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PRELIMINARY REPORT ON PELAGIC AMPHIPODS IN THE ADJACENT SEAS OF JAPAN

HARUHIKO IRIE

On board the "Sôyô-Maru", an investigation ship of the Fisheries Experimental Station (Tôkyô), specimens were collected with larval nets, in the adjacent seas of Japan; from 1933 to 1941. Here the present author considers the geographical distribution of pelagic Amphipods, which are composed of 30 genera and 45 species. Their description with original figures will be reported soon.

2 Genera *Hyperoche* and *Amphilochus* are probably of cold-water origin, in as much as they are found only north from 35°N. While, the Genera *Paraphronima*, *Phronimella*, *Phronimopsis*, *Phrosina*, *Platyscelus*, *Hemityphis*, *Paratyphys*, *Parascelus*, *Sympronoe*, *Eupronoe* and *Lycaea* are all probably of warm-water origin, being found only south from 35°N. Genera *Vibilia*, *Phronima*, *Hyperia*, *Parathemisto*, *Anchylomera*, *Tetrathyrus*, *Brachyscelus* and *Oxycephalus* are rather extensive in distribution, although only Gen. *Parathemisto* has its center in the north rather than the south. For example, the occurrence of Gen. *Hyperoche* (cold-water origin) and 2 Genera *Anchylomera* and *Lycaea* (warm-water origin) are plotted in fig. 1.

The Mid-Pacific region has a greater number of genera among 5 regions, being due not only to the greater number of collections, but also probably due to a general tendency in geographical distribution.

REFERENCES: Chevreux, Ed., 1925, Faune de France. 9. Amphipodes; Schellenberg, A., 1929, Nordisches Plankton. VI. 2. Amphipoden; Stebbing, T. R. R., 1888 Amphipoda. Challenger Reports, vol. 29.

Table 1. *List of Stations.*

Reg.	St.	Locality. Lat. (N)	Locality. Long. (E)	Date of Collection
North Pacific	1	49°54′	156°45′	1940, Ⅸ- 1
	2	49°47′	155°51′	1939, Ⅸ-10
	3	49°14′	157°05′	1938, Ⅷ-23
	4	48°29′	156°59′	1939, Ⅸ- 7
	5	46°48′	156°50′	1938, Ⅷ-22
	6	46°28′	152°21′	1940, Ⅸ- 4
	7	46°10′	153°26′	1937, Ⅷ-24
	8	45°59′	153°27′	1938, Ⅷ-21
	9	46°00′	153°30′	1940, Ⅷ-29
	10	45°21′	149°59′	1938, Ⅷ-20
	11	45°18′	149°59′	1937, Ⅷ-23
	12	45°23′	150°05′	1940, Ⅷ-29
	13	44°01′	146°58′	1940, Ⅸ- 5
	14	43°52′	150°00′	1937, Ⅷ-20
	15	43°42′	150°29′	1939, Ⅸ- 1
	16	41°59′	148°42′	1940, Ⅷ-21
	17	41°55′	149°08′	1937, Ⅷ-17
	18	42°32′	152°28′	1937, Ⅷ-19
	19	41°59′	154°14′	1939, Ⅷ-31
	20	41°17′	144°13′	1938, Ⅷ-10
	21	41°16′	144°30′	1937, Ⅷ-13
	22	39°03′	142°46′	1938, Ⅸ- 9
	23	38°57′	143°00′	1939, Ⅸ-19
	24	38°13′	142°19′	1937, Ⅷ-14
	25	37°55′	144°00′	1937, Ⅷ-11
	26	37°45′	144°44′	1940, Ⅷ-14
Number of Station : 26				
Mid Pacific	27	35°49′	141°26′	1938, Ⅸ-10
	28	35°26′	144°30′	1940, Ⅷ-13
	29	34°44′	144°12′	1937, Ⅷ-10
	30	34°36′	144°04′	1938, Ⅷ- 7
Mid Pacific	31	Off Hayama.		1934, Ⅱ- 4
	32	Off Hayama.		1934, Ⅰ-23
	33	34°49′	139°21′	1934, Ⅳ-14
	34	Between Osima & Misaki.		1934, Ⅰ-24
	35	Nijima		1934, Ⅻ- 3
	36	34°24′	140°49′	1940, Ⅴ-14
	37	33°38′	142°05′	1940, Ⅴ-27
	38	33°18′	140°17′	1940, Ⅴ-19
	39	33°36′	138°09′	1938, Ⅴ-19
	40	32°55′	138°21′	1939, Ⅵ- 5
	41	32°32′	139°41′	1940, Ⅴ- 7
	42	33°52′	136°26′	1938, Ⅴ-25
	43	33°27′	136°08′	1940, Ⅴ- 4
	44	33°18′	135°37′	1939, Ⅵ- 8
	45	32°34′	136°04′	1938, Ⅴ-28
	46	32°18′	135°07′	1938, Ⅴ-30
	47	32°23′	134°33′	1939, Ⅵ- 8
	48	32°00′	137°37′	1940, Ⅴ- 3
	49	30°52′	136°51′	1939, Ⅵ- 6
	50	31°17′	138°17′	1940, Ⅴ- 2
	51	31°05′	138°24′	1938, Ⅴ-20
	52	31°27′	140°54′	1940, Ⅴ-19
	53	31°17′	142°20′	1940, Ⅴ-26
	54	30°35′	140°07′	1940, Ⅳ-25
	55	29°56′	139°13′	1940, Ⅴ- 2
	56	28°41′	140°23′	1940, Ⅴ- 1
	57	29°43′	142°01′	1940, Ⅴ-20
	58	29°05′	143°43′	1940, Ⅴ-25
	59	Titijima		1940, Ⅳ-30
	60	26°53′	142°22′	1940, Ⅴ-20
	61	31°32′	132°26′	1938, Ⅵ- 5

