

Preliminary Report On Pelagic Amphipods In The Adjacent Seas Of Japan

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PRELIMINARY REPORT ON PELAGIC AMPHIPODS IN THE ADJACENT SEAS OF JAPAN

HARUHIKO IRIE

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

Reg.	St.	Locality.		Date of Collection	Reg.	St.	Locality.		Date of Collection
		Lat. (N)	Long. (E)				Lat. (N)	Long. (E)	
Mid Pacific	62	31°17'	132°43'	1939, VI-9	Sea of Japan	74	45°01'	137°03'	1941, VII-10
	63	31°13'	131°27'	1938, VI-9		75	35°51'	135°14'	1941, V-30
	64	30°51'	130°22'	1939, VI-12		76	35°31'	131°41'	1941, V-19
	65	29°48'	130°54'	1938, VI-22		77	35°33'	129°37'	1933, XI-10
	66	29°30'	131°45'	1938, VI-18		Number of Station: 4			
	67	28°51'	130°58'	1938, VI-21	78	32°56'	128°10'	1941, V-15	
	68	28°39'	131°45'	1938, VI-18	79	32°33'	129°26'	1941, V-14	
Number of Station: 42					80	31°54'	128°46'	1941, V-11	
Sea of Okhotsk	69	49°54'	153°36'	1936, VIII-24	China Sea	81	30°06'	127°30'	1939, VI-13
	70	49°19'	146°24'	1937, K-8		82	29°41'	125°09'	1939, VI-16
	71	48°00'	149°40'	1937, K-4		83	25°32'	121°45'	1939, VI-21
	72	46°32'	145°32'	1937, K-5		84	25°01'	120°31'	1939, VI-24
	73	45°04'	145°38'	1937, K-6		85	23°34'	118°46'	1939, VI-26
Number of Station: 5					86	21°45'	115°32'	1937, K-5	
Number of Station: 9					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.
Hyperidea	(1) Scinidae	I. <i>Scina</i>	1. <i>borealis</i>	20, 30,
	(2) Vibiliidae	II. <i>Vibilia</i>	2. <i>gibbosa</i>	22, 24, 28, 30, 36, 37, 41, 50, 68,
			3. <i>pyripes</i>	20, 24, 45,
	(3) Phronimidae	III. <i>Paraphronima</i>	4. <i>crassipes</i>	29, 62,
			5. <i>gracilis</i>	30,
	(4) Phronimidae	IV. <i>Phronima</i>	6. <i>sedentaria</i>	21, 22, 36, 37, 45, 57,
			7. <i>atlantica</i>	19, 21, 26, 30, 36, 37, 39, 41, 45, 49, 50, 65,
			8. <i>Colletti</i>	19, 30, 45, 52, 68,
			9. <i>Stebbingi</i>	19, 21, 45, 47, 50,
		V. <i>Phronimella</i>	10. <i>elongata</i>	30, 36, 38,
			11. <i>sp. A.</i>	30, 37, 78,

(5) Hyperiidae	VI. <i>Hyperia</i>	12. <i>galba</i>	3, 19, 30, 51, 61, 66, 68, 81, 86,
		13. <i>schizogeneios</i>	3, 21, 24, 27, 30, 39, 41, 47, 49, 51, 61, 63, 66, 67, 81, 82, 83, 84, 85,
		14. <i>latissima</i>	4, 13, 23, 24, 26, 29, 30, 46, 47, 49, 61, 65, 66, 68, 85, 86,
	VIII. <i>Hyperoche</i>	15. <i>Kroyeri</i>	2, 3, 4, 13,
	VIII. <i>Phronimopsis</i>	16. <i>spinifera</i>	30, 37, 65,
	XI. <i>Parathemisto</i>	17. <i>sp. A.</i>	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. <i>Phrosina</i>	18. <i>sp. A.</i>	39, 49, 55, 56,
	XI. <i>Ancyloclomera</i>	19. <i>sp. A.</i>	23, 26, 29, 30, 36, 40, 47, 50, 54, 55, 58, 59, 60, 61, 65, 66, 67, 80, 81,
(7) Typhidae	VII. <i>Platyscelus</i>	20. <i>armatus</i>	27, 47, 86,
	XIII. <i>Hemityphis</i>	21. <i>sp. A.</i>	36, 54, 68,
	XIV. <i>Amphithyrus</i>	22. <i>sp. A.</i>	54, 68,
		23. <i>sp. B.</i>	47, 81, 84,
	XV. <i>Tetrathyrus</i>	24. <i>forcipatus</i>	24, 29, 37, 39, 41, 47, 49, 61, 66, 67, 80, 81, 82, 86,
	XVI. <i>Paratyphys</i>	25. <i>sp. A.</i>	29, 30, 36, 37, 47, 57, 59, 65, 67, 68, 72, 84,
(8) Scelidae	XVII. <i>Parascelus</i>	26. <i>sp. A.</i>	47, 68,
		27. <i>sp. B.</i>	37, 61, 78, 84,
		28. <i>sp. C.</i>	64,

