

Preliminary Paleontologic Report on Core T-24, Little Madeira Bay, Florida.

by

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Introduction

The ecosystems in the Everglades and adjacent regions (Florida and Biscayne Bays) are showing increasing signs of stress; natural vegetation patterns are changing, fisheries are declining and pollution is increasing. In response to this, the Everglades Forever Act was passed in 1994, and Federal, State and local jurisdictions are faced with water and land use management decisions related to the restoration, mediation and monitoring of the South Florida ecosystem. To help make these decisions, the [U.S. Geological Survey \(USGS\)](#), National Oceanic and Atmospheric Administration (NOAA), National Park Service (NPS), and Army Corps of Engineers (ACOE) among others have initiated research programs focused on the restoration of a significant portion of the Everglades ecosystem. An integral part of the restoration effort is a comprehensive understanding of the ecosystem dynamics of South Florida, including evaluation of modern biotic distributions within the South Florida ecosystems and determination of natural versus human induced variability in the South Florida ecosystem.

In May 1994 sediment cores were collected from Florida Bay. Taylor Core #24 (T-24) was collected at the mouth of Taylor Creek in Little Madeira Bay (25° 11.4' N, 80° 38.355' W) in the northeast sector of Florida Bay ([Figure 1](#)) by researchers from the U.S. Geological Survey (St. Petersburg, FL and Denver, CO) in cooperation with South Florida Water Management District (SFWMD), the Everglades National Park (ENP) and the National Oceanic and Atmospheric Administration (NOAA). T-24 penetrated 86 cm of Holocene sediments and was sampled for ²¹⁰Pb and faunal and floral analyses. The results presented herein represent the initial report on the paleontologic investigation of core T-24. This report is produced by the [Ecosystem History of South Florida](#) component of the [U.S. Geological Survey's Ecosystem Program](#), and is one of a series of [U.S. Geological Survey Open-File Reports](#) on the distribution of biogenic components in sediments sampled from the South Florida region.

Acknowledgments

We would like to thank our colleagues at [South Florida Water Management District](#), [National Oceanic and Atmospheric Administration](#), [Everglades National Park](#) and [Florida Geological Survey \(FGS\)](#) for their cooperation and assistance in this investigation. Thanks to H. Dowsett and T. Edgar for their reviews and helpful comments on this manuscript. The following people assisted in the sample preparation; J. Self-Trail, I. Graham, L. Hewitt, M. Marot and N. Durika.

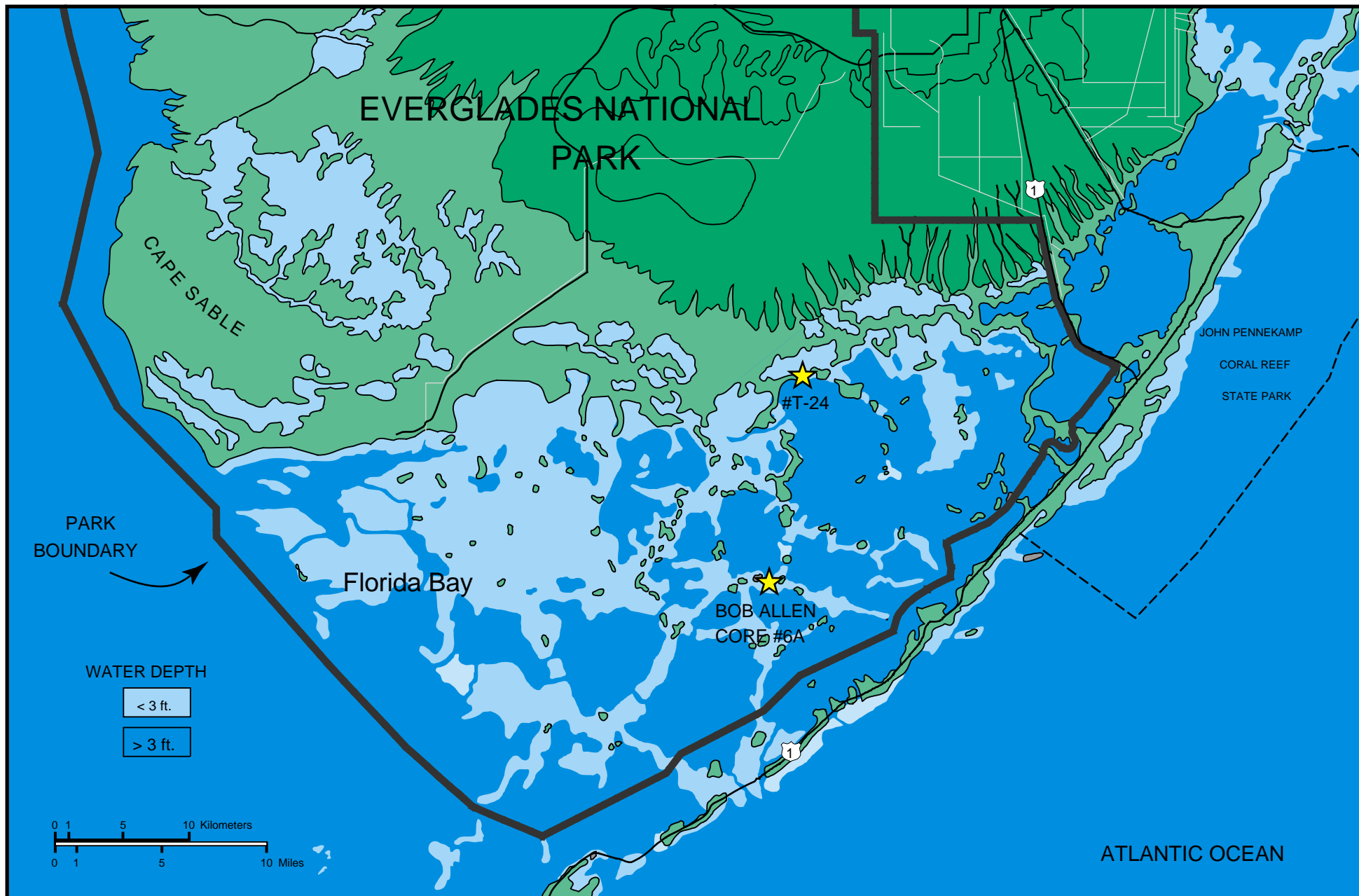


Figure 1: Map of South Florida and Florida Bay showing the localities of cores T-24 and Bob Allen 6A

Methods of Investigation

Core T-24 was sampled at 2 cm intervals for paleontologic (foraminifera, ostracodes, molluscs, pollen and dinoflagellate cysts) and radiometric isotope analyses (^{210}Pb). The sediment samples were dried, and a 20-40 gram split from each sample was collected for pollen and dinocyst analyses with the remaining 20 cc used for faunal analyses. The following procedures were used to process the samples.

Foraminifera, Ostracodes and Molluscs

A total of 43 samples from T-24 were processed for calcareous fossil analysis (Tables 1-3). The samples were washed through a $63\mu\text{m}$ sieve and dried at $<50^\circ\text{C}$. The $>63\mu\text{m}$ size fraction was picked for benthic foraminifera and ostracodes using a random number table between 1 and 45. Molluscs were picked from the $>850\mu\text{m}$ size fraction. When possible, a total of 300 specimens were picked from the sample and mounted on gridded micropaleontologic slides. For samples containing fewer than 300 individuals, all of the specimens present were picked. Species abundances were standardized by calculating relative abundances (%) and samples containing fewer than 50 individuals are noted (see tables).