Reg.	St.	Locality. Lat. (N)	Locality. Long. (E)	Date of Collection
Mid Pacific	62	31°17′	132°43′	1939, VI-9
	63	31°13′	131°27′	1938, VI-9
	64	30°51′	130°22′	1939, VI-12
	65	29°48′	130°54′	1938, VI-22
	66	29°30′	131°45′	1938, VI-18
	67	28°51′	130°58′	1938, VI-21
	68	28°39′	131°45′	1938, VI-18
Number of Station: 42				
Sea of Okhotsk	69	49°54′	153°36′	1936, VIII-24
	70	49°19′	146°24′	1937, X-8
	71	48°00′	149°40′	1937, X-4
	72	46°32′	145°32′	1937, X-5
	73	45°04′	145°38′	1937, X-6
Number of Station: 5				

Reg.	St.	Locality. Lat. (N)	Locality. Long. (E)	Date of Collection
Sea of Japan	74	45°01′	137°03′	1941, VI-10
	75	35°51′	135°14′	1941, V-30
	76	35°31′	131°41′	1941, V-19
	77	35°33′	129°37′	1933, XI-10
Number of Station: 4				
China Sea	78	32°56′	128°10′	1941, V-15
	79	32°33′	129°26′	1941, V-14
	80	31°54′	128°46′	1941, V-11
	81	30°06′	127°30′	1939, VI-13
	82	29°41′	125°09′	1939, VI-16
	83	25°32′	121°45′	1939, VI-21
	84	25°01′	120°31′	1939, VI-24
	85	23°34′	118°46′	1939, VI-26
	86	21°45′	115°32′	1937, X-5
Number of Station: 9				

Note: Oceanographical records of every station above are referable to "Semi-annual Reports, Oceanographical Investigation" (The Fisheries Experimental Station, Tokyo).

Table 2. *List of Species.*

Sub-ord.	Family.	Genus.	Species.	Stations of Occurrence.
Hyperiidea	(1) Scinidae	I. *Scina*	1. *borealis*	20, 30,
	(2) Vibiliidae	II. *Vibilia*	2. *gibbosa*	22, 24, 28, 30, 36, 37, 41, 50, 68,
			3. *pyripes*	20, 24, 45,
	(3) Phronimidae	III. *Paraphronima*	4. *crassipes*	29, 62,
			5. *gracilis*	30,
	(4) Phronimidae	IV. *Phronima*	6. *sedentaria*	21, 22, 36, 37, 45, 57,
			7. *atlantica*	19, 21, 26, 30, 36, 37, 39, 41, 45, 49, 50, 65,
			8. *Colletti*	19, 30, 45, 52, 68,
			9. *Stebbingi*	19, 21, 45, 47, 50,
		V. *Phronimella*	10. *elongata*	30, 36, 38,
			11. *sp. A.*	30, 37, 78,

