AN ABSTRACT OF THE THESIS OF

CHRISTOPHER JAMES MARLOWE for the MASTER OF SCIENCE
(Name) (Degree)

in OCEANOGRAPHY presented on February 13, 1974
(Major) (Date)

Title: VERTICAL DISTRIBUTION PATTERNS IN A SUBARCTIC PACIFIC ZOOPLANKTON COMMUNITY

Abstract approved: Redacted for Privacy
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A study has been made of the vertical distributions and migrations of a large number of zooplankton species at Weather Station "P" in the Subarctic Pacific. Simultaneously towed horizontal opening-closing nets were used for the study. The distributions and migrations of 104 taxa have been subjectively grouped into seven basic patterns. A few taxa could not be so grouped. Examination of hydrographic features reveals correlations between animal distributions and strong hydrographic gradients.

It is concluded that: 1. In boreal oceanic waters, few animals perform diurnal migrations, 2. Depth ranges for most zooplankton are on the order of hundreds of meters, and 3. Hydrographic features may influence the vertical distributions and migrations of zooplankton.

Vertical Distribution Patterns in a Subarctic Pacific Zooplankton Community

by

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A THESIS

submitted to

Oregon State University

in partial fulfillment of
the requirements for the
degree of

Master of Science

June 1974

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Date thesis is presented February 13, 1974

Typed by Suelynn Williams for Christopher James Marlowe

DEDICATED TO:

Michel and Grace DeLatour - two stalwart friends.

ACKNOWLEDGMENTS

I want to express my sincere appreciation to my major professor, Charlie Miller, without whose help and great patience, this work might never have come to fruition.

Thanks are also due to Dr. William Pearcy for both his professional criticism and his encouragement. A grateful thanks to Bill Peterson who taught me more oceanography drinking coffee than all my classes combined.

Most of all I want to thank all my friends and family whose faith and encouragement kept this thesis viable during some difficult times. These many friends are too numerous and too special to be merely listed. To each of them I am thankful.

This work was supported by NSF Grant GA-28902 awarded to Dr. Charles B. Miller.

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INTRODUCTION

Hutchinson (1952) has discussed the concept of structure in relation to the physical and biological worlds. In particular, "the structure which results from the distributions of organisms in, or from their interactions with, their environments will be called pattern". In particular the present study deals with the recurrence of similar distributions among different organisms in the same environment. It is in this sense of recurrence that the word pattern will be used.

An attempt has been made to define recurrent patterns of vertical distribution and migration within a community of zooplankton. The elucidation of such patterns is a necessary step in the understanding of the dynamics of such a community. A further attempt has been made to deal with possible influences of hydrographic structure in the shaping of such distributions.

Vertical distributions and migrations among zooplankton have been studied previously by numerous authors. Bainbridge (1961) has reviewed and discussed the generalized patterns and variations encountered in migrations among the Crustacea. He deals extensively with probable mechanisms, and controlling and orienting factors. Banse (1964) has reviewed the factors affecting vertical distributions and migrations among the marine zooplankton. Vinogradov (1968) in his monograph The Vertical Distribution of the Oceanic Zooplankton deals exhaustively with the history of such studies, sampling techniques and biomass distributions. His compilation of the available information by region (Polar, Temperate, Tropical, and Antarctic) plus his comparison of the features of each region is a major contribution to the understanding of oceanic vertical distributions.

Other reviews of vertical distribution and migration include Russell (1927), Kikuchi (1930), and Cushing (1951), whose works are dealt with in the above mentioned reviews.

Physical Environment

Location

Ocean Station "P" (Lat. 50° N, Long. 145° W) lies approximately 500 nautical miles west of the northern tip of Vancouver Island. A ship is maintained on station by the Department of Transport of Canada. Oceanographic observations have been collected there on a regular basis since 1952.

Figure 1 shows the location of Station "P" in relation to the major current systems and water masses in the North Pacific. Lying in the broad boundary between the West Wind Drift and the Subarctic

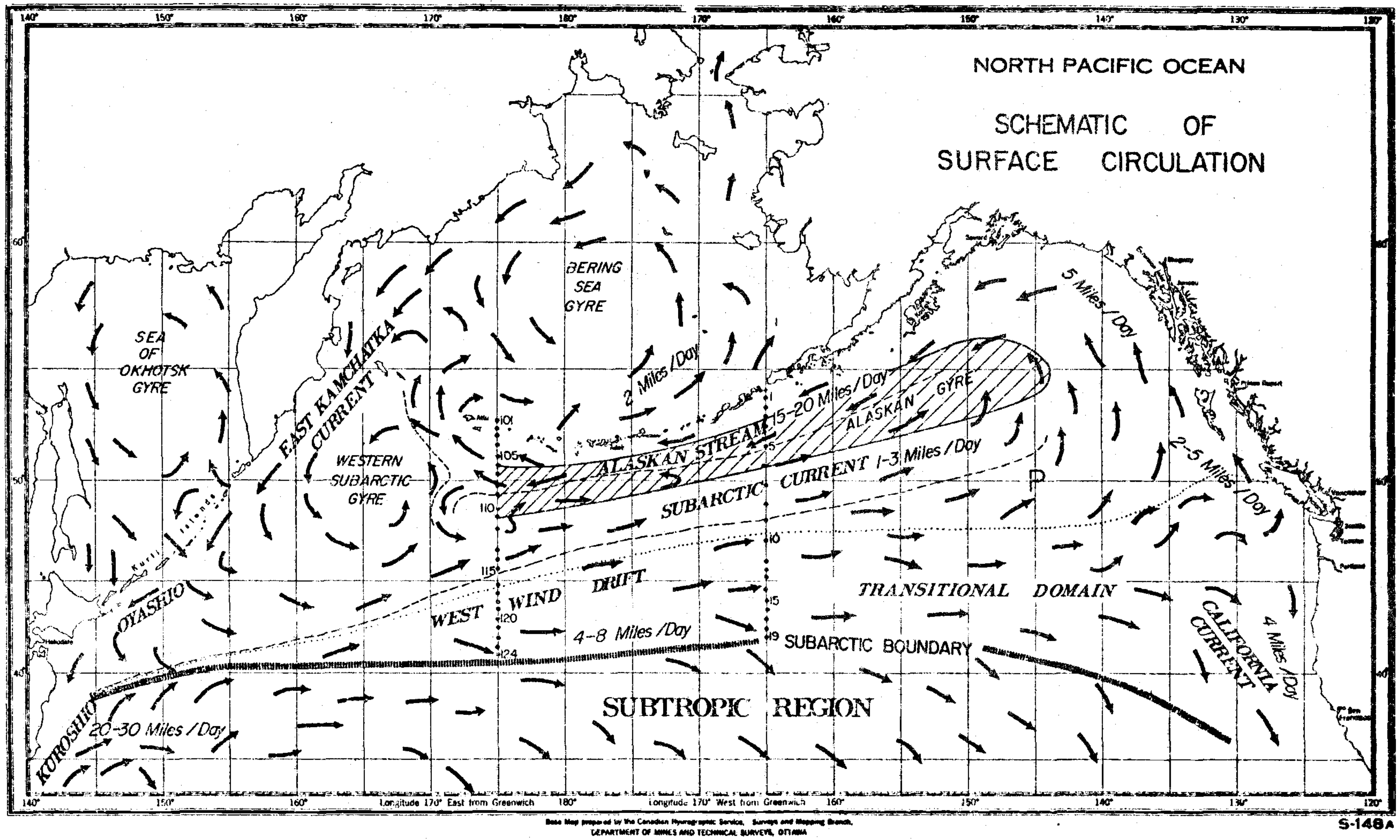


Figure 1. Location of station "P" in relation to the major current systems of the North Pacific. (from Dodimead, 1968)

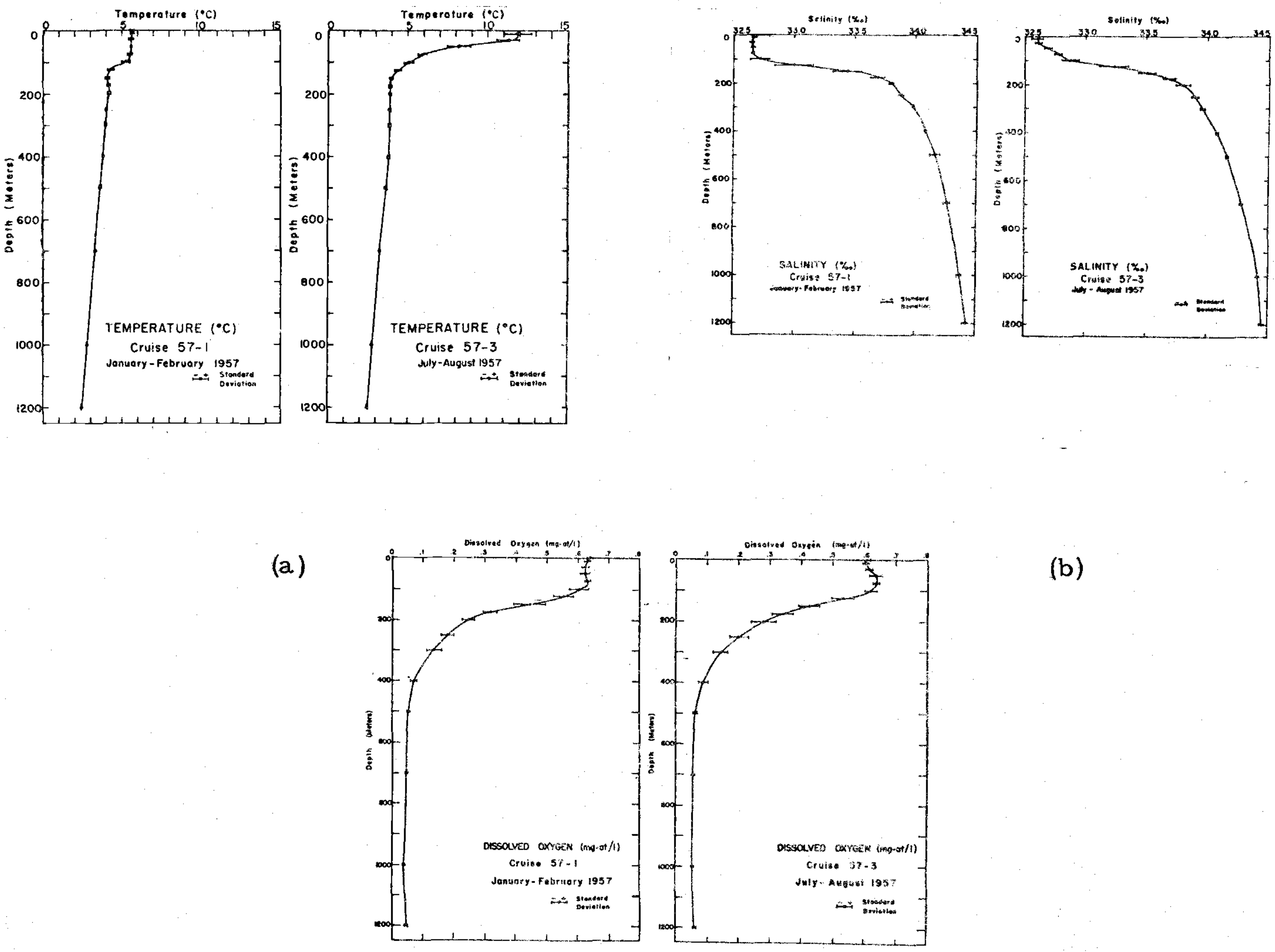
Current, Station "P" is situated south of the Alaskan Gyre, the shear zone between the Alaskan Stream and the Subarctic Current. The "Alaskan Dome" lies in the center of this counter-clockwise circulation and is characterized by having water of relatively higher salinity and lower oxygen and temperature than surrounding areas.

To the south of Station "P" lies the Subarctic Boundary, separating the Subarctic Water Mass from the Subtropical Water Mass to the south. Station "P" therefore, lies well within the Subarctic Water Mass, lying between the Alaskan Dome water to the north and Subtropical water to the south.

Hydrography

The Subarctic Pacific is effectively defined by the vertical structure of the water, primarily in terms of salinity (Uda, 1963). This structure consists of three zones: The upper seasonal zone (0-100 meters), the main halocline (100-200 m), and the lower zone (below 200 m). Figure 2 shows these zones and their seasonal changes.

The upper zone, characterized by relatively low salinity (32.7‰) is subject to pronounced seasonal heating. As Figure 2 shows, this is the area of the seasonal thermocline during the summer. In winter, strong wind mixing creates near isothermal and isohaline conditions in this upper zone. Oxygen concentrations follow a similar



(c)

Figure 2. Seasonal variation of hydrographic properties at Station "P". (from Tabata, 1961)

seasonal pattern. In summer there is a marked oxygen maximum at a depth of 30-50 m. This presumably arises from phytoplankton production. In winter, oxygen is well mixed in the upper zone.

The permanent halocline is characterized by a decrease of approximately 1‰ salinity between 100 and 200 meters. Oxygen has a similar decrease, reaching levels of 0.3 mg at/l at 200 meters, from values of 0.6 mg at/l in the upper zone. In the halocline, to a depth of about 150 meters, there exists a slight positive thermocline. Below this depth, temperature decreases slowly, reaching 2°C at 2000 meters.

The lower zone is characterized by gradually increasing salinity, and decreasing temperature and oxygen levels. Oxygen reaches a minimum of 0.05 mg at/l between 500 and 1000 meters. Below this there is a gradual increase to 0.3 mg at/l near the sea floor.

Tabata (1965) has reviewed the non-seasonal variability of hydrographic factors in the Subarctic Pacific.

Zoogeography

The North Pacific from the Aleutians north through the Bering Sea, west to the Kuroshio, east into the Gulf of Alaska, and south to approximately 40°N lat. has been recognized by various authors as a separate zoogeographic domain. Brodskii (1957), using the Calanoid copepod fauna, separated this area as having a distinctive faunal assemblage. Johnson and Brinton (1963) using euphausiids, Beklemishev (1967) using copepods, McGowan and Fager (1971) using additional information on phytoplankton and nekton have all characterized the Subarctic region as zoogeographically distinct. Ocean Station "P" falls well within this region. All of the works mentioned above deal with the fauna in the upper waters (above 200-300 meters). The zoogeographic affinities of the deeper fauna are not yet clear.

Previous Biological Work

Vinogradov (1968), primarily using information from the Western Subarctic, has described the seasonal and diurnal migrations of the major biomass components, along with their seasonal vertical distributions. Little work has been done in the eastern regions.

Using information from Station "P" and elsewhere, Parsons et al. (1966) have described the onset of the spring phytoplankton bloom in the Subarctic Pacific. They have hypothesized that the small standing stock of phytoplankton, in spite of the high primary productivity reported by McAllister et al. (1960), is the result of intense herbivore grazing.

McAllister (1961) has reported on the seasonal vertical distribution of biomass at Station "P". His results have shown a consistently low biomass associated with the permanent halocline. LeBrasseur (1965) has described the mean annual cycle of zooplankton biomass in the upper 150 meters. His results show an increase beginning in mid-March, a prominent peak in early May, followed by a slow decline through the summer. Vinogradov (1968) has suggested that a portion of the spring peak is due to the ontogenic migrations of the young copepodite stages of the major mass species (i.e., Calanus cristatus and Calanus plumchrus) from their overwintering depths. It is presumably these animals which are grazing the phytoplankton biomass down.

This thesis then falls within a small time segment of important seasonal biotic and hydrographic cycles. Along with future vertical distribution work, it will help elucidate possible interrelations between hydrographic and biological phenomena.

METHODS AND MATERIALS

Field Methods

The samples used in this study were collected over a four day period (July 2-July 5, 1971) at Station "P". Fourteen series of tows were taken. Each series consisted of eight horizontal tows taken in two sections of four simultaneously fishing nets. In addition a single oblique tow in the upper ten meters was included in each series. Target depths for the first section were 25 m, 50 m, 75 m, and 100 m. Target depths for the second section were 200 m, 300 m, 400 m, and 500 m. Opening closing bongo nets (Brown and McGowan, 1966) were used for all tows. Nets were opened at depth by messenger and closed by a volume metering device. All horizontal tows were set to filter two hundred cubic meters of water. For the ten meter oblique tows, volume was estimated by a TSK flow meter mounted in one of the frame mouths. Each net frame was rigged with two nets, one of 0.183 mm Nitex and the other of 0.333 mm Nitex. Depth estimation was done by wire angle and meters of wire between nets calculations. These were checked against a Benthos (TM) time-depth recorder placed just below the deepest net.

All samples were preserved immediately in ten percent buffered sea water formalin.

Hydrographic data were collected by hydrographic casts.

Bottles were placed at standard depths to 600 meters. Expendable bathythermograph records were taken simultaneously. Temperature, salinity and oxygen measurements were made using reversing thermometers, an inductive salinometer and the Winkler method respectively. Casts were made twice daily.

Laboratory Methods

For this study, only the samples taken with the 0.183 mm mesh were used. Because of the large number of tiny animals and the large sample volumes, a two part subsampling scheme was devised for abundance estimates. Samples were first divided in a Folsom Plankton Sample Splitter until a fraction was obtained in which the larger animals gave counts of twenty-five or more individuals per taxonomic category, and the total subsample count ranged between four and seven hundred. All organisms in this fraction were then identified except the smallest calanoid and cyclopoid copepods, and foraminifera. Abundances of the latter three groups were estimated by the dilution of a sample split and the counting of multiple Stemple Pipette aliquots. Categories of these smaller forms were counted until a minimum of fifty individuals had been enumerated in each category or a minimum of three hundred total individuals had been counted.

In all cases all organisms were identified to the most accurate taxonomic grouping possible. Almost all euphausiids, chaetognaths, ostracods and copepods were identified to specific level, many to life history stage. For this purpose, standard taxonomic references were used. It was not possible to give specific or generic names to all animals. Obviously different types were assigned alphabetic letters as identifiers. Remaining animals were placed in general descriptive categories e.g. Immature Ostracods.

A total of four complete series (36 samples) were analyzed for this study, two day series and two night series. Due to various net failures, no series was complete in itself. For this reason it has been necessary to substitute other samples taken at the appropriate depths and light conditions, but at different times. Table 1 contains a list of the samples used, their exact depths, dates, solar times, and volumes filtered.

All data were punched on computer cards. Calculations and plots of abundance vs. depth were made by computer using programs written by Charles B. Miller.

Table 1. Sample Information

DAY SERIES

Sample No.	Date	Solar Time	Target Z	Estim. Z	Vol. Filtered
6C 0-10m	2 July	1140	0-10m	0-10m	216 m^3
6A 25m	2 July	1055	25m	21m	200 m^3
6A 50m	2 July	1055	50m	43m	200 m^3
6A 75m	2 July	1055	75m	66m	200 m^3
8A 100m	2 July	1528	100m	98m	200 m^3
6B 200m	2 July	1237	200m	218m	200 m^3
6B 300m	2 July	1237	300m	322m	200 m^3
6B 400m	2 July	1237	400m	417m	200 m^3
6B 500m	2 July	1237	500m	502m	200 m^3
11C' 0-10m	3 July	1230	0-10m	0-10m	201 m^3
11A 25m	3 July	0740	25m	27m	212 m^3
11A 50m	3 July	0740	50m	56m	200 m^3
12A 75m	3 July	1106	75m	72m	153 m^3
11A 100m	3 July	0740	100m	101m	220 m^3
11B 200m	3 July	0952	200m	210m	200 m^3
11B 300m	3 July	0952	300m	312m	153 m^3
11B 400m	3 July	0952	400m	407m	200 m^3
11B 500m	3 July	0952	500m	507m	220 m^3

NIGHT SERIES

Sample No.	Date	Solar Time	Target Z	Estim. Z	Vol. Filtered
3C 0-10m	2 July	2238	0-10m	0-10m	162 m^3
4A 25m	2 July	0107	25m	23m	189 m^3
3A 50m	2 July	2151	50m	47m	200 m^3
3A 75m	2 July	2151	75m	72m	200 m^3
3A 100m	2 July	2151	100m	98m	200 m^3
3B 200m	2 July	2325	200m	212m	200 m^3
3B 300m	2 July	2325	300m	311m	200 m^3
3B 400m	2 July	2325	400m	397m	200 m^3
19F 500m	5 July	0041	500m	558m	200 m^3
14C 0-10m	4 July	0122	0-10m	0-10m	210 m^3
14A 25m	3 July	2114	25m	22m	153 m^3
14A 50m	3 July	2114	50m	49m	179 m^3
4A 75m	2 July	0107	75m	74m	200 m^3
14A 100m	3 July	2114	100m	99m	200 m^3
9B 200m	2 July	2251	200m	198m	200 m^3
14B 300m	3 July	2258	300m	314m	200 m^3
14B 400m	3 July	2258	400m	414m	153 m^3
14B 500m	3 July	2258	500m	510m	200 m^3

RESULTS

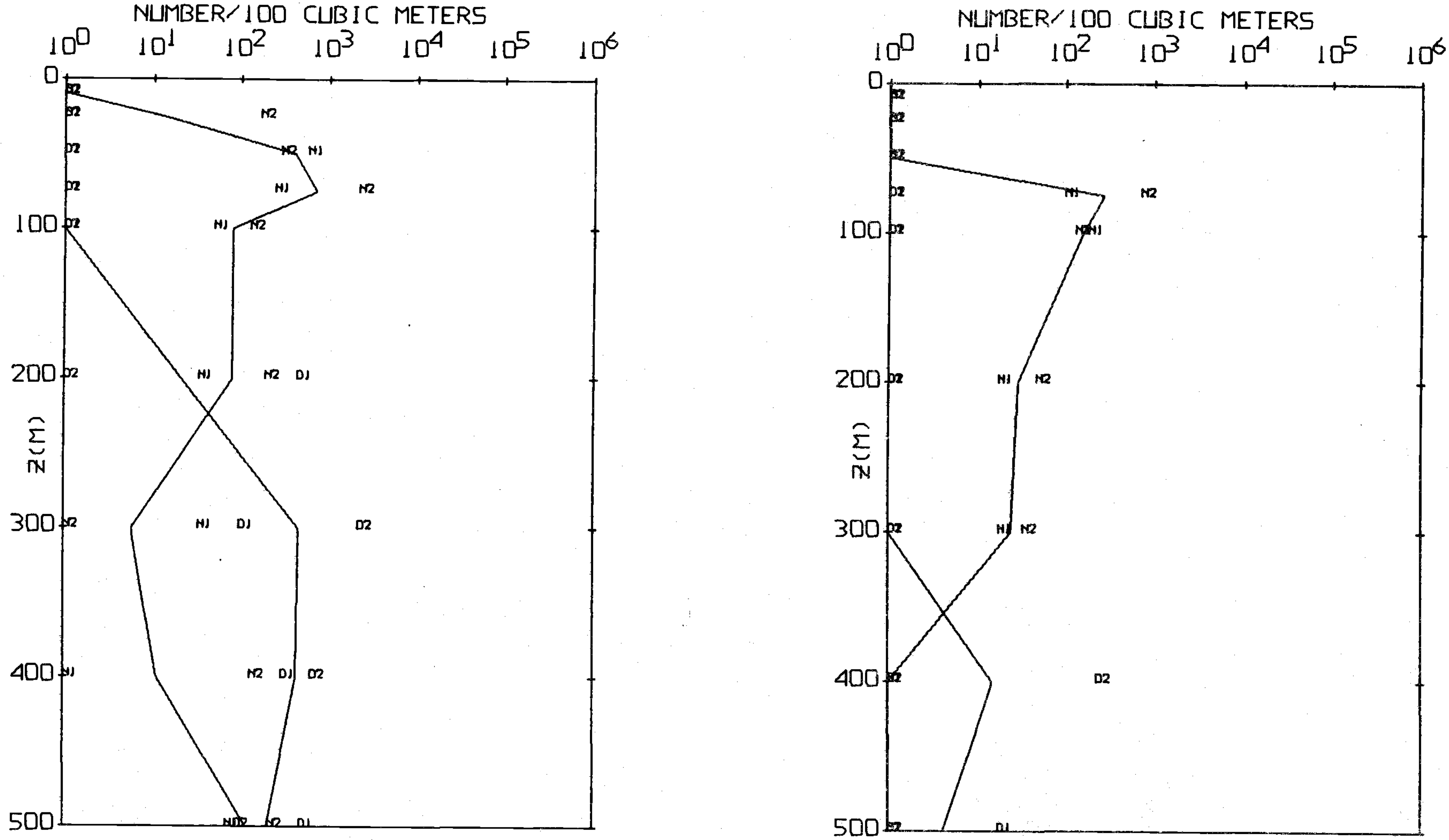
A total of 184 categories were identified and counted. Not all categories were abundant enough for analysis. For the purpose of this thesis, those categories which were not present in a minimum of four of the analyzed samples or which had counts of less than ten total individuals were not further analyzed. This was done because abundance estimates for these animals were inadequate.

For the 104 categories analyzed, abundance estimates per 100 m^3 were plotted on a log scale vs. depth on a linear scale. The geometric means for day and night abundances are shown with solid lines. Figures 3 through 7 show examples of these graphs. The entire body of the raw data is given in Appendix 11.

Patterns of vertical migration and abundance were then determined by subjectively grouping together graphs with similar distributions. The patterns presented here are the result of this subjective grouping effort.

Migrational Patterns

Migration was determined using Brinton's (1969) criteria of the disappearance of a deep day mode at night with the appearance of an upper mode at night. This allows one to distinguish vertical migration from light aided avoidance.



(a) (b)

Figure 3. Abundance vs. depth of (a) Calanus cristatus stage V and (b) Gaetanus simplex females.

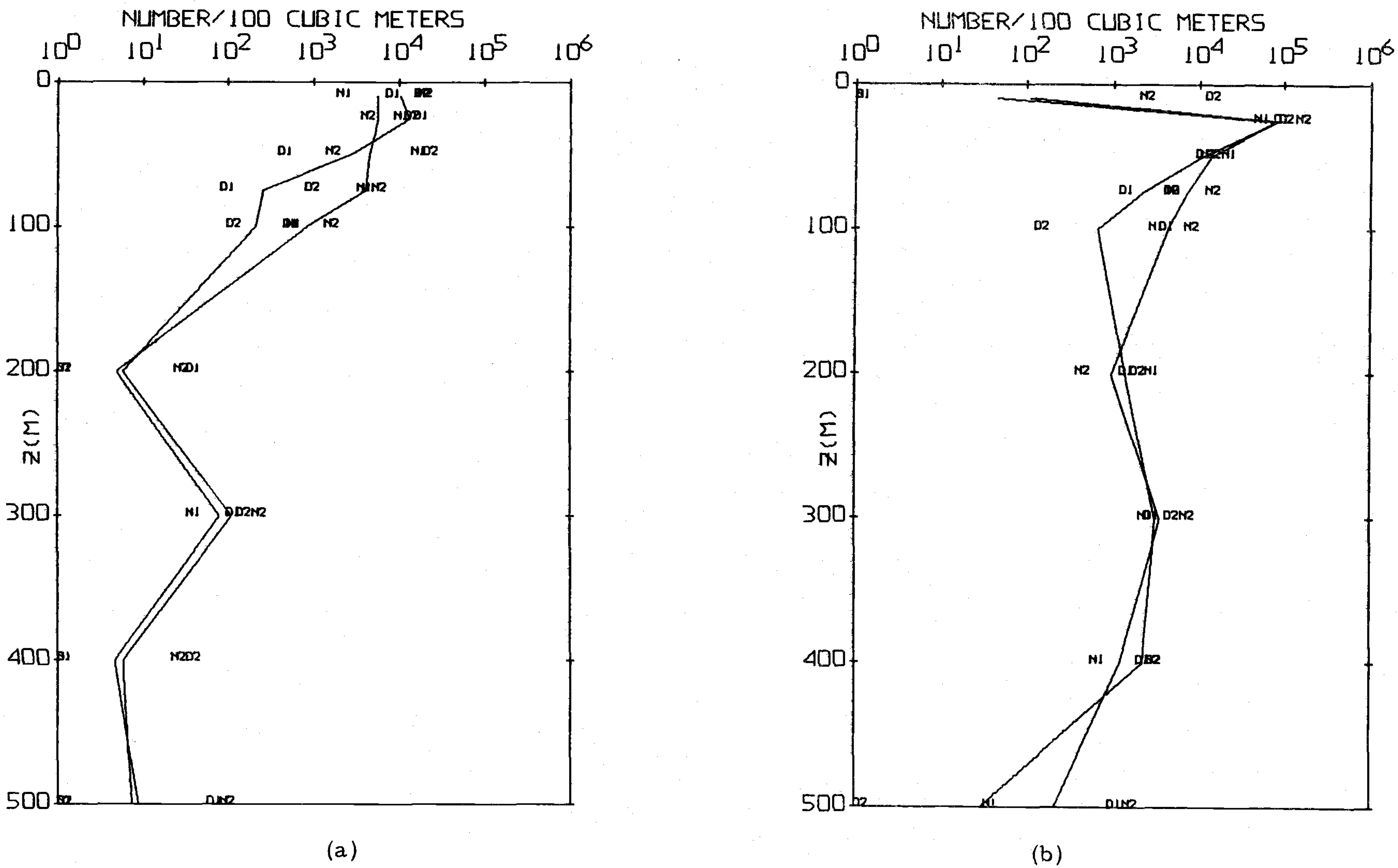


Figure 4. Abundance vs. depth for (a) Limacina helicina and (b) Oncaea borealis females.

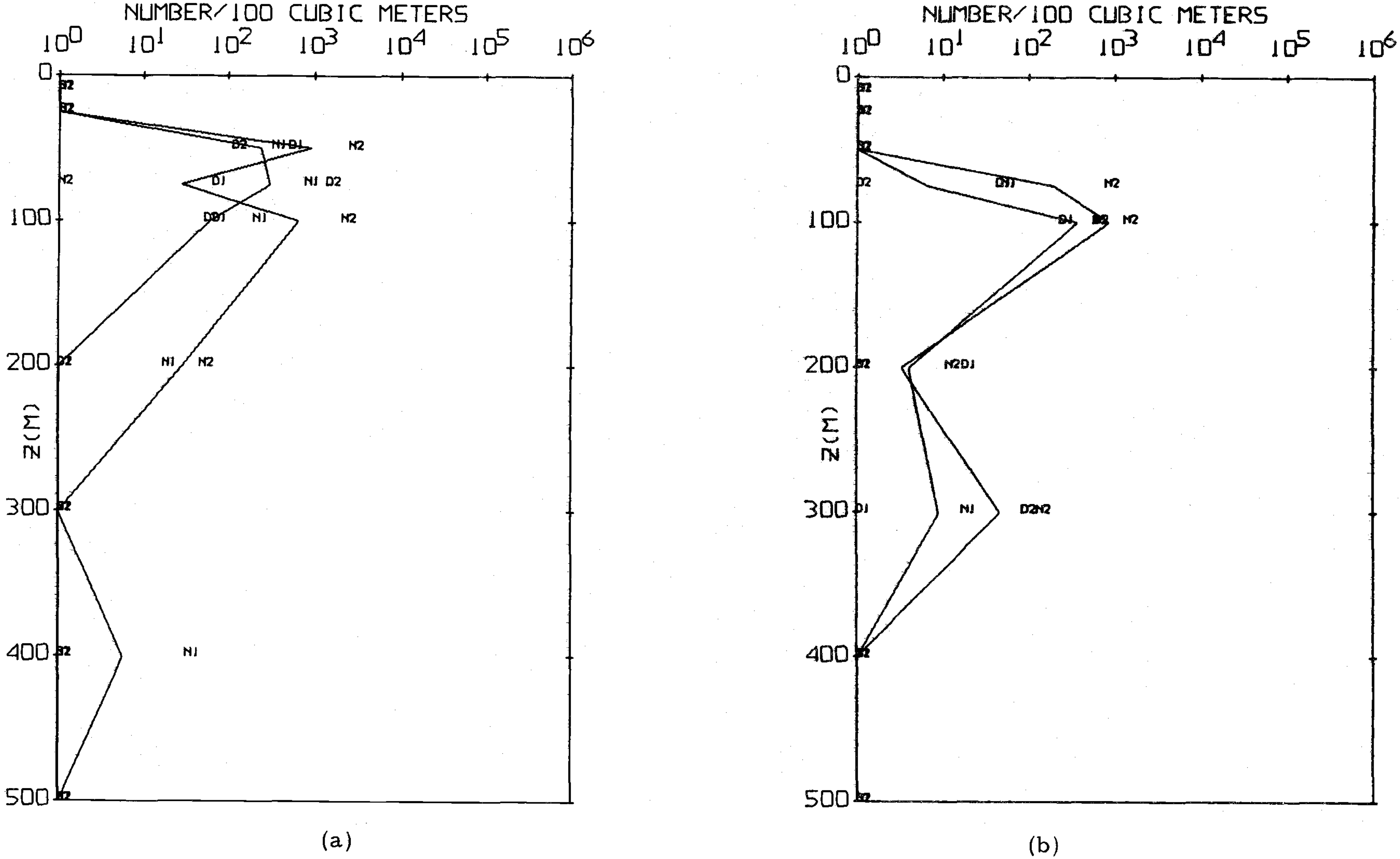
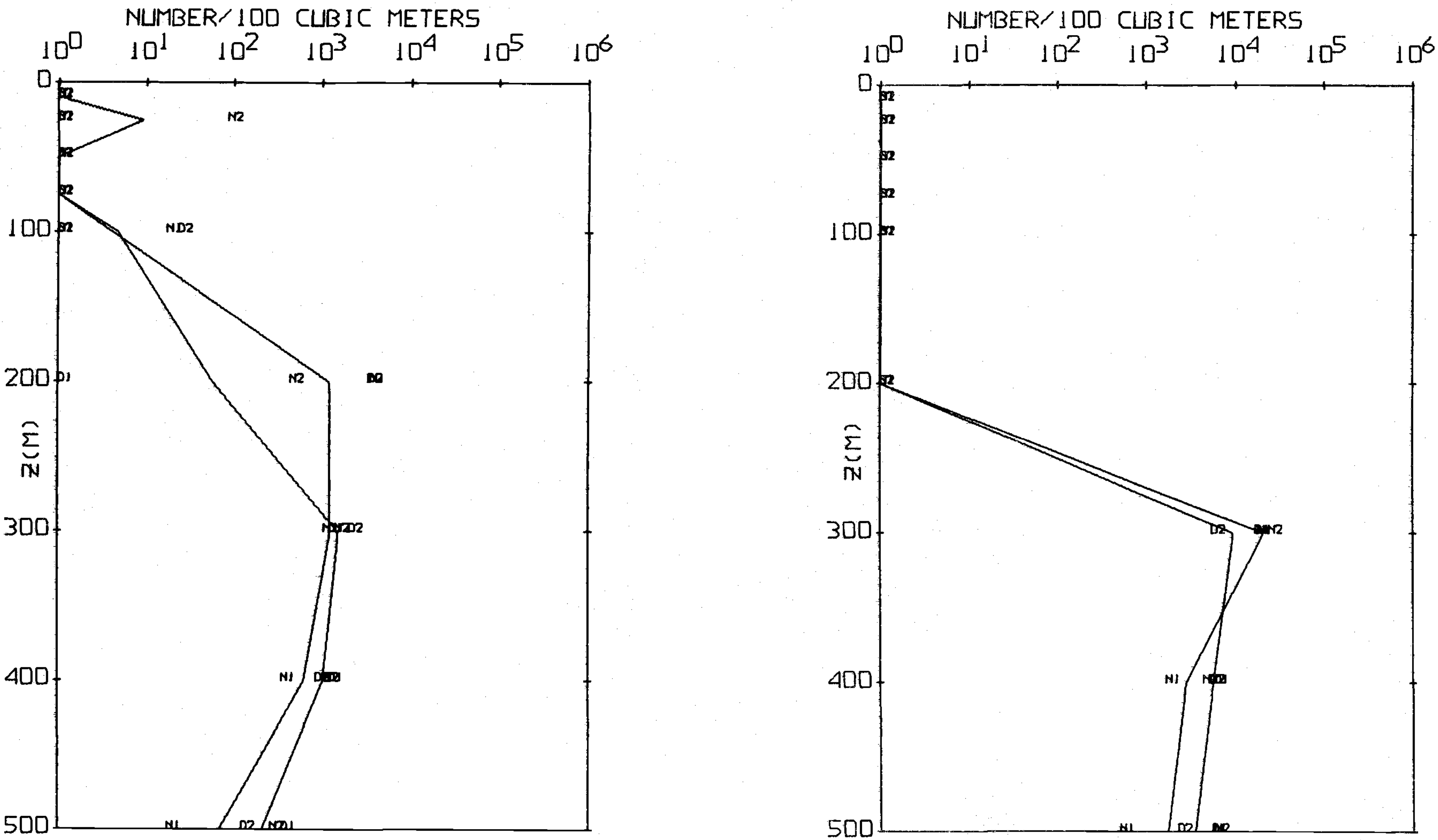


Figure 5. Abundance vs. depth for (a) Oithona spinirostris females and (b) Racovitzanus pacificus females.



(a) (b)

Figure 6. Abundance vs. depth for (a) Salps, Type A and (b) *Oncaea media hymena* males.

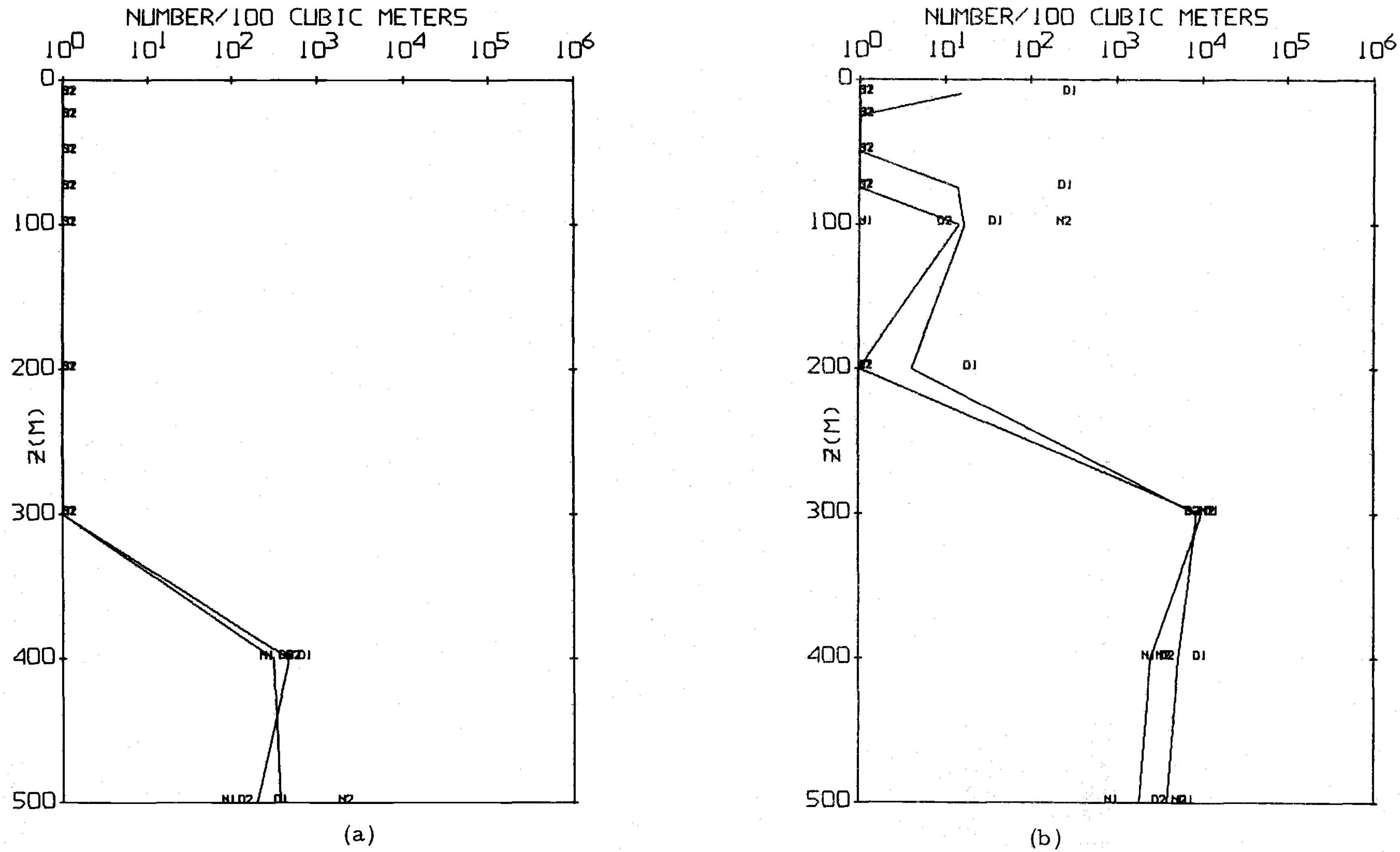


Figure 7. Abundance vs. depth for (a) Eukrohnia bathypelagica and (b) Oncaea media hymena females.

