa (1 Y♀, VIII 5, '58, H.J. Lee), Mt. Jiri, Hwaeum-sa (1 Y♀, VII 26, '63, K.Y. Paik), Mt. Kaya (1 Y♀, X 9, '59, K.Y. Paik; 3 Y♀♀, X 9 '58, K.Y. Paik; 2 Y♀♀, IV 18, '61, Y.K. Kim), Mt. Palgong (1 Y♀, III 4, '65, Y.K. Kim; 7 Y♀♀, IV 13, '58, 1 Y♀, X 2, '58, E.I. Paik), Jik chi-sa (1 Y♀, VI 11, '61, K.Y. Paik), Mt. So-paik (1 ♀, VII 31, '62, K.Y. Paik; 2 Y♀♀; I, 9 '61, Y.K. Kim), Chung-joo (1 Y♀, VII 20, '60, J. Namkung).

Distribution: Japan

Cybaeus longus sp. nov. (Figs. 2, 7, 8 and 9)

Korean name: Wang-kultuck-komi (왕굴뚝거미)

Female: Present species as large as *Cybaeus magnus* Yaginuma. Carapace longer than width, widest between second and third coxae. The ratio of the width of the head to that of thorax (h/t) is 0.63. Head reddish brown, thorax yellowish brown. Longitudinal thoracic groove evident, dark reddish brown. Cervical groove and radial furrow suffused with black. Clypeus slightly more than twice the diameter of anterior median eye.

Anterior eyes row straight in frontal view, posterior eyes row recurved. Anterior median eye smallest, the remainders subequal. Eye ratio, AME < ALE = PME = PLE (12 : 16 : 16 : 16). Anterior median eyes black, others pearl white. Anterior median eyes separated from each other by five-sixth their diameter, from anterior lateral eyes by their radius. Posterior median eyes separated from each other by slightly wide than their diameter, from posterior lateral eyes by their diameter. Median ocular area wider in behind than in front in ratio 50 : 33, wider than long in ratio 50 : 41.

Chelicerae dark brown, strongly geniculated at base: lateral condyle yellowish brown. Upper margin of fang furrow with scopula and three teeth, the middle largest. Lower margin with from three to four small and from five to six minute ones diminishing proximally. Maxillae and labium reddish brown, but their anterior margin yellowish white. The outer edges of maxillae parallel, scopula brown. Labium slightly wider than long (95 : 91), basal articular notches about one-fourth its length. Sternum yellowish brown, with dark brown margins, heart shaped, longer than the width, the end somewhat produced between hind coxae.

Legs brown, without annulations. Leg formula 4, 1, 2, 3. The number of spines on each segment as follow;

		Dorsal	Prolateral	Retrolateral	Ventral
Femur	I	1, 1, 0-1	1, 1	1, 0-1, 1	0
	II	1, 1, 0-1	1, 1, 1	1, 0-1, 1	0
	III	1, 1, 0-1	1, 0-1, 1	1, 0-1, 1	0
	IV	1, 1, 0-1	1, 1	0, 0, 1	0
Tibia	I	(1, 1)	1, 1	0	2, 2, 2, 2
	II	(1, 1)	1, 1, 0-1	0	2, 2, 1, 2
	III	1, 1	1, 1	1, 1	2, 2, 2
	IV	1, 1	1, 1	1, 1	2, 1, 2

Abdomen oval; black in back ground, dorsum with several pairs of yellowish white markings. Belly yellowish white. Spinnerets cylindrical, yellowish brown. Anteriors longer than the posteriors, with two segments. Apical segment much shorter than basal. Apical segment of posteriors not clearly recognizable. Colulus rudiment. Male unknown.

Measurements (mm.) Female

Body length.....	14.30
Carapace length.....	6.01
Abdomen length.....	8.44
Sternum length.....	2.96
Labium length.....	0.91
width.....	4.43
width.....	6.33
width.....	2.48
width.....	0.95

		Fem.	Pat.	Tib.	Met.	Tar.	Total
Leg	I	5.28	2.22	5.49	4.96	2.73	20.68
	II	5.17	2.22	4.96	4.75	2.64	19.53
	III	4.64	2.00	3.69	4.43	2.43	16.98
	IV	5.38	1.90	5.06	5.90	3.06	20.83

Type locality: Holotype: One female, Aug. 11, '62, Mt. Il-wol, Kyungpook Prefecture, collected by E. I. Paik.
Paratype: Two female, Aug. 11, '62, Mt. Il-wol, collected by E. I. Paik; one female, July 31, '62, Mt. So-paik, Kyungpook Prefecture, collected by K. Y. Paik.

Diagnosis: The present species has a resemblance to *Cybaeus magnus* Yaginuma, 1958, but differs from the latter in structure of epigynum and arrangement of eyes.