Pollen and Dinocysts

Sample splits, approximately 20-40 grams, were selected from each sample collected from the core for isolation of pollen and dinocysts. The samples were spiked with one marker tablet of *Lycopodium* spores, as described by Stockmarr (1971), to determine relative abundance. The samples were treated with HCl until visible reaction ceased to remove the carbonate content. Samples were treated with cold 52% HF for 2-3 days to dissolve the silicate minerals. The residues were sieved through a $150\mu\text{m}$ nylon mesh to remove the large plant fragments, and the coarse fraction was reserved for future examination. The fine fraction was acetolyzed (1 part sulfuric acid: 9 parts acetic anhydride) for 10 minutes in a hot water bath and then treated with warm 5% KOH for 15 minutes. The residues were sieved through a $10\mu\text{m}$ nylon mesh to remove the clay-sized fraction. A combination of centrifugation of the coarse residue in a heavy liquid solution (ZnCl_2 at specific gravity 2.0) and swirling of residue in a watch glass were used to separate organics from mineral matter. The organic fraction was removed from the heavy liquid and washed with 10% HCl to remove ZnCl_2 . The organic fraction was stained with Bismark Brown, mixed with warm glycerine jelly and mounted on microscope slides for examination.

Palynomorph (pollen and dinocysts) concentrations were calculated on the basis of the marker-grain method. The spore concentration of the *Lycopodium* tablets used as the source of marker grains was determined by the manufacturer with a Coulter Counter following the procedures of Stockmarr (1973); the concentration of these tablets is $12,542 \pm 416$. In addition, all samples were scanned in order to estimate the absolute abundance of pollen and dinocysts. Both marker grains and dinocysts were counted on one-quarter of each microscope slide for up to four slides. Absolute abundance was calculated by the formula:

palynomorphs per gram=12,542 x (cysts counted)/(wt in grams x marker grains counted).

Counts of dinocysts were used in conjunction with the absolute abundance counts of pollen to compute:

$$\text{percent dinocysts} = \frac{\text{dinocysts per gram}}{\text{dinocysts per gram} + \text{pollen per gram}} \times 100$$

Pollen assemblages were quantified from 43 samples (Table 4). For twenty-one samples, one to three slides were completely counted for dinocyst taxonomic-group analysis (Table 5).

Results

Lead-210

The results from the ^{210}Pb show activity within core T-24 (Figure 2). A rapid rate of decay is observed in the upper 28 cm of the core. This interval is followed by relatively stable ^{210}Pb activity to about 60 cm where the activity again decreases to the base of the core (86 cm). At the time of this report the ^{210}Pb activity curve had not been interpreted to reflect an absolute age for the sediments.

Benthic Foraminifers

A total of 15 benthic foraminifer groups were identified from the T-24 core (Table 1). The benthic foraminifer fauna is dominated by calcareous species. Five species of *Elphidium* were identified, *Elphidium galvestonense*, *E. gunteri*, *E. discoidale*, *E. advenum* and *E. excavatum*. The benthic foraminifer assemblages throughout the core are dominated (>20%) by *Ammonia parkinsoniana typica* and *Elphidium* spp., with *E. galvestonense mexicanum* being the most dominant. Additional calcareous benthic species occurring in the core include *Rosalina floridana*, *R. globularis* and *Peneroplis proteus*. Two species of agglutinated foraminifer were identified, *Ammotium* sp. and *Trochammina* sp.

Four assemblage groups can be recognized in the T-24 core. The lower part of the T-24 core (86-60 cm) contains a low diversity assemblage dominated (>40%) by *Ammonia parkinsoniana typica* and *Elphidium* spp. This assemblage contains <10% of other foraminiferal taxa combined with rare occurrences of *Quinqueloculina* spp. and *Rosalina floridana*. This assemblage is succeeded (60-38 cm) by an *A. parkinsoniana typica-Elphidium* spp. assemblage

Core T-24, Little Madeira Bay

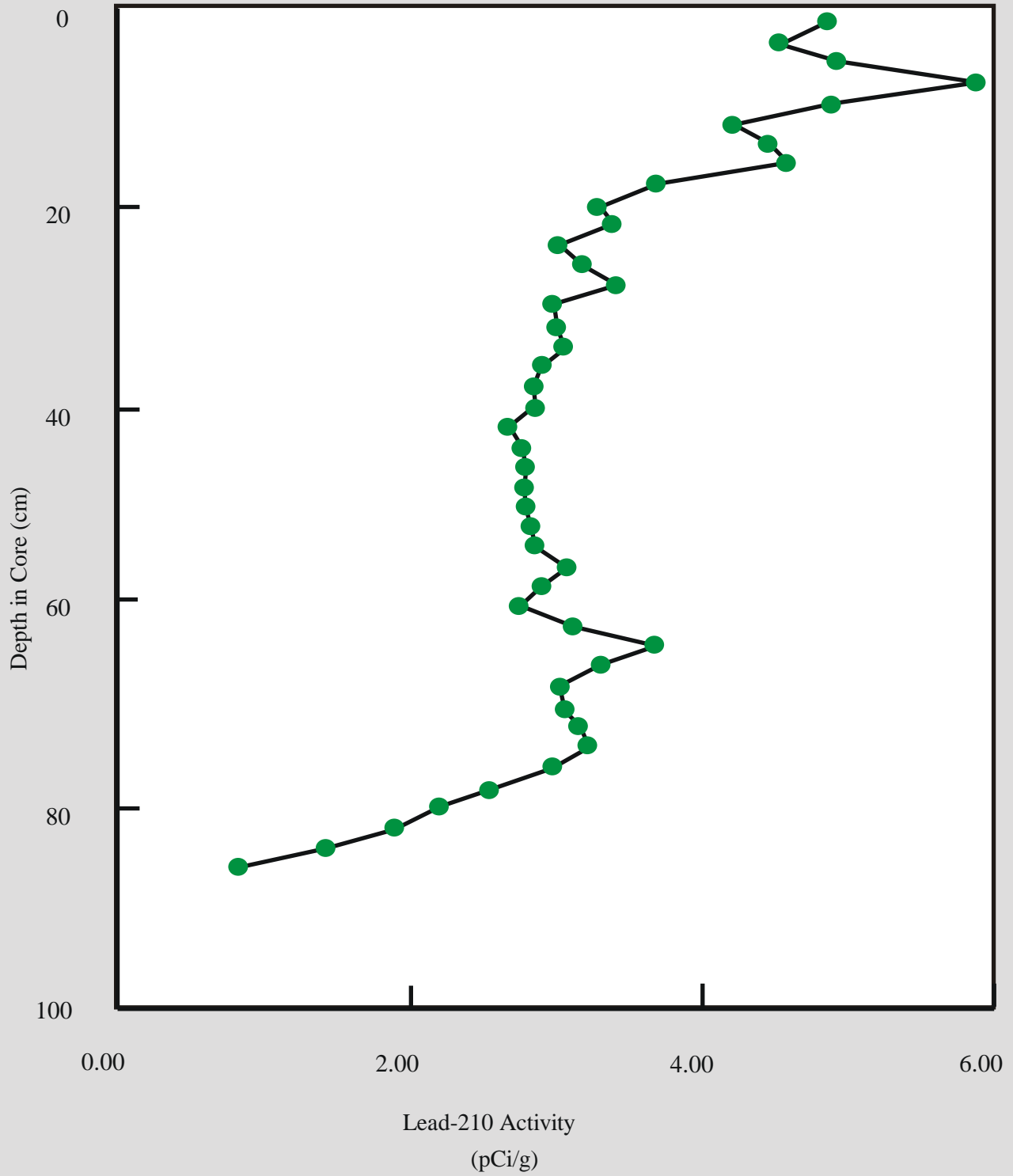


Figure 2: Profile of the ^{210}Pb activity in core T-24

with increased abundance *Quinqueloculina* spp. This assemblage is followed by (38-20 cm) a decrease in diversity and loss of *Quinqueloculina* spp., to an *A. parkinsoniana typica*-*Elphidium* spp. dominated assemblage. The uppermost part of the core contains an assemblage in which the abundance of *A. parkinsoniana typica* and *Elphidium* spp. is greatly reduced (<50%), the abundance of *Quinqueloculina* spp. is increased (>10%) and the diversity is increased. Additional benthic foraminiferal species occurring in this assemblage are *Rosalina globularis*, *R. floridana* and *Peneroplis proteus*.