Two migrational patterns were distinguishable. In Pattern 1, the animals exhibit a deep day mode at 300 to 400 meters. At night, the major mode is located in the upper 75 meters as shown by Calanus cristatus in Figure 3a. Appendix 1 contains the plots of the other 4 members of this pattern.

Pattern 2 is demonstrated in Figure 3b by Gaetanus simplex females. Here the deep day mode, located below 300 meters, migrates, but never above 50 meters. The other animal exhibiting this pattern is shown in Appendix 2.

Vertical Distribution Patterns of Non-Migrators

Analysis of the distributions of the non-migratory animals reveals the following patterns:

Animals of Pattern A, shown by Limacina helicina in Figure 4a, are most abundant in the first sample (0-10 m) and decrease exponentially or faster with depth. A total of 23 categories are included in this pattern. Figures showing their distributions are contained in Appendix 3.

Patterns B and C are closely allied to Pattern A. The animals of Pattern B differ from those of Pattern A in that they do not, or only rarely occur in the 0-10 meter samples. As seen in Figure 4b of Oncaea borealis females and in the figures in Appendix 4, these animals' peak abundances are above 100 meters and show a rapid decrease with depth, similar to those in Pattern A. They do however seem to avoid the surface layer. Animals in Pattern C, like those in the preceding two patterns, differ in that they are absent in both the 0-10 and 25 meter samples. Oithona spinirostris females (Figure 5a) exhibit this pattern along with the 9 categories whose distributions are shown in Appendix 5.

The fourth pattern, Pattern D, is exhibited by only four taxa. Figure 5b of Racovitzanus pacificus females shows that these animals major mode of abundance occurs in the 100 meter samples and that they are absent above 75 meters and below 300 meters. Appendix 6 contains the figures for the three other animals exhibiting this type of distribution.

The remaining patterns are all characterized by having deep modes of distribution.

Pattern E is characterized by having the major mode of abundance in the 200 meter sample, with a gradual decrease of abundance with increasing depth. Salp Type A's distribution (Figure 6a) exemplifies this pattern, which is shared by the four other taxa whose distributions appear in Appendix 7.

Pattern F applies to animals that live entirely below 300 meters, with some living only below 400 meters. The distributions of Oncaea media hymena males and Eukrohnia bathypelagica (Figures 6b and 7a) show this pattern. The distributions of the 17 other animals of this type are shown in Appendix 8.

The final pattern, Pattern G, is almost identical to Pattern F except that these animals were occasionally caught in small numbers at more shoal depths, even in the upper 100 meters. Oncaea media hymena females (Figure 7b) exhibit this pattern, which is shared by the fifteen categories whose distributions appear in Appendix 9.

There remain eight categories whose distributions do not fit into any of the above patterns. Many of these animals are characterized by either bimodal distributions or distributions which show no apparent change of abundance with depth. Graphs for these species appear in Appendix 10.

Hydrographic Results

The results of typical hydrographic casts during the sampling period are shown in Figure 8a, b, and c. Variation among casts was negligible. Comparison of these results with the Figure 3 from Uda (1966) show that a typical summer hydrographic condition existed at the time of sampling.

Correlation of Hydrographic Features and Distributional Patterns

An examination of the described migrational and distributional patterns in relation to the observed hydrographic structure leads to some striking correlations.

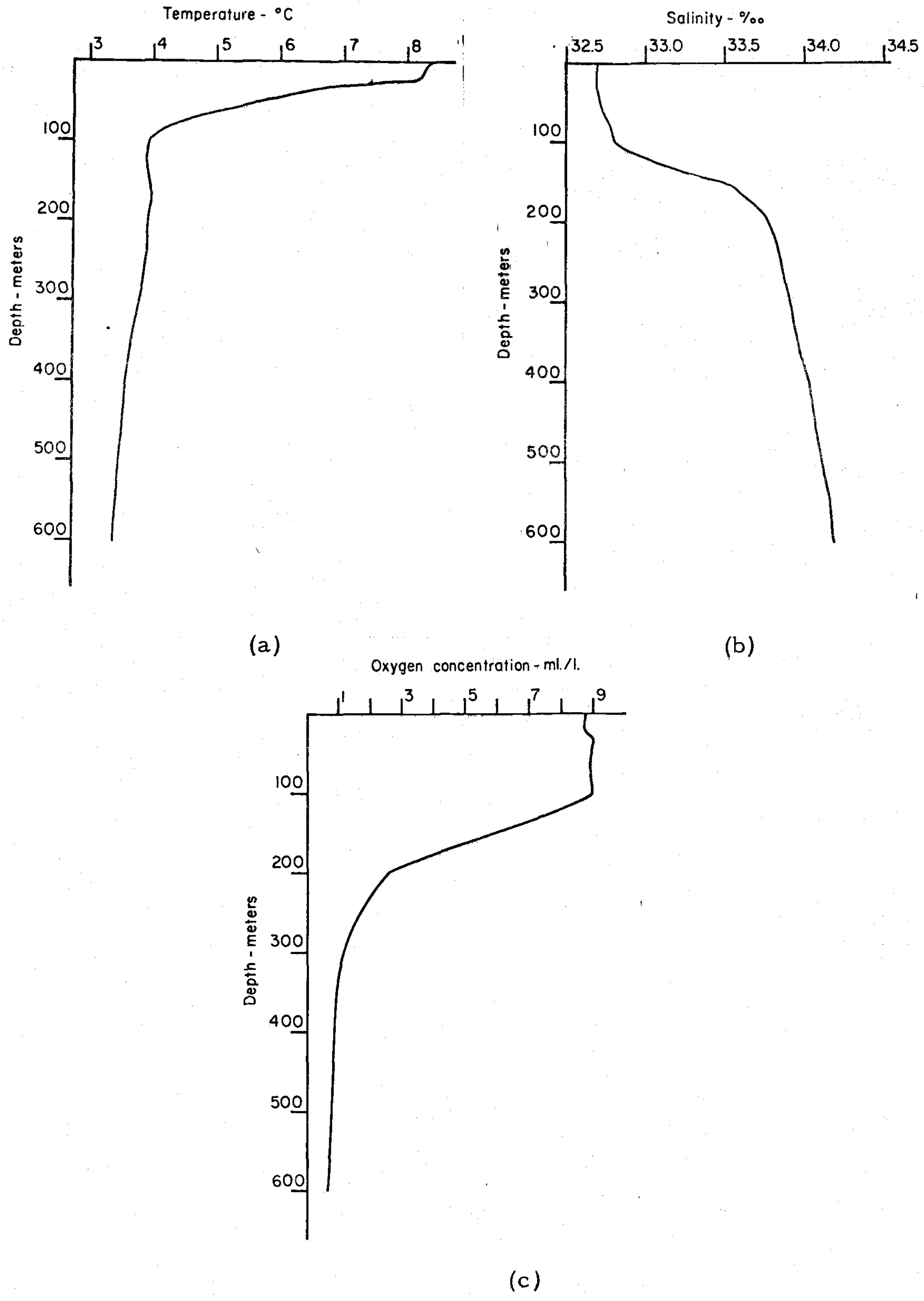


Figure 8. Distribution of (a) Temperature, (b) Salinity and (c) Dissolved Oxygen with depth.

While the animals in the first migration pattern appear uninfluenced by hydrographic features, those of the second appear to have migrated into the thermocline and stopped.

The vertical distribution patterns also show correlations with hydrographic features. Animals of Patterns A, B, and C all have their major abundances above the halocline. They differ in that animals of Pattern A have their peak abundance in the warm isothermal surface layer extending down 20 to 25 meters. Animals of Pattern B and C apparently avoid this wind mixed surface layer but still have their distributions primarily above the halocline.

Animals of Pattern D appear most abundant in the region of the halocline.

The animals of the remaining three patters (E, F, and G) are primarily or entirely restricted to levels below the halocline. The variations in the upper depth distributions among these patterns do not correlate with any observed hydrographic feature. It must be noted that the animals of Pattern G are found in relatively small numbers above the halocline, just as the animals of the primarily upper zone distributions are found in small numbers below the halocline. Just as the water structure can be divided into three zones, so the distributions of animals can be roughly defined as above, in, and below the halocline.

CONCLUSIONS AND DISCUSSION

The fact that the patterns of distribution and migration described above are based on replicate samples greatly reduces the chance that they are accidental in nature. This is lacking in previous studies.

Three conclusions can be drawn from the above results. They are: 1. At least in boreal waters, relatively few taxa perform diurnal migration, 2. depth distributions among oceanic zooplankton are, for the most part on the order of hundreds of meters, and 3. the hydrographic structure, especially in colder waters may influence migrational and distributional patterns. These conclusions, especially the width of distribution and the apparent influence of hydrographic features suggest that Banse (1964) is correct in calling for the examination of hydrography in helping to determine sample placement. It is certain that inadequate forethought was given to sample placement in this study. In particular, no samples were taken within the halocline.

Percentage of Migrators in a Community

Of the 104 taxonomic categories considered in this study, only those in Patterns 1 and 2 demonstrated migration.

Bainbridge (1961) refers to the non-migration of species as aberrant or anomalous. This view is not supported by the present study. Banse (1964) considers the statement that "diurnal migration is the normal behaviour of pelagic animals". In his review he presents mixed evidence both supporting and rejecting this statement. Previous studies dealing with large numbers of species of a given community are rare and suffer from widely varying sampling methods, data presentation (in some cases no data presented at all) and interpretation of results. Table 2 presents a list of important previous studies along with some pertinent information.

Esterly (1912) found evidence of migration in 16 of 19 species of copepods studied off Southern California. Moore and O'Berry (1957) have described 9 of 16 common copepods as migrators off the Florida coast. The presentation of data does not allow critical analysis of the interpretation in either study. Zalkina (1970) at 4°S Latitude found, at most, only 4 instances of migration among 17 species of cyclopoid copepods. An analysis of Roe's papers (Roe, 1972a, b, c, d) on the calanoid copepods of the SOND Cruise off the Canary Islands shows reasonably certain diurnal migration in 29 of the 139 adequately abundant species. Angel's (1969) ostracod data from the same cruise show 7 of 31 species migrating. Heinrich (1957), studying copepods of tropical affinity in the zone of mixing between subtropical and subarctic water in the western Pacific, found 11 of 20 species migrating. Unfortunately, he gives the reader only a statement to this effect.

All of the above work is from tropical or subtropical areas.

Table 2.

Author	Area	Taxonomic Groups	Fraction Migrators	Width of Distributions	Remarks
Angel 1968	Atlantic off Tunisia	Ostracods	See remarks	100m or greater	Reinterpretation of data shows no migrators.
Angel 1969	Atlantic near Azores	Ostracods	7/31	Only 6 with ranges less than 100m	No samples in upper 50.
Esterly 1912	California Current	Calanoid Copepods	16/19	All greater than 100m	Evidence for migration is primarily increased nighttime surface abundance.
Hansen 1951	Oslo Fjord	Calanoid	See remarks	Fjord only 40m deep	Did not study vertical migration.
Heinrich 1958	Western N. Pacific	Calanoid Copepods	11/20	10 of 20 with very narrow ranges	Presents no data--verbal statements only.
Marumo 1958	E. Subarctic Pacific	Calanoid Copepods chaetognaths	See remarks	All with ranges greater than 100m	Did not study migration.
Moore and O'Berry 1957	Florida Current	Calanoid Copepods	9/16	All with ranges greater than 100m	Data presented as percentiles.
Petipa et al. 1960	Black Sea	Calanoid Copepods	2/11	Only 1 species with a narrow range	Descriptive presentation of data.
Roe 1972a, b, c, d	Atlantic off Azores	Calanoid Copepods	29/139	Only 15 with distributions less than 100m	No samples in upper 50m.
Zalkina 1970	W. Equatorial Pacific	Cyclopoid Copepods	4/17	All with 100-200m ranges	Data presented as 25-75% cores.

Studies of large suites of species from temperate or high latitude waters are rare. Banse (1964) quotes Bogorov (1948 from Beklemeshev, 1957) concerning the non-migration of the characteristic fauna in the upper 100 meters in temperate water. However, the original paper presents no data. Petipa et al. (1960) studying the dominant species in the Black Sea, describe only 2 species of 11 as migrating. Vinogradov (1968) has extensively reviewed vertical distributions and migrations in all the major oceanic areas and observes that "seasonal migrations predominate in cold water regions, while diurnal migrations predominate in the tropics". Our results concur with this statement. It should be pointed out that this conclusion pertains only to the smaller zooplankton, and not to the micronekton.

Width of Vertical Range

Observations made from bathyscaphs have shown apparent peaks of abundance occurring in narrow layers (Banse, 1964). The nature of these layers and their species composition are not known. The present study indicates that most taxa have distributional ranges on the order of hundreds of meters. There may, of course, be peaks too narrow to be seen with the present sampling scheme. Most categories, however, had distributions with major modes of abundance and long tails. The ecological significance of these tails in the vertical range of an animal is not clear. Various authors have described vertical distributions in terms of percent of the vertical total of animals caught. Using particular percentiles (typically 25 and 75%) of the distribution of a population, they describe the position of this population "core". Often, no mention is made of the position or range of the remainder of the population. Typically, even these cores have ranges comparable to the ones found in this study. Zalkina (1970) found ranges of 100 to 200 meters for the cores between 25 and 75% of the cyclopoid populations she studied.

Roe's SOND data show only 10 or 15 species of the 212 studied with vertical ranges less than 100 meters. These species were shallow living forms, similar to Acartia longerimis males in this study (Figure lb, Appendix 10). Similarly, Angel's (1969) ostracod data indicate 25 or 31 species with ranges greater than 100 meters. Heinrich's (1958) diagrams indicate 10 of 20 species with daytime ranges in the first 25 meters, and the remaining 10 with ranges of 100 meters or more. It is quite possible that the reader does not see the full range, for his diagrams indicate "the level occupied by the main portion of the population". It is also possible that these animals are indeed restricted to the overlying subtropical water described in his study. Petipa (1960) shows 8 of 9 species with wide distributions. Marumo et al. (1958) shows similar results for 12 species of Subarctic Pacific zooplankton. Moore and O'Berry's (1957) results concur. Vinogradov (1968) notes that only the extreme surface dwellers of the tropical oceans have narrowly restricted ranges.

Influences of Hydrography on Distributions and Migrations

The correlation of distributional limits with strong hydrographic gradients suggests possible limiting effects of these gradients on the distributions and migratory movements of animals.

Bainbridge (1961) states that migration normally brings animals right to the surface. In the present study two patterns appear. Animals of Pattern 1 appear uninfluenced by the thermocline, while the upward movement of those in Pattern 2 appears limited somewhere near the base of the thermocline. Similar results are suggested by previous authors.

Heinrich (1958) describes one group of animals whose diurnal migration is limited below 25 meters by overlying subtropical water and another, living within this subtropical water, whose lower daytime limit is set by the same interface. Petipa et al. (1960) describe in general terms the apparent effects of the thermocline on diurnal migration of two species complexes in the Black Sea. Most migrators were limited to above or below the thermocline in their movements. However, two species were apparently unaffected. Of the 5 migrating species analyzed by Zalkiña (1970), all appear to be affected by the thermocline. Four species have the lower limits of their cores in or above the thermocline, with a fifth penetrating just below it at its day depth, and rising within it at night. An analysis of Angel's (1969) data shows that of 7 apparent migrators, only two did not penetrate the deep, permanent thermocline from below. Examination of Roe's (1971a) copepod data indicates only two species limited by this thermocline, the rest passing through. Vinogradov (1968) cites numerous examples of animals whose diurnal migratory movements are apparently influenced by density discontinuities similar to those present at Station "P". Studies of *Calanus finmarchicus* (Gunnerus) by various authors (e.g. Clarke, 1934) in the Atlantic have shown that there appears to be variation in the effects of thermoclines on its migratory movements from one study to the next.

Just as migrations may apparently be influenced by hydrography, so the distributions of non-migrators may also be affected. As mentioned above, the results of this study can roughly be interpreted as animals whose distributions are primarily above, in or below the halocline. Vinogradov (1968) in describing the vertical structure of the zooplankton community in the Eastern North Pacific has reported similar groupings relative to the permanent halocline. He points out that in boreal waters at a given time, species groups often center above, in, or below discontinuities. Because of the seasonality of these hydrographic features, the thickness of the various layers changes, and therefore the width of the animal distributions changes. In winter, the prolonged periods of completely isothermal conditions seem to prevent the establishment of groups of species in the surface zone. With the cessation of winter storms, a seasonal thermocline becomes established, and with it a grouping of animals centered above the halocline. This grouping is very similar, both in species composition and distribution to that reported in this study.

A reanalysis of Angel's (1968) ostracod data from off Tunisia indicates patterns of distribution which are perhaps best interpreted as distributional patterns above, in, and below the thermocline. The evidence given in his work for vertical migration is inadequate. Zalkina (1970) describes the vertical distribution of 12 non-migrating species limited above the thermocline, and two limited below. No species appears to be restricted to the thermocline itself. Hansen (1951), studying 14 species of zooplankton, described four types of distribution in Oslo fjord. Species were found which occurred only above, only in, or below a discontinuity, along with a single species whose distribution did not appear influenced by the hydrography. An analysis of Angel's (1969) SOND data indicates five species which live in the surface waters, and seven which live entirely below or above the thermocline. Three species appear to live throughout the water column. Roe's calanoid copepod data for the same cruise present a different picture. There are only 23 species among 214 whose distributions appear to correlate with hydrographic features.

The evidence from the literature then is somewhat mixed, but it appears that hydrographic features may often act as boundaries for the vertical ranges of planktonic animals, both migratory and non-migratory.

In this study we have seen that the vertical distributions of a large number of species of widely varying phylogenetic affinities can be described in terms of relatively few patterns. The correlations between these patterns and hydrographic features suggests that these patterns are, in Hutchinson's (1964) sense, vectorial. That is, that these distributions are determined by external factors. It is suggested that planktonic vertical distributions may be the result of a large number of species reading (exactly which parameters remains unknown) a common environment and that it could be the physical or chemical structure of this environment which determines the vertical distributions of organisms.

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APPENDICES

APPENDICES OF MIGRATIONAL AND DISTRIBUTIONAL PATTERNS

Explanation of abbreviations used

D_1 - Abundance of first day sample

D_2 - Abundance of second day sample

N_1 - Abundance of first night sample

N_2 - Abundance of second night sample

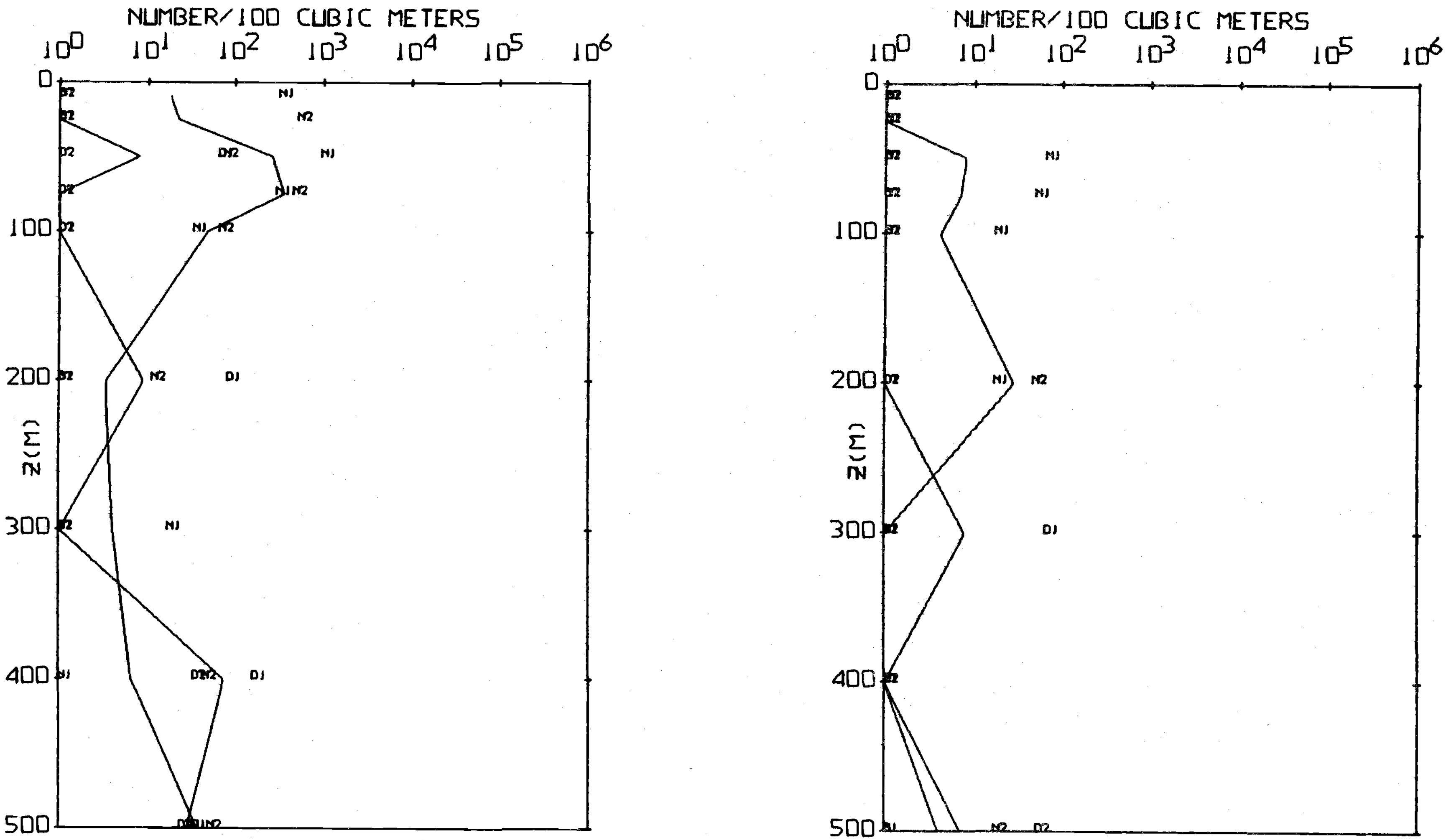
f. - female

m. - male

cop. - copepodite

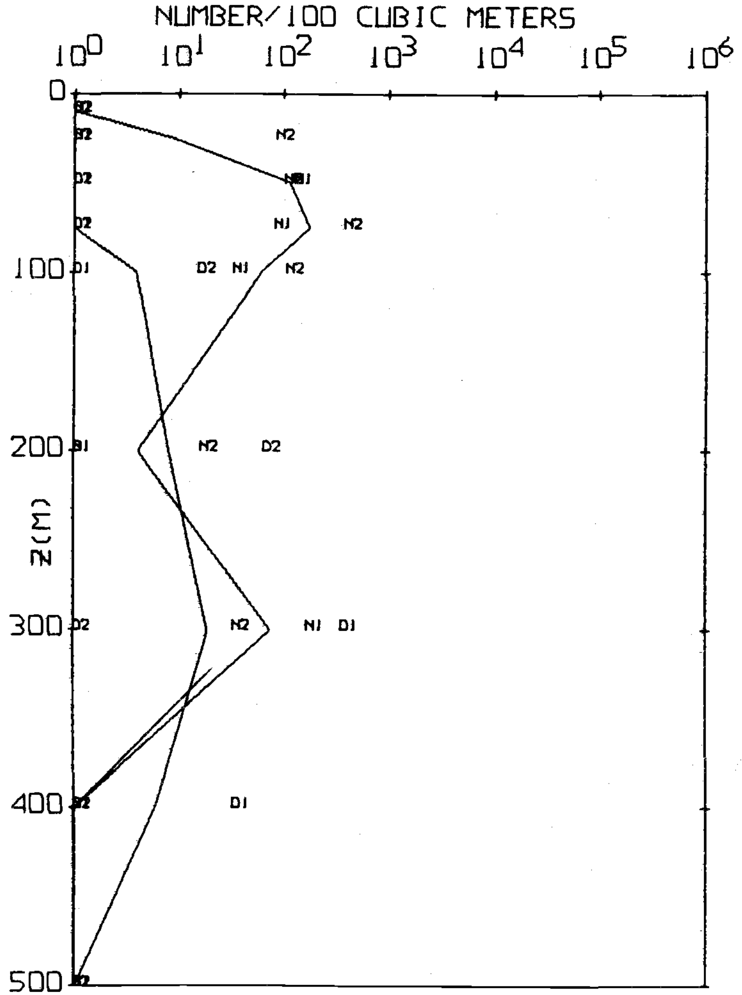
Appendix 1

Figures of Vertical Migration Pattern 1

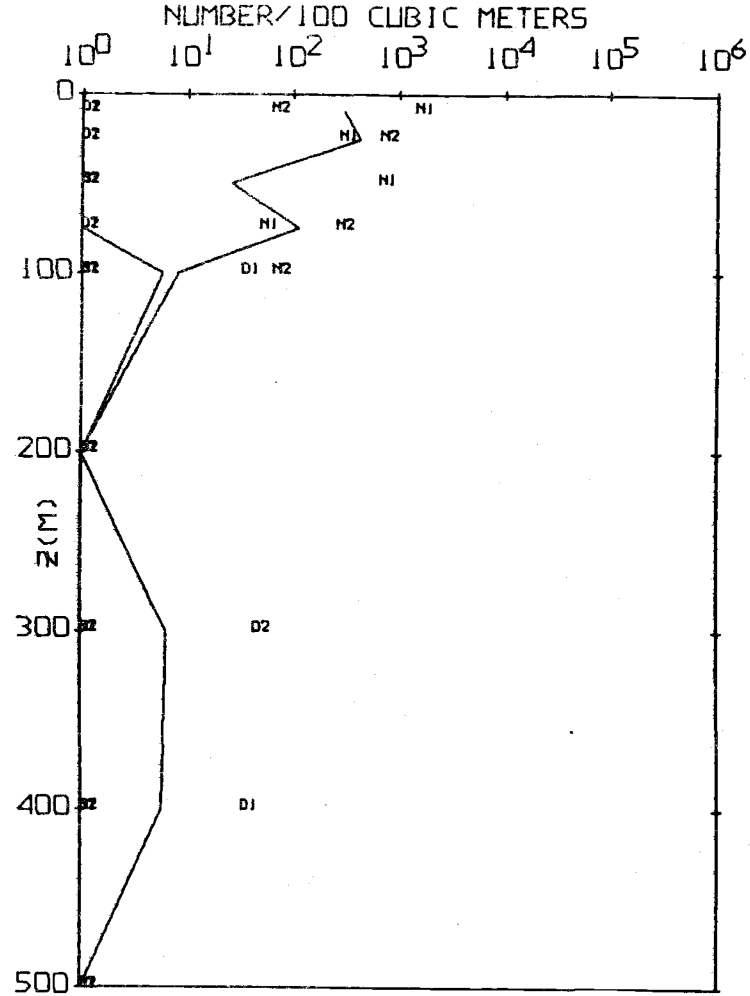


(a) (b)

Appendix 1 Figure 1. Abundance vs. depth for (a) Metridia pacifica females and (b) Candacia columbiae copepodites.

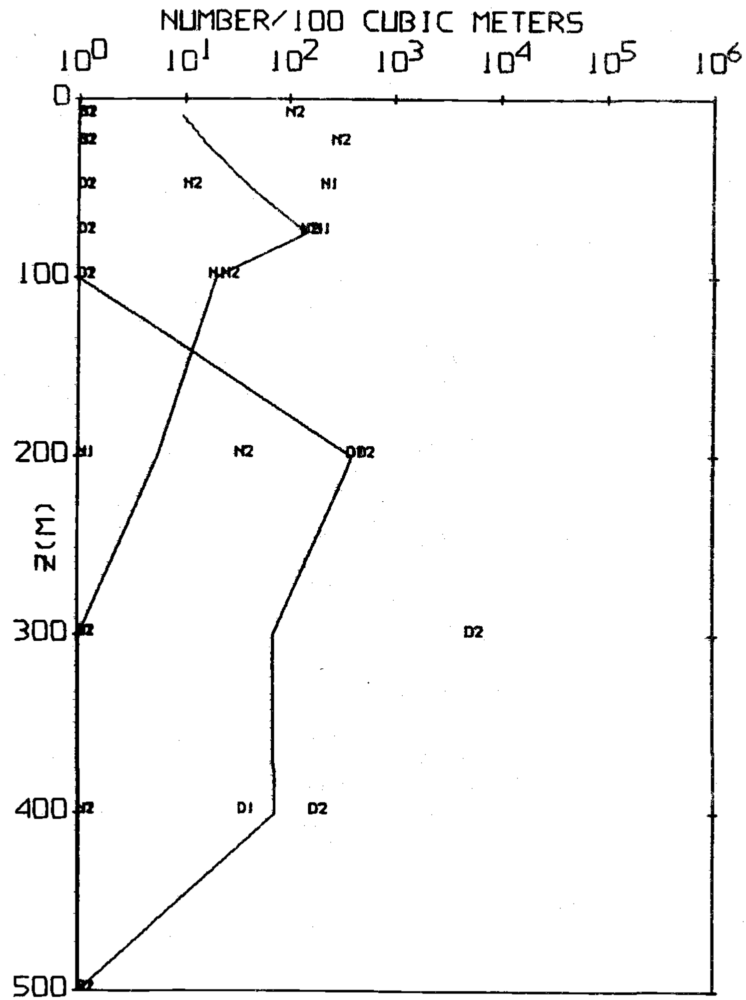


(a)



(b)

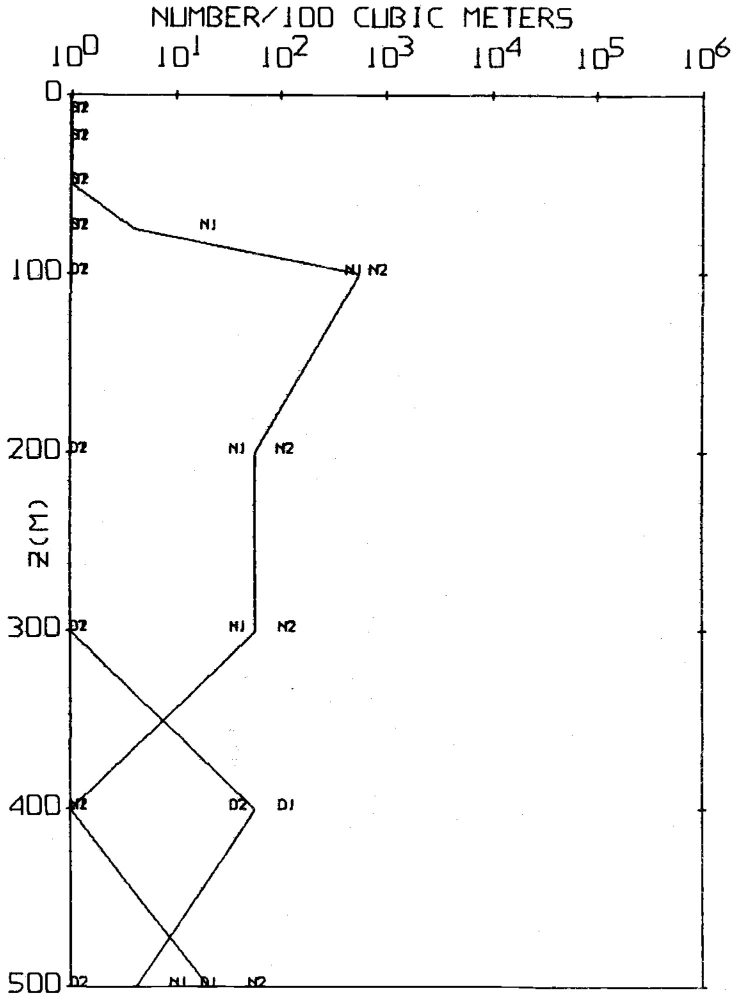
Appendix 1 Figure 2. Abundance vs. depth for (a) Conchoecia magna males and (b) Euphausia pacifica.



Appendix 1 Figure 3. Abundance vs. depth for _Sagitta elegans_.

Appendix 2

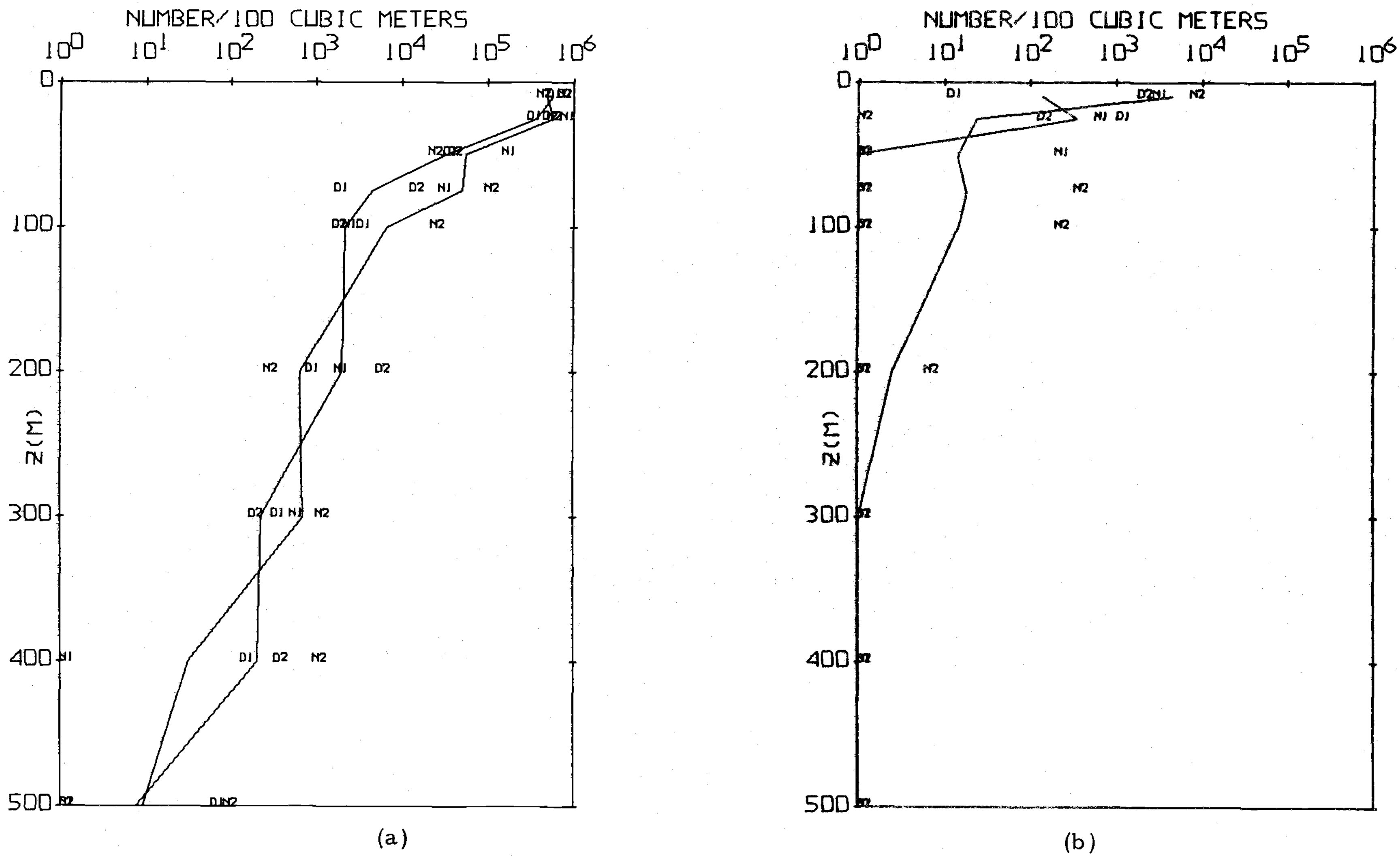
Figures of Vertical Migration Pattern 2



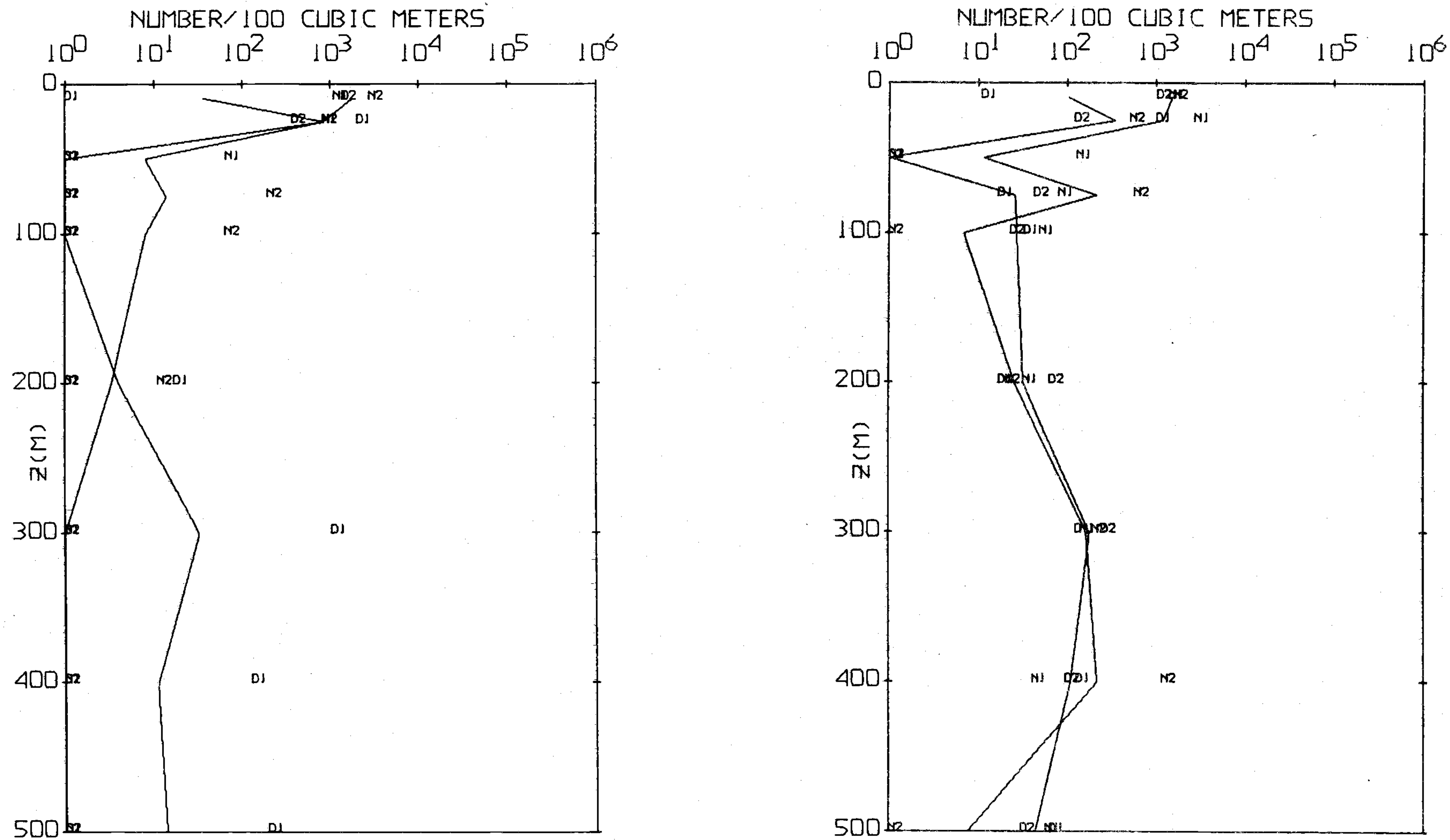
Appendix 2 Figure 1. Abundance vs. depth for Pleuromamma scutullata females.

