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BULLETIN DE L'INSTITUT OcéANOGRAPHIQUE

(Fondation ALBERT I^{er}, Prince de Monaco)

N^o 384. — 15 Janvier 1921.

Plankton list
and some new species of Copepods
from the northern waters of Japan.

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Under the direction of the Fisheries Institute, the training ship « Unyomaru » made a long voyage from July to October in 1915 and from May to October in that next year, through the northern Pacific, the Ochotsk and the Japan seas for the fisheries experiments and the hydrographical works. On the voyages I collected specimens using small silk tow nets and also closing plankton nets, at the places indicated on the attached map. Among those specimens I found 77 species of phyto - and 87 of zoo-plankton which are listed as follows.

Four new species of Copepods here described were met with.

Remarks : In the column of « Local distribution » B. N., T. N., Tr. N., B. O., P. O., Tr. O., A & B. O., Tr. & T. O., Tr. & T. N. etc. are respectively Boreal Neritic, Temperate Neritic, Tropical neritic, Boreal oceanic, Temperate oceanic, Tropical oceanic, Arctic and Boreal oceanic, Tropical and Temperate oceanic, Tropical and Temperate neritic etc.

In the column of « Place where collected » J., O., P., etc. mean respectively Japan sea, Ochotsk sea, Pacific ocean etc.

SPECIES	LOCAL DISTRIBUTION	Place where collected	DATE	
			1915	1916
Bacteriastrum varians	B. N.	J. O.	20 sept.	7 july
Chaetoceros affine	T. N.	J. O.	20 sept.	15 sept.
— atlanticum	B. N.	P. O.	25, 26, 28, 29, 30, 30, 31 july ; 6, 9, 19, 25 august ; 4 sept.	12, 18, 23 june ; 26, 28, 31 july ; 20 august ; 9, 10 oct.
— coarctatum	Tr. & T. N.	J. P.	3, 15 oct.	2, 9, 9, 10 oct.
— criophilum	B. N.	J. P. O.	17, 19, 22, 30, 31 july ; 6, 9, 19, 25 august ; 4, 5, 5, 28, 28, 29 sept.	30 june ; 10, 19, 19, 26, 31 july ; 20 august.
— debile	B. N.	P. O.		21 june ; 7, 10, 25, 26 july ; 20 august.
— decipiens	B. N.	O.	6, 9 august	
— densum	B. N.	J. O.	25, 26 july ; 20 sept.	
— diadema	B. N.	O.		7, 10, 14 july
— didymum var. anglica	T. N.	O.	9 august	
— furcellatum	A. N.	O.		30 june ; 7, 10, 14 july ; 20 august
— Lorenzianum	Tr. & T. N.	P.		2 oct.
— secundum	B. N.	O.	31 july ; 19 august	
— seriacanthus	B. N.	O.	6 august	
— sociale	B. N.	O.		30 june ; 7, 10, 14, 19, 26 july ; 20 august ; 15 sept.
— Vanheurckii	Tr. & T. N.	P.		9, 10 oct.
Corethron criophilum	T. O.	P. O.	30 july ; 5 sept.	12 june
Coscinodiscus Asteromphalus	B. O.	P. O.	27 july ; 19 august	4, 18 june ; 31 july ; 4 august

— centralis	T. O.	O.	9 august	
— Granii	T. N.	P.	14 july	
— radiatus	T. N.	P. O.	27, 28, 29, 30, 30, 31 july	1 june
Ditylum sol	T. N.	P.		1, 3, 4, 4 june; 2, 7, 9 oct.
Eucampia biconcavum	Tr. O.	J.	20 sept.	
Nitzschia seriata	B. N.	O.		7 july
Palmeria hardmaniana	Tr. & T. O.	P.		9, 10 oct.
Rhizosolenia alata	T. O.	P. O.	28, 30, 30 july; 6, 9, 19 august	19, 19, 25 july; 2, 7, 10 oct.
— calcar-avis	T. O.	J. P.	20 sept.	2, 7, 10 oct.
— Castracanei	Tr. & T. O.	P.	15 oct.	
— Clevei		P.	15 oct.	
Rhizosolenia hebetata	A. O.	J. P. O.	17, 19, 28, 30, 30 july; 6, 9 august; 4, 20 sept; 14, 15 oct.	18, 23, 30 june; 7, 10, 19, 26, 31 july; 28 august; 2, 9, 10 oct.
— setigera	T. N.	P. O.	6 sept.	15 sept.; 9, 10 oct.
— styliformis	T. O.	P. O.	25, 28, 29, 30, 30, 31 july; 19, 25 august; 6 sept.	12, 30 june; 3, 25, 26, 28 july; 2, 9, 10 oct.
Skeletonema costatum	B. N.	O.	6 sept.	
Stephanopyxis nipponica	T. O.	P. O.	6, 9 august	4 june; 3, 19, 26, 31 july; 4 au- [gust.
— palmeriana	T. O.	O.		7 july
Thalassiosira decipiens	B. N.	O.	19 august	7 july
— grvida	A. & B. N.	P. O.		21, 23 june; 26 july
— Nordenskioldii	A. & B. N.	O.		7 july
Thalassiothrix longissima	B. O.	O.	30, 30 july	
— nitzschioides	T. N.	P. O.	9 august	3 july; 15 sept; 2 oct.