Molluscs

Molluscan assemblages are dominated by four taxonomic groups that constitute 76% of the total molluscan taxa in the core: (1) a group of terrestrial and/or freshwater gastropods; (2) *Anomalocardia* spp.; (3) cerithids (listed separately by genus on [Table 2](#)) and 4) *Polymesoda* sp. The four groups maintain their overall dominance throughout the core, but fluctuations in individual dominance occur.

The core can be divided into six zones based on the molluscan assemblages. The lower portion of the core (86-74 cm) is dominated by *Polymesoda* sp. (86-74 cm), and by the group of terrestrial and/or freshwater gastropods (78-74 cm). *Anomalocardia* spp. and the cerithids are present at their lowest levels in the core from 86-78 cm. Although not present in large amounts, the occurrence of the brackish water taxon *Tagelus* sp. in this portion of the core is significant. Overall molluscan diversity is lowest in this bottom portion of the core.

From 74-60 cm, specimens of terrestrial/freshwater gastropods is the dominant component of the molluscan assemblage. *Anomalocardia* spp., the cerithids, and *Polymesoda* show fluctuations in abundance. Two brackish species, *Tagelus* sp. and *Mytilopsis leucophaeta*, are present and single specimens of *Melongena* and *Truncatella*, both associated with mangrove shores, occur. The diversity in this portion of the core fluctuates, but is higher than that seen from 86-74 cm.

The portion of the core from 60-50 cm shows a dramatic increase in the numbers and proportions of terrestrial/freshwater gastropods. The terrestrial/freshwater gastropods comprise 53% of the sample at 60-58 cm. The *Anomalocardia* and cerithids show the inverse trend, declining in abundance in this portion of the core. The *Polymesoda* also decline in this portion of the core, and their numbers stay relatively low for the remainder of the core. *Brachiodontes* sp., a brackish to marine mussel that frequently attaches to *Thalassia* grass, appears in significant numbers for the first time in this portion of the core. *Tagelus* and *Mytilopsis* are completely absent here. *Transenella* and *Tellina* are consistently present in this portion of the core; both genera burrow in coarse sediments. The diversity oscillates in this portion of the core but is comparable to the portion from 74-60 cm.

Little variability occurs within the molluscan assemblage between 50 and 30 cm; fluctuations occur around the mean, and the diversity is fairly constant. The terrestrial/freshwater gastropods, the cerithids, and *Anomalocardia* dominate this portion of the core. *Tagelus* sp. and *Mytilopsis leucophaeta* are present in similar proportions to the 74-60 cm segment of the core. *Tellina* spp. increases significantly in this section of the core and *Bulla* sp. and *Crepidula* sp.,

nearly absent below, are present here.

From 30-18 cm the percent abundance of terrestrial/freshwater gastropods and of *Tellina* is equivalent to the 50-30 cm section. However, the *Anomalocardia* decline and the cerithids increase in comparison to the 50-30 cm segment. The 30-18 cm portion of the core is characterized by a spike in diversity; the increased diversity corresponds to an increase in the number of rare species (< 1% of the total sample).

The upper 18 cm of the core show a great deal of fluctuation in molluscan assemblages and overall diversity. The terrestrial/freshwater gastropods abundance declines to a low of 8.11% in the 12-14 cm sample but increase again to 35.9 % in the 8-6 cm sample. The *Anomalocardia* and cerithids fluctuate around their means for this portion of the core. The percent of rare species is higher in this upper section, reaching 13.74% at 10-8 cm. *Polymesoda* sp. increases at 8-6 cm but declines to 0 at the top of the core. *Crepidula* sp. increases to significant numbers in this section. Diversity for this section of the core peaks at 6-4 cm.

Ostracodes

A total of 25 ostracode groups were identified from core T-24 (Table 3). The assemblages were dominated by the following taxa: *Cyprideis salebrosa*, *Cytherura sandbergi*, *Loxoconcha matagordensis*, *Malzella floridana*, *Perissocytheridea brachyforma* and *P. cf. cribrosa*. Several distinct dominance patterns occur within the core. The lower part of the core (60 cm to the base of the core) contains an assemblage represented by 16 taxa. The assemblage is dominated by *Cyprideis* sp. with the presence of several limnetic to oligohaline (0.5-5 parts-per-thousand [ppt]) taxa that include *Cypris* sp. and *Cypridopsis okeechobei*. The interval from 60 cm to 22 cm is marked by an increase in diversity (22 taxa), a decrease in relative abundance of *Cyprideis salebrosa*, and an increase in relative abundance of *Malzella floridana*, *Xestoleberis* spp. and *Loxoconcha matagordensis*. The upper interval of core T-24 (22 cm to 0 cm) shows further increases in the relative abundance of *Loxoconcha matagordensis* and *Malzella floridana*, and an increase in diversity to 24 taxa.

Pollen

A total of 69 pollen types and 3 spore types were identified in 43 samples from core T-24 (Table 4). Pollen assemblages from the T-24 core show three distinct zones based on the relative abundance of several taxa. The lower part of the core (86-78 cm) consist predominantly of *Pinus* (pine) pollen (>75%), with chenopod (saltwort/pigweed) and triporate pollen (primarily *Casuarina* and *Myrica*, with occasional occurrences of *Betula*, *Celtis*, and *Carya*) present in abundances of <10%. The middle interval (78-38 cm) has higher abundances of chenopod pollen (up to 20%), with its highest relative abundances between 78 cm and 56 cm; pine pollen is less abundant in this interval, comprising from 46% to 64% of the assemblage. *Rhizophora* (red mangrove) pollen is slightly more abundant in this interval, as is triporate pollen. The upper part of the core (38-0 cm) contains the highest abundance of triporate pollen, as well as that of the

Asteraceae, and *Rhizophora* (Table 4, Figure 3). Pollen of *Pinus* (pine) is at its lowest abundance (<50%) in this interval.

Dinocysts

Dinocyst recovery in all samples was low, with preparations from most samples heavily dominated by plant-tissue debris. The maximum number of specimens observed in the slides examined from any sample was 223. Absolute abundance ranges from 10 to 358 cysts/g (Table 5; Figure 4). These values are one to two orders of magnitude below those reported by Wall et al. (1977) for samples from the Middle Atlantic Bight and western South Africa, are consistent with high sedimentation rates, and are not indicative of bloom conditions. Absolute abundance data from dinocysts have been combined with those from pollen to calculate an expression of marine influence, the percent dinocysts of the total count of dinocysts plus pollen (Figure 5).