Appendix 3

Figures of Vertical Distribution Pattern A

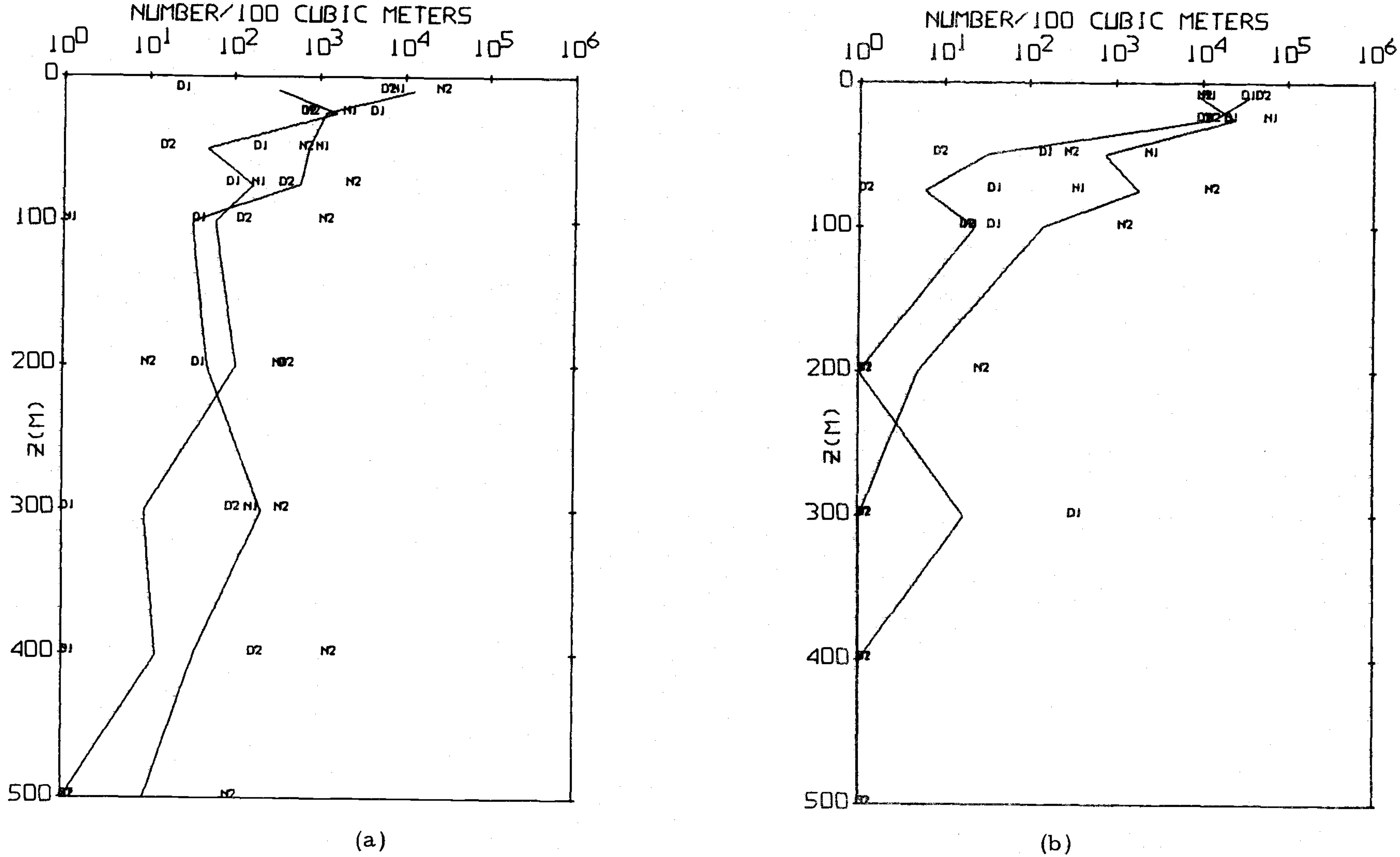


Appendix 3 Figure 1. Abundance vs. depth for (a) Oithona similis females and (b) Calanus pacificus females.

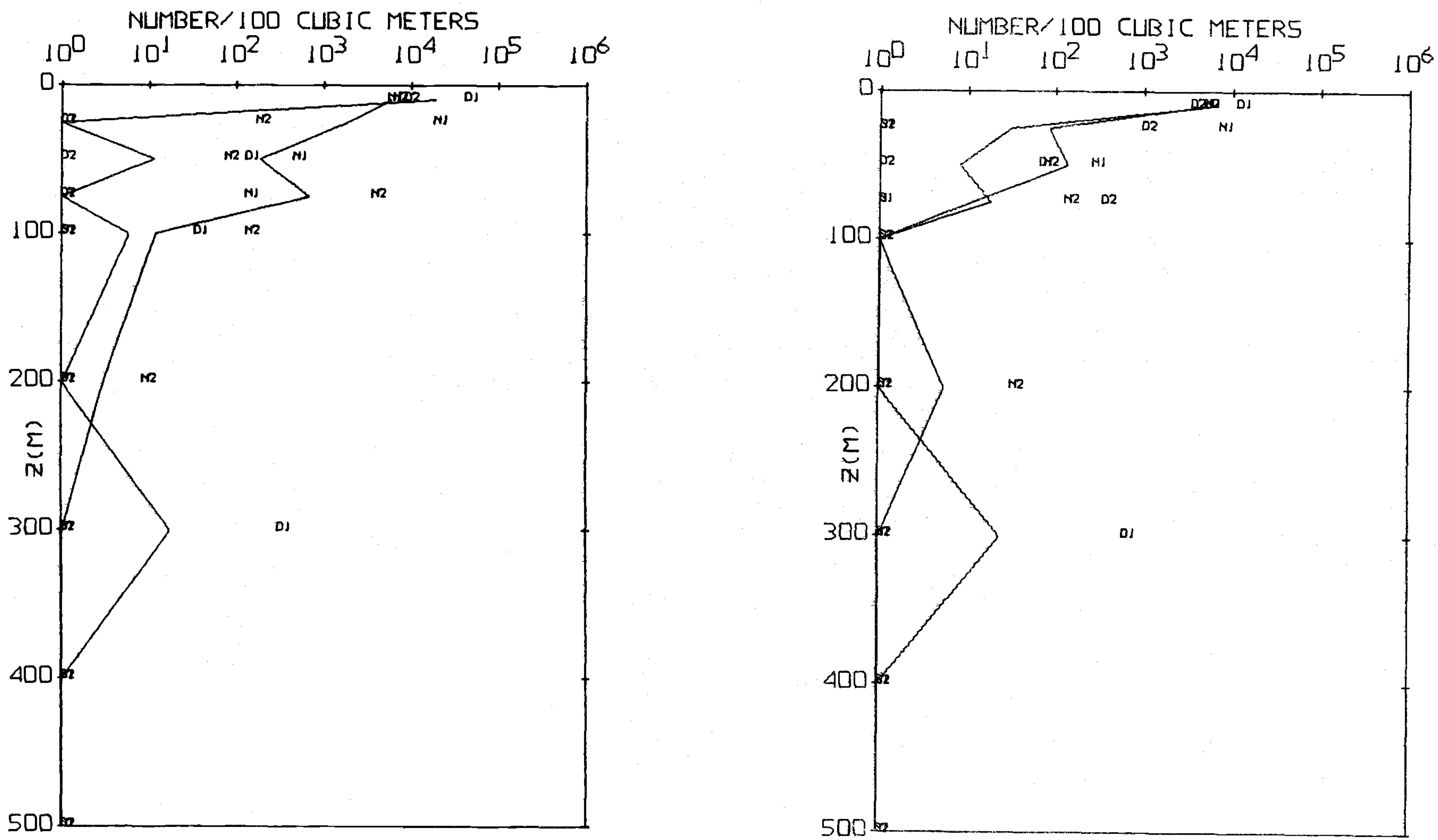


(a) (b)

Appendix 3 Figure 2. Abundance vs. depth for (a) Calanus pacificus males and (b) Calanus pacificus stage V.

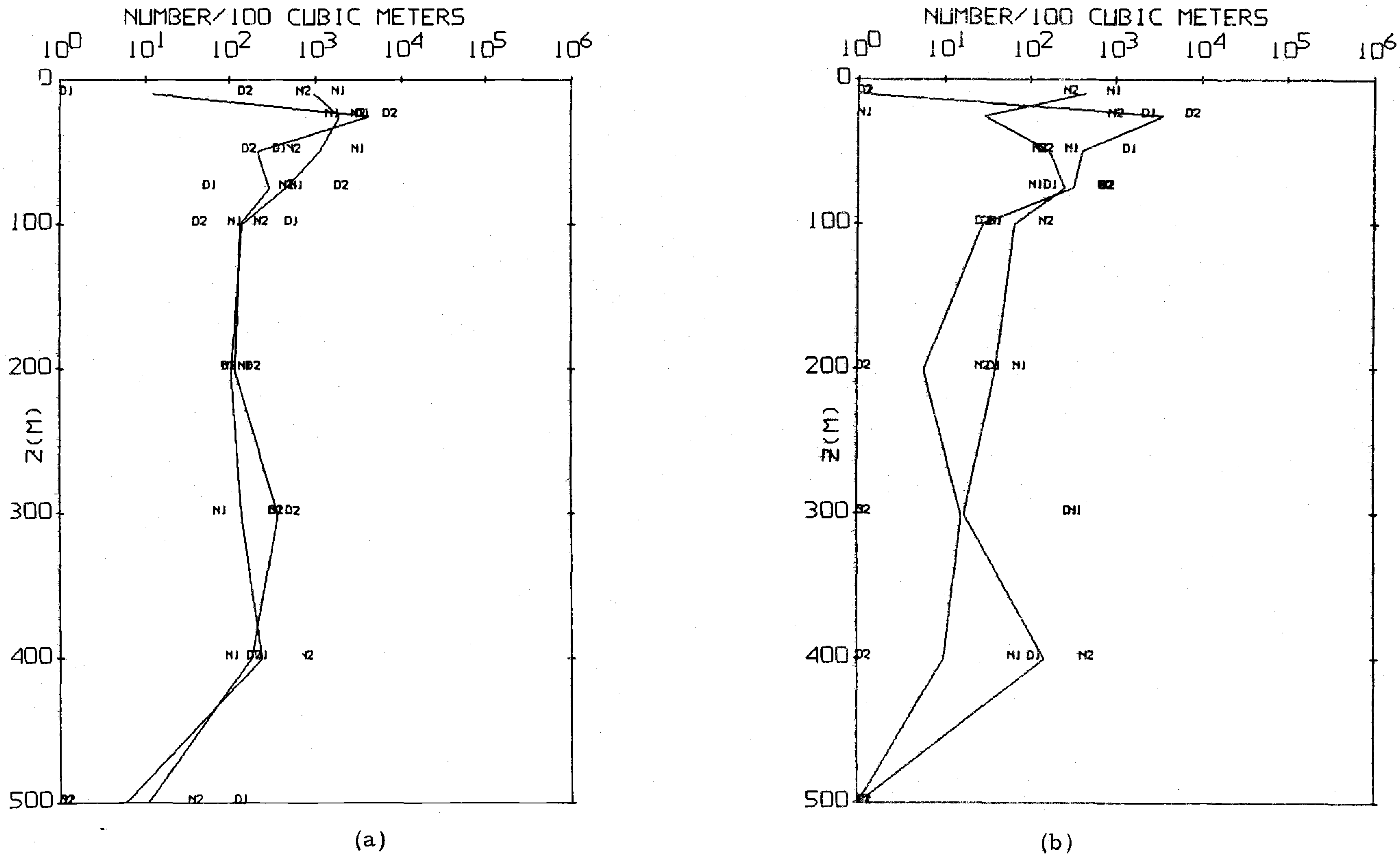


Appendix 3 Figure 3. Abundance vs. depth for (a) Calanus plumchrus stage V and (b) Calanus plumchrus stage III.

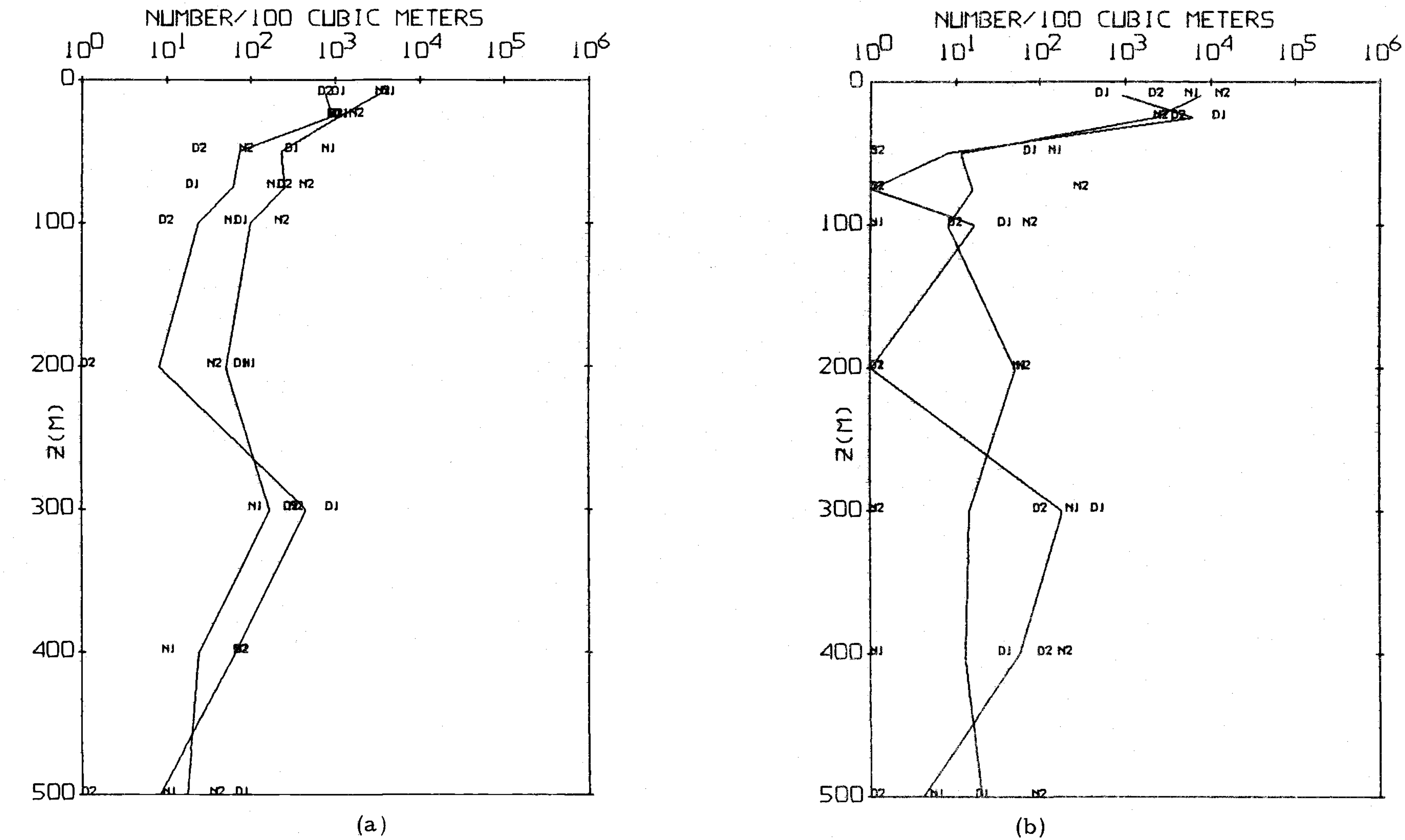


(a) (b)

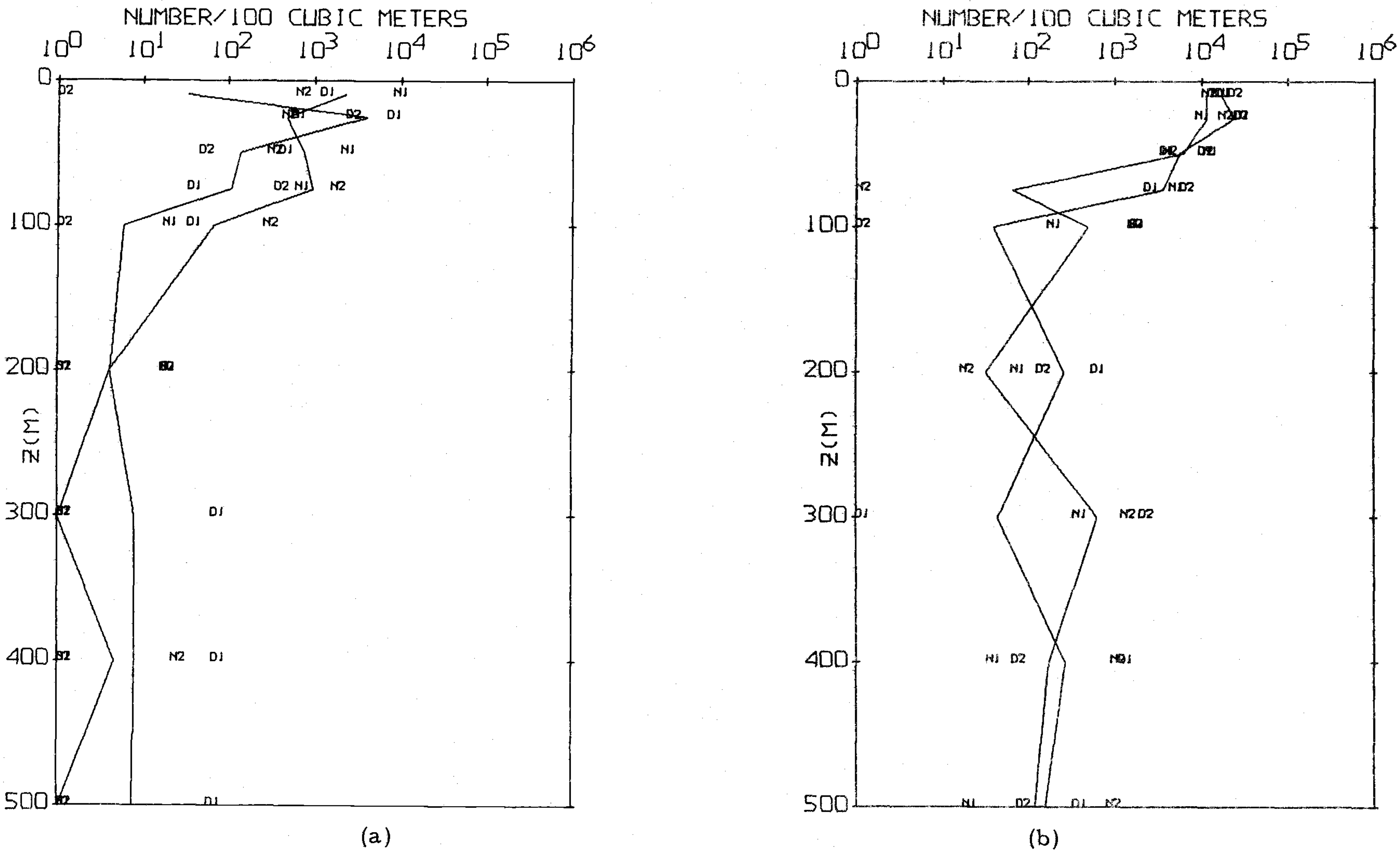
Appendix 3 Figure 4. Abundance vs. depth for (a) Calanus plumchrus stage II and (b) Calanus plumchrus stage I.



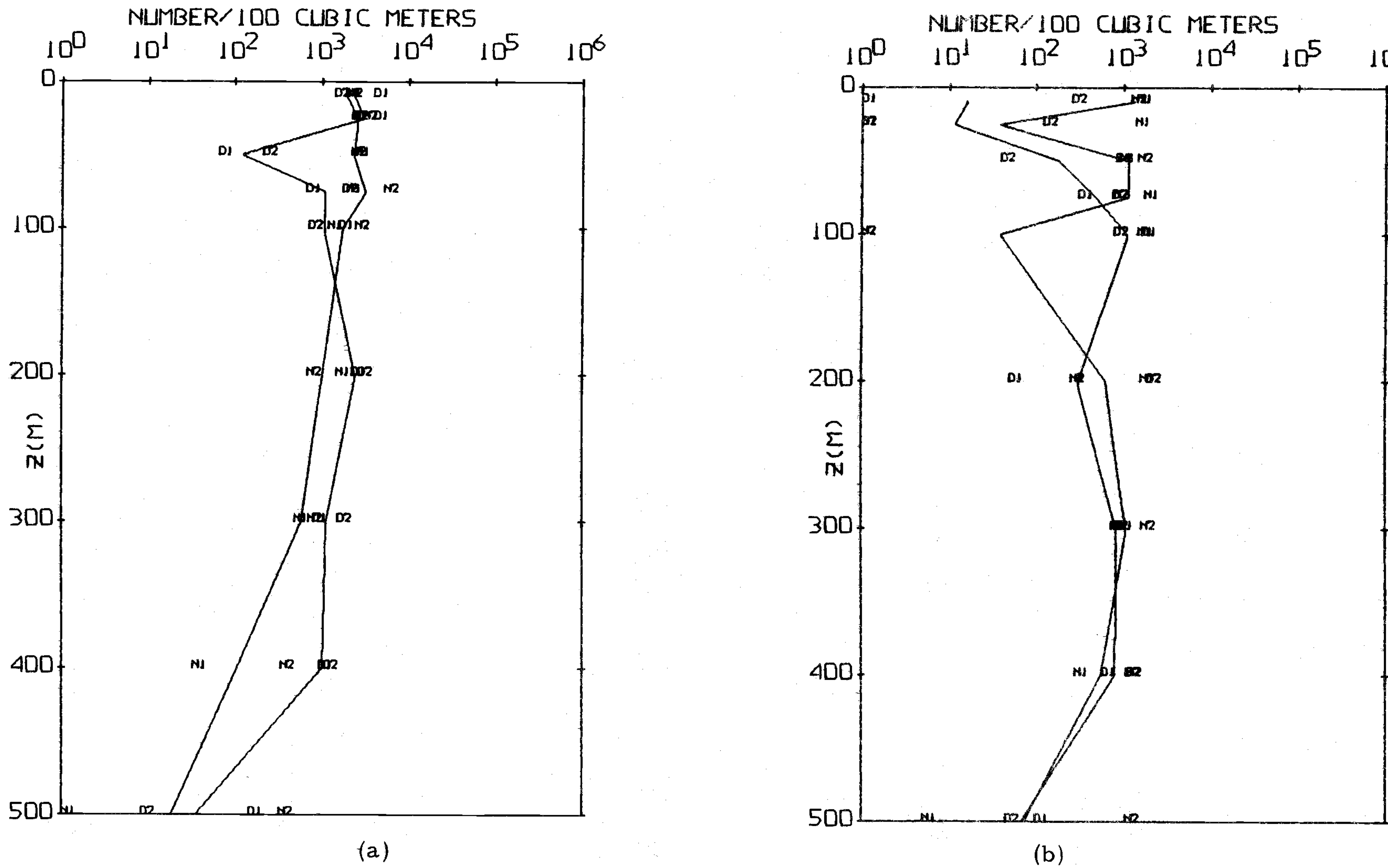
Appendix 3 Figure 5. Abundance vs. depth for (a) Eucalanus bungii bungii males and (b) Eucalanus bungii bungii males stage V.



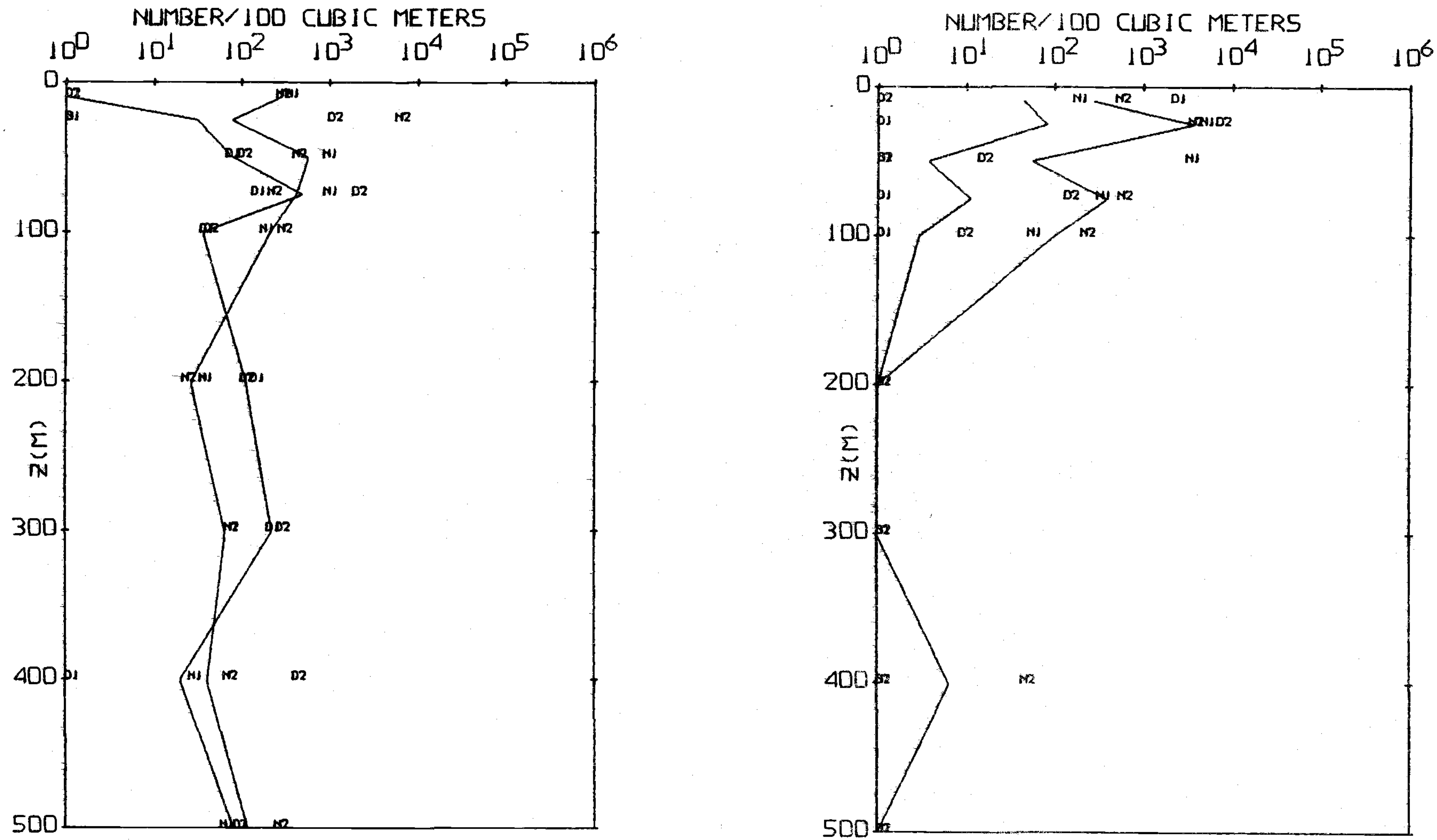
Appendix 3 Figure 6. Abundance vs. depth for (a) Pseudocalanus sp. females and (b) Pseudocalanus spp. copepodites.



Appendix 3 Figure 7. Abundance vs. depth for (a) Thysanoessa longipes and (b) All nauplii.

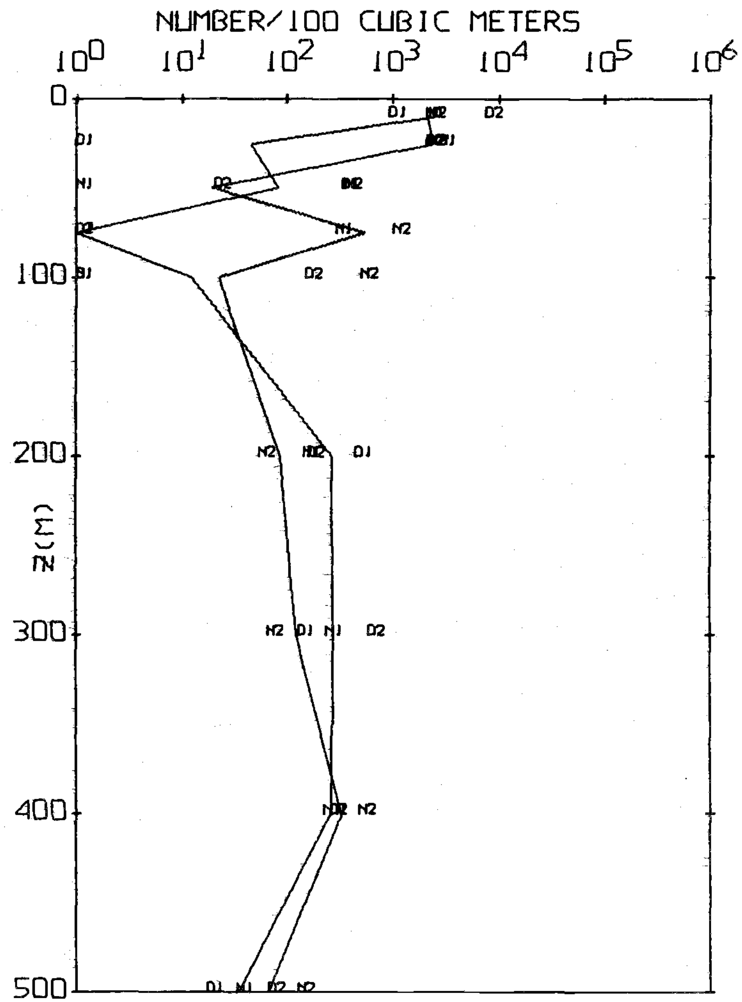


Appendix 3 Figure 8. Abundance vs. depth for (a) Eukrohnia hamata stage I and (b) Immature chaetognaths.

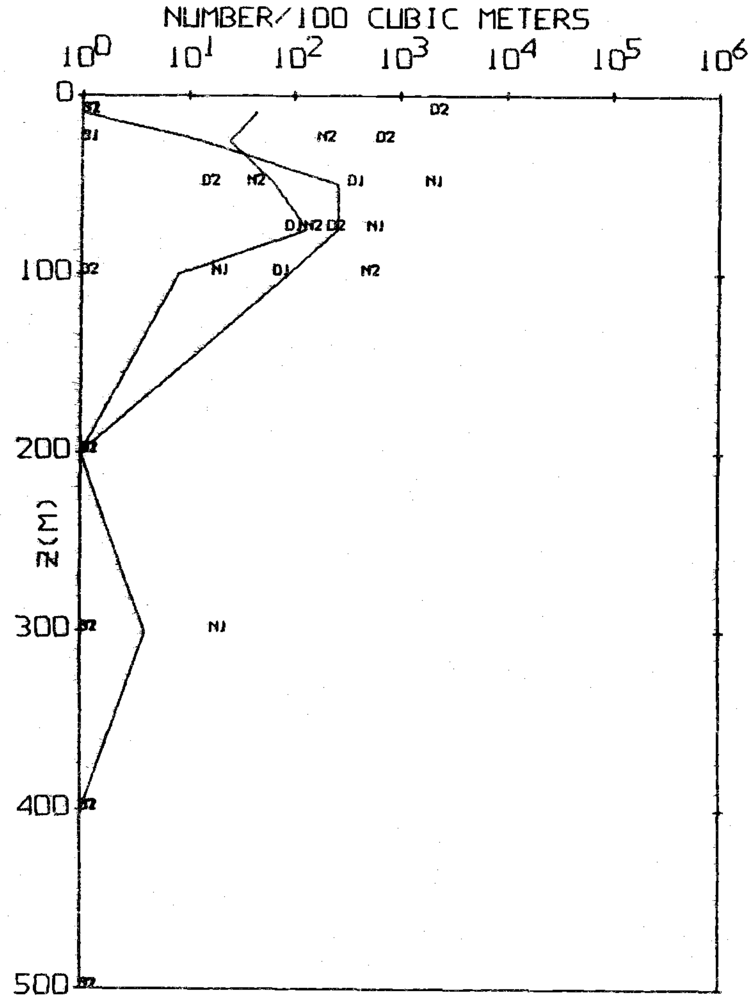


(a) (b)

Appendix 3 Figure 9. Abundance vs. depth for (a) <u>Tomopteris</u> sp. and (b) Trochophore larvae.

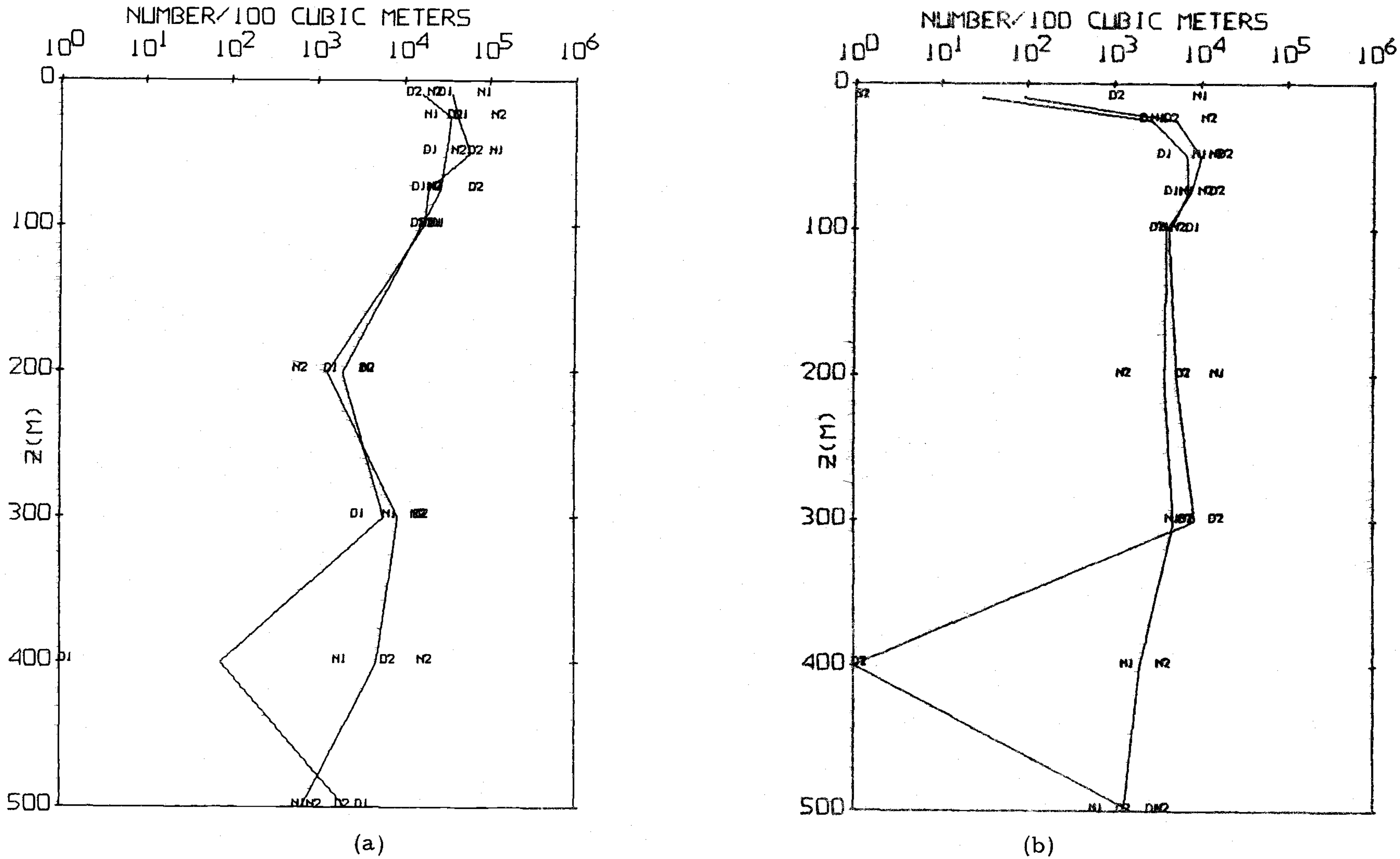


(a)



(b)

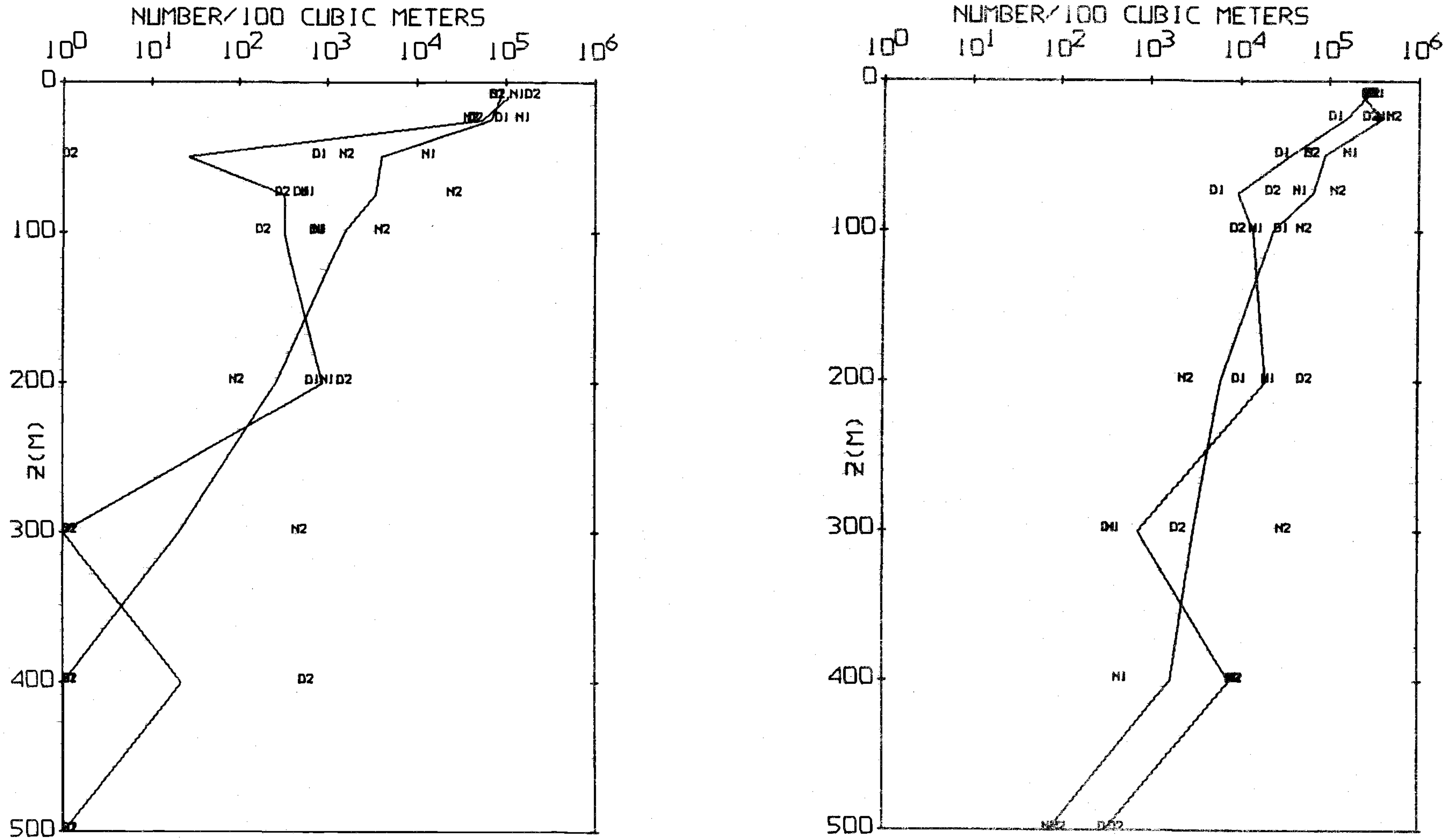
Appendix 3 Figure 10. Abundance vs. depth for (a) Oikopleura spp. and (b) Gastropod larvae.