Hyperiidea	(5) Hyperiidae	VI. *Hyperia*	12. *galba*	3, 19, 30, 51, 61, 66, 68, 81, 86,
			13. *schizogeneios*	3, 21, 24, 27, 30, 39, 41, 47, 49, 51, 61, 63, 66, 67, 81, 82, 83, 84, 85,
			14. *latissima*	4, 13, 23, 24, 26, 29, 30, 46, 47, 49, 61, 65, 66, 68, 85, 86,
		VII. *Hyperoche*	15. *Kroyeri*	2, 3, 4, 13,
		VIII. *Phronimopsis*	16. *spinifera*	30, 37, 65,
		IX. *Parathemisto*	17. *sp. A.*	1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24, 25, 43, 69, 70, 71, 72, 73, 74, 77, 78, 82, 83,
	(6) Phrosinidae	X. *Phrosina*	18. *sp. A.*	39, 49, 55, 56,
		XI. *Ancyhlomera*	19. *sp. A.*	23, 26, 29, 30, 36, 40, 47, 50, 54, 55, 58, 59, 60, 61, 65, 66, 67, 80, 81,
	(7) Typhidae	XII. *Platyscelus*	20. *armatus*	27, 47, 86,
		XIII. *Hemityphis*	21. *sp. A.*	36, 54, 68,
		XIV. *Amphithyrus*	22. *sp. A.*	54, 68,
			23. *sp. B.*	47, 81, 84,
		XV. *Tetrathprus*	24. *forcipatus*	24, 29, 37, 39, 41, 47, 49, 61, 66, 67, 80, 81, 82, 86,
		XVI. *Paratyphys*	25. *sp. A.*	29, 30, 36, 37, 47, 57, 59, 65, 67, 68, 72, 84,
	(8) Scelidae	XVII. *Parascelus*	26. *sp. A.*	47, 68,
			27. *sp. B.*	37, 61, 78, 84,
			28. *sp. C.*	64,

Hyperiidea	(9) Pronoidae	XVIII. *Sympronoe*	29. *sp. A.*	29, 47, 50, 63, 68,
		XIX. *Eupronoe*	30. *sp. A.*	29, 37, 47, 65, 86,
	(10) Lycaeidae	XX. *Brachyscelus*	31. *crusculum*	19, 29, 30, 43, 44, 47, 55, 57, 59, 64, 68, 81, 83,
			32. *latipes*	23, 30,
		XXI. *Thamneus*	33. *sp. A.*	26,
			34. *sp. B.*	26,
		XXII. *Lycaea*	35. *sp. A.*	29, 30, 49, 61, 64, 65, 66, 67, 68, 81, 83, 84, 86,
	(11)Oxycephalidae	XXIII. *Oxycephalus*	36. *sp. A.*	21, 25, 33, 36, 39, 43, 49, 55, 56, 57, 59, 60, 68, 70, 79; 81, 82,
		XXIV. *Leptocotis*	37. *sp. A.*	41, 47,
Gammaridea	(12)Amphilochidae	XXV. *Amphilochus*	38. *sp. A.*	13, 17, 73, 75,
	(13) Amphithoidae	XXVI. *Amphithoe*	39. *sp. A.*	16, 44, 76,
			40. *sp. B.*	75, 76,
	(14) Talitridae	XXVII. *Allorchestes*	41. *sp. A.*	44, 76,
			42. *sp. B.*	44,
	(15) Corophiidae	XXVIII. *Corophium*	43. *sp. A.*	39,
	(16) Atylidae	XXIX. *Natotropis*	44. *sp. A.*	70,
	(17) Phoxocephalidae	XXX. *Phoxocephalus*	45. *sp. A.*	11, 78,

Table 3. *Frequency Distribution of Genera.*

a. in every 5° latitude.