Dinocyst assemblages in core T-24 consist of a small number of taxa. *Polysphaeridium zoharyi* (Rossignol) Bujak et al. is consistently present and dominates many of the assemblages found in samples from the lower part of the core (86-46 cm). Various species of the genus *Spiniferites* Mantell are present in all samples and are dominant in the upper part (42-0 cm) of core T-24. Individual species of *Spiniferites* were not differentiated in the present study due to poor preservation and taxonomic difficulties. Exceptions to the above abundance trends include two samples in the lower part of the core (66-64 cm and 74-72 cm) where *Spiniferites* spp. are dominant, and one in the upper part of the core (24-22 cm) where *P. zoharyi* is dominant. Most samples include low numbers of *Lingulodinium machaerophorum* (Deflandre & Cookson) Wall, *Nematosphaeropsis* spp., and (or) *Operculodinium* spp. A single specimen of *Tectatodinium pellitum* Wall occurred in each of three samples (70-68, 66-64, and 20-18 cm), and a single specimen of *Multispinula* sp. cf. *M. quanta* Bradford (the only specimen representing the family Congruentidiaceae) was encountered in the sample at 46-48 cm.

Discussion

Salinity

The faunal and floral records preserved in core T-24 represent three stages of environmental change (Figure 6), with an up-core trend of increasing salinity. This is represented by a decrease in the relative abundance of mesohaline benthic foraminifers, ostracodes and molluscs (Figure 6). It should be noted that because of the wide range of salinity tolerance, the relative abundance of the "mesohaline" molluscs is significantly less than the relative abundance of the ostracode and benthic foraminifer indicators, which have much more restricted salinity tolerances.

The lowermost part of the core (86-60 cm) contains faunal and floral assemblages representative of oligo- to mesohaline conditions (5-18 ppt). The benthic foraminifer assemblage is dominated (>50%) by *Ammonia parkinsoniana typica* and *Elphidium galvestonense* (Table 1). These species are associated with low salinity (<20 ppt) conditions in estuarine environments of the Gulf of Mexico (Poag, 1978, 1981). The ostracode assemblage indicates mesohaline

Little Madeira Bay, Florida, Core T24

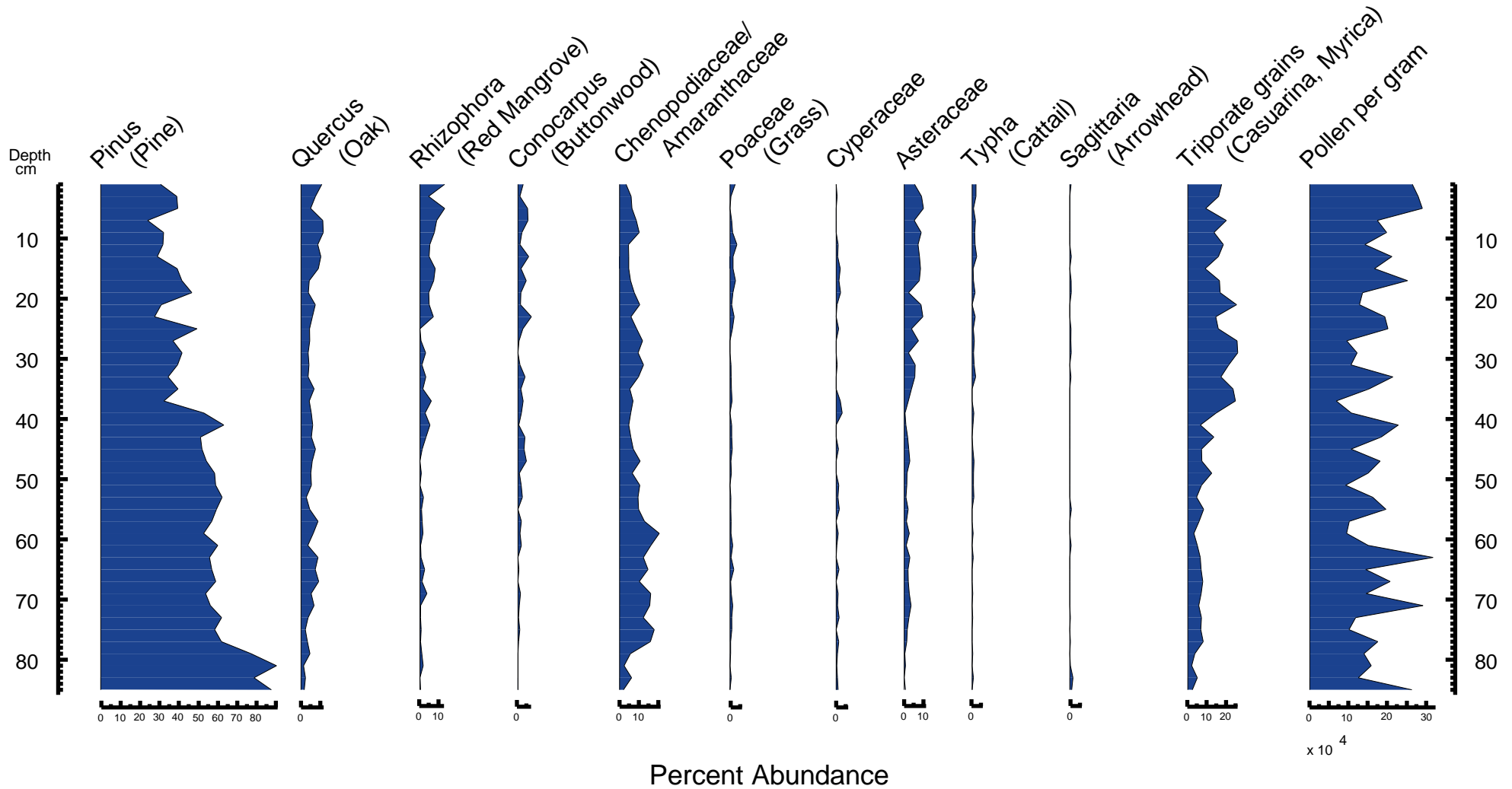


Figure 3: Relative abundance (%) of pollen and pollen per gram ($\times 10^4$) in core T-24.