Appendix 3 Figure 11. Abundance vs. depth for (a) Foraminifera and (b) Round eggs.

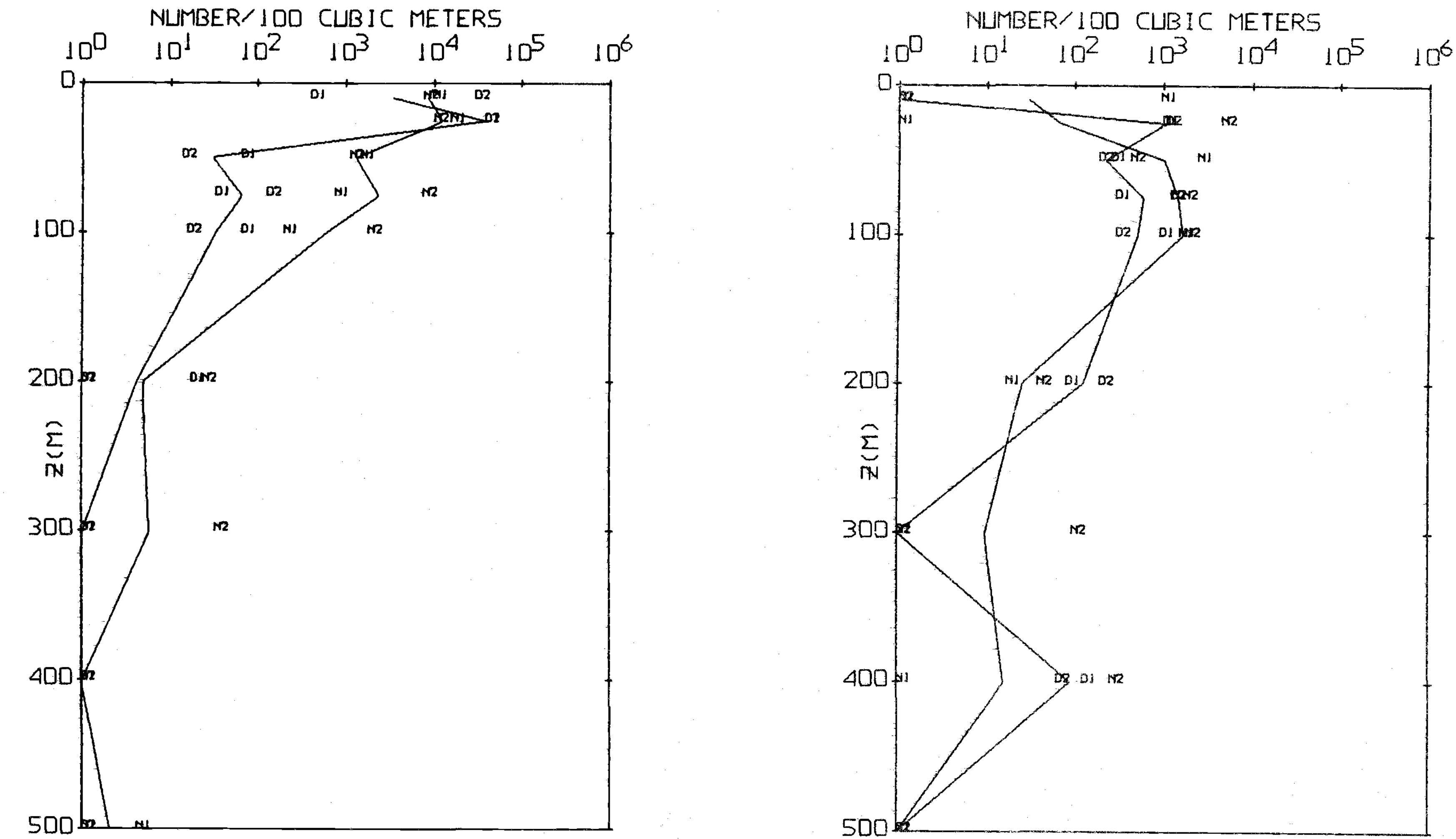
Appendix 4

Figures of Vertical Distribution Pattern B



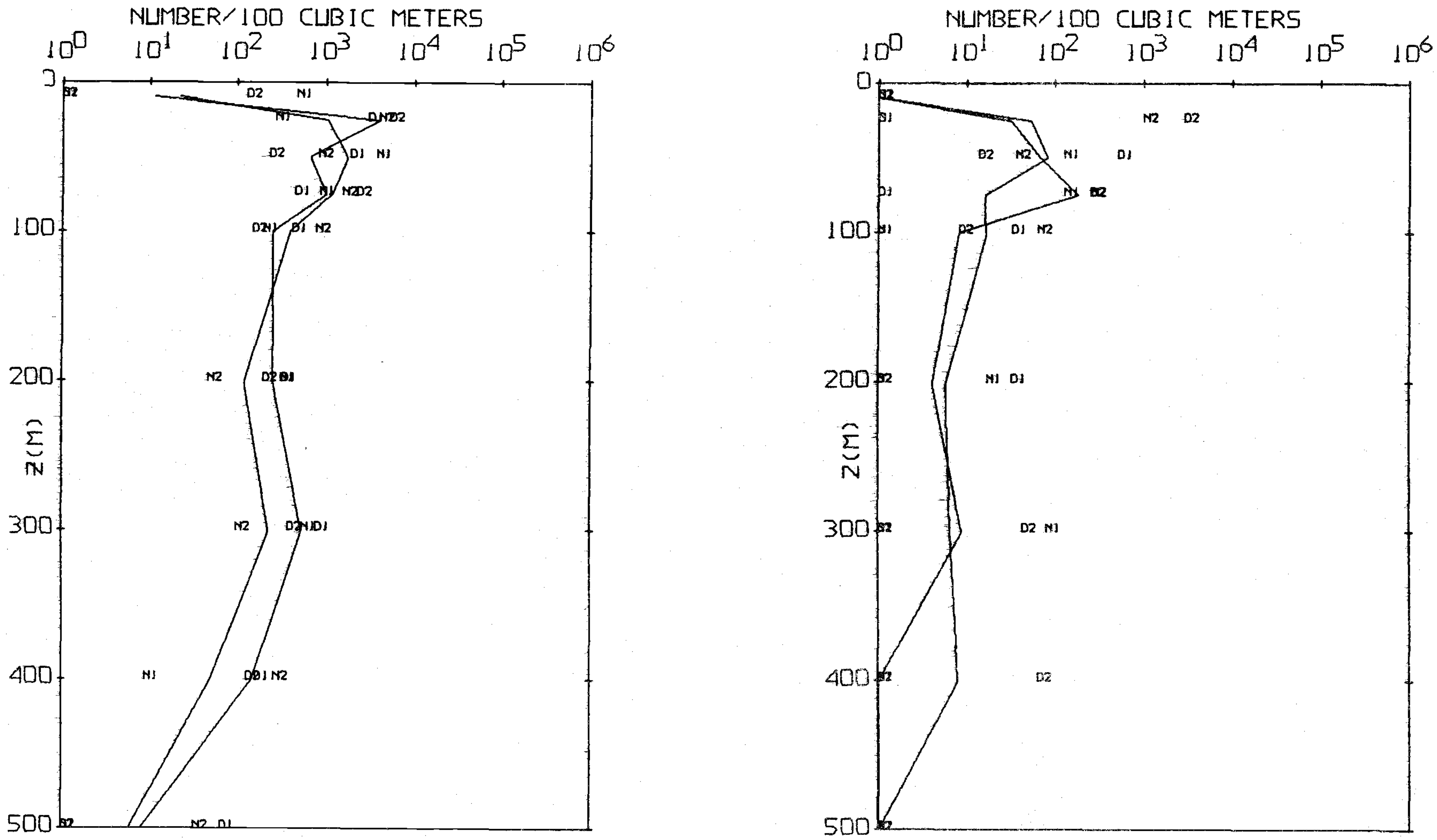
(a) (b)

Appendix 4 Figure 1. Abundance vs. depth for (a) Oithona similis males and (b) Oithona similis copepodites.



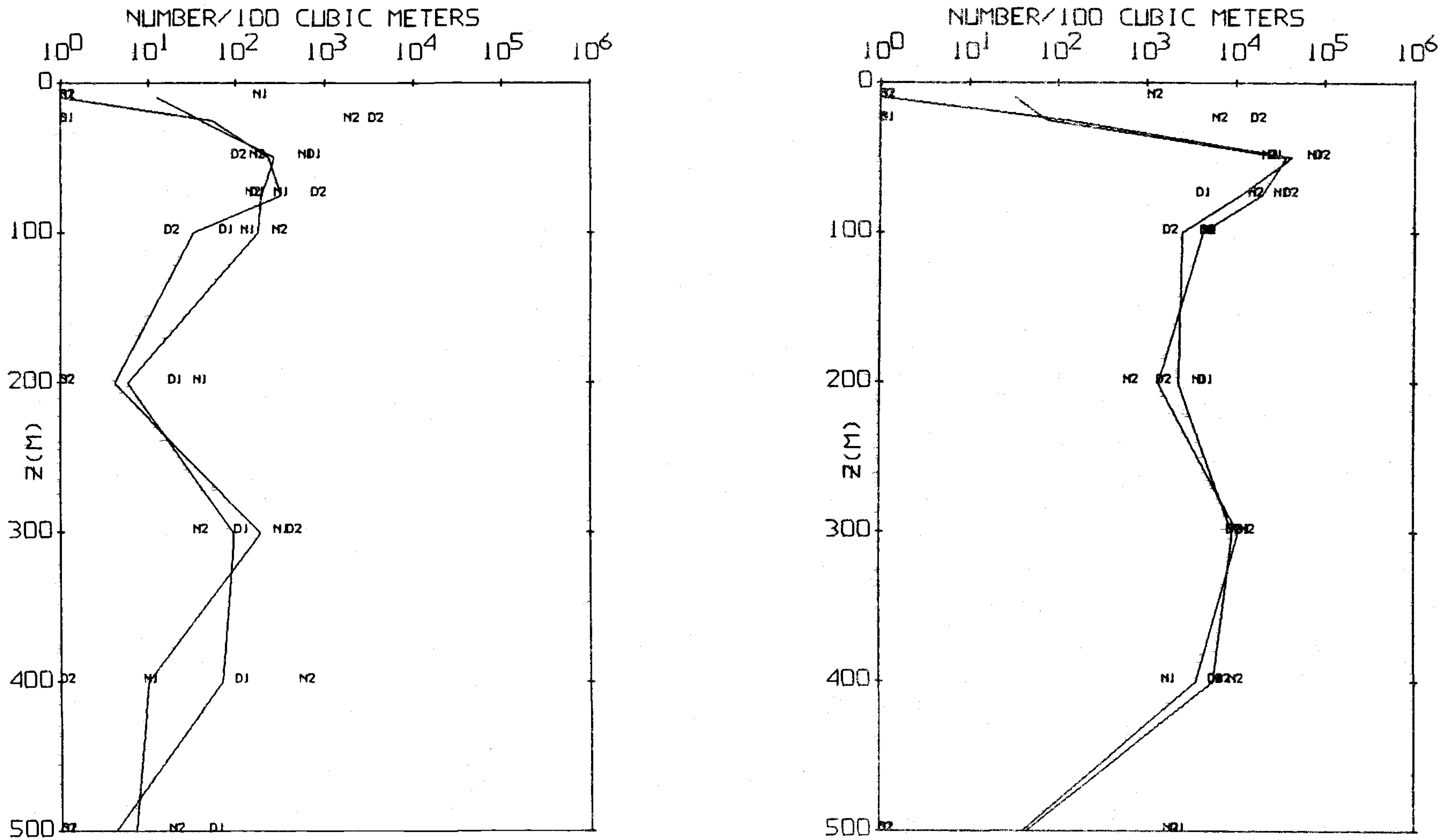
(a) (b)

Appendix 4 Figure 2. Abundance vs. depth for (a) Calanus plumchrus stage IV and (b) Eucalanus bungii bungii females.



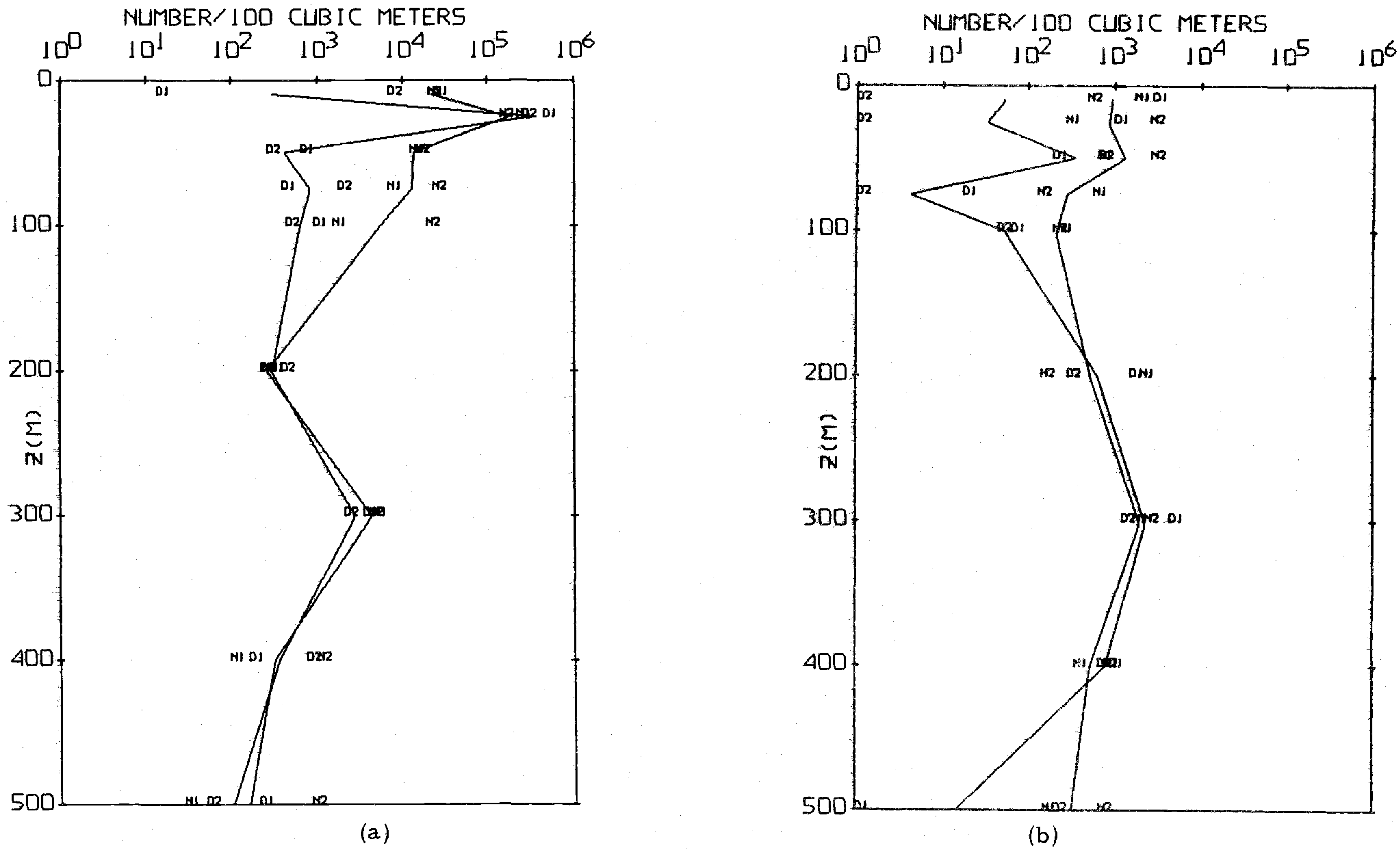
(a) (b)

Appendix 4 Figure 3. Abundance vs. depth for (a) <u>Eucalanus</u> <u>bungii</u> <u>bungii</u> females stage V and (b) <u>Eucalanus</u> <u>bungii</u> <u>bungii</u> stage IV.

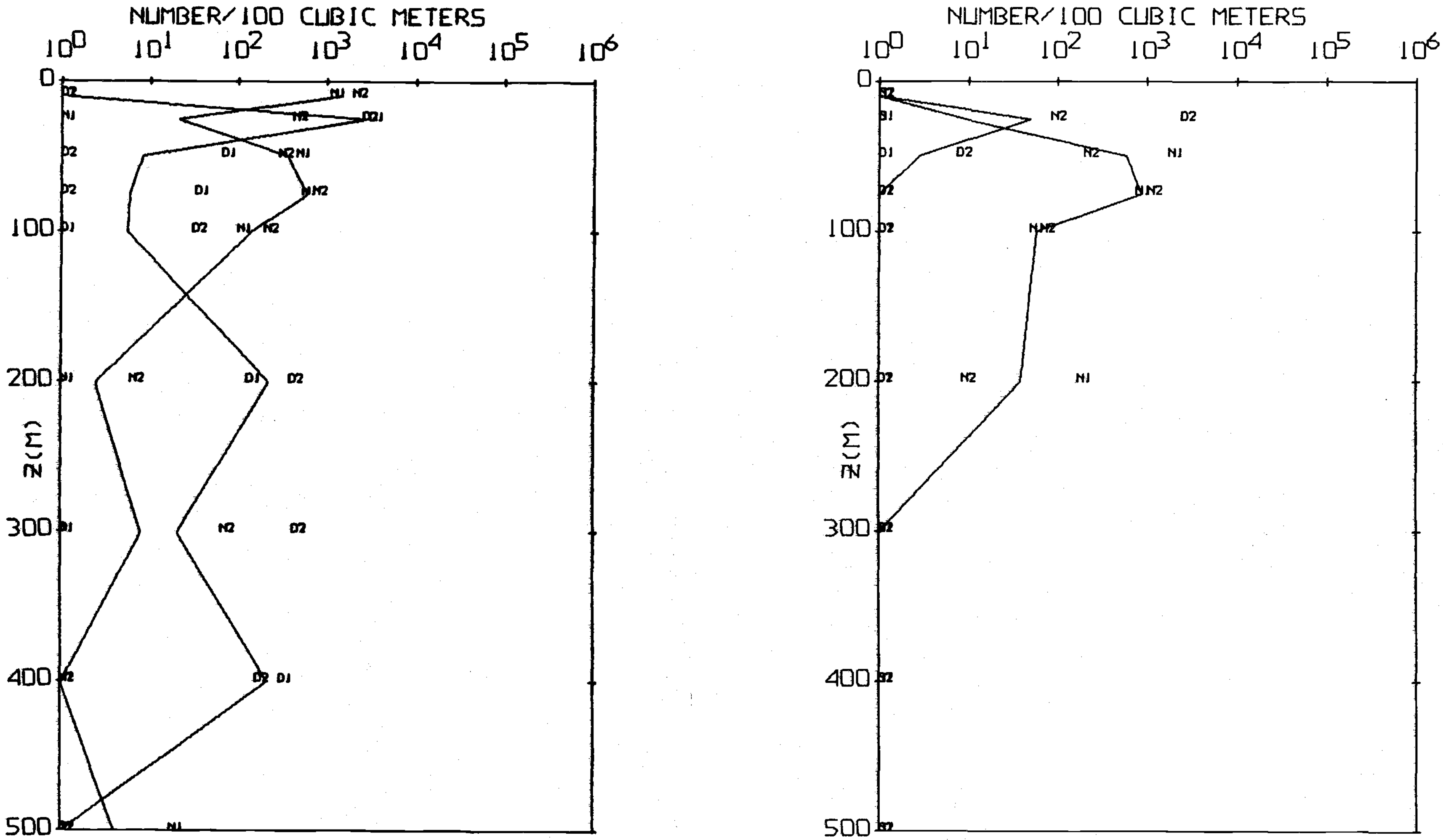


(a) (b)

Appendix 4 Figure 4. Abundance vs. depth for (a) Eucalanus bungii bungii stages III, II and I and (b) Microcalanus pusillus copepodites.

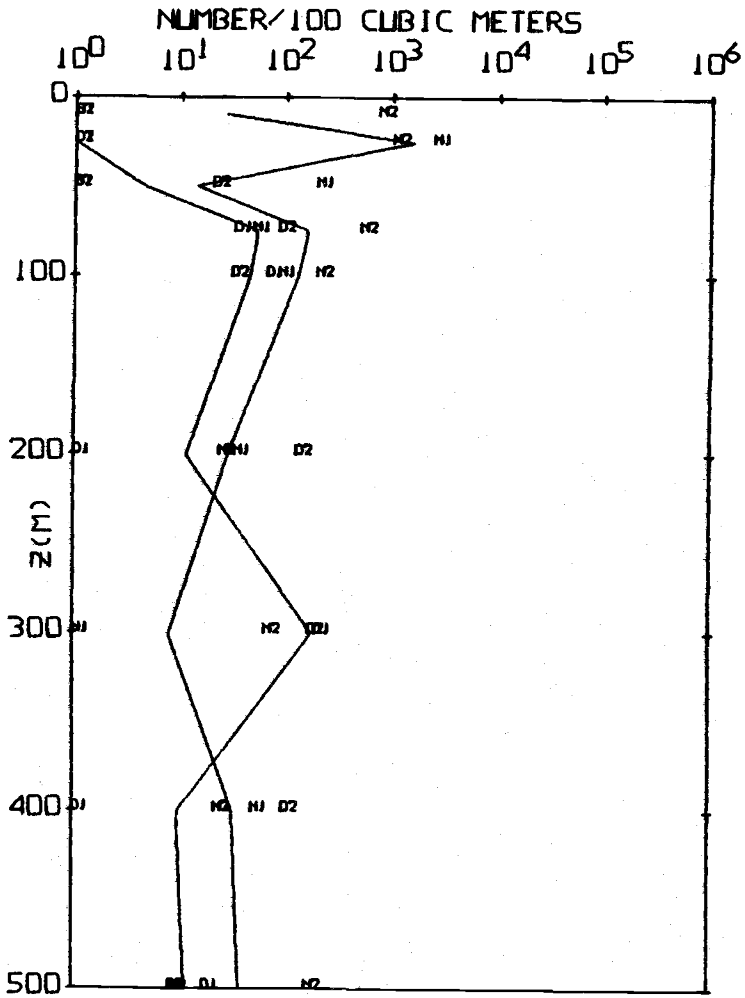


Appendix 4 Figure 5. Abundance vs. depth for (a) Metridia pacifica copepodites and (b) Unknown copepodites.



(a) (b)

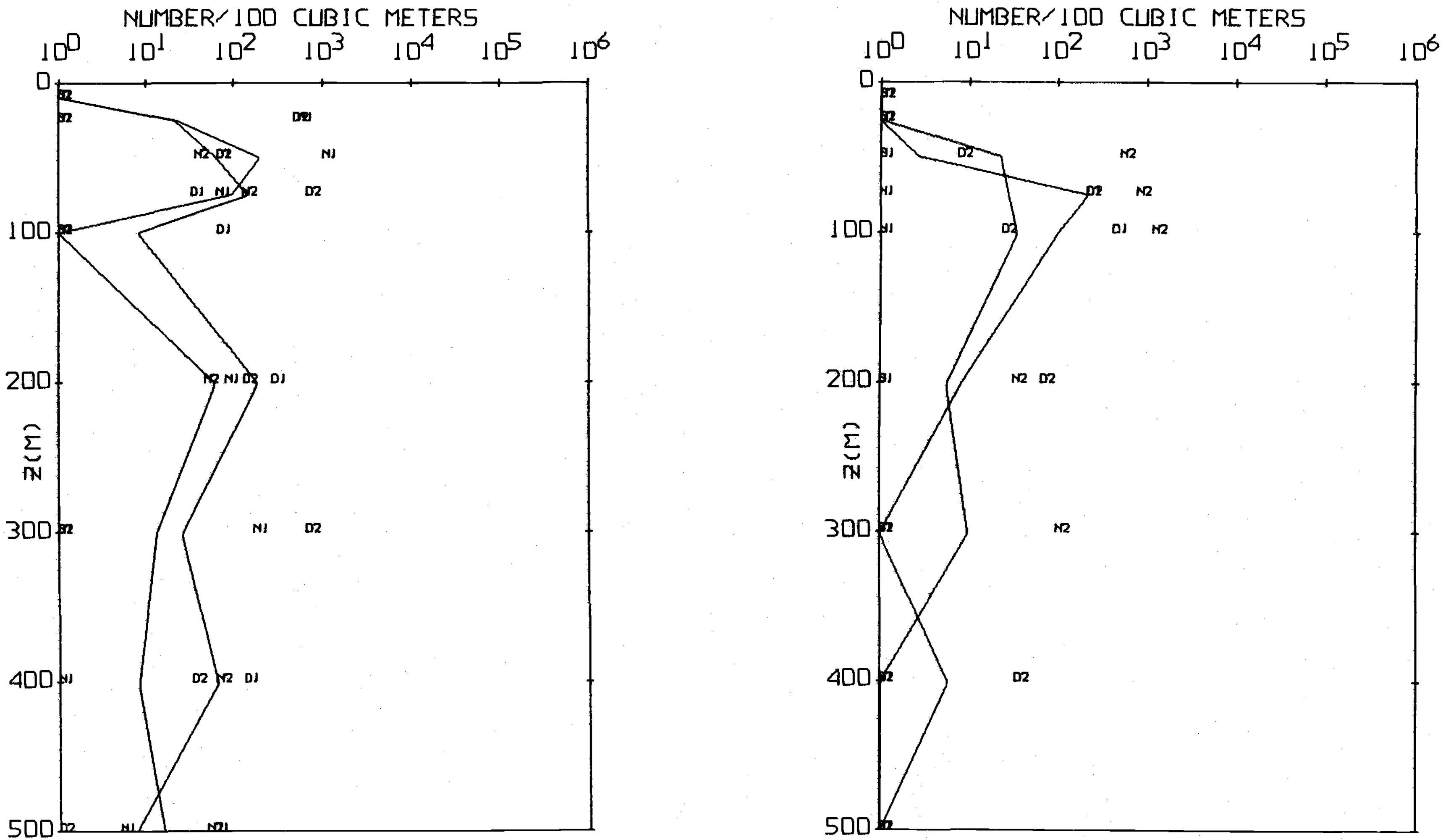
Appendix 4 Figure 6. Abundance vs. depth for (a) Amphipod Species A and (b) Euphausiid furcilia.



Appendix 4 Figure 7. Abundance vs. depth for Medusae.

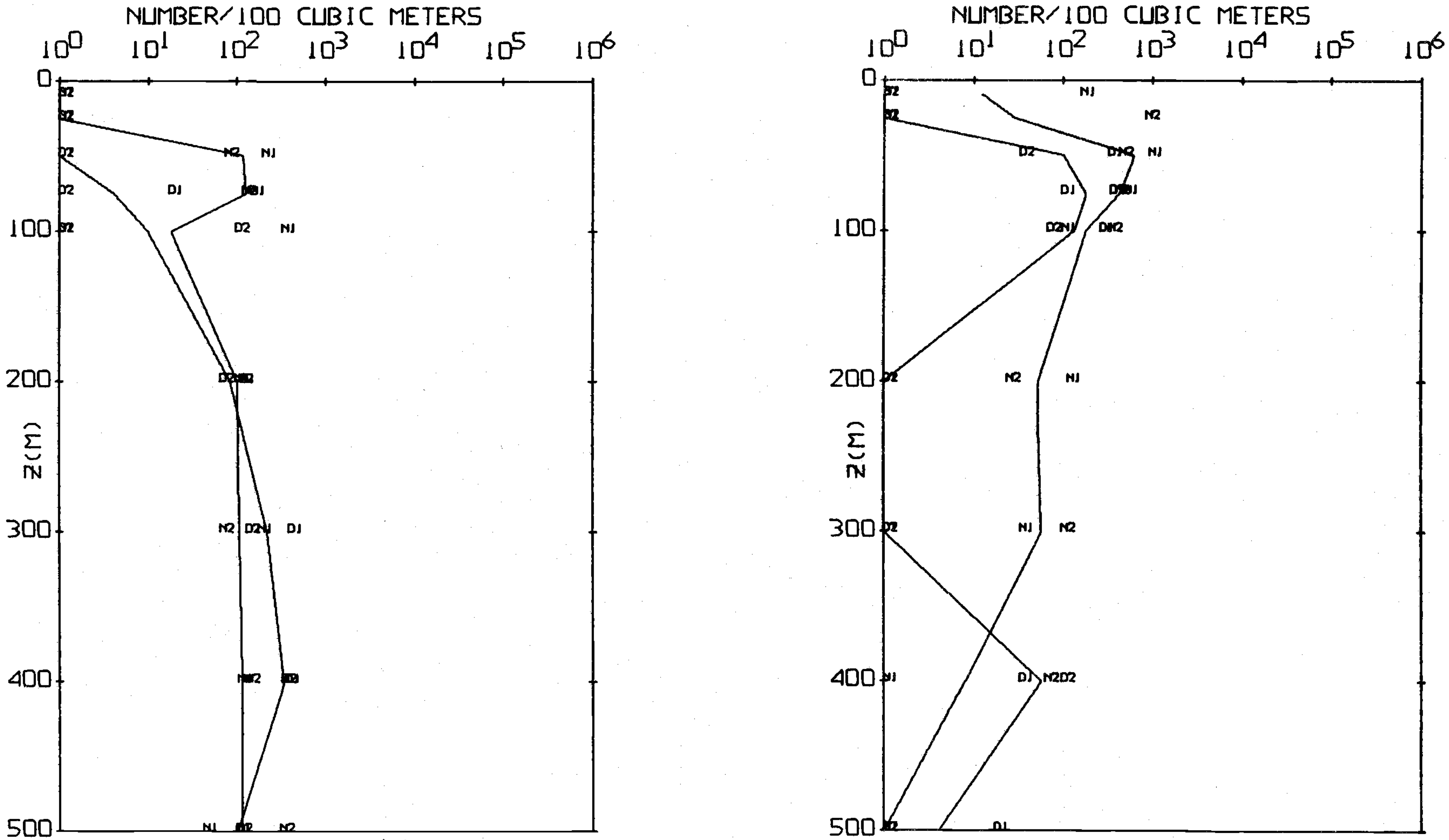
Appendix 5

Figures of Vertical Distribution Pattern C



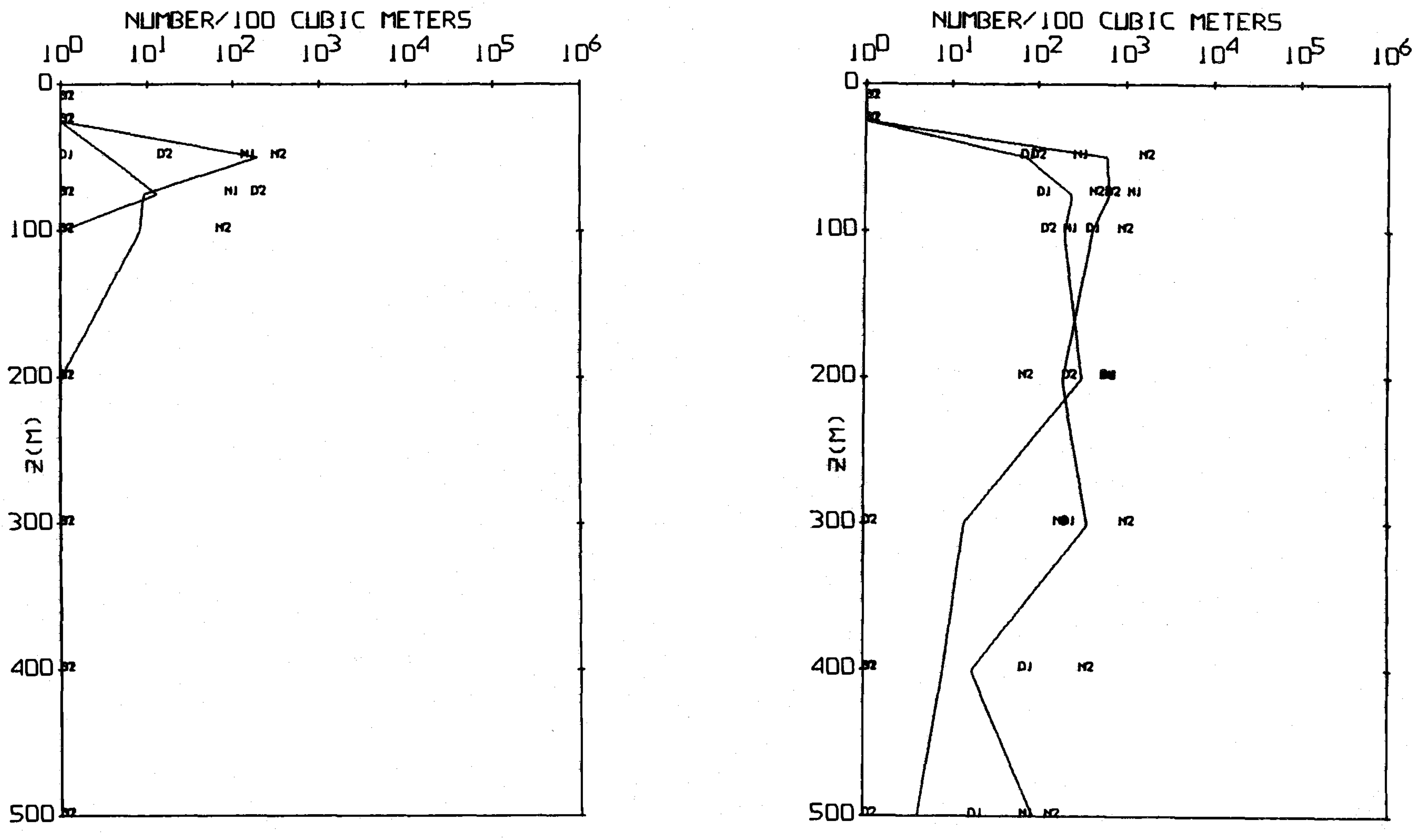
(a) (b)

Appendix 5 Figure 1. Abundance vs. depth for (a) Microsetella rosea and (b) Calanus cristatus stage IV.



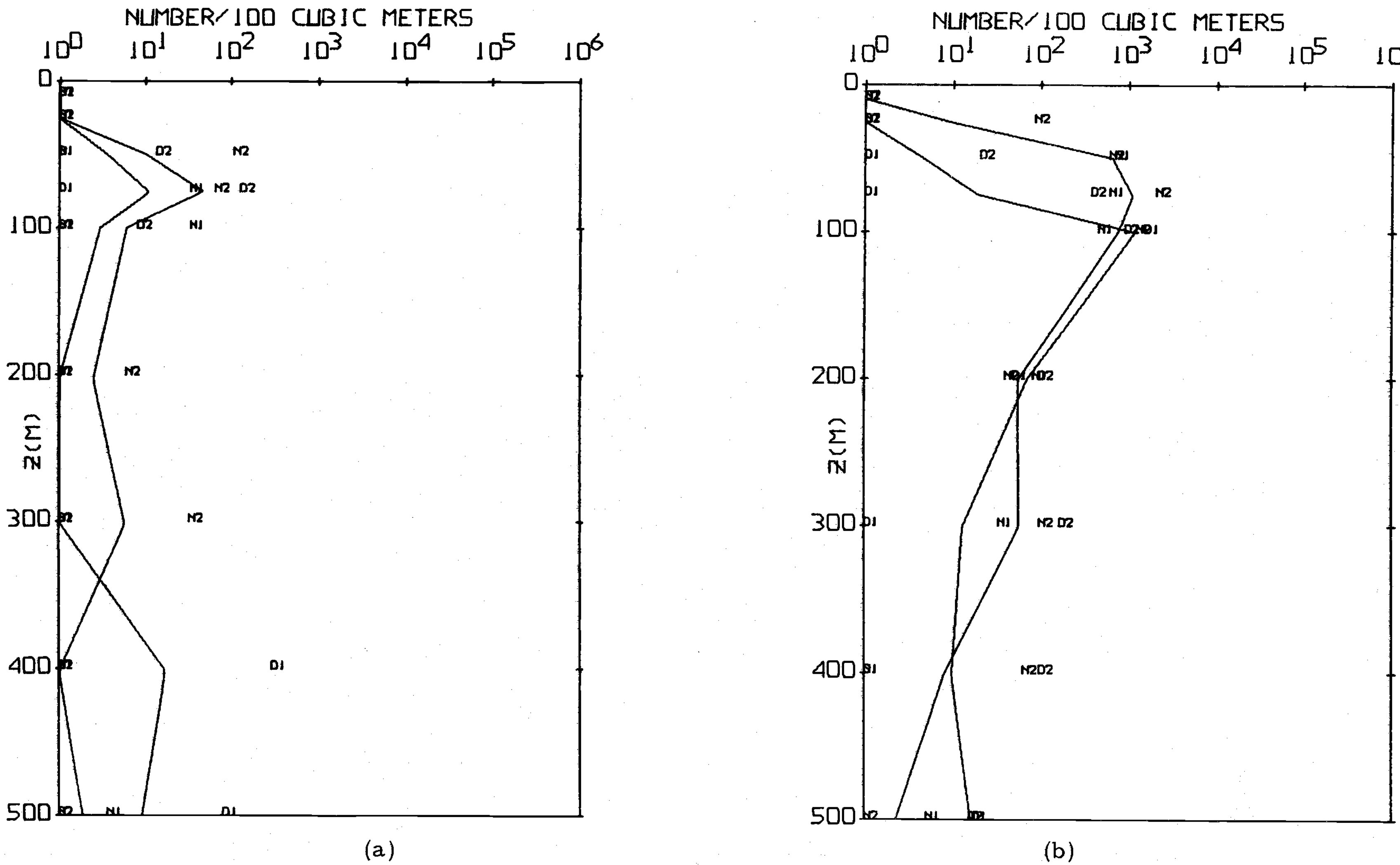
(a) (b)

Appendix 5 Figure 2. Abundance vs. depth of (a) Euchaeta spp. copepodites and (b) Scolecithricella minor females.