SPECIES	LOCAL DISTRIBUTION	Place where collected	DATE	
			1915	1916
<i>Trichodesmium Thiebautii</i>	Tr. O.	J. P.	3 oct.	9 oct.
<i>Ceratium arcticum</i>	A. O.	O.	19 august	7, 10, 25 july ; 20 august
— <i>deflexum</i>		J. P.	3 oct.	2, 7, 10 oct.
— <i>fuscus</i>	T. O.	P. O.	22, 23, 23, 25, 26, 27, 27 july ; 25, 30 august ; 1, 4, 4, 5, 5, 6 sept.	1, 3, 4, 4, 12, 18, 21, 23, 30 june ; 3, 25, 28, 31 july ; 15 sept.
— <i>gibberum</i>	Tr. O.	P.		9 oct.
— <i>gravidum</i>	Tr. O.	P.		9 oct.
— <i>inflexum</i>		J. P.	3, 15 oct.	
— <i>longinum</i>	Tr. O.	P.		10 oct.
— <i>longipes</i>	B. N.	P. O.	19, 22, 23, 23, 25, 26, 27, 27, 28, 29, 30, 30 july ; 6, 9, 25, 30 au- gust ; 1, 4, 4, 5, 5, 6 sept.	1, 3, 4, 4, 12, 18, 21, 23, 30 june ; 3, 25, 28, 31 july ; 15 sept.
— <i>macroceras</i>	Tr. & T. O.	J. P.	20, 29 sept.	2, 7, 9, 10 oct.
— <i>trichoceras</i>	Tr. & T. O.	J. P.	3, 15 oct.	
— <i>tripos</i>	T. O.	J. P.	14, 15, 17, 19 july ; 20 sept.	2, 7, 10 oct.
<i>Ceratocorys horrida</i>	Tr. O.	P.		10 oct.
<i>Dinophysis homunculus</i> var. <i>tripos</i>	Tr. O.	P.		2, 7, 10 oct.
— <i>norvegica</i>	T. O.	P. O.	18, 21, 30 june ; 28 july ; 20 au- [gust.	
— <i>ovatum</i>	A. O.	O.	28 july	
— <i>Vanhoffenii</i>	Tr. O.	O.	6 sept.	

Gonyaulax Levanderi	Tr. O.	O.	27 july ; 6 sept.	
Pyrophacus horologium	Tr. O.	P. O.	6 sept.	7 oct.
Peridinium conicoides		O.	19 august.	
— conicum	T. O.	P. O.	1, 6 sept.	1, 4 june ; 19 july ; 7 oct.
— crassipes	T. O.	J. P. O.	26, 27 july ; 25 august ; 20 sept.	20 august ; 15 sept.
— depressum	B. O.	P. O.	22, 25, 27, 28, 29, 30, 31 july ; 6, 9, 19, 25 august ; 1 sept.	3, 18, june ; 15 sept.
— inflexum		P.		16 oct.
— islandicum	A. N.	P. O.		18, 21, 30 june ; 25 august
— oceanicum	B. N.	O.		15 sept.
— pallidum	B. O.	P. O.	25, 27 july ; 19 august	7, 10 july ; 20 august ; 7 oct.
— parallelum	A. O.	P. O.	4, 4, 21, 23, 30 june ; 3, 25, 26 july	
— punctulatum		O.	19 august	
— Steini	B. O.	O.	27 july ; 6 august	
— subinermis	A. & B. O.	P.		7 oct.
— Thorianum	B. O.	P. O.		21, 30 june ; 7 july
— tumidum	T. O.	P. O.	6 sept.	2 oct.
Pyrocystis pseudonociluca	Tr. O.	J. P.	19 july ; 3, 15 oct.	2, 7, 9, 10 oct.
— fusiformis	Tr. O.	P.		9, 10 oct.
Halosphaera viridis	T. O.	P. O.	1, 4, 18, 23, 30 june ; 3, 14 july	
Zooplankton				
Cyttarocylis denticulatum	B. O.	J. P. O.	22, 26, 27, 28, 30, 30 july ; 9, 19, 30 august ; 4, 4, 28, 28 sept.	4, 12, 18, 21, 23, 30 june ; 3 july
— Ehrenbergii	B. O.	O.		15 sept.
Ptychocylus urnula	B. O.	P. O.	22 july ; 6, 9 august ; 1 sept.	12, 18, 30 june ; 3 july
Tintinnopsis acuminatus	B. O.	O.	6 sept.	

SPECIES	LOCAL DISTRIBUTION	Place where collected	DATE	
			1915	1916
<i>Tintinnopsis Davidoffi</i>		O.	6 sept.	
— <i>Frokubi</i>		J.	20 sept.	
— <i>Mortenseni</i>		O.	6 sept.	
<i>Acanthometron pellucidum</i>	Tr. O.	P.		2, 9, 9, 10 oct.
<i>Aulosphaera labradoriensis</i>	Tr. O.	P.		2, 9, 9, 10 oct.
<i>Caunosphaera geometrica</i>	Tr. O.	P.		1 june; 10 oct.
<i>Noctiluca miliaris</i>	T. O.	P. O.	14 july; 5 sept.	7, 9, 9, 10 oct.
<i>Diphyes</i> sp.		P. O.	25 july; 7 oct.	14 oct.
<i>Synchaeta</i> sp.		O.		31 july
<i>Sagitta bipunctata</i>		J. P. O.	16, 19, 30 july; 9 august; 4, 28, 29, 29 sept.; 15 oct.	1, 4, june; 2, 7, 9, 9, 10 oct.
— <i>enflata</i>		J. P.	20 sept.; 14 oct.	
— <i>hexaptera</i>		J. P. O.	6 august; 3 oct.	1, 23, 30 june; 19, 28, 31 july; 4 august; 15 sept.; 2, 10 oct.
— <i>minima</i>		O.	29 july	
— <i>robusta</i>		P.	16 july	
<i>Evadne Nordmanni</i>	T. N.	P. O.	6 sept.	7, 9 oct.
— <i>spinifera</i>	T. N.	P.	14 july	7, 9, 10 oct.
<i>Podon polyphemoides</i>	T. N.	P.		10 oct.
<i>Penilia orientalis</i>	T. N.	P.		2, 9, 10 oct.
<i>Cirripedia</i> juv.		O.		23, 7 july
<i>Acartia bifilosa</i>	T. N.	P. O.	22, 25 july; 19 august; 5 sept.	1 june; 9 oct.