Little Madeira Bay Core, T-24 Dinocysts

Cysts per gram

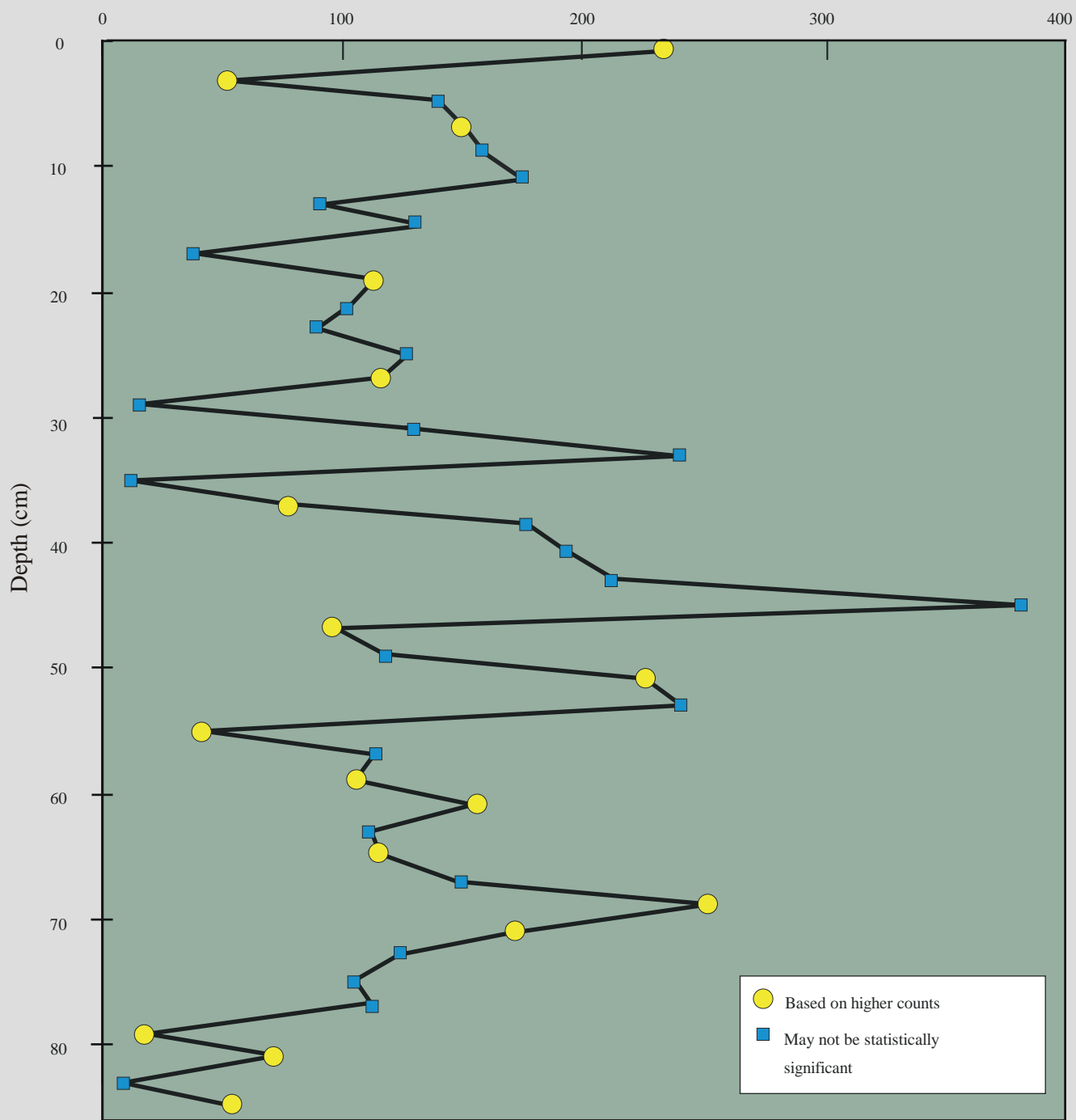


Figure 4: Concentration of dinocysts throughout core T-24 represented as dinocysts/gram.

Little Madeira Bay Core, T-24 Dinocysts

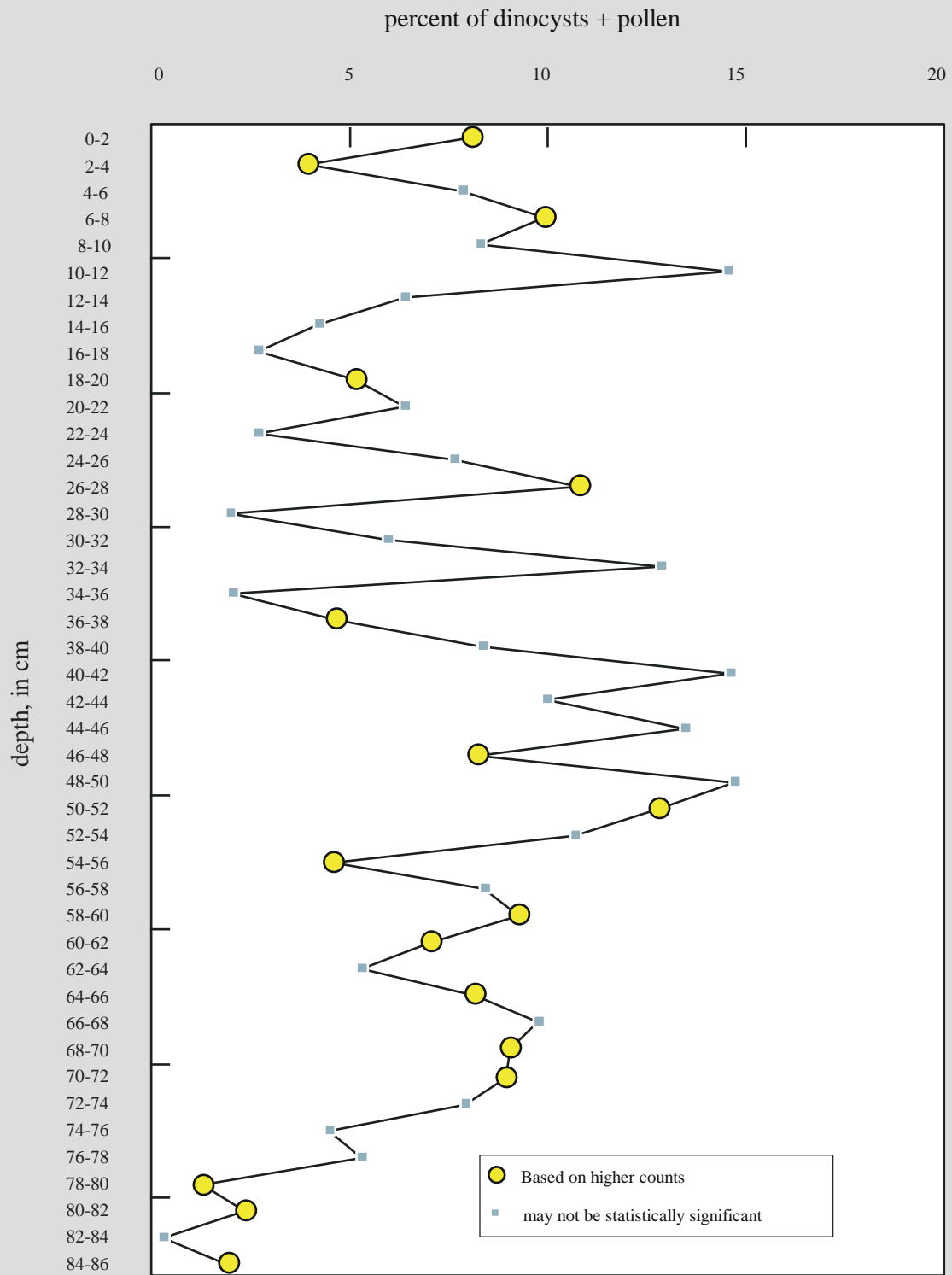


Figure 5: Dinocysts + pollen per gram in core T-24.