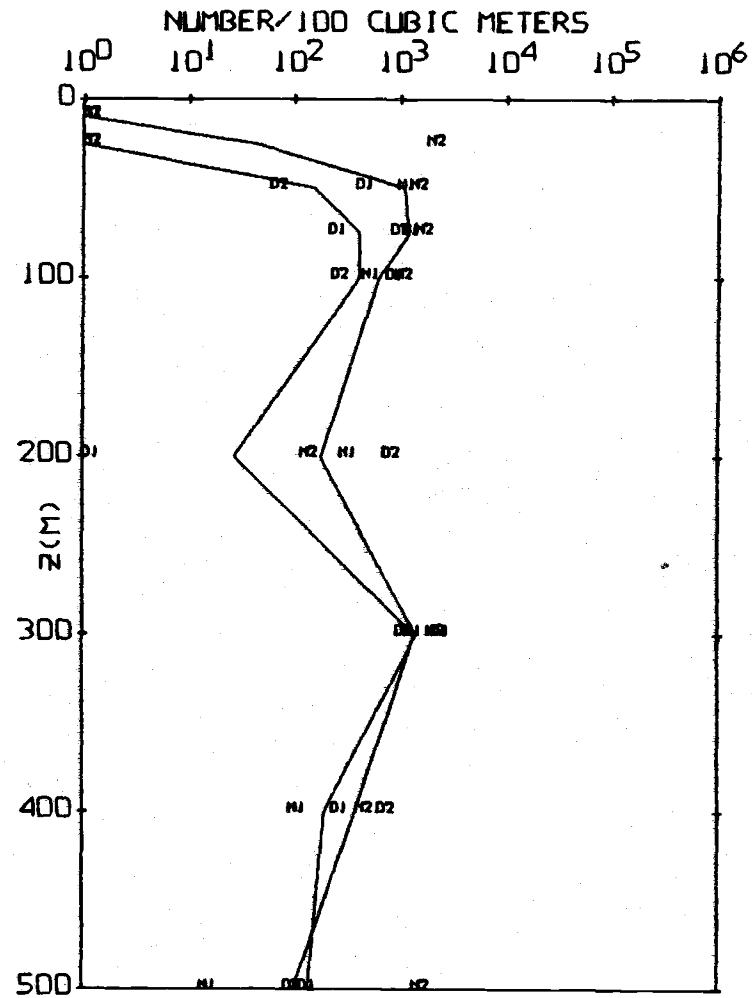


(a) (b)

Appendix 5 Figure 3. Abundance vs. depth for (a) Scolecithricella minor males and (b) Scolecithricella minor spp. copepodites.



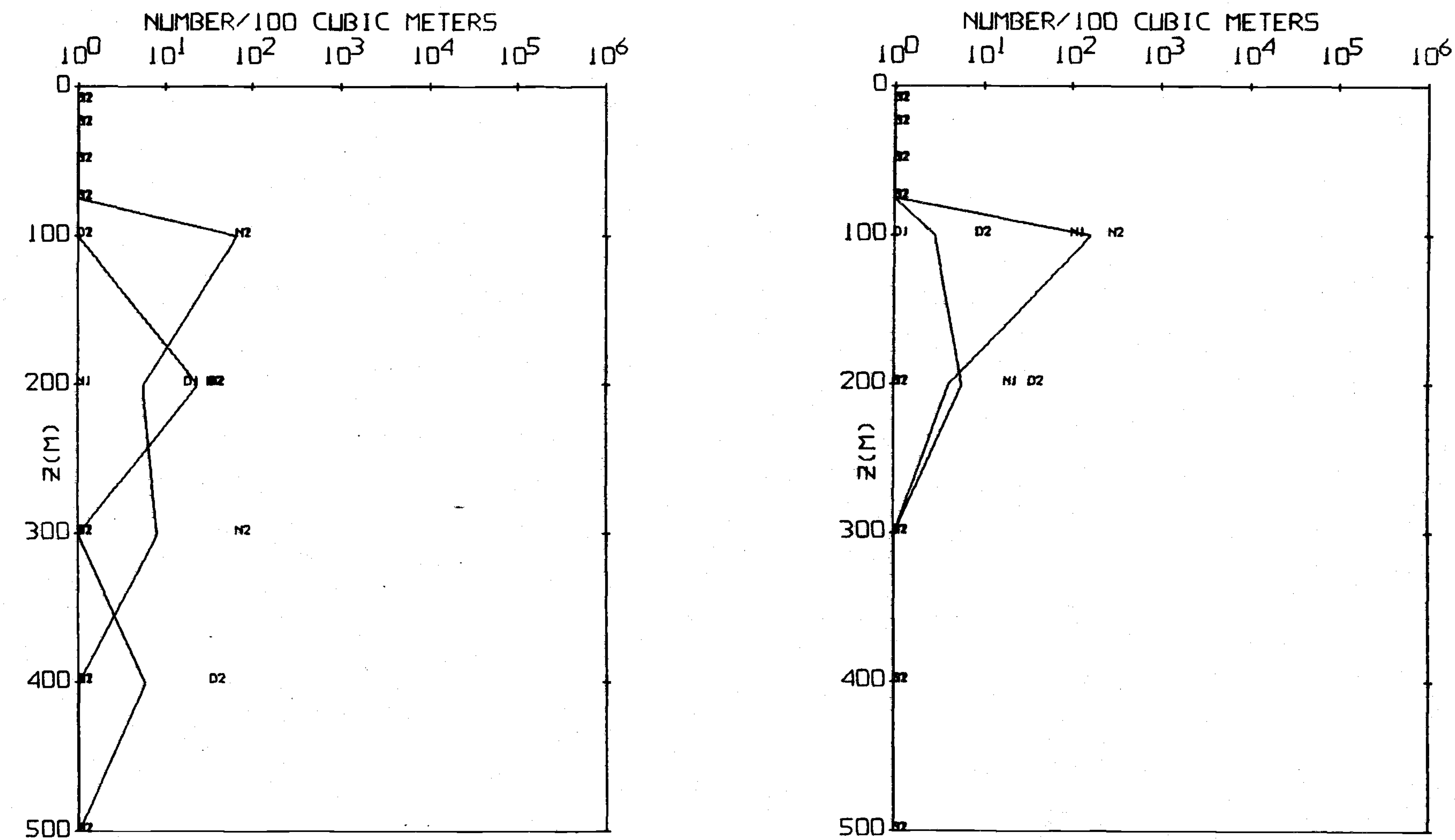
Appendix 5 Figure 4. Abundance vs. depth for (a) Conchoecia magna females and (b) Barnacle cypris.



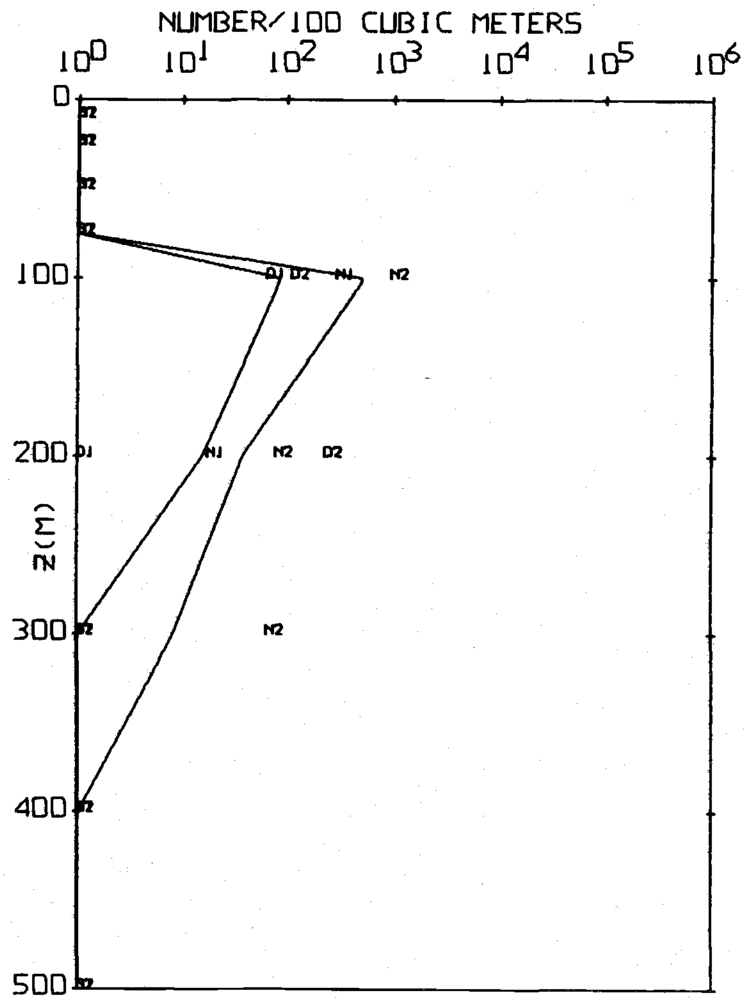
Appendix 5 Figure 5. Abundance vs. depth for Siphonophore nectophore.

Appendix 6

Figures of Vertical Distribution Pattern D



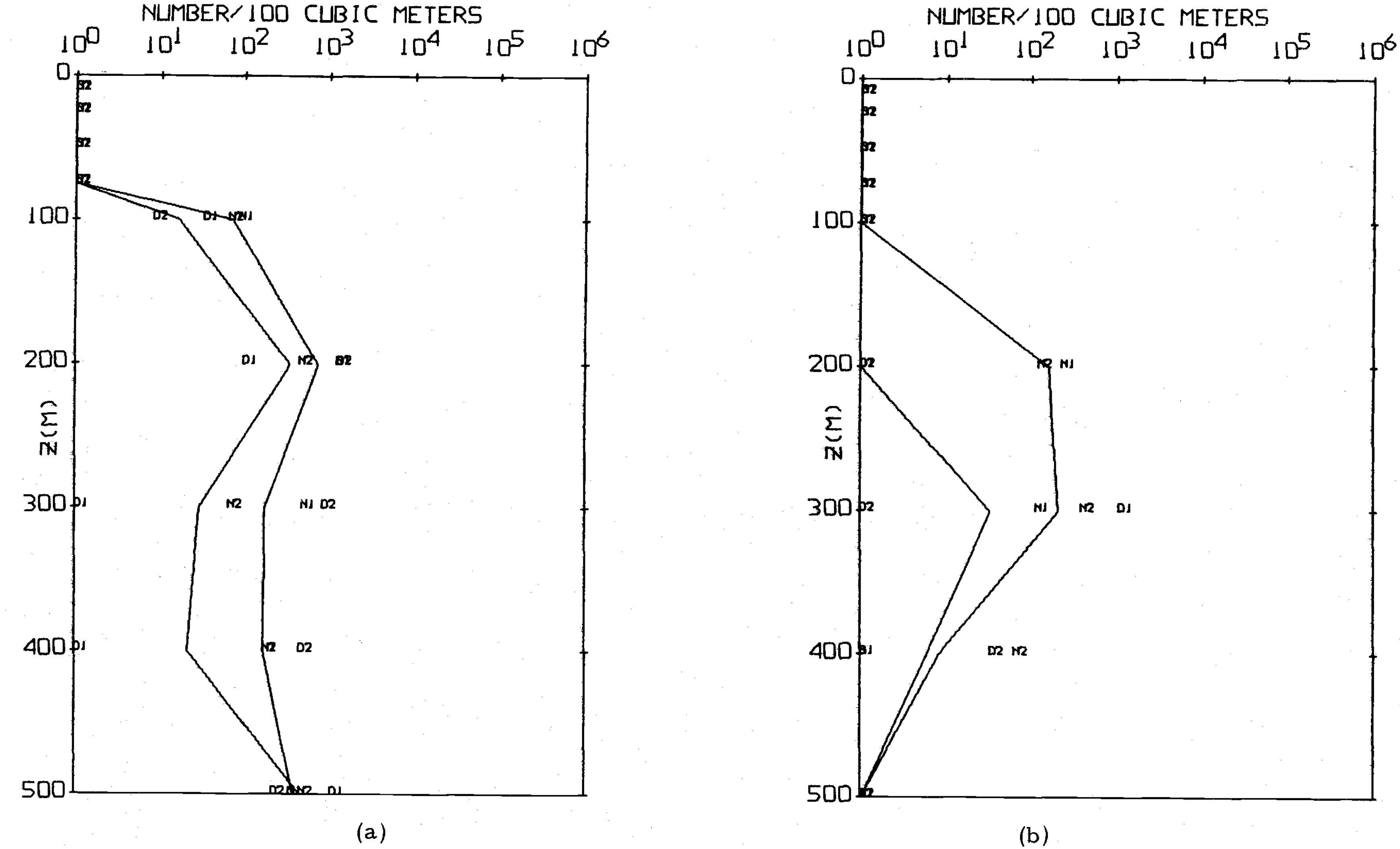
Appendix 6 Figure 1. Abundance vs. depth for (a) Aetideus pacificus females and (b) Aetideus spp. copepodites.



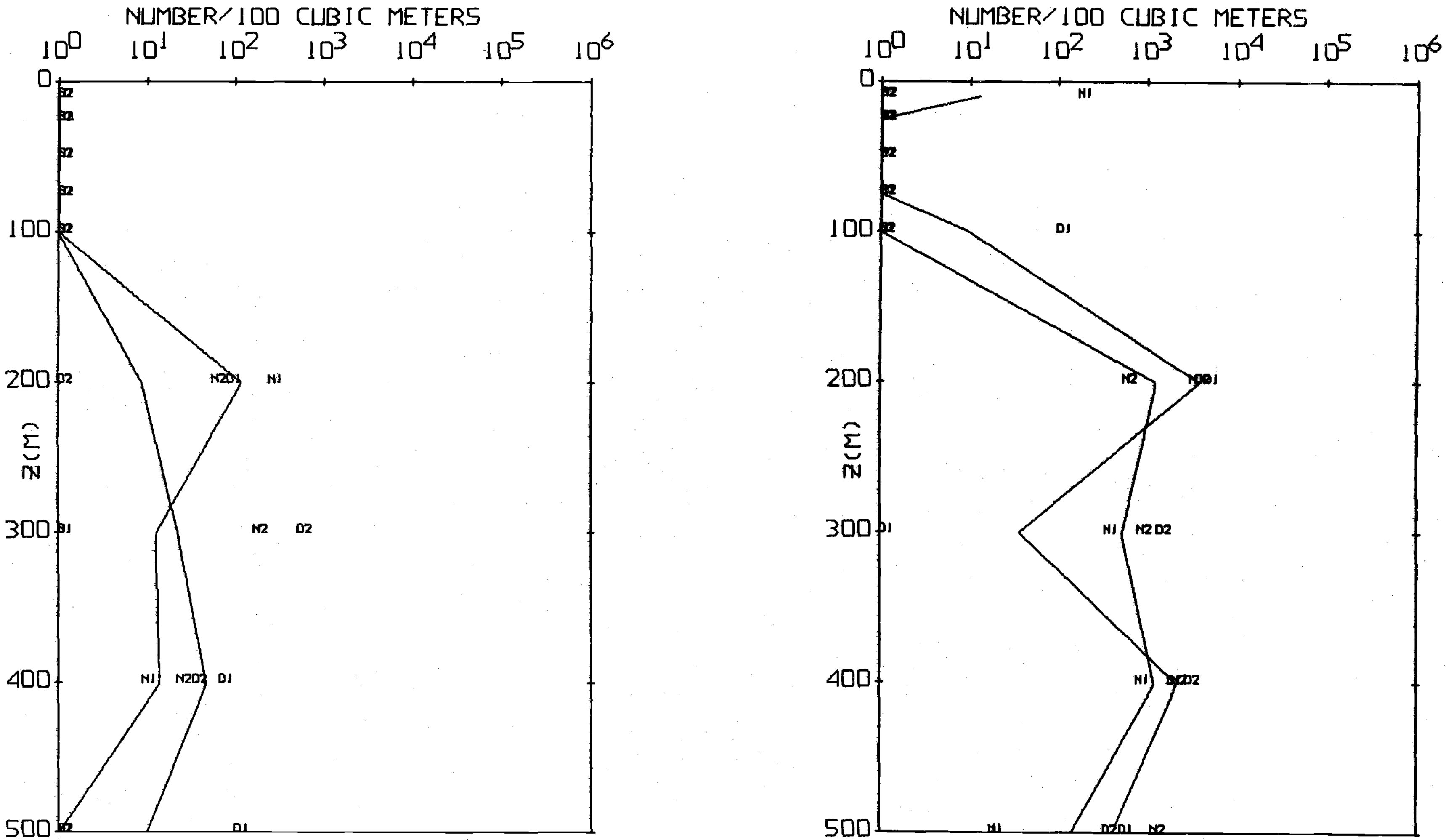
Appendix 6 Figure 2. Abundance vs. depth for Racovitzanus pacificus males.

Appendix 7

Figures of Vertical Distribution Pattern E



Appendix 7 Figure 1. Abundance vs. depth for (a) Radiolaria and (b) Gaetanus spp. small copepodites.

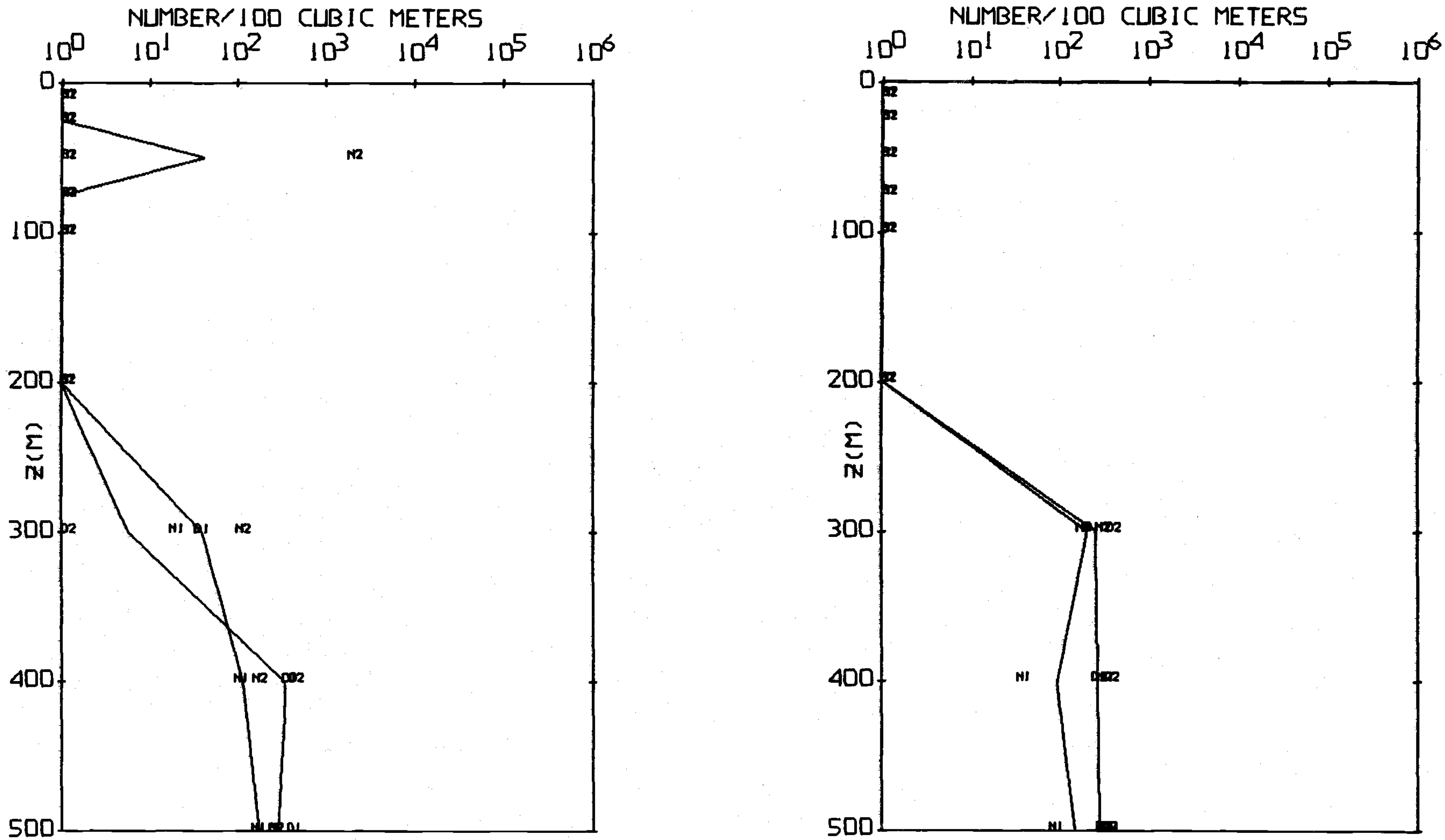


(a) (b)

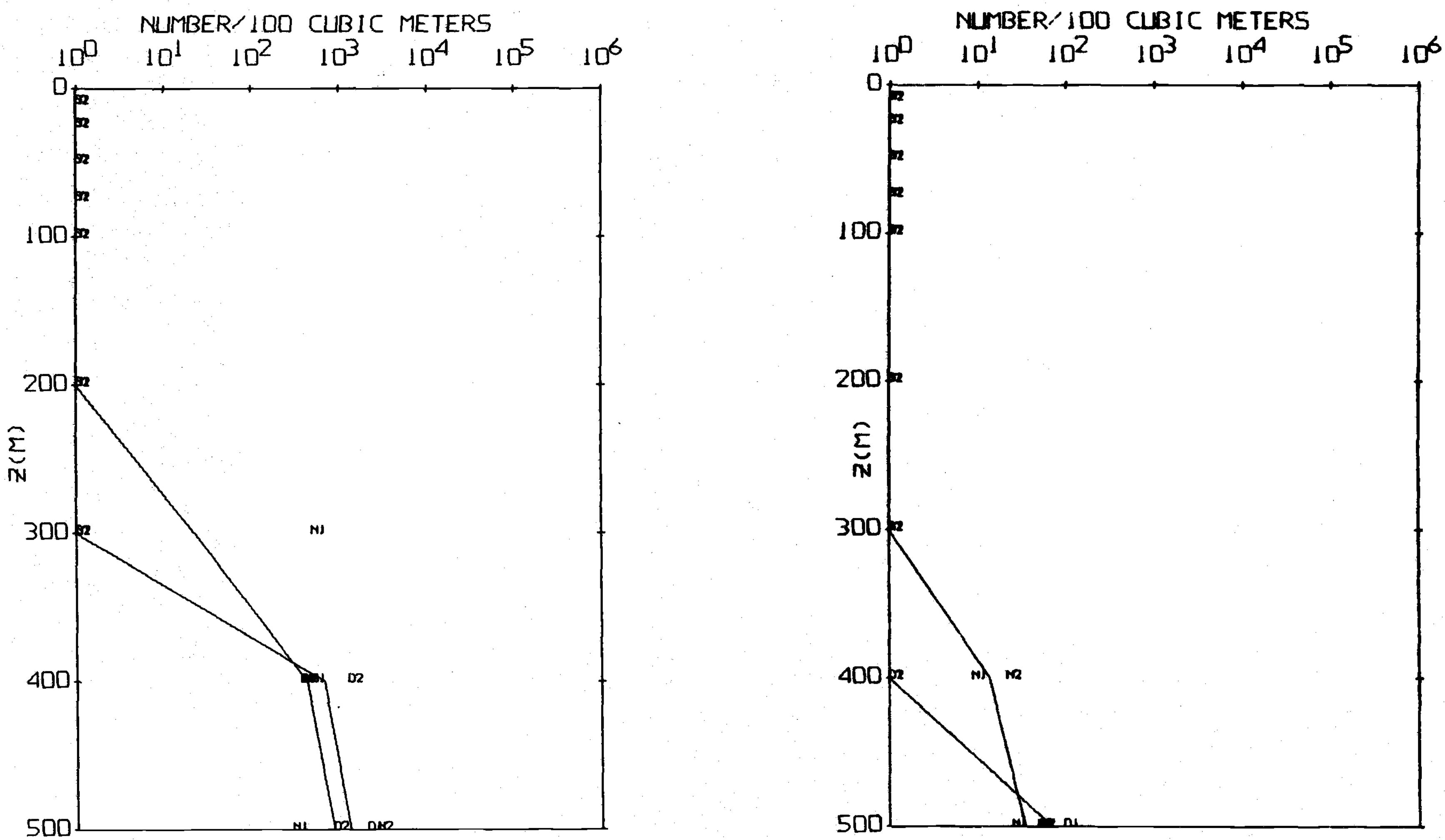
Appendix 7 Figure 2. Abundance vs. depth for (a) Gaetanus spp. 4 x 2 and (b) Microcalanus pusillus females.

Appendix 8

Figures of Vertical Distribution Pattern F

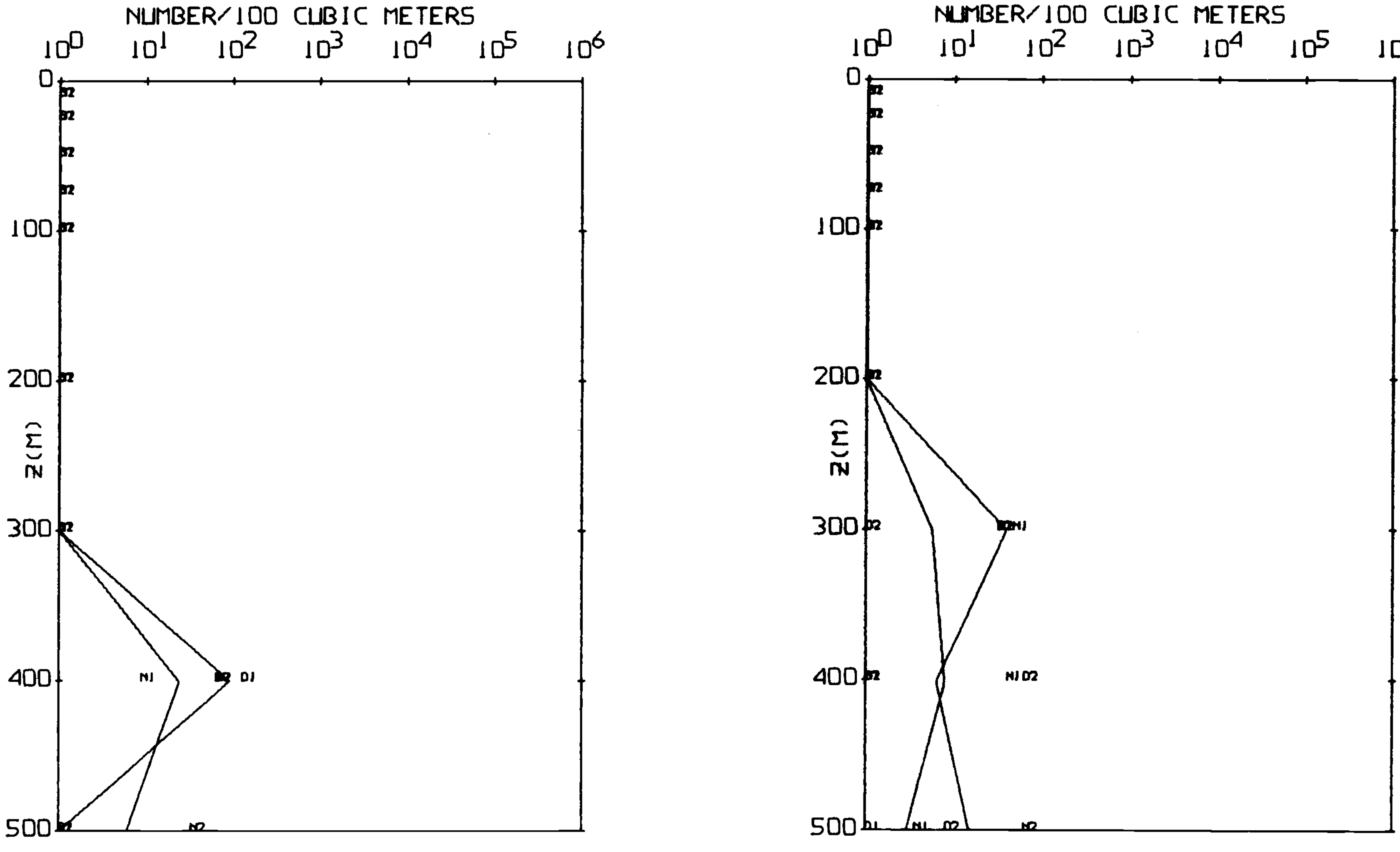


Appendix 8 Figure 1. Abundance vs. depth for (a) Oncaea conifera females and (b) Oncaea conifera males.



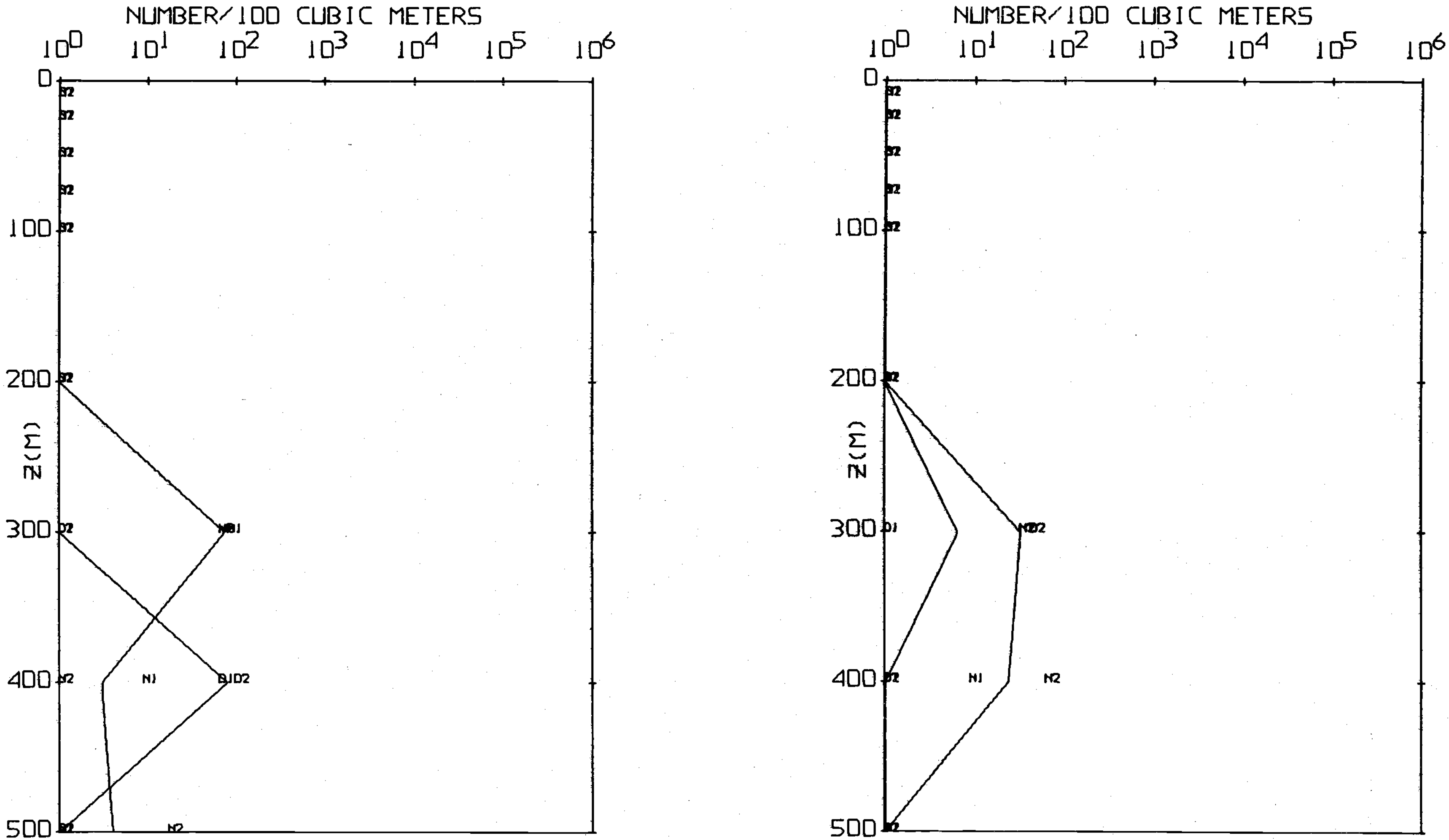
(a) (b)

Appendix 8 Figure 2. Abundance vs. depth for (a) Oncaea sp. A females and (b) Metridia curticauda females.



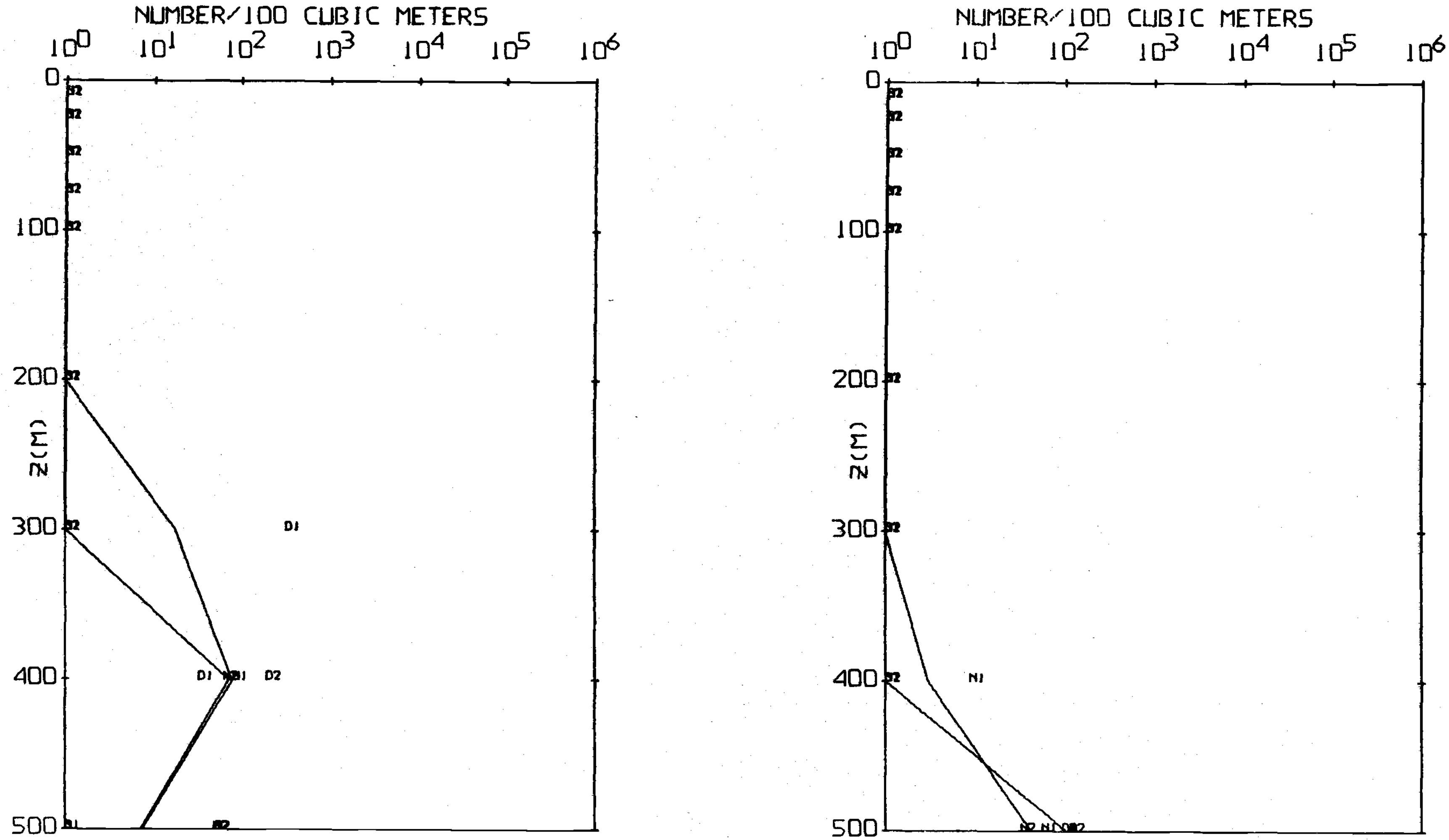
(a) (b)

Appendix 8 Figure 3. Abundance vs. depth for (a) Amallothrix inornata females and (b) Haloptilus pseudooxycephalus copepodites.



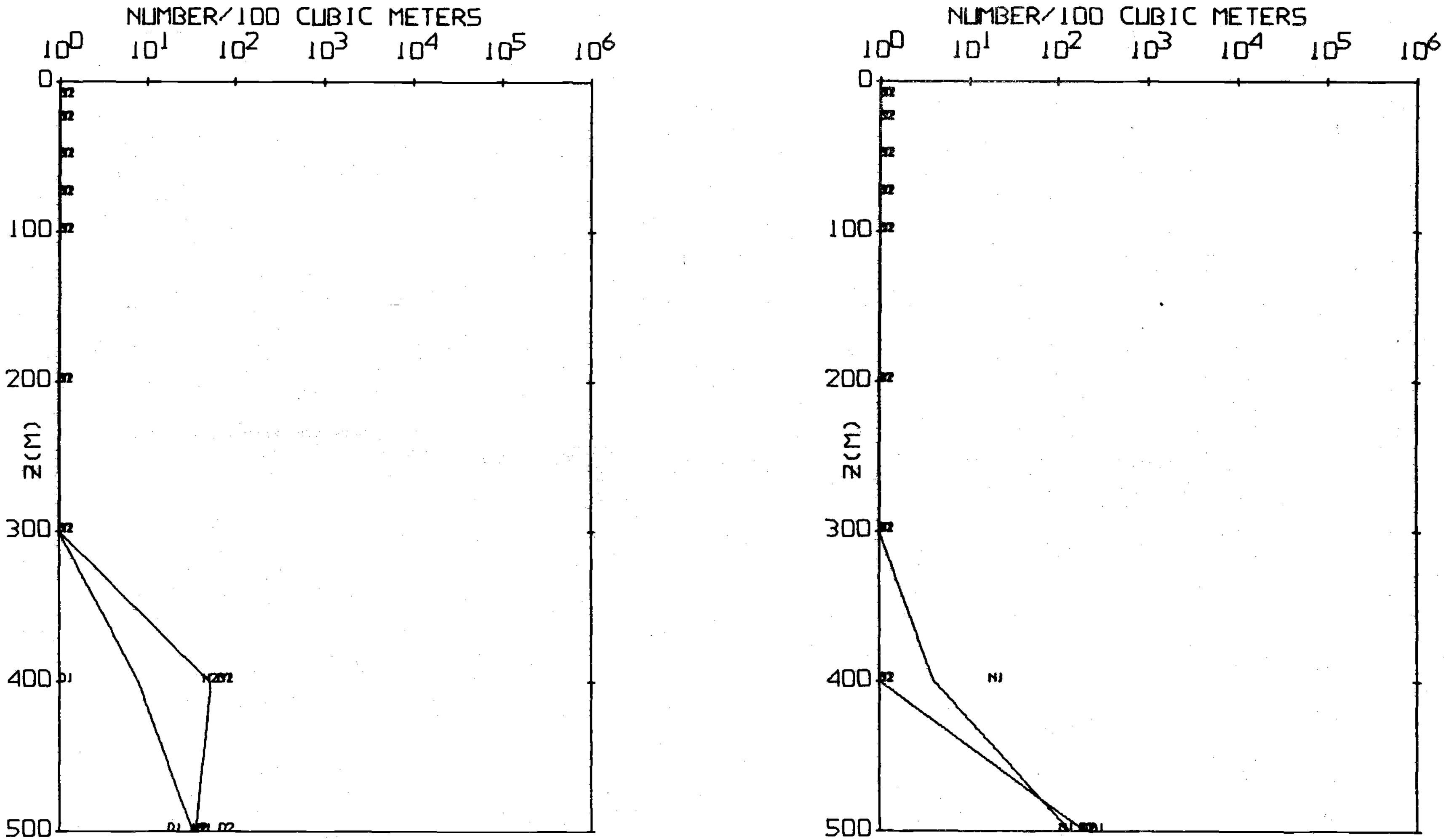
(a) (b)

Appendix 8 Figure 4. Abundance vs. depth for (a) Gaidius cf. variabilis females and (b) Gaetanus spp. 4 x 3.