— longiremis	T. N.	P. O.	31 july ; 1 sept.	3 june ; 31 july ; 4 august ; 15 sept.
Anomalocera Patersoni	Tr. & T. O.	P.	26 july ; 9 august	
Calanus cristatus	B. O.	O.	19 august ; 5, 29, 29 sept.	26 july
— finmarchicus	A. & B. O.	P. O.	14, 16, 16, 28 july : 1, 5, 5, 20, 28 sept. ; 11, 14 oct.	4, 30 june ; 19, 19, 31 july ; 4 august ; 7, 9, 10 oct.
— pauper	Tr. O.	J. P.	29 sept.	1, 3 june ; 9 oct.
— pulmchrus	A. & B. O.	P. O.	16, 19, 23, 23, 26, 27, 29, 30, 30, 31 july ; 25 august.	1, 3, 4, 18, 23, 30 june ; 3, 14, 26, 28, 31 july ; 4 august.
— tenuicornis	Tr. & T. O.	P.	16 july	9, 9 oct.
— vulgaris	Tr. & T. O.	P.	15 oct.	9, 9 oct.
Centropages abdominalis	T. O. ?	O.	1 oct.	
— hamatus	T. N. ?	O.		15 sept.
Copilia mirabilis	Tr. & T. O.	J.	20 sept.	
Corycaeus danae	Tr. & T. O.	J. P.	20 sept. ; 3, 11, 14 oct.	
— speciosus	Tr. & T. O.	P.	15 oct.	2, 10 oct.
— venustus	Tr. & T. O.	P.		2, 7, 9 oct.
Drepanopsis sp.		P. O.	16 july	18, 21 july ; 15 sept. ; 9 oct.
Eucalanus attenuatus	Tr. & T. O.	P.	15 oct.	7, 9 oct.
Eucalanus elongatus	Tr. & T. O.	J. O.	26 july ; 29 sept.	
— mucronatus	Tr. & T. O.	J.	29 sept.	
— oculus	Tr. O. ?	P.		10 oct.
Euchaeta japonica	T. O. ?	J.	29 sept.	
— marina	T. O.	J. P.	20 sept.	9, 9 oct.
— tonsa	T. O.	P.	9 sept.	
Euterpe acutifrons	Tr. O.	P.		2, 9 oct.

SPECIES	LOCAL DISTRIBUTION	Place where collected	DATE	
			1915	1916
Labidocera Wollastoni	Tr. O.	P.		2, 10 oct.
— pavo	Tr. O.	P.		9 oct.
Lucicutia grandis		J. O.	28 sept.	14, 19 july ; 15 sept.
Metridia longa	A. O.	J. P. O.	4, 5, 5, 28, 29, 29 sept.	21 june ; 7, 10, 28 july ; 20 august ; 15 sept.
Microsetella norvegica	T. O.	J. P. O.	22 july ; 4, 5, 5, 28, 29, 29 sept.	2, 9, 10 oct.
Oithona plumifera	T. O.	P.		1, 4 june ; 9, 9, 10 oct.
— similis		J. P. O.	16, 17, 19, 22, 25, 26, 27, 27, 28, 29, 30, 30 july ; 9, 30 august ; 1, 4, 4, 5, 6, 20, 28, 29 sept.	1, 3, 4, 18, 21, 23, 30 july ; 3, 25, 26, 28, 31 july ; 20 august ; 15 sept. ; 7 oct.
Oncaea venusta	T. O.	J. P.	20 sept.	2, 7, 9, 9 oct.
Pontella Chierchiaë	Tr. & T. O.	J. P.	3, 11, 14 oct.	
— longipedata	Tr. & T. O.	J. O.	1, 28 sept	
— Whittelegii	Tr. & T. O.	J.	20 sept.	
Pseudocalanus elongatus		J. P. O.	14, 16, 19, 22, 23, 23, 25, 26, 27, 27, 31 july ; 6, 25, 30 august ; 4, 5, 5, 6, 20 sept.	1, 3, 4, 23, 30 june ; 3, 19, 25, 26, 28 july ; 20 august ; 7, 9, 10 oct.
Pseudolovenula magna	B. O. ?	J. P. O.	19, 25 july ; 29 sept.	12 june
Sapphirina gemma	Tr. & T. O.	P.	11, 14, 15 oct.	
Temora discaudata		P.	15 oct.	9 oct.
— longicornis		P.		10 oct.
Scolecithrix danae		P.		9 oct.

Copepoda juv.			27, 30 july; 9 august; 29 sept.	18, 21 june; 7 july 23 june
Hemilamprops cristata ?		O.		
Calliopus sp.	A. O. ?	P. O.	16 july; 1, 4 sept.	
Hyperia galba	A. O.	P. O.	16 july; 5 sept.	30 june; 4 august
Parathemisto oblivia	A. O.	J. P. O.	25, 26, 27, 28, 29, 31 july; 25, 30 august; 4, 6, 28, 29 sept.; 14 oct.	3, 4, 30 june; 3, 7, 10, 14, 25 july; 20 august.
Euphausia Lanei		P.	17 july	3 june; 2 oct.
— Milleri		J.	29 sept.	
Siriella sp.		O.	31 july	
Thysanoessa gregaria		J.	29 sept.	
Zoea of Paralithodes camtchatica	B. N.	O.	30 august	19, 28 july
Megalopa of P. camtchatica	B. N.	O.	22, 31 july; 9, 19 august; 1 sept.	30 june
Clio borealis	A. O.	O.		
— limacina	A. O.	O.	30 august.	
Limacina arctica	A. O.	O.		30 june; 3, 14, 19 july; 4 august
Lamellibranchiata juv.		O.	6, 9 august.	
Auricularia juv.		O.	19 august.	
Ophiopluteus juv.		P.		7, 10 oct.
Chætopoda juv.		O.		31 july; 4 august
Oikopleura sp.		J. P. O.	20 sept.; 14, 15 oct.	26 july; 15 sept.; 7, 9, 9, 10 oct.
Doliolum Krohni ?		J. P.	20 sept.	2, 9 oct.
Salpa fusiformis		P.	11, 14, 15 oct.	10 oct.
Eggs of Engraulis japonica		P.	14, 17 july	
Eggs of Gadus macrocephalus		O.		14, 19, 19, 28 july
Post-larval stage of G. macrocephalus		O.	30 august	14, 19 july

Famille CALANIDÆ

1. **Calanus plumchrus**, sp. nov.