Cybaeus triangulus sp. nov. (Figs. 3, 10-16)

Korean name: Samkak kultuck-komi (삼각굴뚜거미)

Female: Carapace longer than width, 5 : 4 in ratio. The ratio of the width of the head to that of thorax (h/t) is 0.73; head reddish brown, thorax yellowish brown. Longitudinal thoracic groove, cervical groove and radial furrow evident. Radial furrow suffused with black. Clypeus slightly more than twice the diameter of anterior median eye.

Anterior eyes row almostly straight in frontal view, posterior eyes row straight or slightly recurved. Anterior median eye smallest. Eye ratio, AME<PME<PLE<ALE (10 : 12 : 14 : 15). Anterior median eyes black, others pearl white. Anterior eyes equidistant, separated by less than the diameter of anterior median eye. Posterior median eyes separated from each other by one and half times of their diameter, from laterals by 1.3 times of their diameter. Median ocular area wider in behind than in front in ratio 42 : 28, wider than long in ratio 42 : 36.

Chelicerae strongly geniculated at base, lateral condyle evident. Upper margin of fang furrow with three teeth and scopula. Lower margin with from four to five small and from three to five minute ones diminishing proximally. Maxillae and labium dark brown, but their anterior margin yellowish white. The outer edges of maxillae parallel, scopula brown. Labium as long as wide, slightly exceed middle of maxillae; basal articular notches about one-fifth its length. Sternum heart shaped; longer than width, widest between second coxae, the end somewhat produced, but do not insert between hind coxae.

Legs brown. Femora with three faint dark annulations. Tibiae with two faint dark annulations. Leg formula 4,1,2,3. The number of spines on each segment as follows;

		Dorsal	Prolateral	Retrolateral	Ventral
Femur	I	1,1,0-1	0-1,1,1	0,0,0-1	0
	II	1,1,0-1	1,1,1	1,0,0-1	0
	III	1,1,0-1	1,1,1	1,0,1	0
	IV	1,1,0-1	0,1,1	0,0,1	0
Tibia	I	(1,1)	1,1,1	0	2,2,2
	II	(1,1)	0-1,1,1	0	2,2,2
	III	1,1	1,1,1	0-1,1,1	2,2,2
	IV	1,1	1,1,1	0-1,1,1	2,1,2

Abdomen oval; black in background, dorsum with a cardiac pattern and several pairs of yellowish white markings. Belly dirty yellowish white. The openings of the epigynum triangle. Spinnerets yellowish brown. Anteriors slightly longer than the posteriors, with two segments. Apical segment much shorter than basal. Apical segment of posteriors not clearly recognizable. Colulus rudiment.

Measurements (mm.) Female

Body length.....							12.34
Carapace length.....		5.06		width.....			3.69
Abdomen length.....		7.70		width.....			5.28
Sternum length.....		2.43		width.....			2.22
Labium length.....		0.85		width.....			0.85

		Fem.	Pat.	Tib.	Met.	Tar.	Total
Leg	I	3.90	1.72	3.80	3.27	2.22	14.70
	II	3.69	1.69	3.38	3.06	2.00	13.61
	III	3.27	1.58	2.64	3.01	1.79	12.19
	IV	4.01	1.58	3.59	3.90	2.16	15.03

Male: Chelicerae slender than the female and not strongly distend at the base as female.

Anterior median eye smallest. Eye-ratio, AME<PME<ALE=PLE (7.5 : 10 : 12 : 12). Anterior median eyes separated from each other by less than their diameter, from laterals by their radius. Posterior median eyes separated from each other by 1.2 times of their diameter, from laterals by 1.1 times their diameter. Median ocular area wider in behind than in front in ratio 33 : 22, wider than long in ratio 33 : 29.

Upper margin of fang furrow with three teeth and scopula. Lower margin with three small and four or five minute ones diminishing proximally. Labium longer than the width. Leg formula 1,4,2,3. Others look like female.

Male palp: The apophysis on the patella conspicuous conical shape. The apophysis on the tibia spatular shape. Embolus very slender, coiled one round.

Measurements (mm.) Male

Body length							8.65
Carapace length.....		4.53		width.....			3.27
Abdomen length.....		4.54		width.....			3.06
Sternum length.....		2.11		width.....			1.85
Labium length.....		0.73		width.....			0.68

		Fem.	Pat.	Tib.	Met.	Tar.	Total
Leg	I	4.01	1.58	4.11	3.90	2.53	15.92
	II	3.69	1.48	3.53	3.53	2.32	14.34
	III	3.27	1.37	2.74	3.27	2.00	12.44
	IV	3.90	1.37	3.53	4.22	2.43	15.24

Type locality: Holotype: One female, Aug. 18, '57, Mt. So-paik, Kyungpook Prefecture, collected by E. I. Paik.