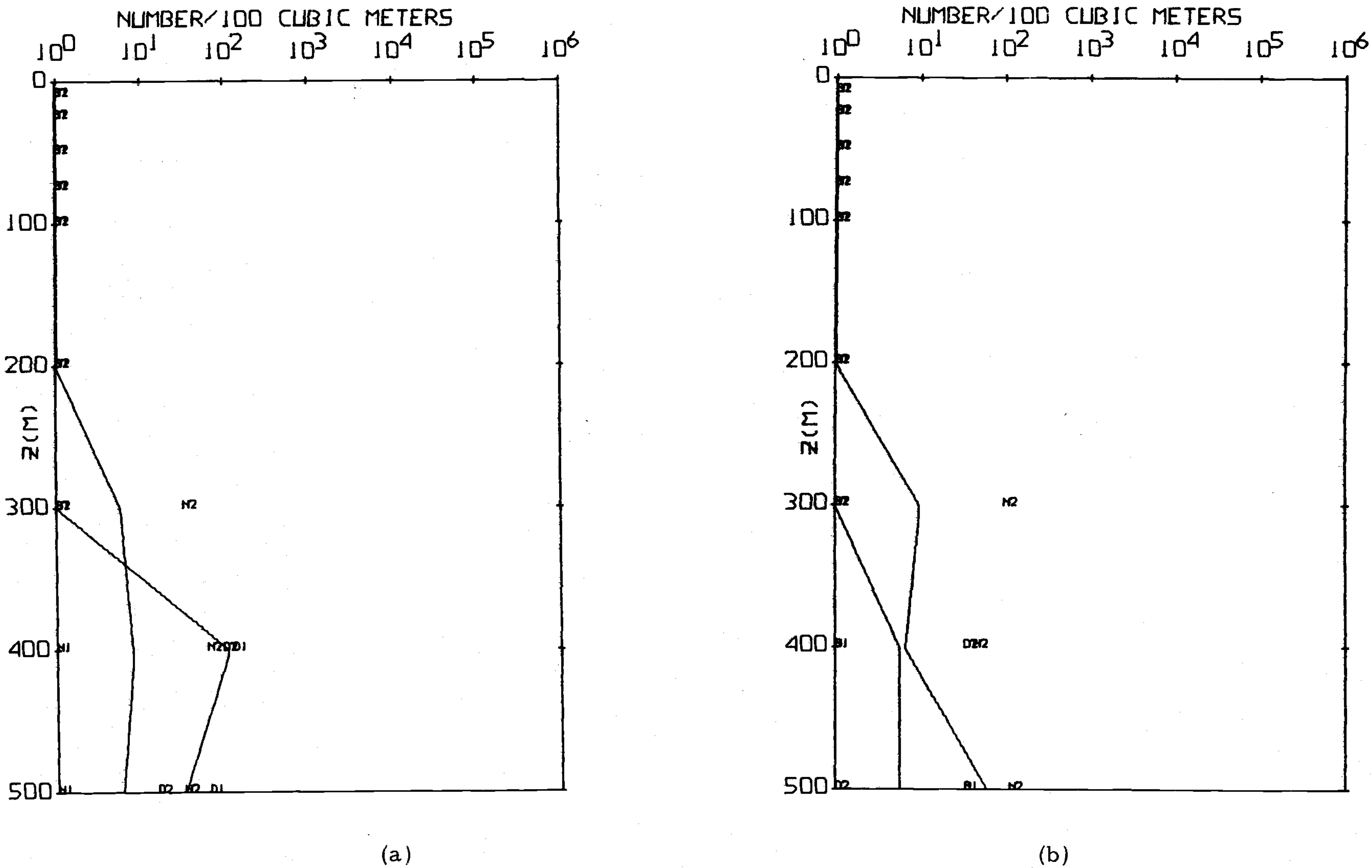
(a) (b)

Appendix 8 Figure 5. Abundance vs. depth for (a) Spinocalanus spp. copepodites and (b) Isochaeta ovalis females.

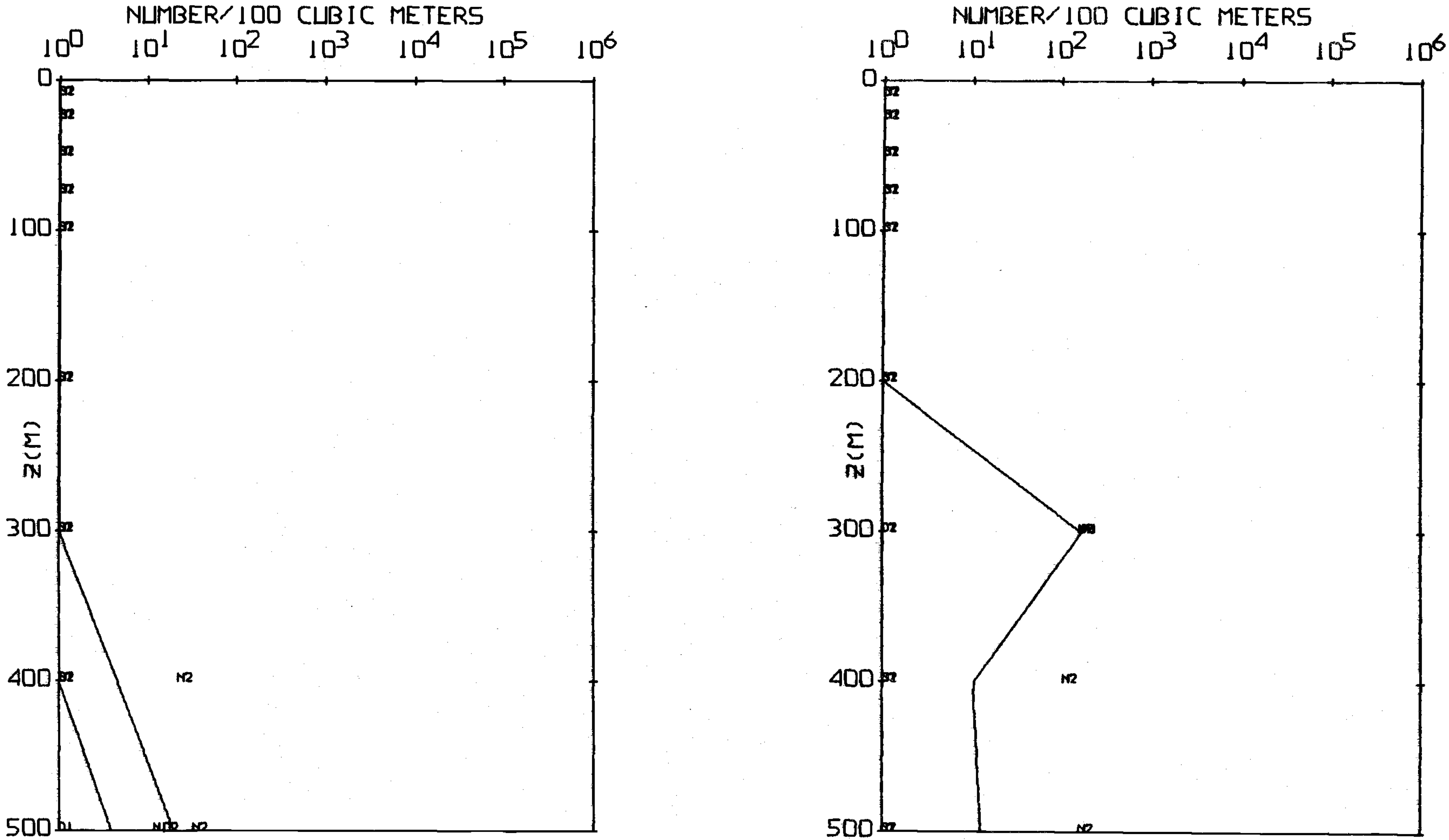


(a) (b)

Appendix 8 Figure 6. Abundance vs. depth for (a) Isochaeta ovalis males and (b) Isochaeta ovalis copepodites.

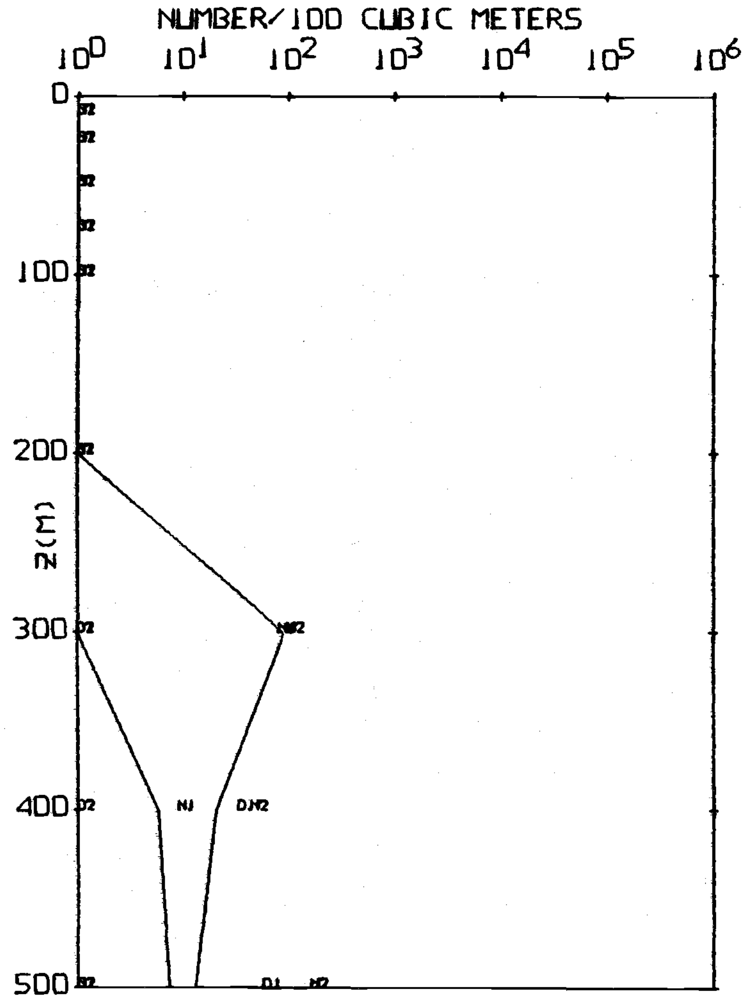


Appendix 8 Figure 7. Abundance vs. depth for (a) Conchoecia alata minor immatures and (b) Conchoecia skogsbergii immatures.



(a) (b)

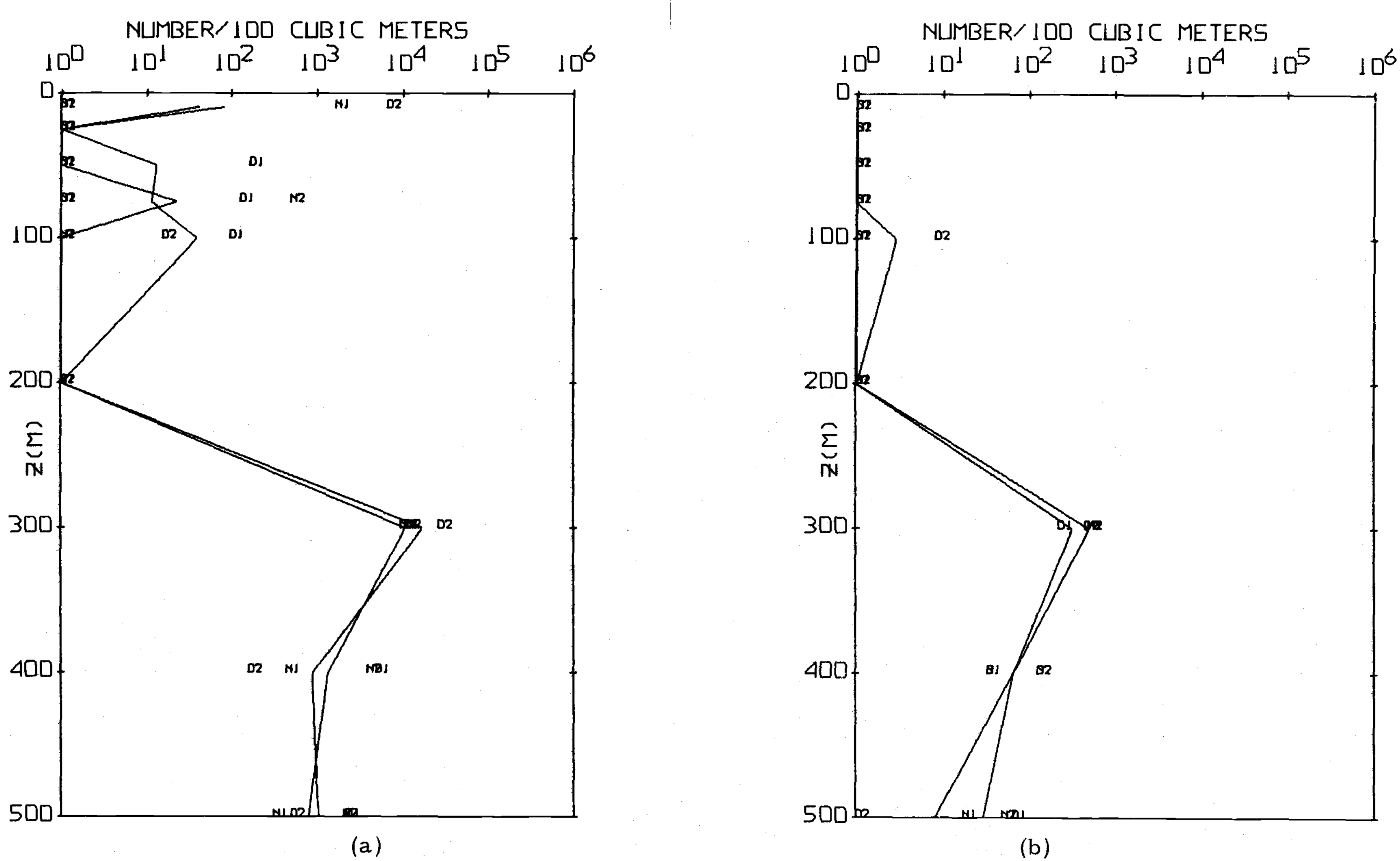
Appendix 8 Figure 8. Abundance vs. depth for (a) Unidentified mysid and (b) Eukrohnia hamata stage II.



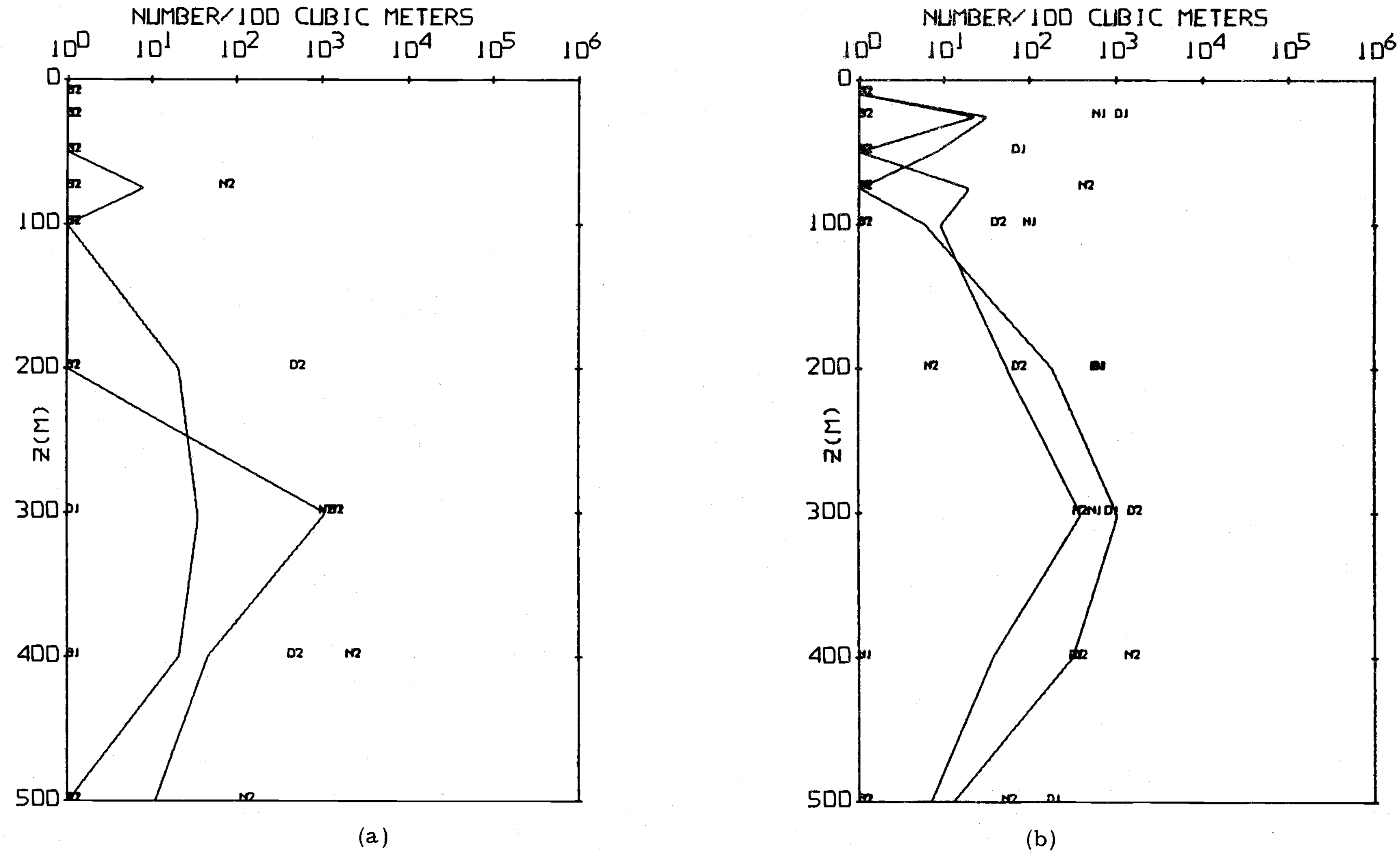
Appendix 8 Figure 9. Abundance vs. depth for Peobius meseres.

Appendix 9

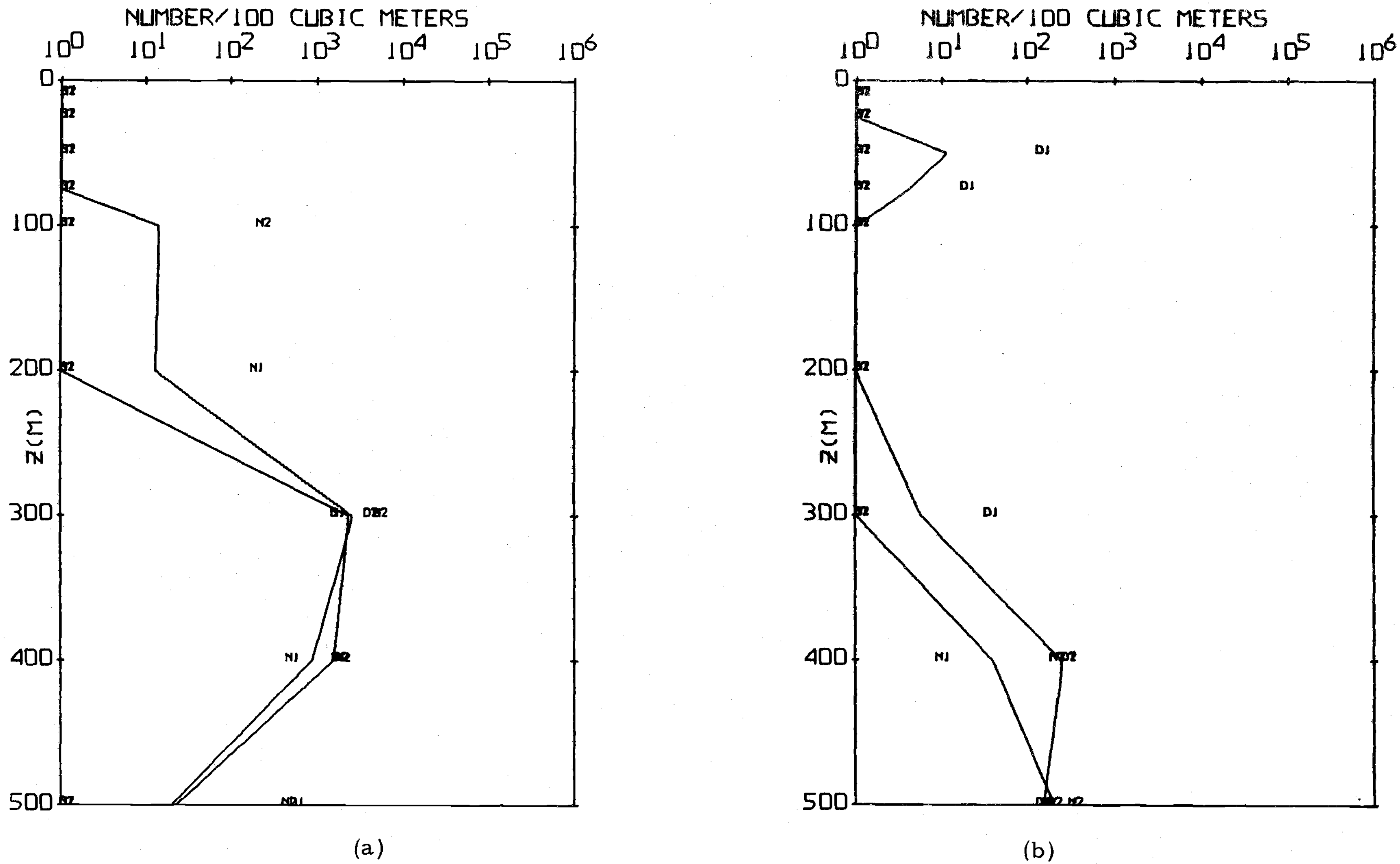
Figures of Vertical Distribution Pattern G



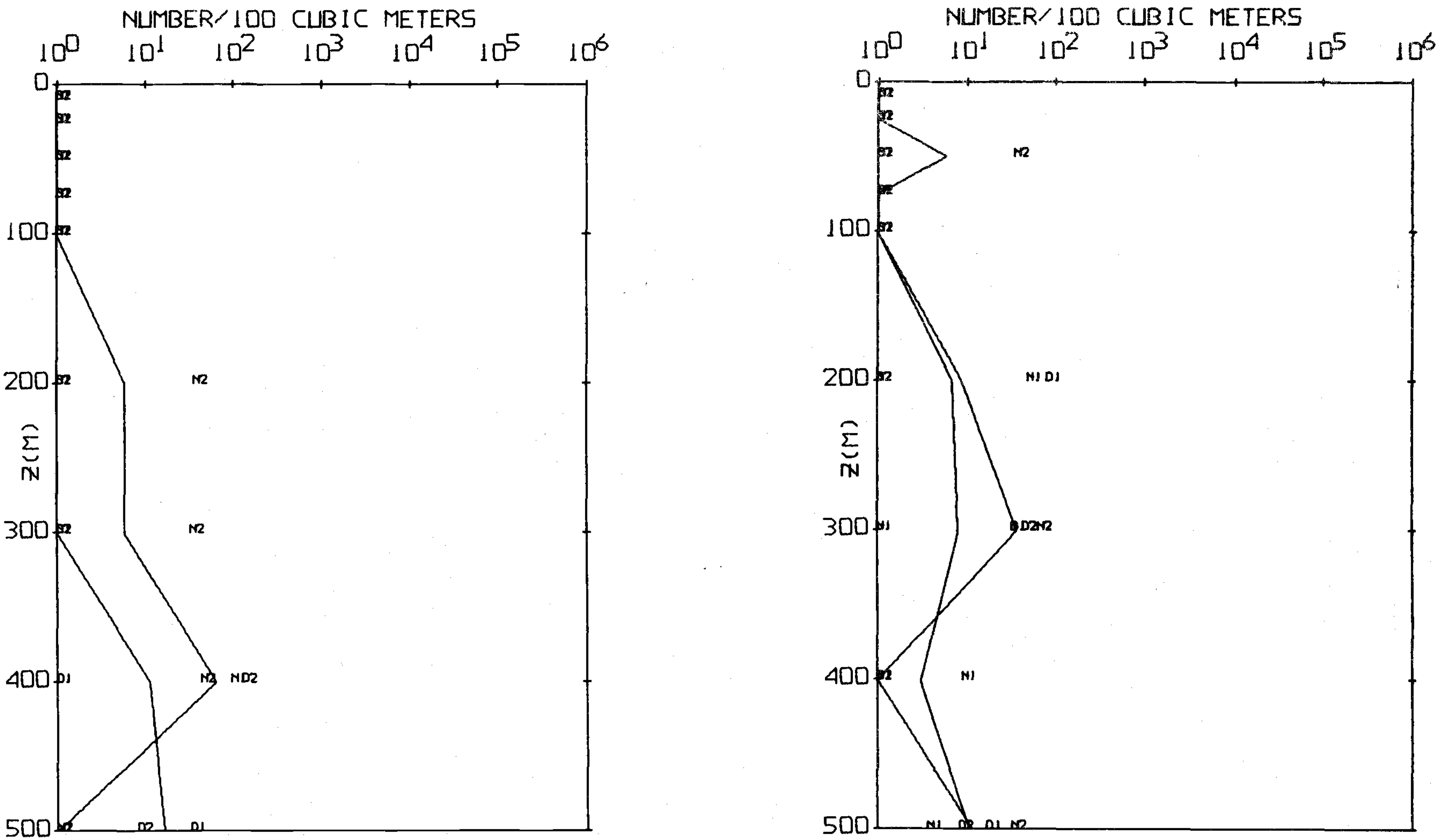
Appendix 9 Figure 1. Abundance vs. depth for (a) Oncaea spp. copepodites and (b) Oncaea conifera copepodites.



Appendix 9 Figure 2. Abundance vs. depth for (a) Calanus plumchrus males and (b) Type III Calanus stage V.

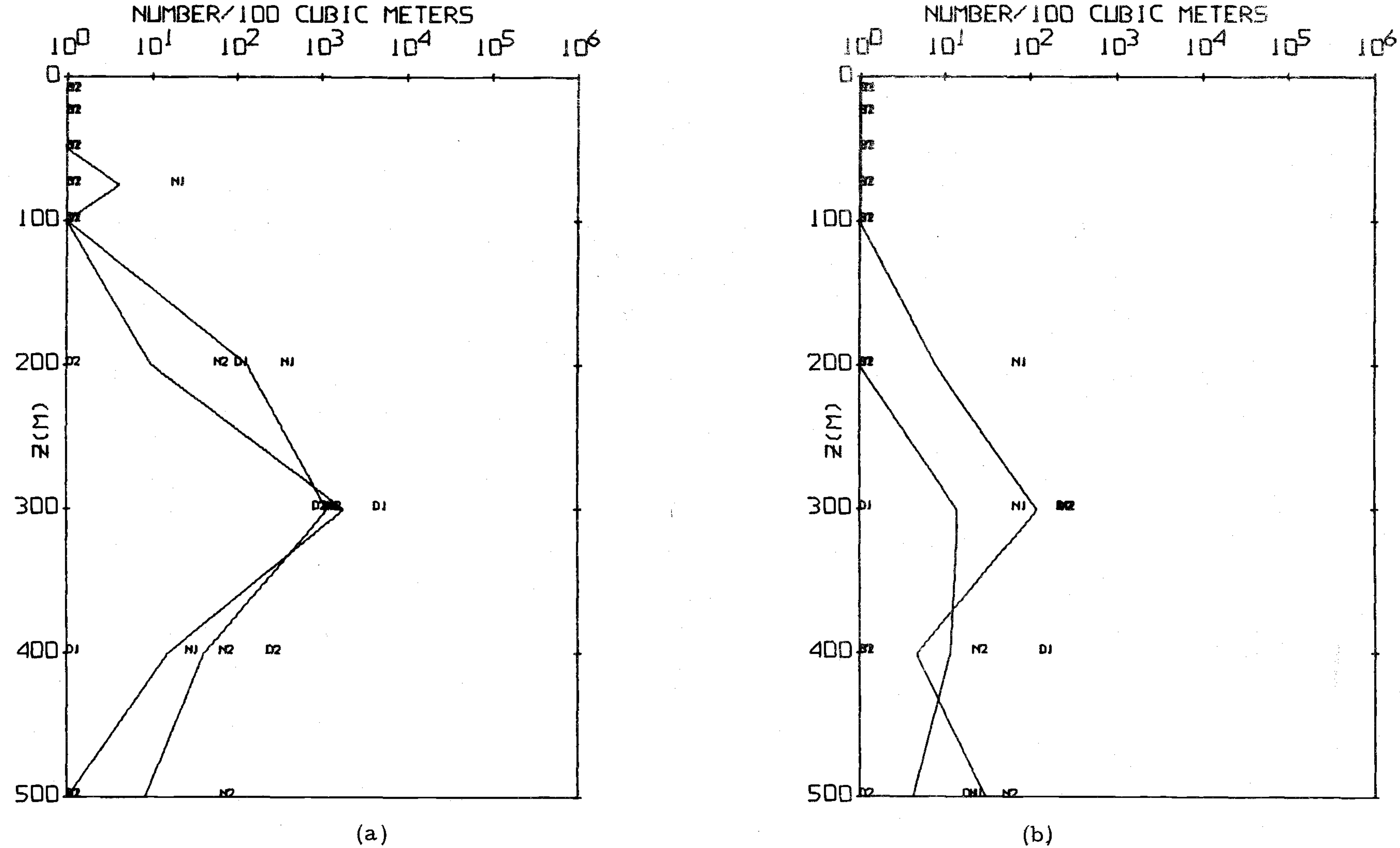


Appendix 9 Figure 3. Abundance vs. depth for (a) Microcalanus pusillus males and (b) Metridia pacifica males.

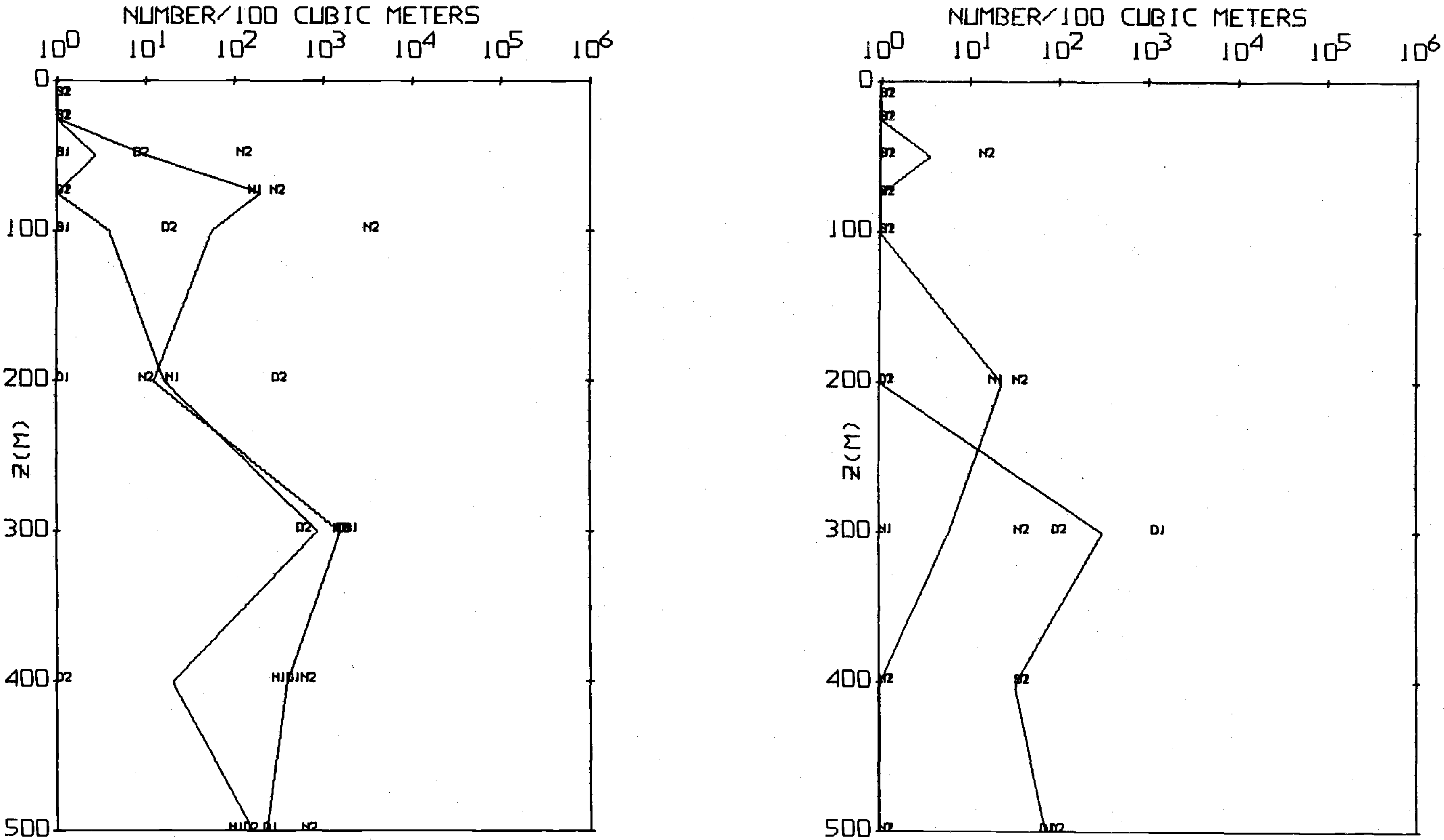


(a) (b)

Appendix 9 Figure 4. Abundance vs. depth for (a) Pleuramamma scutullata males and (b) Heterorhabdus tanneri males.

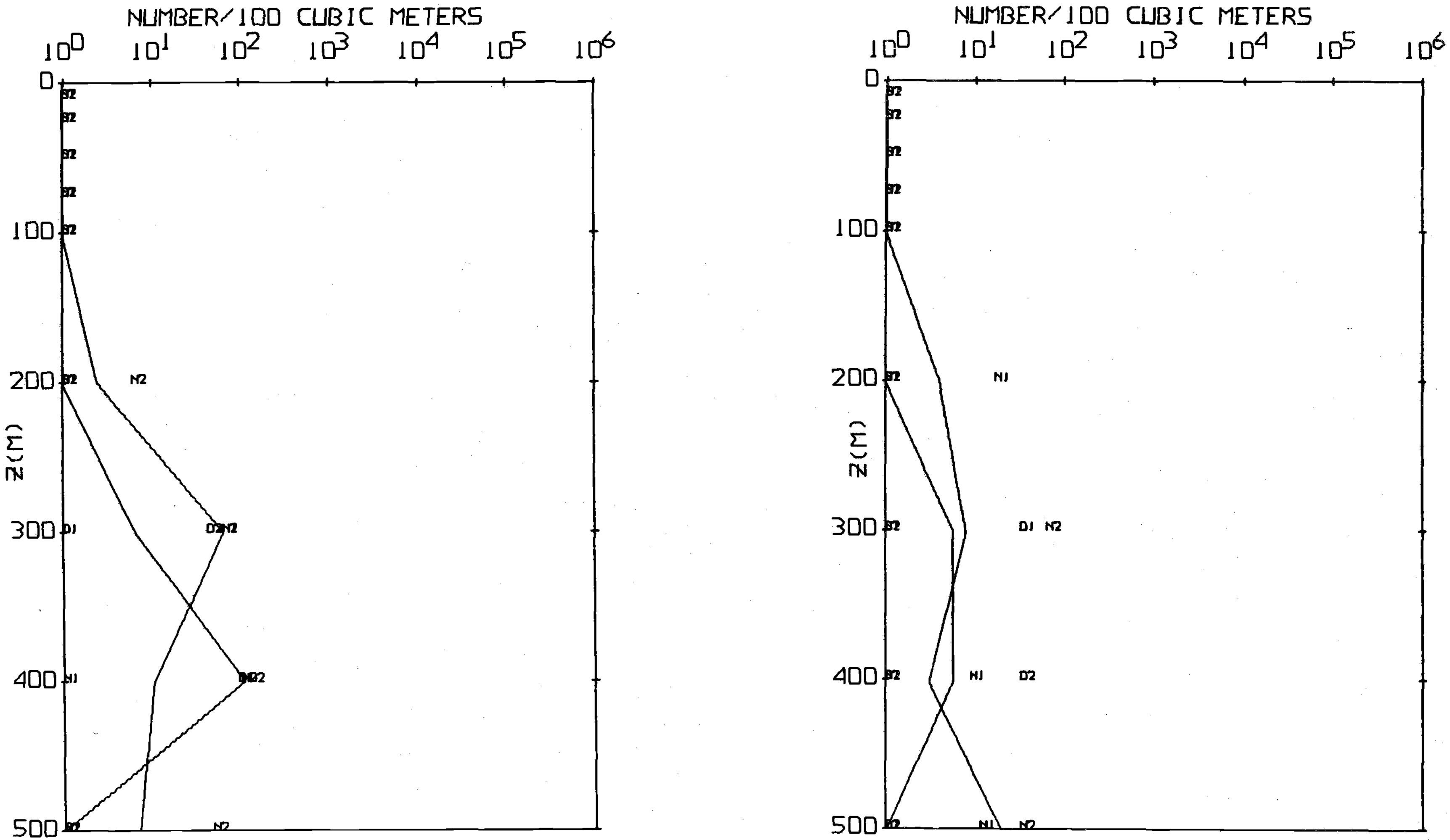


Appendix 9 Figure 5. Abundance vs. depth for (a) <u>Heterarhabdidae</u> small copepodites and (b) <u>Conchoecia skogsbergii</u> females.



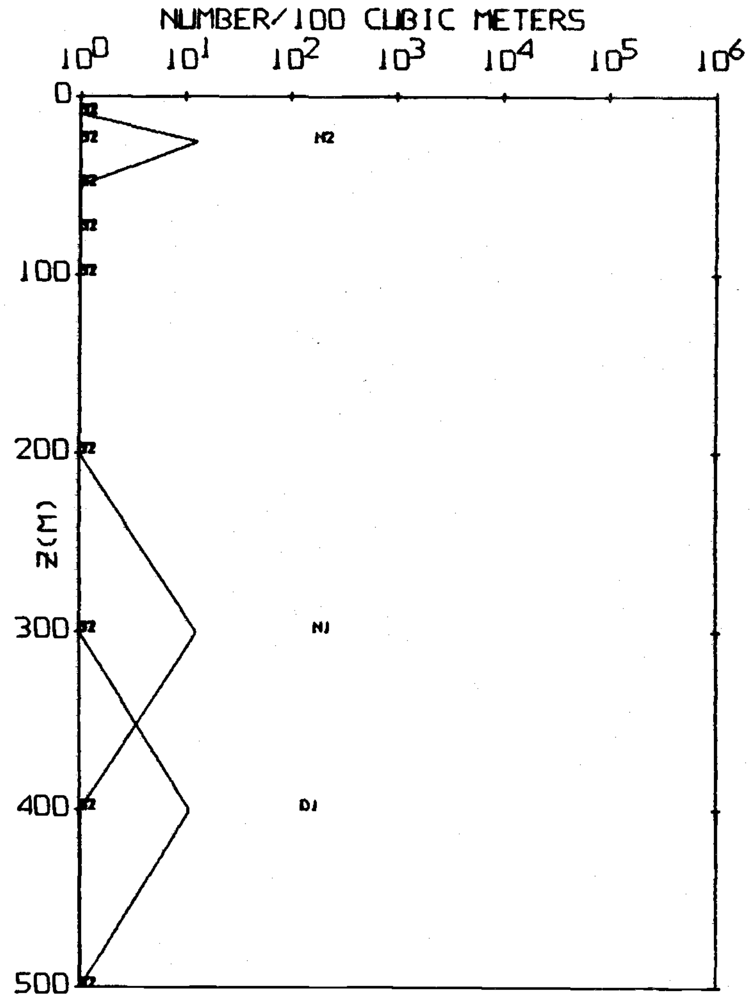
(a) (b)

Appendix 9 Figure 6. Abundance vs. depth for (a) Very small ostracods and (b) Amphipod Species B.