(Plate 1, figs. 1-9)

Female. — Head defined from each other. Frontal part of the head and lateral corners of the last thoraxsegments rounded. Anterior antennae long and slender, reaching to the end of body and calculating 25 articulations, though the 1st. and 2nd., the 8th. and 9th. coalesced with one another, supplied anteriorly with comparatively short and uniform bristles; penultimate and antepenultimate articulations with unusually strong and densely plumose setae behind. The terminal end of 2nd. joint of basalpodite of 2nd. to 4th. pairs of legs spinally protruding. 1st. basal joint of last pair of legs neither denticulating nor exhibiting any plumose setae along the inner ledge; each of endo- and exo- podite articulated. Abdomen consisting of 4 segments and caudal rami or furca with strong and very slender inner setae; carrying along its axis horizontally and vertically fine numerous plumose, the horizontal thicker than the other. Length of the body 4.2 — 5.2 mm. Colour whitish pellucid; the plumose setae of anterior antennae and caudal rami bright red, often tinged with orange brown.

Male. — Were not met with.

Notes. — This is at first glance like *C. finmarchicus*. It is, however, on a closer examination, distinguished from that species by the structure of inner ledge of 1st. joint of basalpodite of 5th. pair of legs and 2nd. inner setae of caudal rami. The present form is especially formed in cold water, occurring abundantly in almost all specimens of plankton taken in Ochotsk sea and in some places from Nemuro to cape Inuboye.

Loc. — North Pacific; 37°, 10' N., 143°, 10' E.; 40°, 47' N., 142°, 30' E.; 42°, 55' N., 145°, 30' E.; 46°, 04' N., 154°, 10' E.

Ochotsk sea; 45°, 12' N., 144°, 21' E.; 45°, 27' N., 144°, 23' E.; 47°, 20' N., 148°, 28' E.; 47°, 58' N., 148°, 40' E.; 50°, 05' N.,

152°, 55' E. ; 50°, 33' N., 153°, 40' E. ; 50°, 41' N., 155°, 18' E. ;
Bay of Murakami, Isl. Paramushiru.

2. **Eucalanus ocularus**, sp. nov.

(Plate 4, figs. 1-14)

The head completely fused with first thoracic segment. The fourth and fifth thoracic segments distinctly separated. The last thoracic segment with rounded extremities. The rostrum well defined and prolonged into two comparatively sharp points. The antennae 24 jointed, extending beyond the end of the furca by three joints. The mouth organs and the swimming feet of a structure similian to the other members of this genus ; the fifth pair of feet wanting in female ; in male present, consisting of one-jointed exopodite with terminal setae attached to a two-jointed basipodite. The following characteristics separate this from the other species of this genus.

1. The head possess a pair of oblong lense-like eyes.
2. Carapace of the cephalothoracic segments is covered with numerous fine short hairs.
3. The abdomen consists of two joints in female and three joints in male.

Length of body 3.2 mm. in female, 2.8 — 3.0 mm. in male.

Loc. — 37°, 35' N., 144°, 40' E. (Off the cape Kinkazan).

3. **Euchaeta japonica**, sp. nov.

(Plate 1, fig. 14 ; Pl. 2, figs. 5-10 ; Pl. 3, figs. 1-7)

Female. — Form of anterior division of body, seen dorsally : oblong fusiform in outline, greatest width slightly greater than $\frac{1}{3}$ of the length, anterior extremity about equal to the posterior. Head faintly defined from 1st. thoraxsegment, rostral ledge very slightly prominent.

Lateral lobes of last thoraxsegment somewhat prolonged exhibiting at the tip a small nodiform projection ; on the ventral ledge almost no hairs ; the dorsal clothed with comparatively long and thick hairs.

Posterior division comparatively short, not extending half length of the anterior division. Genital segment somewhat symmetrical with the proximal part narrow; genital protuberance very large and thick, issuing from about the middle of the segment, extending somewhat obliquely behind; its apical part becoming a broad simple rounded tip. The 2nd. and 3rd. abdominal segments each at postdorsal ledge denticulated with some small spines. Innermost but one of the caudal setae almost twice as long as the others; appendicular bristle, issuing from the inner corner of caudal rami, exceedingly elongated, almost attaining the length of the whole body. Anterior antennae slightly attaining the length of the whole body. Anterior antennae slightly attaining in length the posterior part of the genital segment of abdomen; articulating from 24 joints; the last two articulations coalescent. Exo and endopodite of posterior antennae both about equal in length; 2nd. articulation of the endopodite carries 8 + 5 setae. 1st. maxille exhibits 4 at 2nd. joint of basipodite, 9 at exopodite and 4 setae at the last joint of endopodite. 1st. pair of legs concaved at outer ledge of its 1st. joint of basipodite. 2nd. pair of legs comparatively changed in form at the last joint of its exopodite, from the same of 3rd. or 4th. pairs of legs; the spine of 2nd. joint of its exopodite very long, exceeding the middle of the 1st. spine on the 3rd. The 5th. pair of legs always wanting. Length of body about 8^{mm}.

Male. — Head coalescent with 1st. thoraxsegment. Abdomen 5 articulated; caudal segment very short. Anterior antennae 24 articulated; may be calculated as 21 articulations, by uniting the 9th. with the 11th. joint and the 23rd. with the 24th. 5th. pair of legs exo and endo-podite; the left endopodite 1/2 as long as that of right; each podite single jointed; perhaps an immature form. Length of body 5-6^{mm}.

Notes. — This form is closely allied to *E. norvegica*, but is apparently distinct as respects the structure of the last dorsal segment and genital protuberance etc.

Loc. — Japan sea; from the depth about 200 fathoms at the position of 41°45' N., 143°00' E.

Famille CENTROPAGIDÆ

4. *Pseudolovenula magna*, gen. et sp. nov.