Paratype: Two female, Aug. 11, '62, Mt. So-paik, collected by E. I. Paik; two female, Aug. 11, '62, Mt. Il-wol, collected by E. I. Paik; one male, Aug. 31, '62, Mt. So-paik, collected by K. Y. Paik.

Diagnosis: The present species has a resemblance to *Cybaeus striatipes* BOES. et STR., 1906 but differs from the latter in detail of epigynum and annulation of legs.

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Explanation of figures.

pl. I.

1. *Cybaeus nipponicus* (Uyemura, 1938), Female. 2. *Cybaeus sp. nov.*, Female. 3. *Cybaeus triangulus sp. nov.*, Female.

pl. II.

4. *Cybaeus nipponicus* (Uyemura, 1938), Epigyne.
 5. Same. Genitalia, ventral view. Cubic delination by binocular dissecting microscope.
 6. Same. Genitalia, dorsal view. Cubic delination by binocular dissecting microscope. 7. *Cybaeus sp. nov.*, Epigyne.
 8. Same. Genitalia. Cubic delination by binocular dissecting microscope. 9. Same. Left chelicera.
 10. *Cybaeus triangulus sp. nov.*, Epigyne. 11. Same. Genitalia. Cubic delination by binocular dissecting microscope.
 12. Same. Genitalia. Plain delination of permanent preparation by monocular microscope.
 13. Same. Left palpus, ectal view. 14. Same. Left palpus, ventral view.
 15. Same. Left palpus, dorsal view. 16. Same. Left palpus, inner view.