(a) (b)

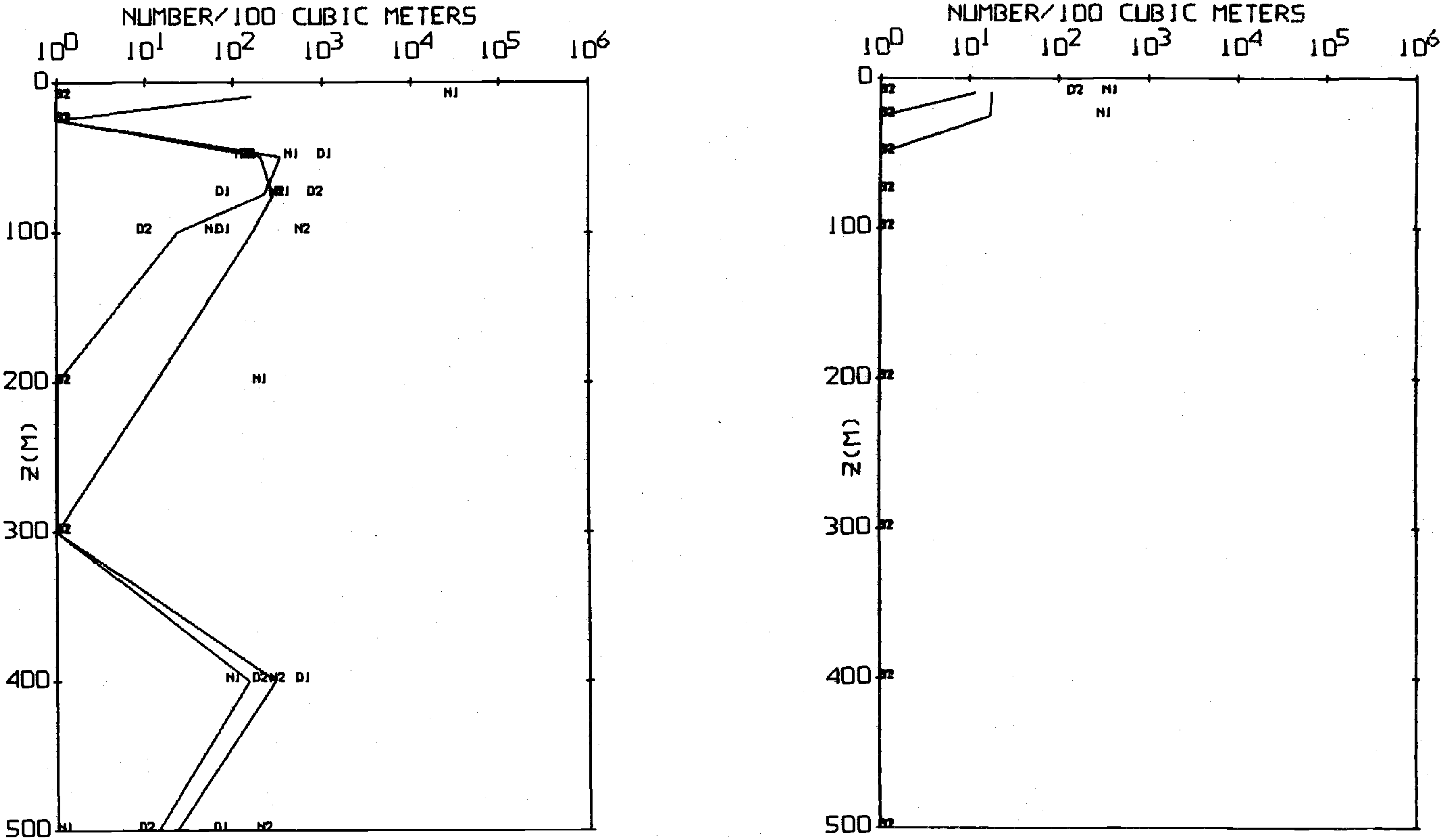
Appendix 9 Figure 7. Abundance vs. depth for (a) Amphipod Species D and (b) Amphipod eggs.



Appendix 9 Figure 8. Abundance vs. depth for Sagitta maxima.

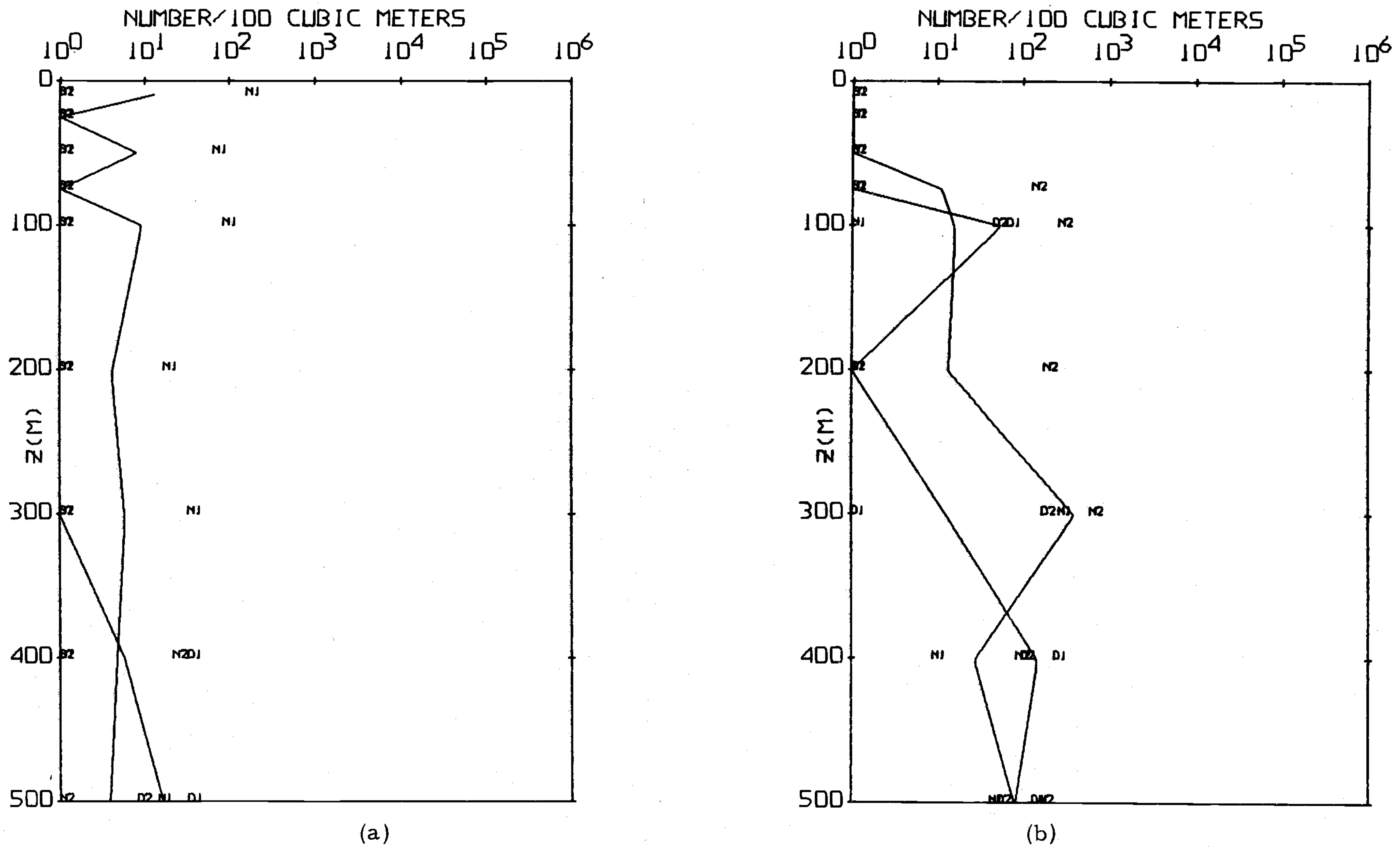
Appendix 10

Figures of Vertical Distributions of Unknown Affinity

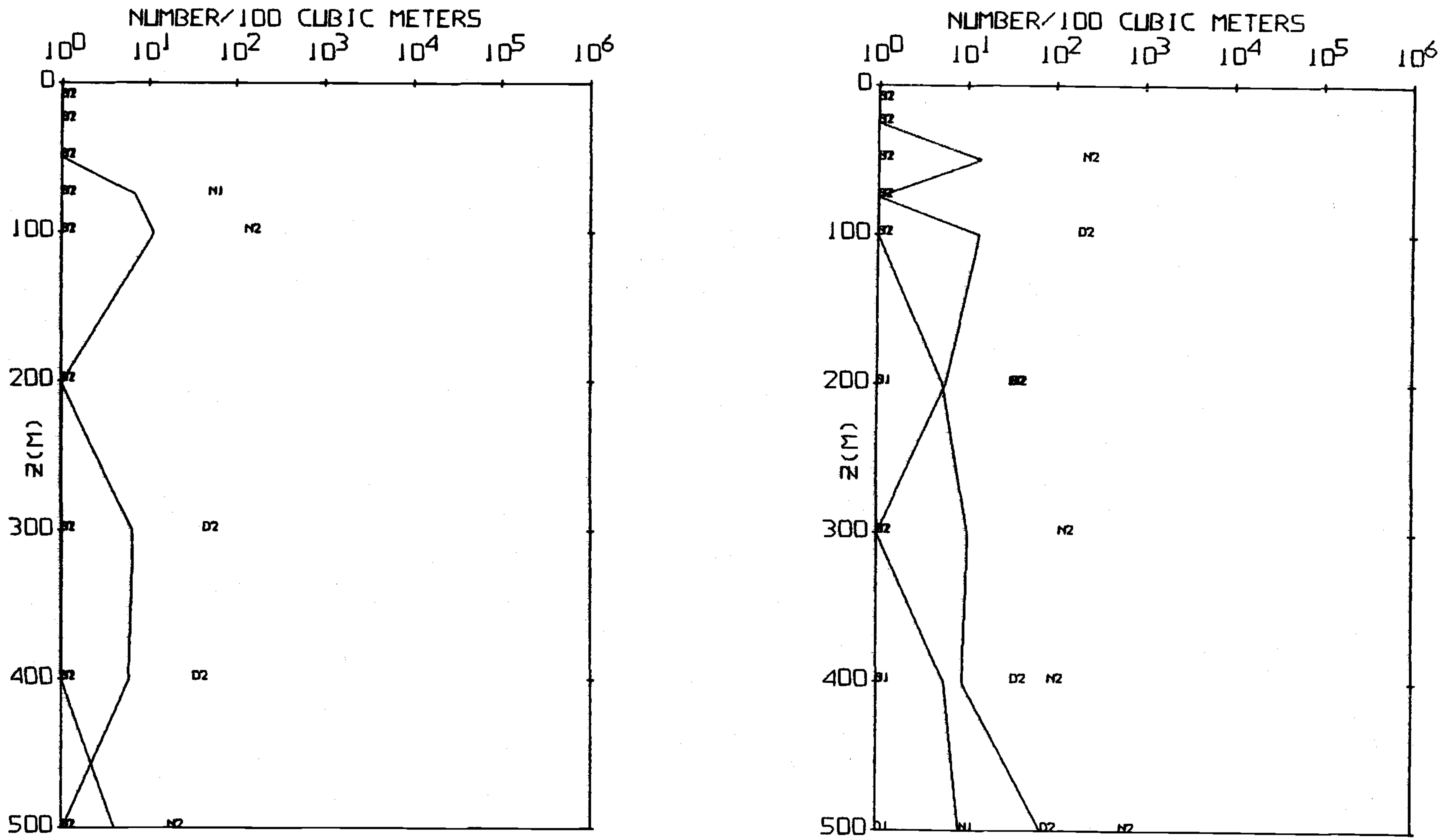


(a) (b)

Appendix 10 Figure 1. Abundance vs. depth for (a) Oithona spinirostris copepodites and (b) Acartia longiremis males.

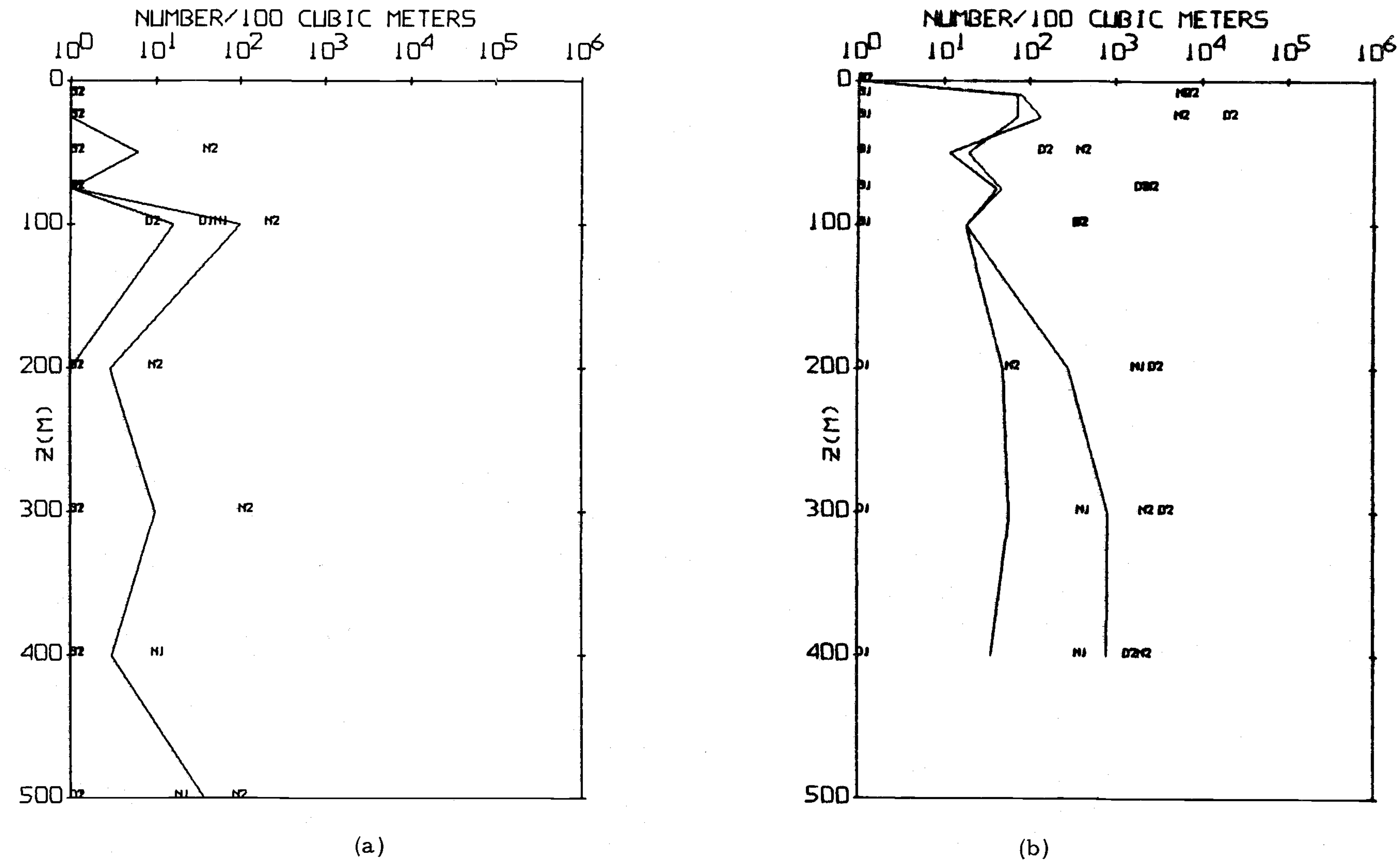


Appendix 10 Figure 2. Abundance vs. depth for (a) Euchaeta sp. adults and (b) Heterorhabdidae 5 x 3 copepodites.



(a) (b)

Appendix 10 Figure 3. Abundance vs. depth for (a) Candacia columbiae females and (b) Limacina - empty shell.



Appendix 10 Figure 4. Abundance vs. depth for (a) Isopods and (b) Globs.

Appendix 11

Complete Data Listing

OITHONA SIMILIS CLAUS F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	649382.7(263)	362473.3(357)	483333.3(522)	636815.9(160)
25 M	696296.3(329)	483660.1(185)	284172.7(237)	437735.8(232)
50 M	146000.0(73)	20558.7(46)	30333.3(91)	34666.7(52)
75 M	26333.3(79)	93000.0(93)	1625.0(33)	12200.4(56)
100 M	2000.0(24)	21600.0(54)	2944.0(92)	1515.2(20)
200 M	1666.7(10)	241.5(16)	752.0(47)	5066.7(19)
300 M	500.0(3)	1000.0(5)	300.0(2)	163.4(1)
400 M	0(0)	915.0(7)	125.0(1)	320.0(2)
500 M	0(0)	80.0(1)	55.6(1)	0(0)

CITHONA SIMILIS M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	111111.1(45)	67011.9(66)	65740.7(71)	163184.1(41)
25 M	129100.5(61)	33986.9(13)	75539.6(63)	36792.5(39)
50 M	11500.0(23)	1340.8(3)	666.7(4)	0(0)
75 M	500.0(3)	22000.0(22)	416.7(11)	251.0(6)
100 M	666.7(8)	3400.0(17)	640.0(21)	151.5(2)
200 M	833.3(5)	75.5(5)	576.0(35)	1333.3(5)
300 M	0(0)	400.0(2)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	480.0(3)
500 M	0(0)	0(0)	0(0)	0(0)

OITHONA SIMILIS COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	234567.9(95)	230480.3(227)	287037.0(311)	242786.1(61)
25 M	336507.9(159)	433986.9(166)	99520.4(83)	237735.8(126)
50 M	146000.0(73)	52737.4(118)	25000.0(75)	53333.3(80)
75 M	39000.0(117)	105000.0(105)	4666.7(112)	19172.1(88)
100 M	12583.3(151)	42800.0(107)	24544.0(767)	7803.0(103)
200 M	18000.0(108)	2113.2(140)	8480.0(531)	45600.0(171)
300 M	333.3(2)	27000.0(135)	300.0(2)	1797.4(11)
400 M	400.0(10)	7320.3(56)	7875.0(63)	7680.0(48)
500 M	64.0(4)	80.0(1)	277.8(5)	363.6(8)

CITHONA SPINIROSTRIS CLAUS F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	320.0(5)	2502.8(70)	512.0(3)	108.8(17)
75 M	768.0(48)	0(0)	64.0(4)	1380.4(33)
100 M	192.0(12)	2047.9(32)	64.0(2)	50.9(7)
200 M	16.0(1)	45.3(3)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	32.0(4)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

CITHONA SPINIROSTRIS COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	24691.4(15)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	384.0(6)	107.3(3)	895.9(14)	121.6(19)
75 M	304.0(19)	256.0(2)	64.0(4)	711.1(17)
100 M	48.0(3)	512.0(8)	64.0(2)	7.3(1)
200 M	166.7(1)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	80.0(10)	251.0(12)	500.0(4)	160.0(1)
500 M	0(0)	176.0(11)	55.6(1)	7.3(1)

ONCAEA BOREALIS G O SARS F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	2030.7(2)	0(0)	11940.3(9)
25 M	45149.9(64)	135947.7(52)	78000.0(73)	87735.8(93)
50 M	18500.0(37)	10279.3(23)	9166.7(55)	12000.0(18)
75 M	4166.7(25)	12000.0(24)	1166.7(28)	3921.6(18)
100 M	2583.3(31)	6800.0(34)	3424.0(107)	123.6(17)
200 M	2333.3(14)	377.4(25)	1200.0(75)	1600.0(6)
300 M	2000.0(12)	6200.0(31)	2401.0(9)	4085.0(25)
400 M	560.0(14)	2483.7(19)	1875.0(15)	2560.0(16)
500 M	32.0(2)	1360.0(17)	888.9(15)	0(0)

ONCAEA CONIFERA GIESBRECHT F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	1787.7(4)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	16.0(1)	96.0(3)	32.0(1)	0(0)
400 M	88.0(11)	146.4(7)	320.0(10)	384.0(12)
500 M	140.0(35)	224.0(14)	352.0(22)	218.2(30)

ONCAEA CONIFERA M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	160.0(10)	256.0(8)	192.0(6)	334.6(8)
400 M	32.0(4)	271.9(13)	224.0(7)	320.0(10)
500 M	76.0(19)	304.0(19)	320.0(21)	254.5(35)

ONCAEA CONIFERA COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	7.3(1)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	512.0(32)	512.0(16)	224.0(7)	460.1(11)
400 M	32.0(4)	125.5(6)	32.0(1)	128.0(4)
500 M	16.0(4)	48.0(3)	64.0(4)	0(0)

ONCAEA MEDIA VAR HYMENA OLSCN F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	231.5(1)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	208.3(5)	0(0)
100 M	0(0)	200.0(1)	32.0(1)	7.3(1)
200 M	0(0)	0(0)	16.0(1)	0(0)
300 M	9666.7(58)	9800.0(49)	11251.1(73)	6535.9(40)
400 M	2000.0(50)	3006.5(23)	8125.0(65)	3360.0(21)
500 M	736.0(46)	4640.0(58)	5666.7(102)	2681.8(59)

ONCAEA MEDIA VAR HYMENA M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	18000.0(108)	23400.0(117)	16501.7(111)	5392.2(33)
400 M	1640.0(41)	4444.4(34)	5750.0(45)	5280.0(33)
500 M	496.0(31)	5840.0(73)	5388.9(97)	2227.3(49)

ONCAEA SP A F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	500.0(3)	0(0)	0(0)	0(0)
400 M	460.0(12)	392.2(3)	375.0(3)	1280.0(8)
500 M	288.0(18)	2720.0(34)	2111.1(33)	863.6(19)

ONCAEA SP A M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	80.0(2)	0(0)	0(0)	320.0(2)
500 M	32.0(2)	80.0(1)	0(0)	90.9(2)

ONCAEA SPP COPEPODITES

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	1646.1(1)	0(0)	0(0)	6633.5(5)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	166.7(1)	0(0)
75 M	0(0)	500.0(1)	125.0(3)	0(0)
100 M	0(0)	0(0)	96.0(3)	14.5(2)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	9666.7(58)	11400.0(57)	10801.1(72)	26960.8(165)
400 M	440.0(11)	3921.6(30)	4875.0(33)	160.0(1)
500 M	304.0(19)	2000.0(25)	2166.7(33)	500.0(11)

MICROSETELLA ROSEA DANA

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	541.8(2)	0(0)	0(0)	483.0(4)
50 M	1023.9(16)	35.8(1)	64.0(1)	64.0(10)
75 M	64.0(4)	128.0(1)	32.0(2)	669.3(16)
100 M	0(0)	0(0)	64.0(2)	0(0)
200 M	80.0(5)	45.3(3)	272.0(17)	128.0(4)
300 M	166.7(1)	0(0)	0(0)	653.6(4)
400 M	0(0)	62.7(3)	125.0(1)	32.0(1)
500 M	4.0(1)	48.0(3)	55.6(1)	0(0)

LUBBOCKIA CF GLACIALIS G O SARS

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	32.0(2)	0(0)	32.0(1)	83.7(2)
400 M	0(0)	0(0)	96.0(3)	0(0)
500 M	0(0)	16.0(1)	0(0)	14.5(2)

LUBBOCKIA CF GLACIALIS COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	32.0(2)	160.0(5)	0(0)	0(0)
400 M	0(0)	0(0)	250.0(2)	0(0)
500 M	0(0)	0(0)	0(0)	14.5(2)

CALANUS CRISTATUS KROYER F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	20.9(1)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	7.3(1)

CALANUS CRISTATUS M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	8.0(1)	130.7(1)	0(0)	0(0)
500 M	0(0)	48.0(3)	64.0(4)	43.6(6)

CALANUS CRISTATUS V

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	167.3(2)	0(0)	0(0)
50 M	576.0(9)	286.0(8)	0(0)	0(0)
75 M	240.0(15)	2176.1(34)	0(0)	0(0)
100 M	48.0(3)	128.0(2)	0(0)	0(0)
200 M	32.0(2)	188.7(25)	432.0(27)	0(0)
300 M	32.0(2)	0(0)	96.0(6)	2175.2(52)
400 M	0(0)	130.7(1)	288.0(3)	640.0(20)
500 M	67.2(21)	208.0(13)	464.0(29)	87.3(12)

CALANUS CRISTATUS IV

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	500.6(14)	0(0)	6.4(1)
75 M	0(0)	768.0(12)	208.0(13)	289.2(5)
100 M	0(0)	1151.9(18)	416.0(13)	21.8(3)
200 M	0(0)	30.2(4)	0(0)	64.0(2)
300 M	0(0)	96.0(3)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	32.0(1)
500 M	0(0)	0(0)	0(0)	0(0)

CALANUS CRISTATUS III

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	6.4(1)
75 M	0(0)	256.0(4)	16.0(1)	334.6(8)
100 M	0(0)	64.0(1)	64.0(2)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

CALANUS CRISTATUS II

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	418.3(10)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

CALANUS CRISTATUS I

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	6.4(1)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

CALANUS PLUMCHRUS MARUKAWA F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	16.5(1)	0(0)	0(0)	0(0)
400 M	8.0(1)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	32.0(2)	0(0)

CALANUS PLUMCHRUS M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	64.0(1)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	448.0(14)
300 M	1264.0(79)	960.0(33)	0(0)	1254.9(30)
400 M	0(0)	1960.8(15)	0(0)	416.0(13)
500 M	0(0)	112.0(7)	0(0)	0(0)

CALANUS PLUMCHRUS V

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	6953.5(44)	23529.1(193)	19.8(2)	5222.2(41)
25 M	1896.4(7)	669.3(4)	4000.0(4)	603.8(5)
50 M	895.9(14)	572.1(16)	166.7(1)	12.8(2)
75 M	160.0(10)	2048.1(16)	80.0(5)	334.6(8)
100 M	0(0)	1023.9(16)	32.0(1)	109.1(15)
200 M	288.0(18)	7.5(1)	32.0(2)	352.0(11)
300 M	144.0(9)	320.0(10)	0(0)	83.7(2)
400 M	0(0)	1176.5(9)	0(0)	160.0(5)
500 M	0(0)	80.0(5)	0(0)	0(0)

CALANUS PLUMCHRUS IV

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	9956.2(63)	7680.5(63)	404.9(41)	29932.3(235)
25 M	15934.1(59)	10207.2(61)	38000.0(33)	37798.6(313)
50 M	1471.9(23)	1108.4(31)	64.0(1)	12.8(2)
75 M	736.0(46)	7424.5(58)	32.0(2)	125.5(3)
100 M	192.0(12)	1791.9(28)	64.0(2)	14.5(2)
200 M	0(0)	22.6(3)	16.0(1)	0(0)
300 M	0(0)	32.0(1)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	3.2(1)	0(0)	0(0)	0(0)

CALANUS PLUMCHRUS III

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	13114.2(64)	8655.8(71)	28703.7(62)	41905.2(329)
25 M	52828.6(195)	10876.5(65)	18000.0(18)	8694.9(72)
50 M	2175.9(34)	250.3(7)	128.0(2)	6.4(1)
75 M	304.0(19)	10880.7(85)	32.0(2)	0(0)
100 M	16.0(1)	1087.9(17)	32.0(1)	14.5(2)
200 M	0(0)	22.6(3)	0(0)	0(0)
300 M	0(0)	0(0)	300.1(1)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

CALANUS PLUMCHRUS II

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	5531.2(35)	6217.5(51)	41203.7(83)	8533.9(67)
25 M	18422.3(68)	167.3(1)	0(0)	0(0)
50 M	448.0(7)	71.5(2)	128.0(2)	0(0)
75 M	128.0(8)	3584.2(28)	0(0)	0(0)
100 M	0(0)	128.0(2)	32.0(1)	0(0)
200 M	0(0)	7.5(1)	0(0)	0(0)
300 M	0(0)	0(0)	300.1(1)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

CALANUS PLUMCHRUS I

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	4938.3(3)	4754.6(39)	11111.1(43)	3311.7(26)
25 M	7043.8(26)	0(0)	0(0)	943.4(1)
50 M	256.0(4)	71.5(2)	64.0(1)	0(0)
75 M	0(0)	128.0(1)	0(0)	334.6(8)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	30.2(4)	0(0)	0(0)
300 M	0(0)	0(0)	600.2(2)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

TYPE III CALANUS V

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	541.8(2)	0(0)	1000.0(1)	0(0)
50 M	0(0)	0(0)	64.0(1)	0(0)
75 M	0(0)	384.0(6)	0(0)	0(0)
100 M	83.3(1)	0(0)	0(0)	36.4(5)
200 M	528.0(33)	5.0(1)	560.0(35)	64.0(2)
300 M	496.0(31)	320.0(10)	768.0(24)	1422.2(34)
400 M	0(0)	1307.2(10)	288.0(3)	320.0(10)
500 M	0(0)	48.0(3)	160.0(10)	0(0)

CALANUS PACIFICUS BRODSKII F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	2686.6(17)	7192.8(59)	9.9(1)	1783.2(14)
25 M	541.8(2)	0(0)	1000.0(1)	120.8(1)
50 M	192.0(3)	0(0)	0(0)	0(0)
75 M	0(0)	320.0(5)	0(0)	0(0)
100 M	0(0)	192.0(3)	0(0)	0(0)
200 M	0(0)	5.0(1)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

CALANUS PACIFICUS M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	1106.2(7)	2804.0(23)	0(0)	1401.1(11)
25 M	812.8(3)	836.5(10)	2000.0(2)	362.3(3)
50 M	64.0(1)	0(0)	0(0)	0(0)
75 M	0(0)	192.0(3)	0(0)	0(0)
100 M	0(0)	64.0(1)	0(0)	0(0)
200 M	0(0)	10.1(2)	16.0(1)	0(0)
300 M	0(0)	0(0)	1056.0(33)	0(0)
400 M	0(0)	0(0)	125.0(1)	0(0)
500 M	0(0)	0(0)	192.0(12)	0(0)

CALANUS PACIFICUS V

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	1422.3(9)	1584.9(13)	9.9(1)	1019.0(8)
25 M	2709.2(10)	502.0(3)	1000.0(1)	120.8(1)
50 M	128.0(2)	0(0)	0(0)	0(0)
75 M	80.0(5)	576.0(9)	16.0(1)	41.8(1)
100 M	48.0(3)	0(0)	32.0(1)	21.8(3)
200 M	32.0(2)	20.1(4)	16.0(1)	64.0(2)
300 M	144.0(9)	192.0(6)	128.0(4)	251.0(6)
400 M	40.0(5)	1176.5(9)	125.0(1)	96.0(3)
500 M	57.6(18)	0(0)	64.0(4)	29.1(4)

CALANUS PACIFICUS YOUNG COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	231.5(1)	0(0)
25 M	0(0)	0(0)	1000.0(1)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	41.7(1)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

EUCALANUS BUNGII GIESBRECHT F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	948.2(6)	0(0)	0(0)	0(0)
25 M	0(0)	4517.9(27)	1000.0(1)	1086.9(9)
50 M	2431.8(38)	429.1(12)	256.0(4)	185.6(29)
75 M	1264.0(79)	1664.1(13)	288.0(18)	1213.1(29)
100 M	1488.0(93)	1791.9(28)	896.0(28)	290.9(40)
200 M	16.0(1)	37.7(5)	80.0(5)	192.0(6)
300 M	0(0)	96.0(3)	0(0)	0(0)
400 M	0(0)	261.4(2)	128.0(4)	64.0(2)
500 M	0(0)	0(0)	0(0)	0(0)

EUCALANUS BUNGII M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	1580.3(10)	609.6(5)	0(0)	127.4(1)
25 M	1354.6(5)	2677.3(16)	3000.0(3)	6279.6(52)
50 M	2687.8(42)	464.8(13)	320.0(5)	140.8(22)
75 M	512.0(32)	384.0(3)	48.0(3)	1715.0(41)
100 M	96.0(6)	192.0(3)	448.0(14)	36.4(54)
200 M	128.0(8)	83.0(11)	80.0(5)	160.0(5)
300 M	64.0(4)	288.0(9)	288.0(9)	460.1(11)
400 M	88.0(11)	653.6(5)	192.0(6)	160.0(5)
500 M	0(0)	32.0(2)	112.0(7)	0(0)

EUCALANUS BUNGII F V

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	474.1(3)	0(0)	0(0)	127.4(1)
25 M	270.9(1)	4015.9(24)	3000.0(3)	5192.8(43)
50 M	3647.8(57)	822.3(23)	1855.9(23)	224.0(35)
75 M	832.0(52)	1536.1(12)	448.0(23)	2258.8(54)
100 M	192.0(12)	768.0(12)	416.0(13)	145.5(20)
200 M	304.0(19)	45.3(6)	320.0(20)	192.0(6)
300 M	544.0(34)	96.0(3)	768.0(24)	376.5(9)
400 M	8.0(1)	261.4(2)	160.0(5)	128.0(4)
500 M	0(0)	32.0(2)	64.0(4)	0(0)

EUCALANUS BUNGII M V

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	790.2(5)	243.8(2)	0(0)	0(0)
25 M	0(0)	836.7(5)	2000.0(2)	6521.2(54)
50 M	256.0(4)	107.3(3)	1215.9(19)	128.0(20)
75 M	96.0(6)	640.0(5)	144.0(3)	669.3(16)
100 M	32.0(2)	128.0(2)	32.0(1)	21.8(3)
200 M	64.0(4)	22.6(3)	32.0(2)	0(0)
300 M	288.0(18)	0(0)	256.0(9)	0(0)
400 M	56.0(7)	392.2(3)	96.0(3)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

EUCALANUS BUNGII IV

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	1004.0(6)	0(0)	2898.3(24)
50 M	128.0(2)	35.8(1)	512.0(9)	12.8(2)
75 M	128.0(8)	256.0(2)	0(0)	251.0(6)
100 M	0(0)	64.0(1)	32.0(1)	7.3(1)
200 M	16.0(1)	0(0)	32.0(2)	0(0)
300 M	80.0(5)	0(0)	0(0)	41.8(1)
400 M	0(0)	0(0)	0(0)	64.0(2)
500 M	0(0)	0(0)	0(0)	0(0)

EUCALANUS BUNGII COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	158.0(1)	0(0)	0(0)	0(0)
25 M	0(0)	1673.3(10)	0(0)	3139.8(26)
50 M	512.0(8)	143.0(4)	640.0(10)	89.6(14)
75 M	272.0(17)	128.0(1)	144.0(9)	711.1(17)
100 M	112.0(7)	256.0(4)	64.0(2)	14.5(2)
200 M	32.0(2)	0(0)	16.0(1)	0(0)
300 M	272.0(17)	32.0(1)	96.0(3)	376.5(9)
400 M	8.0(1)	522.9(4)	96.0(3)	0(0)
500 M	0(0)	16.0(1)	48.0(3)	0(0)

PSEUDOCALANUS SP. F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	3634.5(23)	3047.8(25)	925.9(4)	636.9(5)
25 M	312.8(3)	1506.0(9)	1000.0(1)	845.3(7)
50 M	704.0(11)	71.5(2)	256.0(4)	19.2(3)
75 M	160.0(10)	384.0(3)	16.0(1)	209.2(5)
100 M	48.0(3)	192.0(3)	64.0(2)	7.3(1)
200 M	80.0(5)	30.2(4)	64.0(4)	0(0)
300 M	96.0(6)	288.0(9)	800.0(25)	251.0(6)
400 M	8.0(1)	62.7(3)	64.0(2)	64.0(2)
500 M	8.0(2)	32.0(2)	64.0(4)	0(0)

PSEUDOCALANUS SP M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	121.9(1)	0(0)	0(0)
25 M	0(0)	167.3(1)	0(0)	0(0)
50 M	0(0)	0(0)	64.0(1)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

PSEUDOCALANUS SP COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	5057.1(32)	11825.5(97)	463.0(2)	1910.6(15)
25 M	2167.3(8)	2175.3(13)	11000.0(11)	3502.1(29)
50 M	128.0(2)	0(0)	64.0(1)	0(0)
75 M	0(0)	256.0(2)	0(0)	0(0)
100 M	0(0)	64.0(1)	32.0(1)	7.3(1)
200 M	48.0(3)	52.8(7)	0(0)	0(0)
300 M	208.0(13)	0(0)	416.0(13)	83.7(2)
400 M	0(0)	167.3(8)	32.0(1)	96.0(3)
500 M	4.0(1)	80.0(5)	16.0(1)	0(0)

MICROCALANUS PUSILLUS SARS F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	158.0(1)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	96.0(3)	0(0)
200 M	3000.0(18)	528.3(35)	4400.0(275)	3466.7(13)
300 M	333.3(2)	800.0(4)	0(0)	1307.2(8)
400 M	760.0(19)	1960.8(15)	1750.0(14)	2720.0(17)
500 M	16.0(1)	1120.0(14)	500.0(3)	318.2(7)

MICROCALANUS PUSSILLUS M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	200.0(1)	0(0)	0(0)
200 M	166.7(1)	0(0)	0(0)	0(0)
300 M	1500.0(9)	4600.0(23)	1500.2(11)	3594.8(22)
400 M	440.0(11)	1699.3(13)	1500.0(12)	1600.0(10)
500 M	0(0)	400.0(5)	500.0(3)	0(0)

MICROCALANUS PUSILLUS COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	1015.3(1)	0(0)	0(0)
25 M	0(0)	5521.9(33)	0(0)	15094.3(16)
50 M	64000.0(64)	20111.7(45)	23333.3(140)	78000.0(117)
75 M	27000.0(81)	14000.0(28)	3583.3(86)	34771.2(133)
100 M	4333.3(52)	4000.0(40)	4000.0(125)	1515.2(20)
200 M	3333.3(20)	558.5(37)	3936.0(246)	1333.3(5)
300 M	10333.3(62)	11600.0(58)	10651.1(71)	8169.9(50)
400 M	1520.0(38)	8627.5(66)	5125.0(41)	6240.0(39)
500 M	0(0)	1600.0(20)	1944.4(35)	0(0)

SPINOCCALANUS LONGISPINUS BRODSKII F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	32.0(1)	0(0)	0(0)
400 M	40.0(5)	20.9(1)	96.0(3)	0(0)
500 M	0(0)	64.0(4)	32.0(2)	50.9(7)

SPINOCCALANUS LONGISPINUS M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	416.0(13)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

SPINOCCALANUS CF LONGICORNIS SARS F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	32.0(1)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

SPINOCCALANUS COF

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	320.0(10)	0(0)
400 M	80.0(10)	62.7(3)	32.0(1)	192.0(6)
500 M	0(0)	48.0(3)	0(0)	50.9(7)

AETIDIUS PACIFICUS F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	64.0(4)	64.0(1)	0(0)	0(0)
200 M	0(0)	30.2(6)	16.0(1)	32.0(1)
300 M	0(0)	64.0(2)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	32.0(1)
500 M	0(0)	0(0)	0(0)	0(0)

AETIDIUS SP COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	96.0(6)	256.0(4)	0(0)	7.3(1)
200 M	16.0(1)	0(0)	0(0)	32.0(1)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

AETIDEOPSIS SP F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	32.0(1)
500 M	0(0)	0(0)	0(0)	0(0)

UNKNOWN AETIDEIDAE

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	32.0(1)
500 M	0(0)	0(0)	0(0)	0(0)