(Plate 1, figs. 10-13 ; Pl. 2, figs. 1-4)

Female. — Body slender and fusiform in anterior division ; apparently 6 articulated ; with the head defined completely from the 1st. thoraxsegment ; the last thoraxsegment, rounded in its lateral corners, from the 5 th. cephalothoraxsegment. Posterior division 3 jointed. Anterior antennae 24 articulated ; long and slender ; 5 posterior articulations exceed over the end of the body. Exopodite of posterior antennae 8 articulated. Maxilliped longer than 2 nd. maxille, with the basipodite, consisting of two elongated joints ; the last joint of which exhibiting 3 elongated but not claw-like formed setae. Each one of the endo-and exopodite of 1st.-4 th. pairs of legs 1 jointed. Length of body 5-7^{mm}. Colour whitish pellucid.

Male. — Were not met with.

Notes. — This new genus is allied *Lovenula* ; but differs from the latter in the stucture of cephalothorax, abdominal segments, maxilliped and 5 th. pair of legs. According to these generic characteristics this form apparently should be treated as a new species. This species notice to cold water ; occuring in several places, where water shows a low temperature.

Loc. — North Pacific ; 41°, 44' N., 144°, 40' E. ; 42° 55' N., 145°, 30' E.

Ochotsk sea ; 47°, 13' N., 148°, 12' E.

Japan sea ; 41°, 42' N., 133°, 50' E.

EXPLANATION OF THE PLATES

PLATE I

Calanus plumchrus, sp. nov.

		Magni.
Fig. 1.	Female, dorsal.....	16
— 2.	— lateral.....	16
— 3.	— 1st. antennae.....	16, 1
— 4.	— 2nd. antennae.....	69, 1
— 5.	— Mandible.....	71
— 6.	— Maxilliped.....	70
— 7.	— 1 st. pair of legs.....	57, 1
— 8.	— 3 rd.....	57, 1
— 9.	— 5 th.....	66, 4

Pseudolovenula magna, gen. et sp. nov.

		Magni.
Fig. 10.	Female, 2 nd. antennae.....	71
— 11.	— 2 nd. maxille.....	71, 7
— 12.	— Maxilliped.....	71, 7
— 13.	— 1st. pair of legs.....	57, 1

Euchaeta japonica, sp. nov.

		Magni.
Fig. 14.	Female, Head, lateral.....	53, 2

PLATE II

Pseudolovenula magna, gen. et sp. nov.

		Magni.
Fig. 1.	Female, dorsal.....	16
— 2.	— lateral.....	15, 1
— 3.	— 4 th. pair of legs.....	57, 1
— 4.	— 5 th. pair of legs.....	53, 2

Euchaeta japonica, sp. nov.

	Magni.
Fig. 5. Female, dorsal.....	13, 4
— 6. — Abdomen, ventral.....	11, 6
— 7. Male, Abdomen, lateral.....	13, 4
— 8. — 1 st. antennae, left.	16
— 9. — 2 nd. antennae.....	44, 4
— 10. — Maxille.....	65, 4

PLATE III

Euchaeta japonica, sp. nov.

	Magni.
Fig. 1. Female lateral.....	13, 4
— 2. Male, dorsal.....	14, 2
— 3. — Maxilliped.....	42, 5
— 4. Female, 1 st. pair of legs.....	53, 2
— 5. — 2 nd. pair of legs.....	57, 1
— 6. — 4 th. pair of legs.....	57, 1
— 7. Male, 5 th. pair of legs.....	53, 2

PLATE IV

Eucalanus oculus, sp. nov.

	Magni.
Fig. 1. Male, dorsal.....	26, 8
— 2. — lateral.....	26, 8
— 3. — Ventral of rostrum.....	43, 4
— 4. Female, dorsal of hinter part of body.....	45, 2
— 5. — lateral of hinter part of body.....	44, 4
— 6. Male, 2 nd. antennae.....	73, 5
— 7. — Mandible.....	76, 2
— 8. — 1 st. maxille.....	69, 1
— 9. — 2 nd. maxille.....	70
— 10. — Maxilliped.....	71
— 11. — 1 st. pair of legs.....	131
— 12. — 2 nd. pair of legs.....	73, 5
— 13. — 4 th. pair of legs.....	87
— 14. — 5 th. pair of legs.....	135