Core T-24, Little Madeira Bay

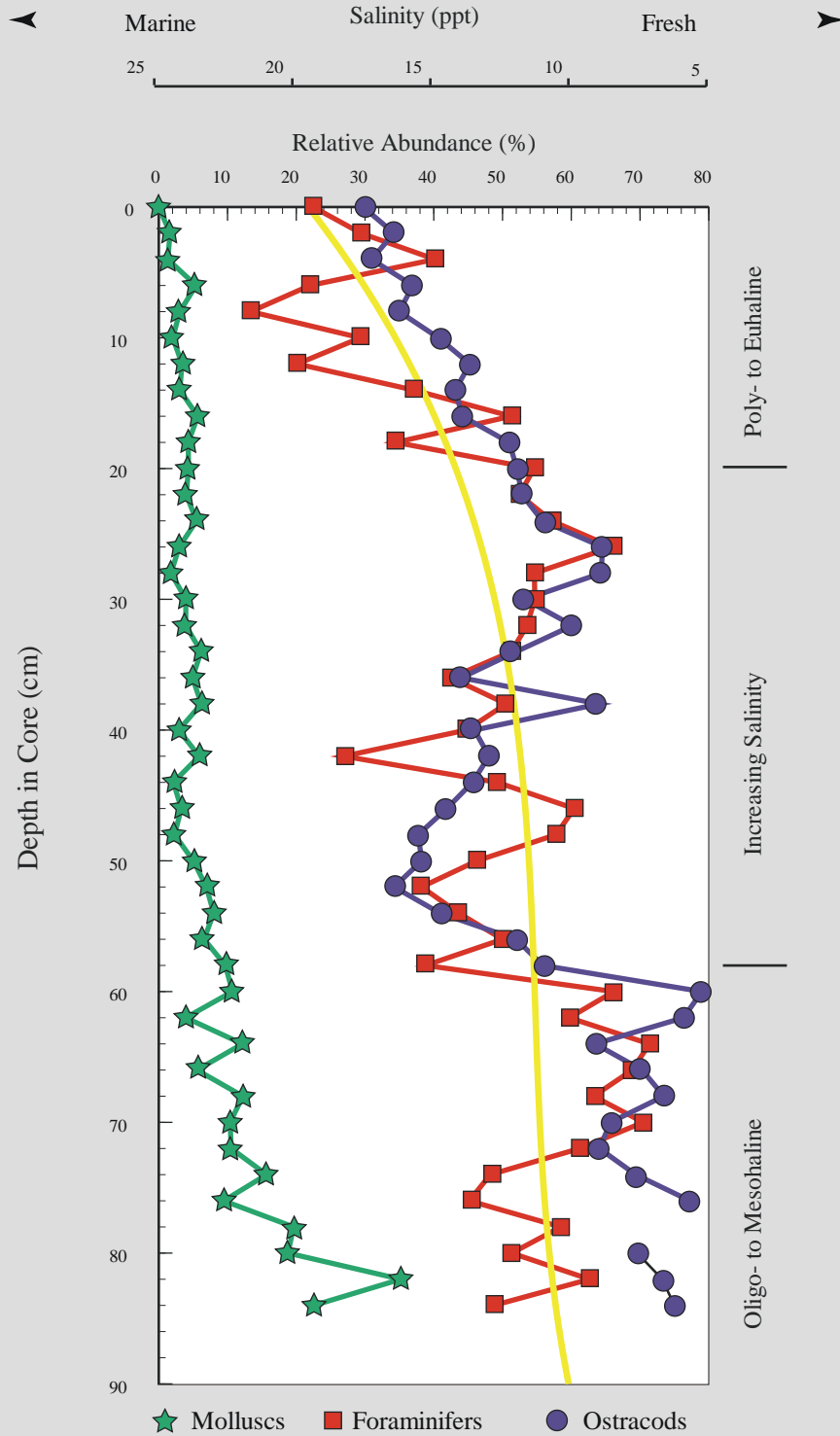


Figure 6: Salinity profile for core T-24 based on benthic foraminifer, ostracode, and mollusc salinity indicator species/species groups. Note the offset from mollusc to ostracode and benthic foraminifer relative abundance due to their differences in salinity tolerance ranges.

conditions by the predominance of *Perissocytheridea brachyforma* and *Cyprideis salebrosa* (Table 3). In addition, several limnetic to oligohaline (0.5-5 ppt) species are present (>1%) within the lower section of the core: *Cyprideis* sp., *Cypridopsis okeechobei* and *Heterocypris punctata*. The presence of the molluscs *Polymesoda* sp. and *Tagelus* sp. (Table 2) indicate low salinity (mesohaline) conditions in the lower part of core T-24. The foraminifer, ostracode and mollusc groups all show low diversities in the lower section of the core, which is consistent with low salinity conditions. The faunal data are supported by the marine floral data (Figure 7). The dinocysts are dominated by *Polysphaeridium zoharyi* in the lower part of core T-24. *P. zoharyi* tolerates a wide range of salinity from hyper- to hyposaline conditions. However, in present day Mississippi Sound, *P. zoharyi* dominated assemblages are associated with low and fluctuating salinities.

The middle section of core T-24 (60 cm to 20 cm) contains faunas and floras that indicate increasing salinity (Figures 6,7). Diversity increases in the foraminifer, ostracode and mollusc assemblages. *A. parkinsoniana typica* and *Elphidium* spp. are the dominant taxa within this interval. However, an increase in the relative abundance of miliolids occurs indicating an increase in salinity. The increased abundance of the polyhaline (18 to 30 ppt) ostracodes *Loxoconcha matagordiensis*, *Malzella floridana*, *Perissocytheridea* cf. *cribrosa* and *Xestoleberis* sp. indicate increasing salinity conditions within this section. A significant reduction, 10%, occurs in the relative abundance of mesohaline molluscs (Figure 6) from the lower section of the core (86-60 cm) to the middle section (60-20 cm) indicating increasing salinities. This is accompanied by an increase in the relative abundance of poly- to euhaline molluscs. The dinocyst assemblage remains dominated by *Polysphaeridium zoharyi* up to 42 cm. Above 42 cm *Spiniferites* spp., a species typical in modern marine neritic environments (Harland, 1983), dominates the assemblage and the relative abundance of *P. zoharyi* decreases to 20 to 45 percent, similar to modern distributions in Little Madeira Bay and Buttonwood Sound. This also indicates a progressive shift toward marine conditions.

The upper 20 cm of core T-24 is marked by a significant decrease in mesohaline foraminifer, ostracode and mollusc taxa (Figure 6). The assemblages are dominated by poly- to euhaline taxa indicating further increase in salinity. The *Elphidium* spp. group of benthic foraminifers succeeds *Ammonia parkinsoniana typica* in dominance, and there is a significant increase (>10%) in the occurrence of miliolids. This assemblage is similar to the modern benthic foraminifer assemblage found at the mouth of Little Madeira Bay today, where bottom water salinities reach 21 ppt. The three faunal groups show increasing diversity that includes the introduction of the benthic foraminifer *Peneroplis proteus* and additional normal marine foraminifer taxa, and an increase in rare mollusc occurrences. The dinocyst assemblage is dominated by *Spiniferites* spp. (Figure 7) indicating marine conditions similar to east-central modern Florida Bay where *Spiniferites*-dominated assemblages are common. The increase in abundances of pollen of red mangroves (*Rhizophora*) and buttonwoods (*Conocarpus*) in the upper 40 cm of core is consistent with increased salinity levels in the area.

Substrate

The faunal results from core T-24 indicate minor fluctuations in substrate conditions (grassy to hard bottom) throughout the core (Figure 8). The mollusc data indicate a primary

coarse sediment substrate throughout with an increase in grass cover occurring at 60 cm and a further increase at 20 cm. The occurrence of *Rosalina floridana* and increase in abundance of epifaunal clinging taxa, *Quinqueloculina* spp. and *Elphidium* spp., in the upper 20 cm may indicate an increase in sea grass at this site.

Terrestrial Record

Pollen results from core T-24 show three distinct floral assemblages. A dominant component of the mollusc fauna throughout core T-24 is the group of terrestrial and/or freshwater gastropods. Its relative abundance fluctuates with low abundance in the lower (86 to 76 cm) part of the core, increasing to peak abundance between 60 and 54 cm, and then decreasing to the top. The lowermost abundance low (86 to 76 cm) is correlative to the peak pine occurrence in core T-24, and a low in marine salinity as indicated by the faunal and floral data. The patterns observed and correlations between the terrestrial pollen, terrestrial and/or fresh water gastropods, and marine faunal and floral records may reflect changes on the margins of Little Madeira Bay, but at present this is speculation and warrants further study.