GAIDIUS CF TENUISPINUS SARS IV+V

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	48.0(3)	0(0)	43.6(6)

GAIDIUS CF BREVISPINUS SARS COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	8.0(1)	20.9(1)	32.0(1)	0(0)
500 M	2.7(1)	0(0)	0(0)	0(0)

GAIDIUS SPP COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	16.0(1)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	21.3(8)	96.0(6)	64.0(4)	43.6(6)

GAIDIUS CF VARIABILIS BRODSKII F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	80.0(5)	64.0(2)	0(0)	0(0)
400 M	8.0(1)	0(0)	64.0(2)	96.0(3)
500 M	0(0)	16.0(1)	0(0)	0(0)

GAIDIUS CF VARIABILIS M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	32.0(1)
500 M	0(0)	0(0)	0(0)	0(0)

GAETANUS CF SIMPLEX BRODSKII F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	96.0(6)	704.0(11)	0(0)	0(0)
100 M	176.0(11)	128.0(2)	0(0)	0(0)
200 M	16.0(1)	45.3(9)	0(0)	0(0)
300 M	16.0(1)	32.0(1)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	224.0(7)
500 M	0(0)	0(0)	16.0(1)	0(0)

GAETANUS CF SIMPLEX M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	7.3(1)

GAETANUS CF SIMPLEX M V

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	8.0(1)	0(0)	0(0)	0(0)
500 M	0(0)	16.0(1)	0(0)	0(0)

GAETANUS SP 4X3

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	32.0(2)	32.0(1)	0(0)	41.8(1)
400 M	8.0(1)	62.7(3)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

GAETANUS SP 4X2

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	240.0(15)	52.8(7)	80.0(5)	0(0)
300 M	0(0)	160.0(5)	0(0)	502.0(12)
400 M	8.0(1)	20.9(1)	64.0(2)	32.0(1)
500 M	0(0)	0(0)	96.0(5)	0(0)

GAETANUS SP SMALL COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	224.0(14)	120.8(16)	0(0)	0(0)
300 M	112.0(7)	384.0(12)	1088.0(34)	0(0)
400 M	0(0)	62.7(3)	0(0)	32.0(1)
500 M	0(0)	0(0)	0(0)	0(0)

EUCHAETA JAPONICA MARUKAWA F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	13.4(3)	0(0)	0(0)
75 M	0(0)	192.0(3)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	32.0(1)
500 M	0(0)	0(0)	0(0)	0(0)

EUCHAETA SP A F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	64.0(2)
500 M	0(0)	0(0)	0(0)	0(0)

EUCHAETA SPP ADULTS

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	158.0(1)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	64.0(1)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	83.3(1)	0(0)	0(0)	0(0)
200 M	16.0(1)	0(0)	0(0)	0(0)
300 M	32.0(2)	0(0)	0(0)	0(0)
400 M	0(0)	20.9(1)	32.0(1)	0(0)
500 M	13.3(5)	0(0)	32.0(2)	7.3(1)

EUCHAETA SPP COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	192.0(3)	71.5(2)	0(0)	0(0)
75 M	144.0(9)	113.5(2)	16.0(1)	0(0)
100 M	320.0(20)	0(0)	0(0)	94.5(13)
200 M	96.0(6)	105.7(14)	112.0(7)	64.0(2)
300 M	176.0(11)	64.0(2)	384.0(12)	125.5(3)
400 M	104.0(13)	125.5(6)	352.0(11)	320.0(10)
500 M	40.0(15)	304.0(19)	96.0(5)	101.8(14)

LOPHOTHRIX FRONTALIS GIESBRECHT F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	5.0(1)	0(0)	0(0)
300 M	16.0(1)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	2.7(1)	0(0)	16.0(1)	0(0)

LOPHOTHRIX FRONTALIS COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	200.0(1)	0(0)	0(0)
400 M	8.0(1)	20.9(1)	0(0)	32.0(1)
500 M	0(0)	0(0)	0(0)	0(0)

AMALLOTHRIX INORNATA ESTERLY F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	8.0(1)	62.7(3)	125.0(1)	64.0(2)
500 M	0(0)	32.0(2)	0(0)	0(0)

AMALLOTHRIX INORNATA COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	24.0(3)	83.7(4)	0(0)	64.0(2)
500 M	0(0)	0(0)	0(0)	0(0)

RACOVITZANUS PACIFICUS ESTERLY F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	48.0(3)	768.0(12)	41.7(1)	0(0)
100 M	544.0(34)	1279.9(20)	224.0(7)	567.3(78)
200 M	0(0)	10.1(2)	16.0(1)	0(0)
300 M	16.0(1)	128.0(4)	0(0)	83.7(2)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

RACOVITZANUS PACIFICUS M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	288.0(18)	959.9(15)	64.0(2)	109.1(15)
200 M	16.0(1)	75.5(15)	0(0)	224.0(7)
300 M	0(0)	64.0(2)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

SCOLECITHRICELLA MINOR BRADY F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	158.0(1)	0(0)	0(0)	0(0)
25 M	0(0)	836.7(5)	0(0)	0(0)
50 M	895.9(14)	429.1(12)	320.0(5)	32.0(5)
75 M	480.0(30)	384.0(6)	96.0(6)	334.6(8)
100 M	96.0(6)	320.0(5)	256.0(8)	65.5(9)
200 M	112.0(7)	22.6(3)	0(0)	0(0)
300 M	32.0(2)	96.0(3)	0(0)	0(0)
400 M	0(0)	62.7(3)	32.0(1)	96.0(3)
500 M	0(0)	0(0)	16.0(1)	0(0)

SCOLECITHRICELLA MINOR M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	128.0(2)	286.0(8)	0(0)	12.8(2)
75 M	80.0(5)	0(0)	0(0)	167.3(4)
100 M	0(0)	64.0(1)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

SCOLECITHRICELLA OVATA FARRAN

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	16.0(1)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	32.0(1)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	16.0(1)	0(0)	7.3(1)

SCOLECITHRICELLIDAE COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	256.0(4)	1465.9(41)	64.0(1)	83.2(13)
75 M	1056.0(66)	384.0(3)	96.0(3)	585.6(14)
100 M	192.0(12)	831.9(13)	352.0(11)	109.1(15)
200 M	576.0(36)	60.4(8)	544.0(34)	192.0(6)
300 M	160.0(10)	896.0(28)	192.0(3)	0(0)
400 M	0(0)	313.7(15)	64.0(2)	0(0)
500 M	64.0(16)	128.0(8)	16.0(1)	0(0)

METRIDIA PACIFICA BRODSKII F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	316.1(2)	0(0)	0(0)	0(0)
25 M	0(0)	502.0(6)	0(0)	0(0)
50 M	959.9(15)	71.5(4)	64.0(1)	0(0)
75 M	288.0(18)	448.0(7)	0(0)	0(0)
100 M	32.0(2)	64.0(1)	0(0)	0(0)
200 M	0(0)	10.1(2)	80.0(5)	0(0)
300 M	16.0(1)	0(0)	0(0)	0(0)
400 M	0(0)	41.8(2)	160.0(5)	32.0(1)
500 M	28.0(7)	48.0(3)	32.0(2)	21.8(3)

METRIDIA PACIFICA M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	128.0(2)	0(0)
75 M	0(0)	0(0)	16.0(1)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	32.0(1)	0(0)
400 M	8.0(1)	188.2(9)	256.0(3)	256.0(8)
500 M	148.0(37)	304.0(19)	128.0(3)	174.5(24)

METRIDIA PACIFICA V

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	5689.3(36)	8168.1(67)	0(0)	127.4(1)
25 M	23027.9(85)	1338.6(8)	0(0)	19811.3(21)
50 M	1087.9(17)	643.6(18)	0(0)	6.4(1)
75 M	544.0(34)	1408.1(11)	0(0)	920.3(22)
100 M	48.0(3)	1343.9(21)	0(0)	87.3(12)
200 M	96.0(6)	7.5(1)	0(0)	128.0(4)
300 M	1920.0(120)	1344.0(42)	0(0)	502.0(12)
400 M	88.0(11)	376.5(13)	0(0)	384.0(12)
500 M	28.0(7)	464.0(29)	0(0)	50.9(7)

METRIDIA PACIFICA IV

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	9956.2(63)	7558.6(62)	9.9(1)	1146.3(9)
25 M	55267.0(204)	7529.9(45)	453237.4(370)	43396.2(23)
50 M	2175.9(34)	4862.6(136)	640.0(10)	179.2(28)
75 M	1632.0(102)	7680.5(60)	384.0(24)	543.8(13)
100 M	592.0(37)	3583.8(56)	896.0(28)	181.8(25)
200 M	160.0(10)	128.3(17)	224.0(14)	160.0(5)
300 M	2592.0(162)	2976.0(93)	3520.0(110)	1589.5(38)
400 M	0(0)	439.2(21)	160.0(5)	352.0(11)
500 M	0(0)	400.0(25)	0(0)	0(0)

METRIDIA PACIFICA III

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	6637.5(42)	4145.0(34)	0(0)	3311.7(26)
25 M	76940.4(284)	18406.4(110)	0(0)	81132.1(43)
50 M	3711.8(58)	7758.7(217)	0(0)	57.6(9)
75 M	2752.0(172)	9856.6(77)	0(0)	167.3(4)
100 M	544.0(34)	8767.4(137)	0(0)	87.3(12)
200 M	32.0(2)	67.9(9)	0(0)	96.0(3)
300 M	32.0(2)	160.0(5)	0(0)	0(0)
400 M	8.0(1)	167.3(8)	0(0)	32.0(1)
500 M	0(0)	0(0)	0(0)	0(0)

METRIDIA PACIFICA II

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	2212.5(14)	365.7(3)	0(0)	1528.5(12)
25 M	51203.3(189)	44444.4(17)	0(0)	94339.6(50)
50 M	2943.8(46)	1340.8(3)	0(0)	12.8(2)
75 M	1360.0(85)	1920.1(15)	0(0)	125.5(3)
100 M	320.0(20)	5000.0(25)	0(0)	36.4(5)
200 M	0(0)	30.2(4)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	20.9(1)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

METRIDIA PACIFICA I

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	121.9(1)	0(0)	764.2(6)
25 M	16255.0(60)	67973.9(26)	0(0)	19811.3(21)
50 M	2431.8(38)	0(0)	0(0)	0(0)
75 M	480.0(30)	2500.0(5)	0(0)	0(0)
100 M	32.0(2)	1400.0(7)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

METRIDIA CURTICAUDA GIESBRECHT F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	8.0(1)	20.9(1)	0(0)	0(0)
500 M	24.0(9)	48.0(3)	96.0(5)	50.9(7)

PLEUROMAMMA SCUTULATA BRODSKII F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	16.0(1)	0(0)	0(0)	0(0)
100 M	416.0(26)	704.0(11)	0(0)	0(0)
200 M	32.0(2)	90.6(18)	0(0)	0(0)
300 M	32.0(2)	96.0(3)	0(0)	0(0)
400 M	0(0)	0(0)	96.0(3)	32.0(1)
500 M	8.0(3)	48.0(3)	16.0(1)	0(0)

PLEUROMAMMA SCUTULATA M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	35.2(7)	0(0)	0(0)
300 M	0(0)	32.0(1)	0(0)	0(0)
400 M	96.0(12)	41.8(2)	0(0)	128.0(4)
500 M	0(0)	0(0)	32.0(2)	7.3(1)

PLEUROMAMMA SPP COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	112.0(7)	20.1(4)	0(0)	0(0)
300 M	64.0(4)	0(0)	0(0)	376.5(9)
400 M	0(0)	83.7(4)	0(0)	32.0(1)
500 M	2.7(1)	0(0)	0(0)	0(0)

ISOCHAETA OVALIS GIESBRECHT F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	8.0(1)	0(0)	0(0)	0(0)
500 M	56.0(14)	32.0(2)	96.0(5)	116.4(16)

ISOCHAETA OVALIS M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	64.0(8)	41.8(2)	0(0)	64.0(2)
500 M	36.0(9)	32.0(2)	16.0(1)	65.5(9)

ISOCHAETA OVALIS COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	16.0(2)	0(0)	0(0)	0(0)
500 M	104.0(26)	176.0(11)	224.0(14)	174.5(24)

HETERORHABDUS TANNERI GIESBRECHT F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	167.3(2)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	48.0(3)	0(0)	16.0(1)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	20.9(1)	0(0)	0(0)
500 M	2.7(1)	0(0)	0(0)	0(0)

HETERORHABDUS TANNERI M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	33.1(1)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	48.0(3)	0(0)	80.0(5)	0(0)
300 M	0(0)	64.0(2)	32.0(1)	41.8(1)
400 M	8.0(1)	0(0)	0(0)	0(0)
500 M	2.7(1)	32.0(2)	16.0(1)	7.3(1)

HETERORHABDUS ROBUSTOIDES BRODSKII

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	8.0(1)	0(0)	0(0)	0(0)
500 M	2.7(1)	0(0)	0(0)	0(0)

HETERORHABDUS SPINIFRONS CLAUS

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	41.8(1)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

HETERORHABDUS SP F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	32.0(1)
500 M	0(0)	0(0)	0(0)	0(0)

HETERORHABDUS SP M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	64.0(2)
500 M	0(0)	0(0)	0(0)	0(0)

HETERORHABDIDAE 5X4 COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	7.5(1)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	83.7(2)
400 M	24.0(3)	0(0)	0(0)	32.0(1)
500 M	0(0)	0(0)	0(0)	0(0)

HETERORHABDIDAE 5X3 COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	128.0(1)	0(0)	0(0)
100 M	0(0)	256.0(4)	64.0(2)	43.6(6)
200 M	0(0)	173.6(23)	0(0)	0(0)
300 M	256.0(16)	608.0(19)	0(0)	167.3(4)
400 M	8.0(1)	83.7(4)	224.0(7)	96.0(3)
500 M	40.0(10)	160.0(10)	128.0(8)	50.9(7)

HETERORHABDIDAE SMALL COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	16.0(1)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	336.0(21)	52.8(7)	96.0(3)	0(0)
300 M	1136.0(71)	1184.0(37)	4192.0(131)	794.8(19)
400 M	24.0(3)	62.7(3)	0(0)	224.0(7)
500 M	0(0)	64.0(4)	0(0)	0(0)

HALOFTILUS PSEUDOXYCEPHALUS CLAUS F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(1)	0(0)
50 M	0(0)	0(0)	0(1)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	32.0(2)	0(0)	32.0(1)	41.8(1)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

HALOFTILUS PSEUDOXYCEPHALUS COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	48.0(3)	32.0(1)	32.0(1)	0(0)
400 M	40.0(1)	0(0)	0(0)	64.0(2)
500 M	2.7(1)	64.0(4)	0(0)	7.3(1)

HETEROSTYLITES MAJOR DAHL M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	16.0(1)	0(0)	0(0)

HETEROSTYLITES MAJOR V

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	16.0(1)	0(0)	0(0)

CANDACIA COLUMBIAE CAMPBELL F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	48.0(3)	0(0)	0(0)	0(0)
100 M	0(0)	128.0(2)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	41.8(1)
400 M	0(0)	0(0)	0(0)	32.0(1)
500 M	0(0)	16.0(1)	0(0)	0(0)

CANDACIA COLUMBIAE COP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	64.0(1)	0(0)	0(0)	0(0)
75 M	48.0(3)	0(0)	0(0)	0(0)
100 M	16.0(1)	0(0)	0(0)	0(0)
200 M	16.0(1)	45.3(3)	0(0)	0(0)
300 M	0(0)	0(0)	64.0(2)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	16.0(1)	0(0)	50.9(7)

ACARTIA LONGIREMIS LILLJEBORG M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	316.1(2)	0(0)	0(0)	127.4(1)
25 M	270.9(1)	0(0)	0(1)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

UNKNOWN COPEPODITE

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	1738.4(11)	487.7(4)	2777.8(12)	0(0)
25 M	270.9(1)	2614.4(1)	1000.0(1)	0(0)
50 M	640.0(10)	2681.6(6)	192.0(3)	666.7(1)
75 M	560.0(35)	128.0(1)	16.0(1)	0(0)
100 M	224.0(14)	192.0(3)	64.0(2)	43.6(6)
200 M	2096.0(131)	143.4(19)	1568.0(93)	288.0(9)
300 M	1728.0(108)	2368.0(74)	4480.0(141)	1254.9(30)
400 M	360.0(45)	794.8(38)	928.0(23)	672.0(21)
500 M	152.0(38)	688.0(43)	0(0)	203.6(28)

AMPHIPOD SP A

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	1106.2(7)	1950.6(16)	0(0)	0(0)
25 M	0(0)	418.3(5)	3000.0(0)	2536.0(21)
50 M	448.0(7)	286.0(16)	64.0(1)	0(0)
75 M	528.0(33)	704.0(11)	32.0(2)	0(0)
100 M	96.0(6)	192.0(3)	0(0)	29.1(4)
200 M	0(0)	5.0(1)	128.0(3)	384.0(12)
300 M	0(0)	64.0(2)	0(0)	418.3(10)
400 M	0(0)	0(0)	288.0(9)	160.0(5)
500 M	16.0(4)	0(0)	0(0)	0(0)

AMPHIPOD SP B

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	11.9(2)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	16.0(1)	30.2(4)	0(0)	0(0)
300 M	0(0)	32.0(1)	1120.0(35)	83.7(2)
400 M	0(0)	0(0)	32.0(1)	32.0(1)
500 M	0(0)	0(0)	64.0(4)	80.0(11)

AMPHIPOD SP C

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	316.1(2)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	128.0(4)	0(0)
400 M	0(0)	0(0)	0(0)	96.0(3)
500 M	0(0)	0(0)	0(0)	0(0)

AMPHIPOD SP D

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	5.0(1)	0(0)	0(0)
300 M	64.0(4)	64.0(2)	0(0)	41.8(1)
400 M	0(0)	104.6(5)	96.0(3)	128.0(4)
500 M	0(0)	48.0(3)	0(0)	0(0)

AMPHIPOD SP E

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	8.0(1)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	32.0(2)	0(0)

AMPHIPOD SP F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	158.0(1)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	7.3(1)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

PHRONEMA SP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	6.0(1)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

AMPHIPOD SP G

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	320.0(5)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	42.7(2)	0(0)	0(0)
200 M	0(0)	5.0(1)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

AMPHIPOD SP H

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	32.0(2)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	32.0(1)	0(0)	0(0)
400 M	0(0)	20.9(1)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

AMPHIPOD EGG

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	16.0(1)	0(0)	0(0)	0(0)
300 M	0(0)	64.0(2)	32.0(1)	0(0)
400 M	8.0(1)	0(0)	0(0)	32.0(1)
500 M	10.7(4)	32.0(2)	0(0)	0(0)

CONCHO. PSEUDODISCOPHORA RUDJAKOV F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	83.7(1)	0(0)	0(0)
50 M	192.0(3)	71.5(2)	0(0)	0(0)
75 M	224.0(14)	192.0(3)	0(0)	0(0)
100 M	288.0(18)	128.0(2)	0(0)	0(0)
200 M	144.0(9)	75.5(10)	0(0)	0(0)
300 M	176.0(11)	256.0(8)	0(0)	962.1(23)
400 M	32.0(4)	83.7(4)	192.0(6)	224.0(7)
500 M	44.0(11)	144.0(9)	176.0(11)	80.0(11)

CONCHOECIA PSEUDODISCOPHORA M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	83.7(1)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	96.0(6)	0(0)
100 M	0(0)	0(0)	128.0(4)	0(0)
200 M	0(0)	0(0)	368.0(23)	0(0)
300 M	0(0)	0(0)	3072.0(96)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	104.0(26)	0(0)	0(0)	0(0)

CONCHOECIA PSEUDODISCOPHORA IMMATURES

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	357.5(10)	0(0)	0(0)
75 M	224.0(14)	0(0)	0(0)	0(0)
100 M	208.0(13)	384.0(6)	0(0)	0(0)
200 M	528.0(33)	156.5(21)	0(0)	0(0)
300 M	880.0(55)	1472.0(46)	0(0)	1422.2(34)
400 M	32.0(4)	209.2(10)	704.0(22)	288.0(9)
500 M	0(0)	272.0(17)	320.0(20)	123.6(17)

CONCHOECIA SKOGSBERGII F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	64.0(4)	0(0)	0(0)	0(0)
300 M	64.0(4)	224.0(7)	0(0)	209.2(5)
400 M	0(0)	20.9(1)	128.0(4)	0(0)
500 M	18.7(7)	48.0(3)	16.0(1)	0(0)

CONCHOECIA SKOGSBERGII IMMATURES

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	96.0(3)	0(0)	0(0)
400 M	0(0)	41.8(2)	0(0)	32.0(1)
500 M	32.0(12)	112.0(7)	32.0(2)	0(0)

CONCHOECIA ALATA MINOR MCHARDY F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	80.0(5)	0(0)	0(0)	0(0)
400 M	0(0)	41.8(2)	0(0)	96.0(3)
500 M	0(0)	16.0(1)	0(0)	0(0)

CONCHOECIA ALATA MINOR M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	20.9(1)	0(0)	32.0(1)
500 M	0(0)	0(0)	0(0)	0(0)

CONCHOECIA ALATA MINOR IMMATURES

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	32.0(1)	0(0)	0(0)
400 M	0(0)	62.7(3)	128.0(4)	96.0(3)
500 M	0(0)	32.0(2)	64.0(4)	14.5(2)

CONCHOECIA MAGNA F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	107.3(18)	0(0)	12.8(2)
75 M	32.0(2)	64.0(1)	0(0)	125.5(3)
100 M	32.0(2)	0(0)	0(0)	7.3(1)
200 M	0(0)	5.0(1)	0(0)	0(0)
300 M	0(0)	32.0(1)	0(0)	0(0)
400 M	0(0)	0(0)	288.0(3)	0(0)
500 M	2.7(1)	0(0)	80.0(3)	0(0)

CONCHOECIA MAGNA M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	83.7(1)	0(0)	0(0)
50 M	128.0(2)	101.3(17)	0(0)	0(0)
75 M	80.0(5)	384.0(6)	0(0)	0(0)
100 M	32.0(2)	106.7(5)	0(0)	14.5(2)
200 M	0(0)	15.1(3)	0(0)	64.0(2)
300 M	166.7(1)	32.0(1)	352.0(11)	0(0)
400 M	0(0)	0(0)	32.0(1)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

CONCHOECIA MAGNA IMMATURES

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	83.7(1)	0(0)	0(0)
50 M	0(0)	23.8(4)	0(0)	0(0)
75 M	0(0)	192.0(3)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

CONCHOECIA NEW SPECIES F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	32.0(2)	0(0)	0(0)

CONCHOECIA NEW SPECIES M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	7.3(1)

CONCHOECIA NEW SPECIES IMMATURES

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	96.0(3)	0(0)
500 M	0(0)	0(0)	0(0)	29.1(4)

CONCHOECIA F

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	86.0(5)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

CONCHOECIA ELEGANS

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	32.0(2)	0(0)	0(0)

CONCHOECIA CURTA GROUP IMMATURES

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	24.0(9)	32.0(2)	0(0)	0(0)

VERY SMALL OSTRACODS

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	107.3(3)	0(0)	6.4(1)
75 M	144.0(9)	256.0(2)	0(0)	0(0)
100 M	0(0)	2943.8(46)	0(0)	14.5(2)
200 M	16.0(1)	7.5(1)	0(0)	266.7(1)
300 M	1744.0(109)	1312.0(41)	1440.0(45)	502.0(12)
400 M	264.0(33)	564.7(27)	384.0(12)	0(0)
500 M	84.0(21)	576.0(36)	208.0(13)	123.6(17)

UNKNOWN OSTRACOD

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	41.8(1)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	64.0(2)	0(0)	251.0(6)
400 M	0(0)	62.7(3)	0(0)	0(0)
500 M	4.0(1)	0(0)	0(0)	21.8(3)

EUPHAUSIA PACIFICA HANSEN

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	1422.3(9)	61.0(2)	0(0)	0(0)
25 M	270.9(1)	669.3(8)	0(0)	0(0)
50 M	640.0(10)	0(0)	0(0)	0(0)
75 M	48.0(3)	256.0(4)	0(0)	0(0)
100 M	0(0)	64.0(3)	32.0(1)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	41.8(1)
400 M	0(0)	0(0)	32.0(1)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

TESSARABRACHION OCULATUS HANSEN ADULT

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	83.7(1)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	16.0(1)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	32.0(1)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

THYSANOESSA LONGIPES BRANDT

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	274.3(9)	0(0)	0(0)
25 M	0(0)	83.7(1)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	32.0(2)	0(0)	0(0)	0(0)
100 M	16.0(1)	0(0)	0(0)	58.2(8)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

TESSARABRACHION OCULATUS IMMATURE

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	71.5(4)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

UNKNOWN EUPHAUSID

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	241.5(2)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	41.8(1)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

EUPHAUSID FURCILLIA

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	83.7(1)	0(0)	2415.2(20)
50 M	1727.9(27)	196.6(11)	0(0)	6.4(1)
75 M	752.0(47)	1024.1(8)	0(0)	0(0)
100 M	48.0(3)	64.0(1)	0(0)	0(0)
200 M	166.7(1)	7.5(1)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

EUPHAUSID CALYPTOPIS

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	8230.5(5)	609.6(5)	1157.4(5)	0(0)
25 M	529.1(1)	418.3(5)	7000.0(7)	2294.5(19)
50 M	2000.0(4)	286.0(8)	384.0(5)	44.8(7)
75 M	592.0(37)	1536.1(12)	32.0(2)	334.6(8)
100 M	16.0(1)	256.0(4)	32.0(1)	0(0)
200 M	0(0)	15.1(2)	16.0(1)	0(0)
300 M	0(0)	0(0)	64.0(2)	0(0)
400 M	0(0)	20.9(1)	64.0(2)	0(0)
500 M	0(0)	0(0)	55.6(1)	0(0)

SERGESTES SIMILIS HANSEN

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	5.1(2)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	32.0(1)
500 M	0(0)	0(0)	0(0)	0(0)

MYSID SP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	20.9(1)	0(0)	0(0)
500 M	10.7(4)	32.0(2)	0(0)	14.5(2)

BARNACLE CYPRIS

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	83.7(1)	0(0)	0(0)
50 M	704.0(11)	607.8(17)	0(0)	19.2(3)
75 M	608.0(38)	2048.1(16)	0(0)	376.5(9)
100 M	448.0(28)	1215.9(19)	1536.0(48)	894.5(123)
200 M	80.0(5)	37.7(5)	48.0(3)	96.0(3)
300 M	32.0(2)	96.0(3)	0(0)	163.4(1)
400 M	0(0)	62.7(3)	0(0)	96.0(3)
500 M	4.0(1)	0(0)	16.0(1)	14.5(2)

ISOPOD

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	35.8(1)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	48.0(3)	192.0(3)	32.0(1)	6.6(1)
200 M	0(0)	7.5(1)	0(0)	0(0)
300 M	0(0)	96.0(3)	0(0)	0(0)
400 M	8.0(1)	0(0)	0(0)	0(0)
500 M	16.0(1)	80.0(1)	0(0)	0(0)

NAUPLII

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	13168.7(8)	10153.3(10)	14583.3(63)	20379.4(160)
25 M	8465.6(16)	15686.3(6)	24000.0(24)	23584.9(25)
50 M	10500.0(21)	3575.4(8)	3333.3(20)	9333.3(14)
75 M	4166.7(25)	0(0)	2200.0(44)	5664.5(26)
100 M	166.7(2)	1471.9(23)	1536.0(48)	0(0)
200 M	64.0(4)	15.1(1)	544.0(34)	128.0(4)
300 M	336.0(21)	1216.0(38)	0(0)	1960.8(12)
400 M	32.0(4)	915.0(7)	1125.0(9)	64.0(2)
500 M	16.0(1)	816.0(51)	333.3(6)	72.7(10)

DEAD LIMACINA HELICINA

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	200.2(28)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	181.8(25)
200 M	0(0)	30.2(4)	0(0)	32.0(1)
300 M	0(0)	110.3(4)	0(0)	0(0)
400 M	0(0)	83.7(4)	0(0)	32.0(1)
500 M	8.0(2)	560.0(7)	0(0)	72.7(10)

LIMACINA HELICINA PHIPPS

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	1896.4(12)	16823.9(138)	7175.9(31)	15539.3(122)
25 M	8940.3(33)	3597.6(43)	15000.0(15)	11834.7(98)
50 M	13951.1(218)	1387.3(194)	384.0(6)	19333.3(29)
75 M	3232.0(202)	4864.3(38)	80.0(5)	794.8(19)
100 M	480.0(30)	1365.3(64)	448.0(14)	94.5(13)
200 M	0(0)	22.6(3)	32.0(2)	0(0)
300 M	32.0(2)	193.1(7)	96.0(3)	125.5(3)
400 M	0(0)	20.9(1)	0(0)	32.0(1)
500 M	0(0)	80.0(1)	55.6(1)	0(0)

GASTROPOD LARVAE

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	1910.6(15)
25 M	0(0)	167.3(2)	0(0)	603.8(5)
50 M	1791.9(28)	35.8(6)	320.0(5)	12.8(2)
75 M	512.0(32)	128.0(1)	83.3(2)	209.2(5)
100 M	16.0(1)	448.0(7)	64.0(2)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	16.0(1)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

CLIONIDAE

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

TROCHOPHORE LARVAE

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	158.0(1)	487.7(4)	2083.3(3)	0(0)
25 M	4334.7(16)	3179.3(19)	0(0)	6641.9(55)
50 M	2943.8(46)	0(0)	0(0)	12.8(2)
75 M	288.0(18)	512.0(4)	0(0)	125.5(3)
100 M	48.0(3)	192.0(3)	0(0)	7.3(1)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	41.8(2)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

EUKROHNIA HAMATA MOBIUS STAGE I

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	1896.4(12)	1950.5(64)	3935.2(17)	1401.1(11)
25 M	2167.3(8)	2928.3(35)	4000.0(4)	2294.5(19)
50 M	2431.8(38)	2181.0(61)	64.0(1)	211.2(33)
75 M	1904.0(119)	5248.3(41)	672.0(42)	1756.9(42)
100 M	1152.0(72)	2431.8(38)	1568.0(49)	698.2(96)
200 M	1440.0(90)	686.8(91)	2224.0(139)	2656.0(83)
300 M	480.0(30)	704.0(22)	800.0(25)	1547.7(37)
400 M	32.0(4)	334.6(16)	928.0(29)	1088.0(34)
500 M	0(0)	320.0(4)	144.0(9)	7.3(1)

EUKROHNIA HAMATA STAGE II

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	176.0(11)	160.0(5)	0(0)	0(0)
400 M	0(0)	104.6(5)	0(0)	0(0)
500 M	0(0)	160.0(2)	0(0)	0(0)

EUKROHNIA BATHYFELAGICA ALVARINC

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	216.0(27)	439.2(21)	608.0(13)	352.0(11)
500 M	74.7(28)	1760.0(22)	304.0(13)	116.4(16)

SAGITTA ELEGANS VERILL

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	91.4(3)	0(0)	0(0)
25 M	0(0)	251.0(3)	0(0)	0(0)
50 M	192.0(3)	8.9(4)	0(0)	0(0)
75 M	166.7(1)	128.0(2)	0(0)	0(0)
100 M	16.0(1)	21.3(1)	0(0)	0(0)
200 M	0(0)	30.2(6)	352.0(22)	448.0(14)
300 M	0(0)	0(0)	0(0)	4810.5(115)
400 M	0(0)	0(0)	32.0(1)	160.0(5)
500 M	0(0)	0(0)	0(0)	0(0)

SAGITTA MAXIMA

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	167.3(2)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	166.7(1)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	125.0(1)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

IMMATURE CHAETOGNATH

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	1422.3(9)	1219.1(13)	0(0)	254.7(2)
25 M	1354.6(5)	0(0)	0(0)	120.8(1)
50 M	895.9(14)	1465.9(41)	831.9(13)	38.4(6)
75 M	1680.0(105)	768.0(6)	304.0(19)	752.9(18)
100 M	1472.0(92)	0(0)	1600.0(51)	778.2(107)
200 M	1584.0(99)	249.1(33)	48.0(3)	1856.0(58)
300 M	736.0(46)	1600.0(50)	896.0(23)	794.8(19)
400 M	280.0(35)	1087.6(52)	576.0(19)	1120.0(35)
500 M	4.0(1)	1040.0(13)	96.0(5)	43.6(6)

TOMOPTERIS SP

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	316.1(2)	243.8(2)	0(0)	0(0)
25 M	0(0)	5689.3(34)	0(0)	966.1(8)
50 M	831.9(13)	375.4(21)	64.0(1)	89.6(14)
75 M	864.0(54)	192.0(3)	128.0(9)	1840.5(44)
100 M	160.0(10)	256.0(4)	32.0(1)	36.4(5)
200 M	32.0(2)	20.1(4)	128.0(9)	96.0(3)
300 M	64.0(4)	64.0(2)	192.0(6)	251.0(6)
400 M	24.0(3)	62.7(3)	0(0)	384.0(12)
500 M	56.0(14)	240.0(3)	80.0(5)	80.0(11)

FEOBIUS MESERES

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	80.0(5)	96.0(3)	0(0)	0(0)
400 M	8.0(1)	41.8(2)	32.0(1)	0(0)
500 M	0(0)	160.0(2)	55.6(1)	0(0)

MEDUSAE

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	731.5(6)	0(0)	0(0)
25 M	2438.3(9)	1004.0(12)	0(0)	0(0)
50 M	192.0(3)	0(0)	0(0)	19.2(3)
75 M	48.0(3)	512.0(4)	32.0(2)	83.7(2)
100 M	83.3(1)	192.0(3)	64.0(2)	29.1(4)
200 M	32.0(2)	22.6(3)	0(0)	128.0(4)
300 M	0(0)	64.0(2)	192.0(5)	167.3(4)
400 M	48.0(6)	20.9(1)	0(0)	96.0(3)
500 M	8.0(2)	160.0(2)	16.0(1)	7.3(1)

SIPHONOPHORE NECTOPHCRE

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	1840.6(11)	0(0)	0(0)
50 M	959.9(15)	1251.4(35)	384.0(5)	57.6(9)
75 M	1056.0(66)	1406.1(11)	208.0(13)	836.6(20)
100 M	432.0(27)	895.9(14)	736.0(23)	218.2(30)
200 M	272.0(17)	113.2(15)	0(0)	704.0(22)
300 M	1136.0(71)	1856.0(58)	2048.0(64)	920.3(22)
400 M	88.0(11)	397.4(19)	224.0(7)	640.0(20)
500 M	12.0(3)	1360.0(17)	112.0(7)	80.0(11)

ROUND EGG

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	8230.5(5)	0(0)	0(0)	891.6(7)
25 M	2645.5(5)	10457.5(4)	2000.0(2)	3773.6(4)
50 M	8000.0(16)	12514.0(28)	3166.7(19)	16000.0(24)
75 M	5792.0(362)	9500.0(19)	3875.0(62)	12854.0(59)
100 M	3416.7(41)	4607.7(72)	6848.0(214)	2651.5(35)
200 M	13500.0(81)	1101.9(73)	5456.0(341)	5333.3(20)
300 M	4166.7(25)	6000.0(30)	6000.0(40)	13235.3(81)
400 M	1240.0(31)	3268.0(25)	0(0)	0(0)
500 M	544.0(34)	3200.0(40)	2555.6(45)	1136.4(25)

GLOBS

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	5120.3(42)	0(0)	6241.2(49)
25 M	0(0)	4852.6(29)	0(0)	17924.5(19)
50 M	0(0)	357.5(10)	0(0)	128.0(20)
75 M	0(0)	2176.1(17)	0(0)	1673.2(40)
100 M	0(0)	320.0(5)	0(0)	327.3(45)
200 M	1616.0(101)	52.8(7)	0(0)	2560.0(80)
300 M	368.0(23)	1952.0(61)	0(0)	3346.4(80)
400 M	336.0(42)	1861.4(69)	0(0)	1280.0(40)
500 M	192.0(48)	1886.0(118)	0(0)	392.7(54)

DOLIOLID

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	128.0(1)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

SALPS TYPE A

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	83.7(1)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	16.0(1)	0(0)	0(0)	21.8(3)
200 M	3504.0(219)	422.6(56)	0(0)	3328.0(104)
300 M	1040.0(65)	1408.0(44)	1184.0(37)	2007.8(48)
400 M	336.0(42)	1066.7(51)	1184.0(37)	832.0(26)
500 M	16.0(4)	256.0(16)	336.0(21)	116.4(16)

OIKOPLEURA

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	2054.5(13)	2194.4(18)	925.9(4)	7387.5(58)
25 M	2709.2(10)	2175.3(13)	0(0)	2053.0(17)
50 M	0(0)	357.5(10)	333.3(2)	19.2(3)
75 M	288.0(18)	1024.1(8)	0(0)	0(0)
100 M	0(0)	512.0(8)	0(0)	152.7(21)
200 M	144.0(9)	52.8(7)	448.0(28)	160.0(5)
300 M	240.0(15)	64.0(2)	128.0(4)	585.6(14)
400 M	224.0(28)	481.0(23)	256.0(8)	256.0(8)
500 M	32.0(10)	128.0(8)	16.0(1)	65.5(9)

TRIPYLEA

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	32.0(1)
300 M	0(0)	0(0)	0(0)	125.5(3)
400 M	0(0)	83.7(4)	0(0)	32.0(1)
500 M	0(0)	0(0)	0(0)	0(0)

RADIOLARIA

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	83.3(1)	64.0(1)	32.0(1)	7.3(1)
200 M	1232.0(77)	437.7(58)	96.0(6)	1248.0(39)
300 M	464.0(29)	64.0(2)	0(0)	836.6(20)
400 M	168.0(21)	167.3(8)	0(0)	448.0(14)
500 M	336.0(21)	448.0(28)	1055.6(19)	210.9(29)

FORAMINIFERA

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	70781.9(43)	18276.0(18)	25000.0(108)	10613.6(8)
25 M	16931.2(32)	104575.2(40)	38000.0(33)	32075.5(34)
50 M	99000.0(99)	35307.3(79)	16500.0(93)	56000.0(84)
75 M	19200.0(96)	18500.0(37)	12187.5(195)	57254.9(219)
100 M	18875.0(151)	14911.0(233)	20192.0(631)	11931.8(105)
200 M	3333.3(20)	528.3(35)	1216.0(76)	3200.0(12)
300 M	6000.0(36)	12800.0(64)	2550.3(17)	13562.1(83)
400 M	1560.0(39)	15163.4(116)	0(0)	5600.0(35)
500 M	528.0(33)	800.0(10)	2888.9(52)	1681.8(37)

FISH LARVAE

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	483.0(4)
50 M	128.0(2)	0(0)	0(0)	0(0)
75 M	16.0(1)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

CTENOPHORE

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	41.8(1)
400 M	0(0)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

METRIDIA CURTICAUDA M

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	0(0)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	0(0)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	0(0)	0(0)	0(0)	0(0)
400 M	200.0(25)	0(0)	0(0)	0(0)
500 M	0(0)	0(0)	0(0)	0(0)

METRIDIA PROBLEM SP COPEPODITE

	NIGHT-1	NIGHT-2	DAY-1	DAY-2
10-0 M	0(0)	0(0)	0(0)	0(0)
25 M	0(0)	0(0)	0(0)	0(0)
50 M	895.9(14)	0(0)	0(0)	0(0)
75 M	0(0)	0(0)	144.0(9)	0(0)
100 M	0(0)	0(0)	0(0)	0(0)
200 M	0(0)	0(0)	0(0)	0(0)
300 M	4544.0(284)	0(0)	160.0(5)	0(0)
400 M	0(0)	0(0)	160.0(5)	0(0)
500 M	0(0)	0(0)	208.0(13)	0(0)