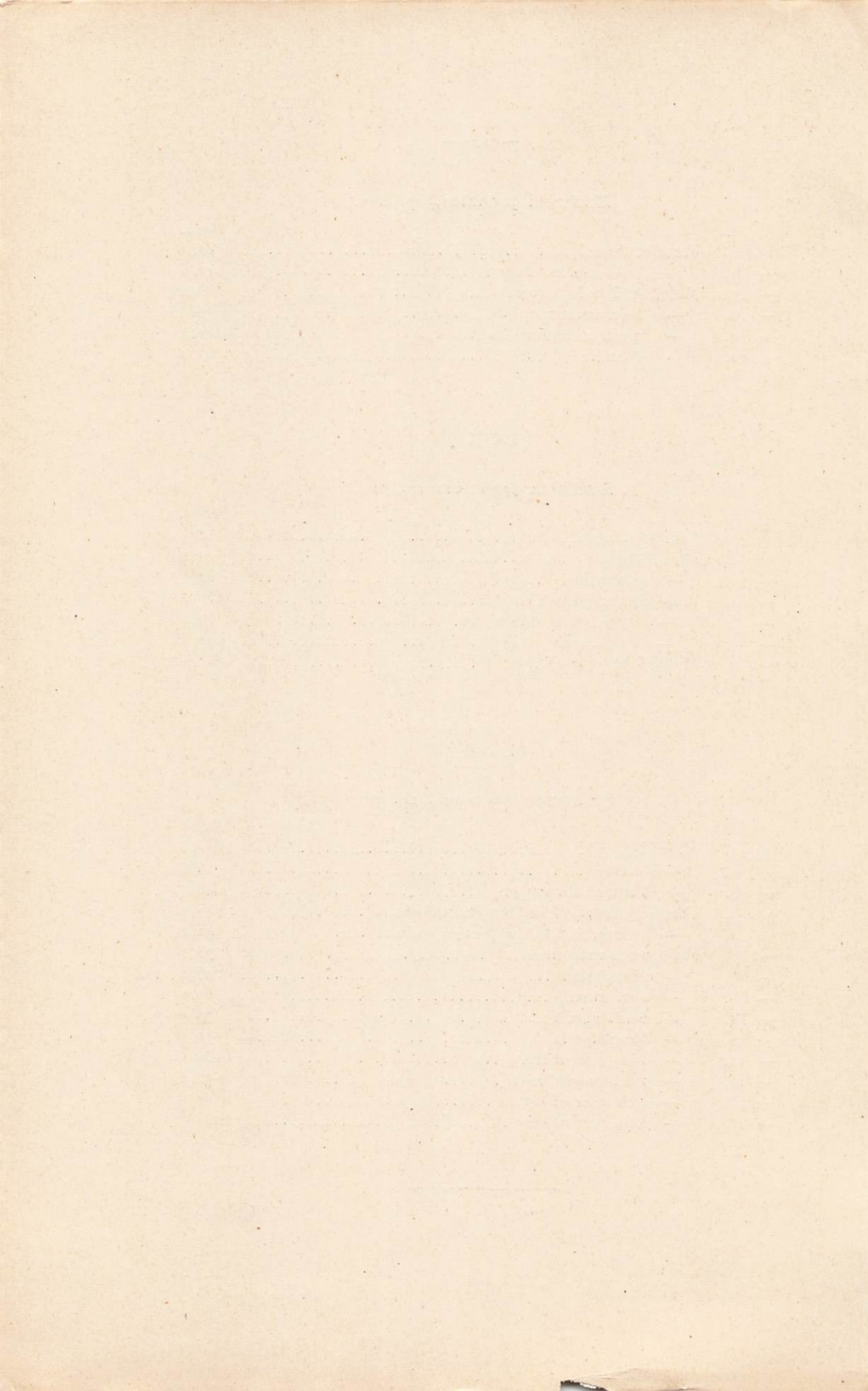
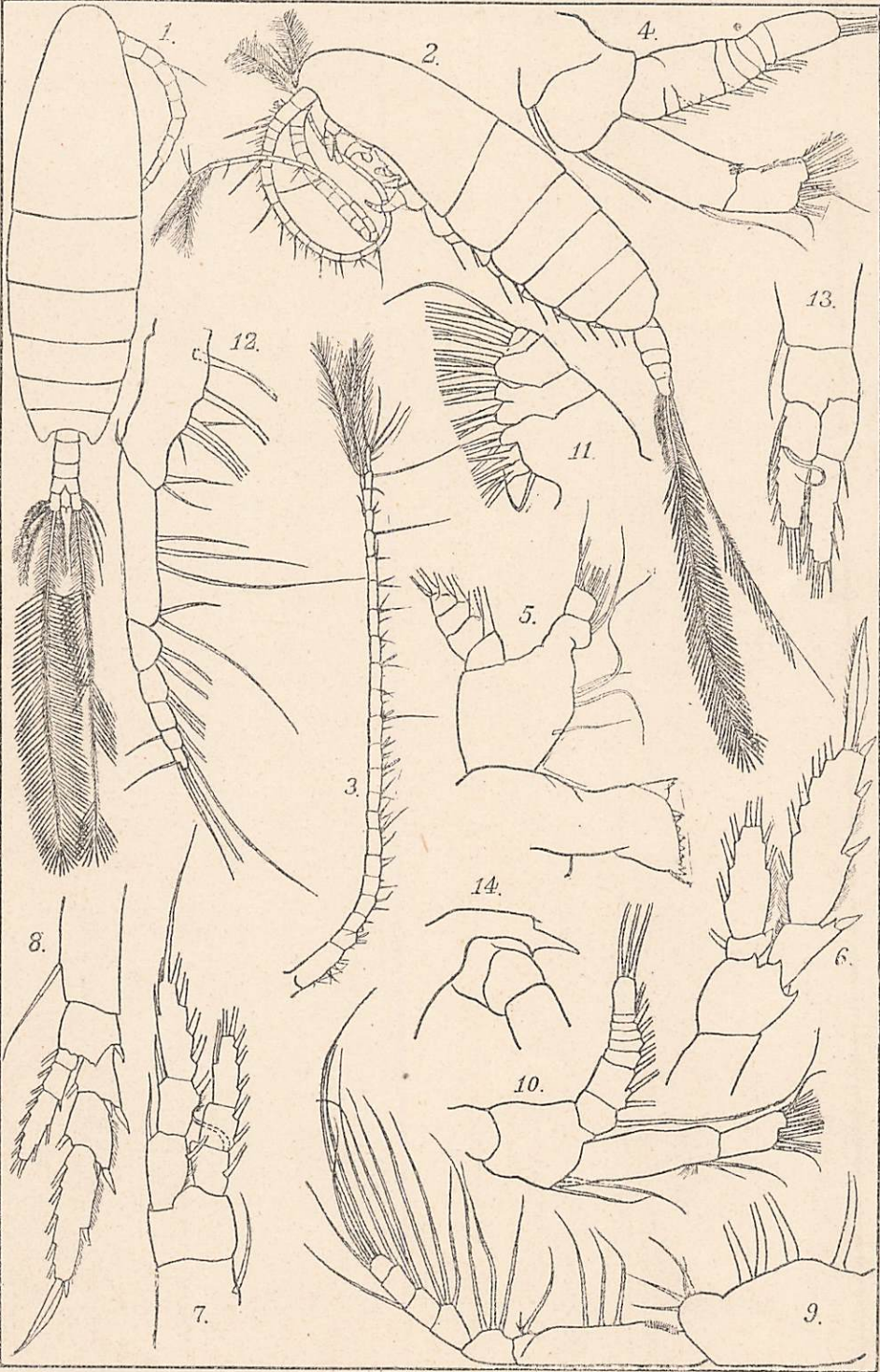


PLATE I.