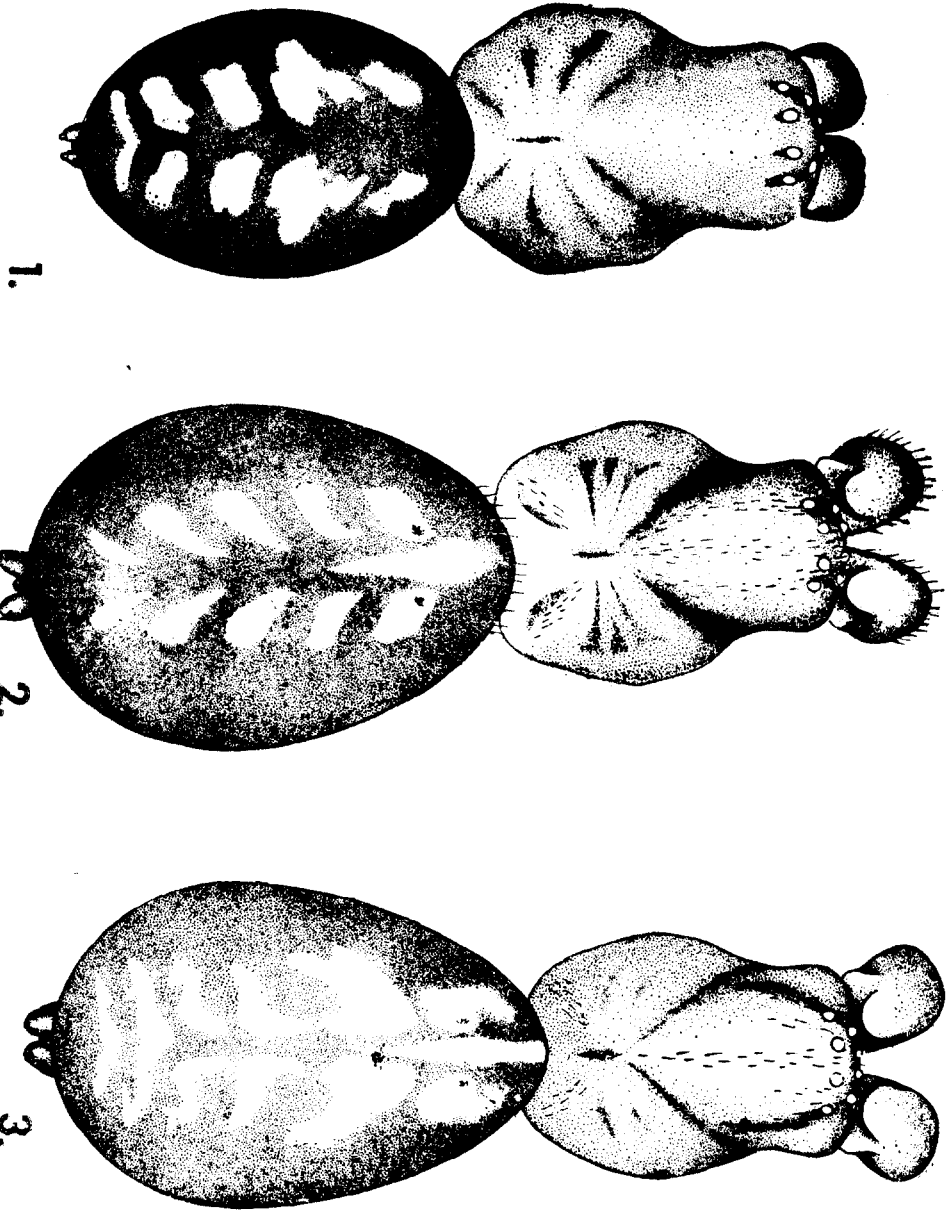


Plate I (1~3)

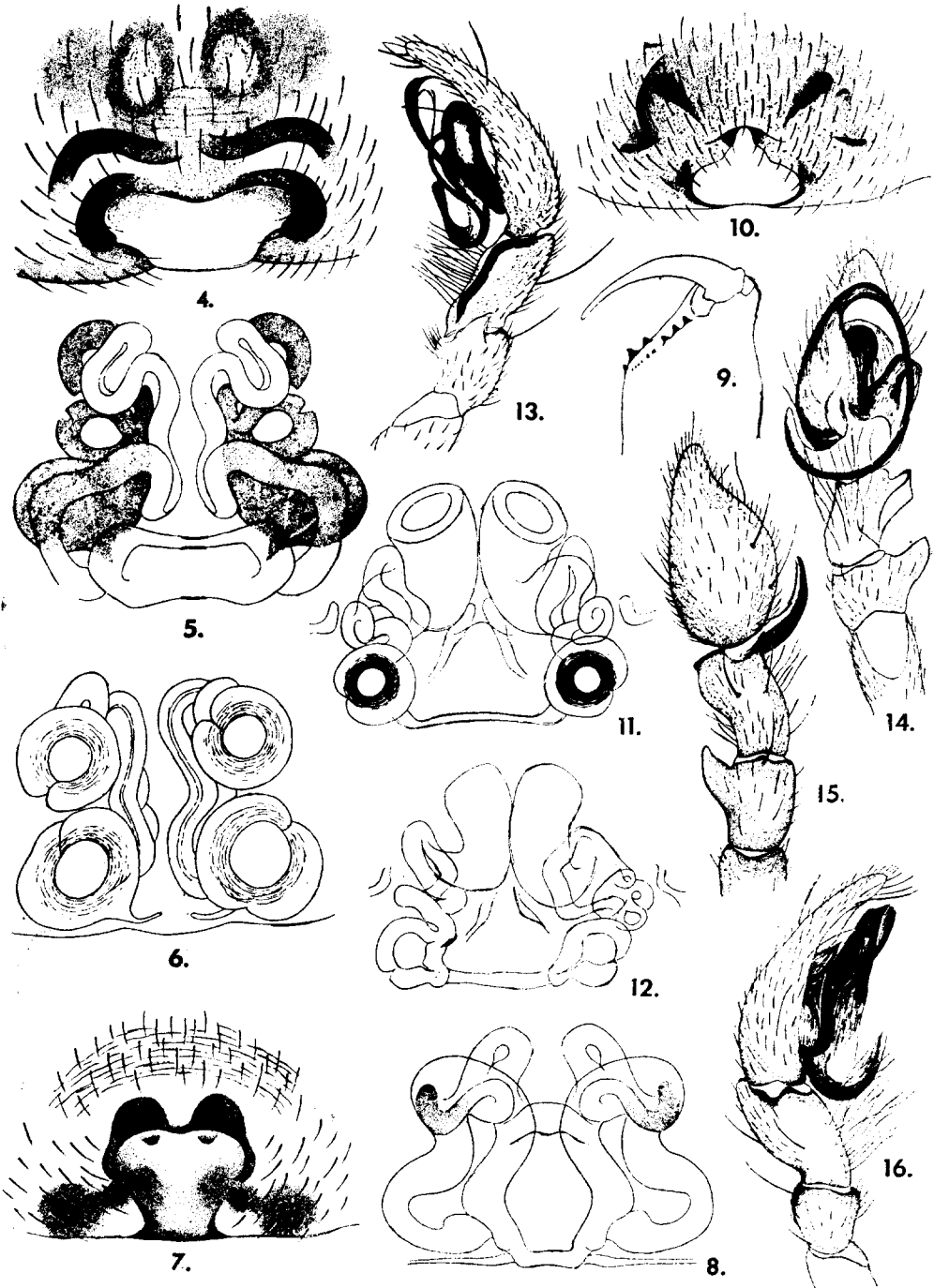


Plate I (4~16)