Correlation

Although no age model exists for core T-24, the faunal and floral patterns are consistent with the patterns observed in Bob Allen core 6A (Wingard et al., 1995) collected from the margin of Bob Allen Key (Figure 1). Salinity trends, interpreted from the faunal record in core 6A, show an increase in salinity with decreasing depth in core. Abundance patterns of dinocysts reflect similar surficial conditions at the two sites (Figure 9). The current correlation between cores T-24 and 6A is preliminary and will not be resolved until an age model is generated for core T-24.

Summary

Core T-24, collected in Little Madeira Bay at the mouth of Taylor Creek, contains a record of changing environmental conditions. The marine faunal and floral data indicate a progressive salinity increase from oligohaline to mesohaline conditions at the base of the core to poly- to euhaline conditions in the upper 20 cm of the core. The faunal data indicate fairly stable substrate conditions with an increase in sea grass cover in the upper 60 to 20 cm of the core. The pollen record from core T-24 shows a distinct change from a pine and chenopod dominated assemblage to an assemblage with increased *Rhizophora*, *Asteraceae* and triporate grains. Such changes indicate a slight increase in the abundance of mangroves and hardwoods in the upper 40 cm, with the greatest increases in mangroves occurring in the upper 20 cm of the core. These trends are consistent with trends observed in Bob Allen core 6A and may prove to show a gradual increase in the salinity of Florida Bay over time.

Little Madeira Bay Core, T-24

Cysts / g

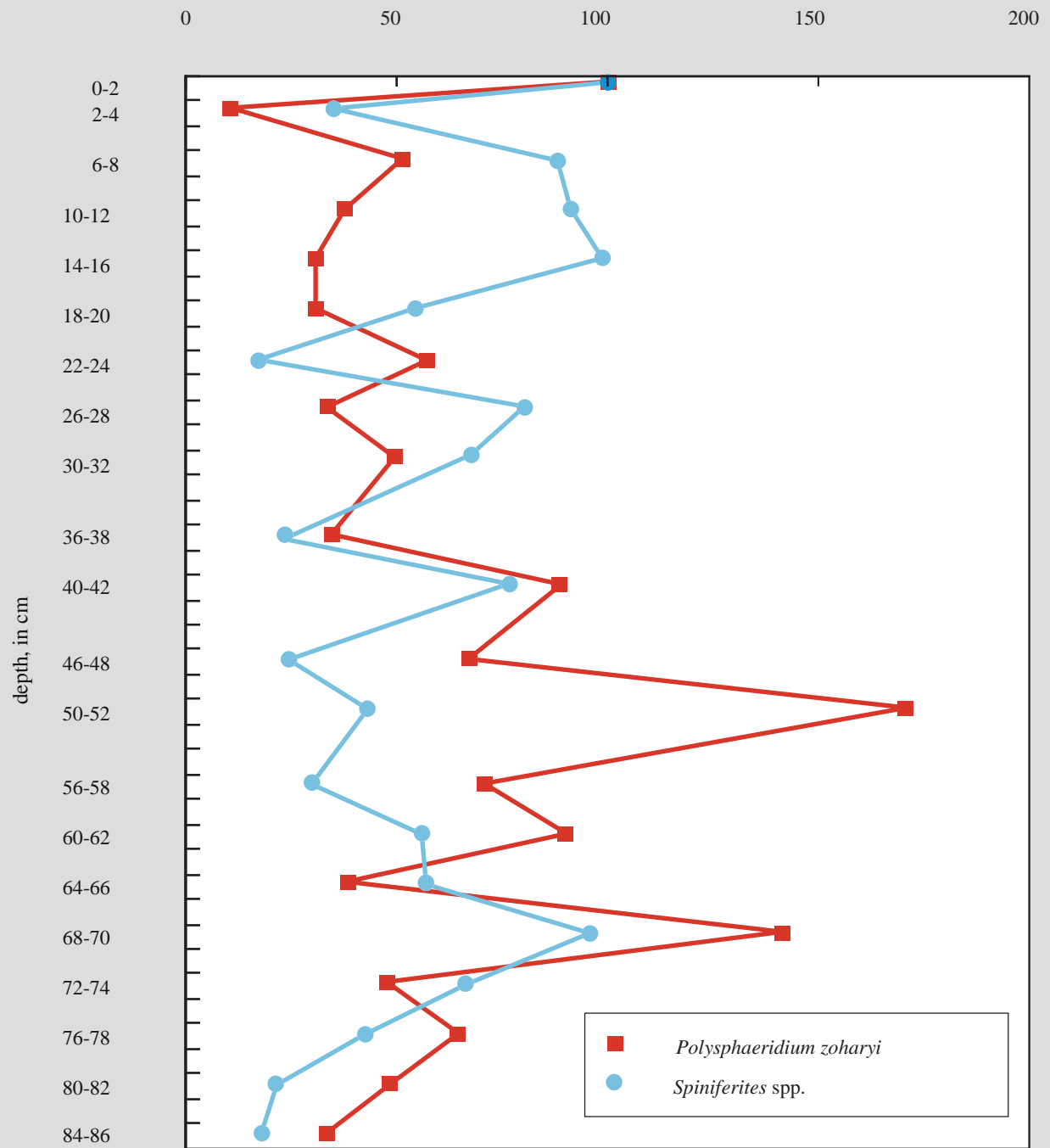


Figure 7: Distribution of the dincysts *Polysphaeridium zoharyi* and *Spiniferites* spp. in core T-24.