Hyperidea	(9) Pronoidae	XXVIII. <i>Sympronoc</i>	29. sp. A.	29, 47, 50, 63, 68,
		XXIX. <i>Eupronoe</i>	30. sp. A.	29, 37, 47, 65, 86,
	(10) Lycaeidae	XXX. <i>Brachyscelus</i>	31. <i>crusculum</i>	19, 29, 30, 43, 44, 47, 55, 57, 59, 64, 68, 81, 83,
			32. <i>latipes</i>	23, 30,
		XXXI. <i>Thamneus</i>	33. sp. A.	26,
			34. sp. B.	26,
		XXXII. <i>Lycaea</i>	35. sp. A.	29, 30, 49, 61, 64, 65, 66, 67, 68, 81, 83, 84, 86,
	(11) Oxycephalidae	XXXIII. <i>Oxycephalus</i>	36. sp. A.	21, 25, 33, 36, 39, 43, 49, 55, 56, 57, 59, 60, 68, 70, 79; 81, 82,
		XXXIV. <i>Leptocotis</i>	37. sp. A.	41, 47,
Gammaridea	(12) Amphilochidae	XXXV. <i>Amphilochus</i>	38. sp. A.	13, 17, 73, 75,
	(13) Amphithoidae	XXXVI. <i>Amphithoe</i>	39. sp. A.	16, 44, 76,
			40. sp. B.	75, 76,
	(14) Talitridae	XXXVII. <i>Allorchestes</i>	41. sp. A.	44, 76,
			42. sp. B.	44,
	(15) Corophiidae	XXXVIII. <i>Corophium</i>	43. sp. A.	39,
	(16) Atylidae	XXXIX. <i>Natotropis</i>	44. sp. A.	70,
	(17) Phoxocephalidae	XXXX. <i>Phoxocephalus</i>	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°
<i>Scina</i>		rr		rr		
<i>Vibilia</i>		rr	rr	r	rr	
<i>Paraphronima</i>				rr		
<i>Phronima</i>		r	r	r	r	

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

b. in 5 main regions.

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

<i>Parathemisto</i>	cc	cc	c	r	r
<i>Phrosina</i>				rr	
<i>Anchylomera</i>	r			c	r
<i>Platyscelus</i>				rr	rr
<i>Hemityphis</i>				r	
<i>Amphithyrus</i>				rl	rr
<i>Tetrathyrus</i>	r			+	c
<i>Paratyphis</i>		rr		c	rr
<i>Parascelus</i>				r	r
<i>Sympronoe</i>				c	
<i>Eupronoe</i>				+	rr
<i>Brachyscelus</i>	rr			c	r
<i>Thamneus</i>	+				
<i>Lycaea</i>				r	c
<i>Oxycephalus</i>	rr	rr		c	rr
<i>Leptocotis</i>				rr	
<i>Amphilochus</i>	rr	rr	r		
<i>Amphithoe</i>	rr		r	rr	
<i>Allorchestes</i>			r	+	
<i>Corophium</i>				rr	
<i>Nalotropis</i>		rr			
<i>Phoxocephalus</i>	rr			rr	rr

Fig. 1. Occurrence of *G. Hyperocha* (○), *G. Anchylomera* (⊙) and *G. Lycaea* (⊗)