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PLATE II.

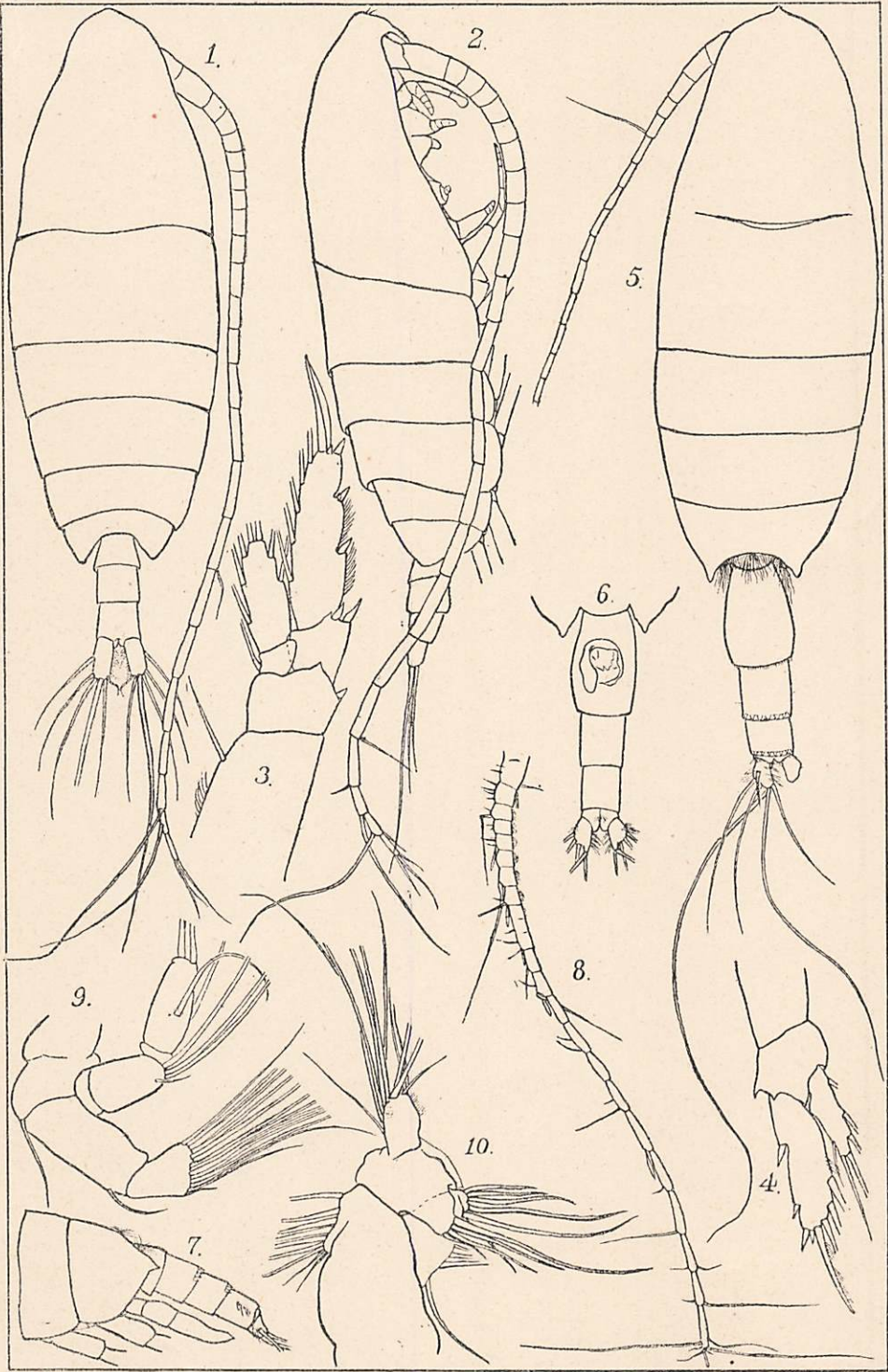


PLATE III.