Gen. \ Lat.	50°—45°	45°—40°	40°—35°	35°—30°	30°—25°	25°—20°
Scina		rr		rr		
Vibilia		rr	rr	r	rr	
Paraphronima				rr		
Phronima		r	r	r	r	

Phronimella				+		
Hyperia	+	c	c	c	c	c
Hyperoche	r	c				
Phronimopsis				r	rr	
Parathemisto	cc	cc	c	rr	rr	
Phrosina				rr	rr	
Anchylomera			r	c	c	
Platyscelus				rr		rr
Hemityphis				r	rr	
Amphithyrus				rr	rr	rr
Tetrathyrus			r	+	+	c
Paratyphys				c	+	rr
Parascelus				r	rr	rr
Sympronoe				c	rr	
Eupronoe				+	rr	rr
Brachyscelus		rr	rr	+	r	
Thamneus			+			
Lycaea				r	c	r
Oxycephalus	rr	rr	rr	c	c	c
Leptocotis					rr	
Amphilochus	rr	rr	r			
Amphithoe		rr	r	rr		
Allorchestes			+	r		
Corophium				rr		
Natotropis	rr					
Phoxocephalus	rr			rr		

b. in 5 main regions.

Region. / Gen.	North Pacific.	Sea of Okhotsk.	Sea of Japan.	Mid Pacific.	China Sea.
Scina	rr			rr	
Vibilia	rr			r	
Paraphronima				rr	
Phronima	rr			+	
Phronimella				+	rr
Hyperia				c	c
Hyperoche	c				
Phronimopsis				r	

Parathemisto	cc	cc	c	r	r
Phrosina				rr	
Anchylomera	r			c	r
Platyscelus				rr	rr
Hemityphis				r	
Amphithyrus				rr	rr
Tetrathyrus	r			+	c
Paratyphis		rr		c	rr
Parascelus				r	r
Sympronoe				c	
Eupronoe				+	rr
Brachyscelus	rr			c	r
Thamneus	+				
Lycaea				r	c
Oxycephalus	rr	rr		c	rr
Leptocotis				rr	
Amphilochus	rr	rr	r		
Amphithoe	rr		r	rr	
Allorchestes			r	+	
Corophium				rr	
Natotropis		rr			
Phoxocephalus	rr			rr	rr
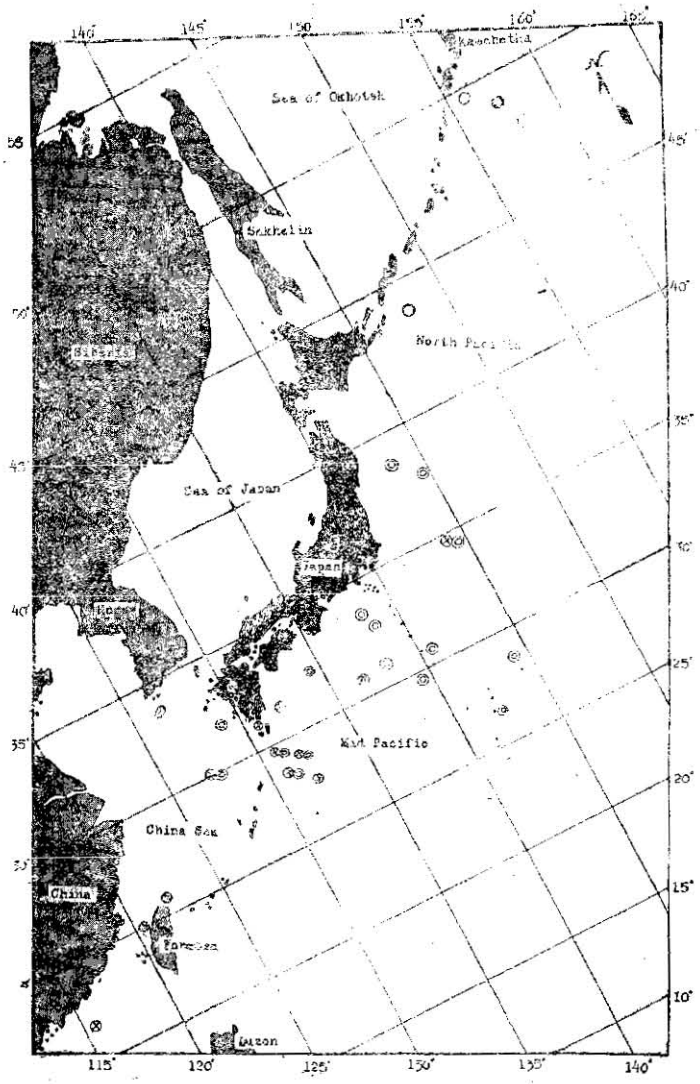
Fig. 1. Occurrence of G. *Hyperoche* (○), G. *Anchylomera* (◎) and G. *Lvcaea.* (⊗)