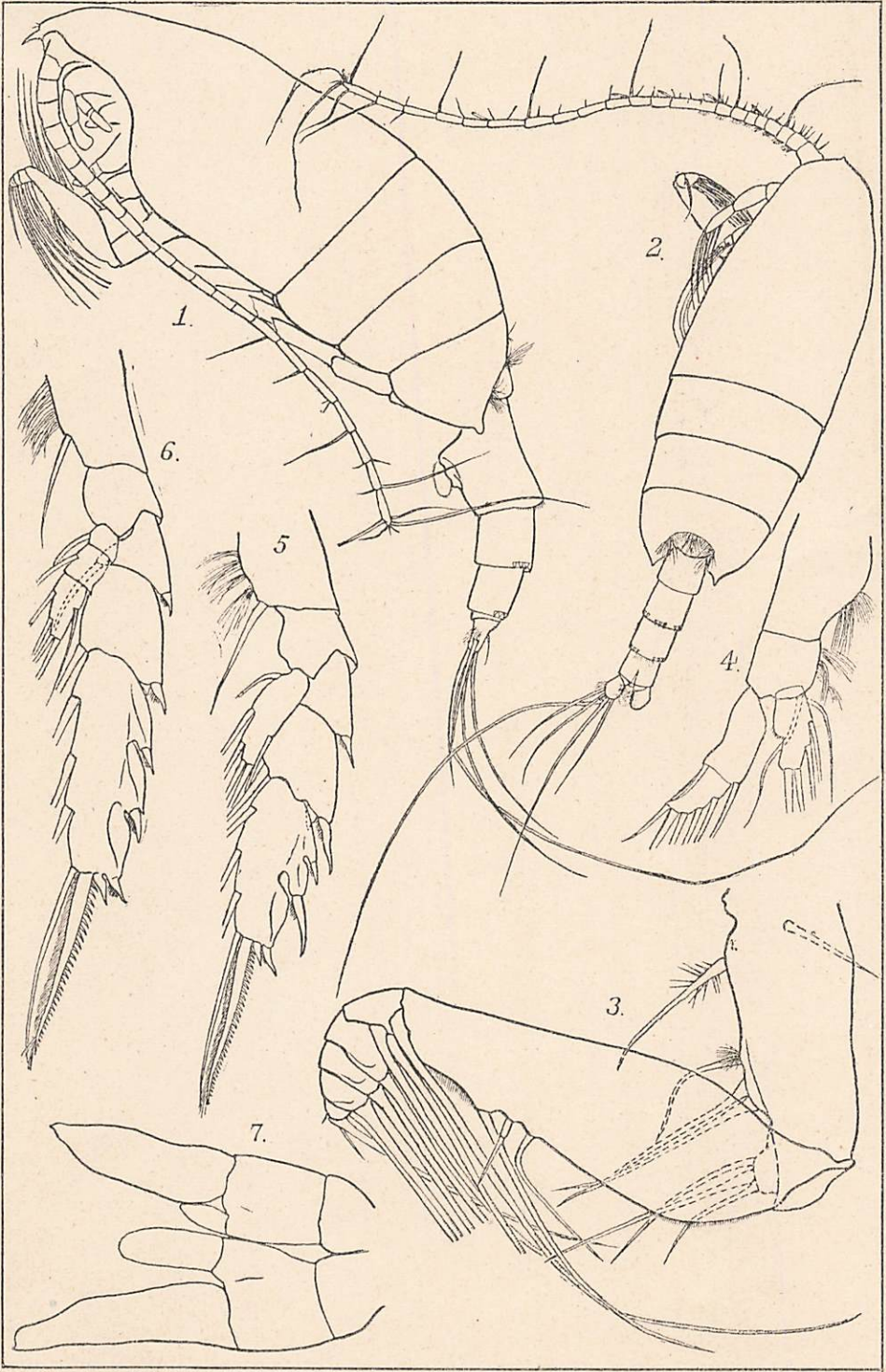
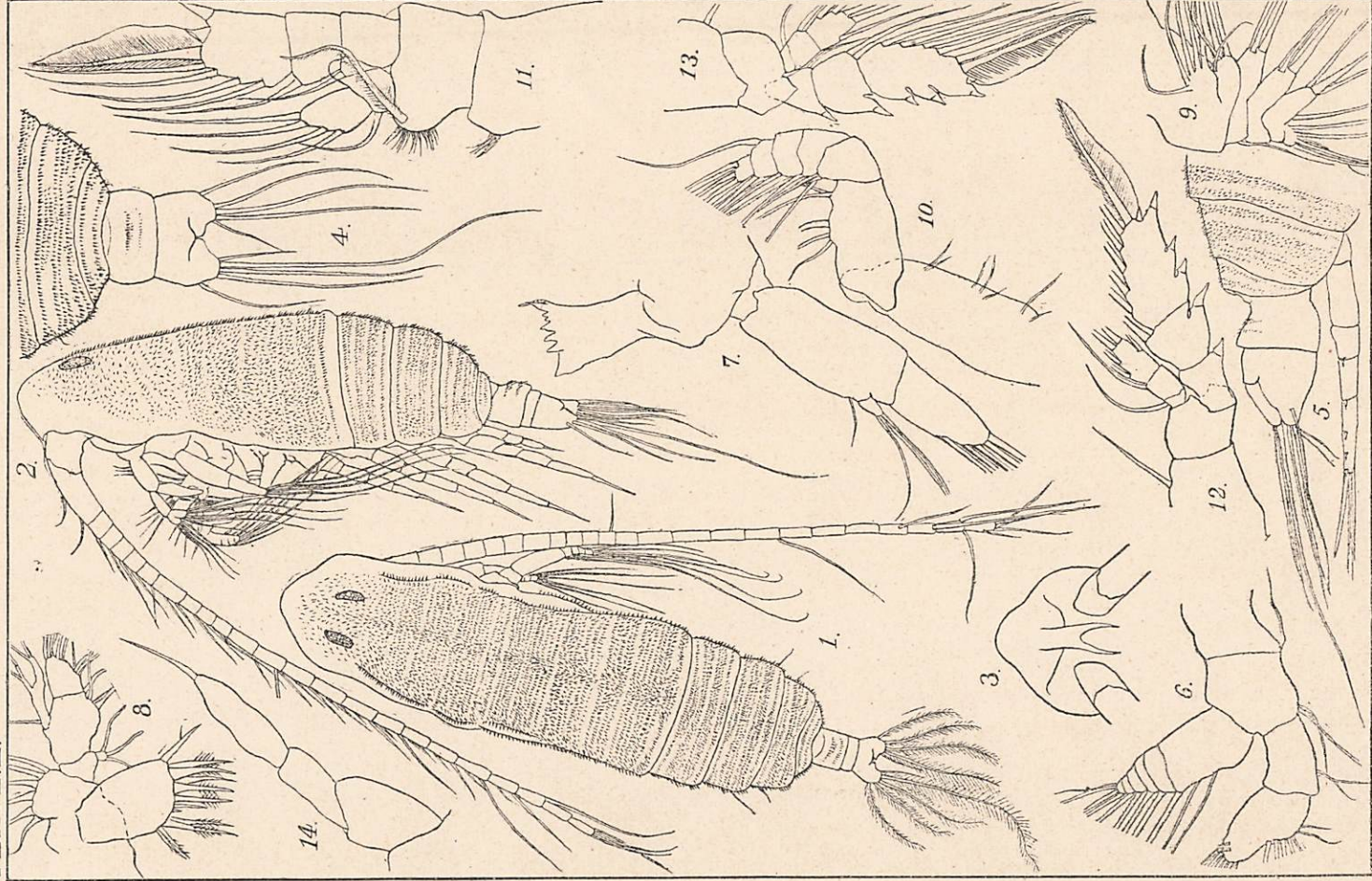


PLATE IV.



H. Murakawa, Del.