Percent Abundance of Mollusks
Grouped by Substrate Preferences

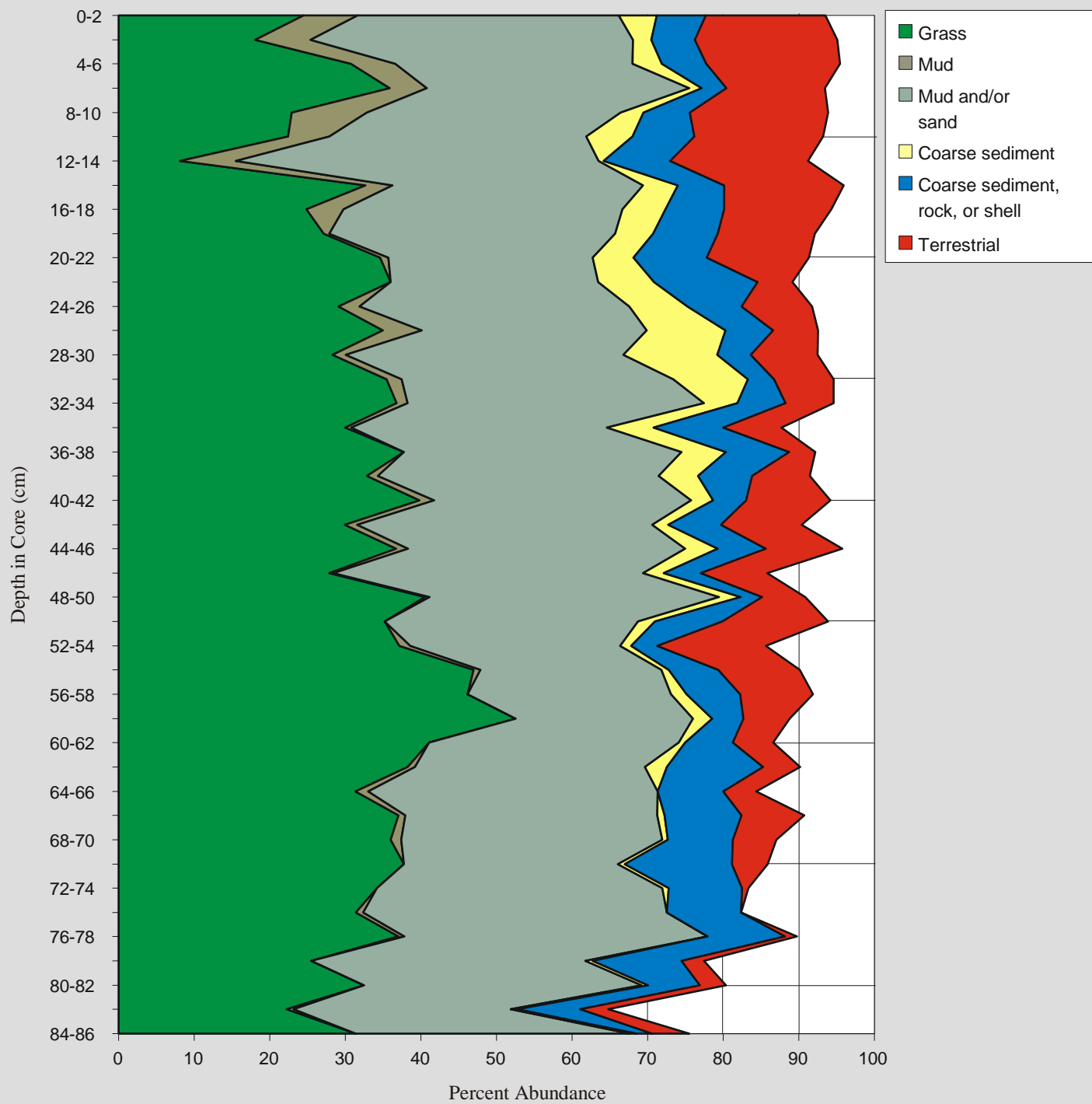


Figure 8: Substrate conditions interpreted from substrate sensitive mollusk groups in core T-24.

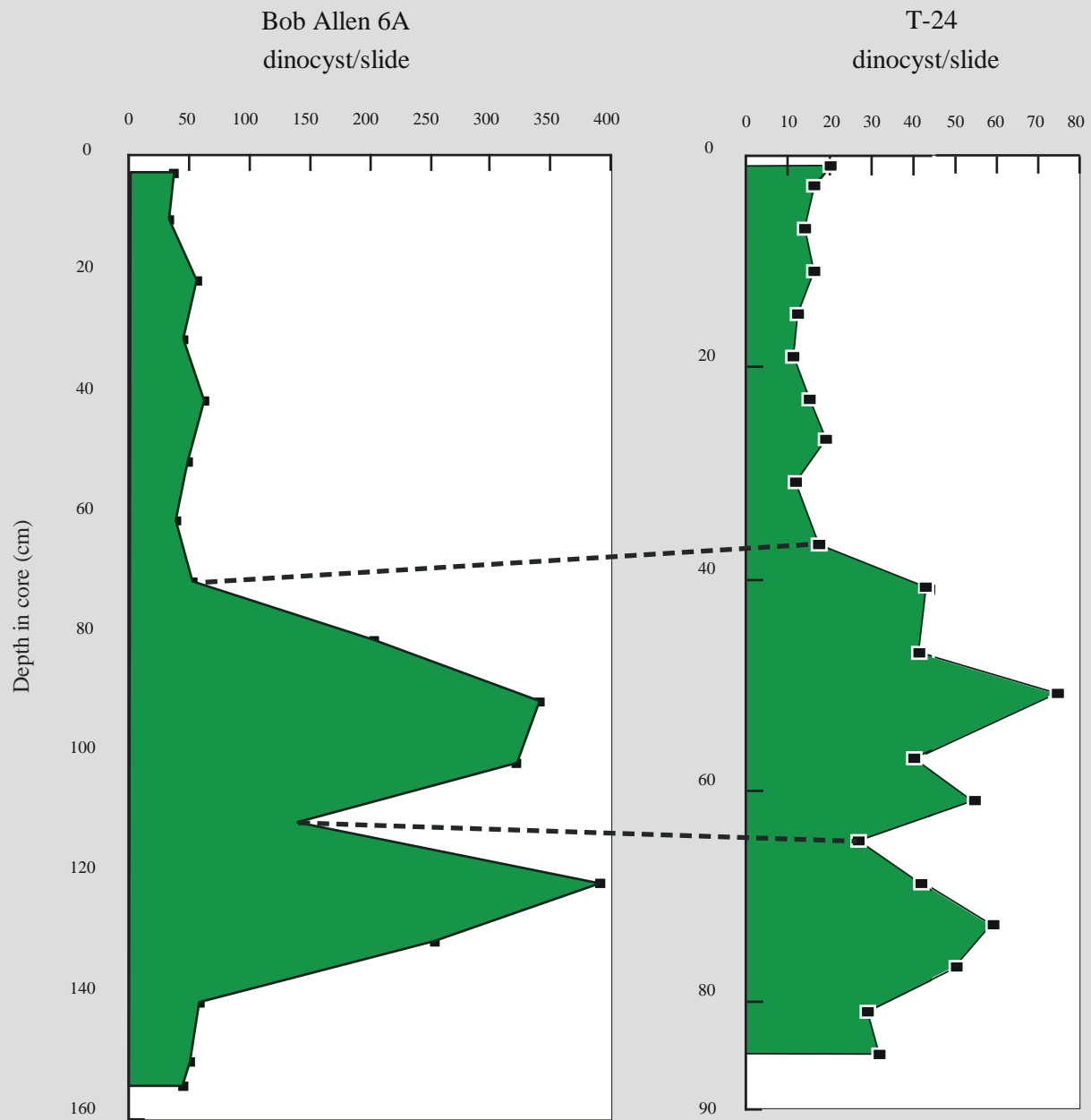


Figure 9: Possible correlation between cores Bob Allen 6A and T-24 based on dinocysts per slide data

Table 1: Relative abundance (%) of benthic foraminifera in Core T-24.

Species	<i>Ammonia parkinsoniana typica</i>	<i>Ammotium</i> sp.	<i>Ephidium galvestonense</i>	<i>E. gunteri</i>	<i>E. discoidale</i>	<i>E. advenum</i>	<i>E. excavatum</i>	<i>Massilina</i> sp.	<i>Miliammina</i> sp.	<i>Peneropolis proteus</i>	<i>Quinqueloculina</i> spp.	<i>Rosalina floridana</i>	<i>R. globularis</i>
Depth (cm)													
0-2	22.46	0.00	36.23	11.59	0.36	0.00	8.33	0.00	0.00	0.72	9.78	9.78	1.45
2-4	29.41	0.00	30.96	7.12	0.00	0.00	7.74	1.24	0.00	0.93	13.00	11.46	0.00
4-6	40.19	0.00	28.94	3.86	0.00	0.00	6.75	2.89	0.00	0.32	12.22	8.04	0.00
6-8	21.99	0.00	24.40	27.15	0.00	0.00	3.44	0.00	0.00	0.34	12.03	10.65	0.00
8-10	13.36	0.00	49.84	12.05	0.00	0.00	6.19	0.65	0.00	0.00	14.66	0.65	2.61
10-12	29.33	0.00	42.00	6.67	0.00	0.00	6.33	0.00	0.33	0.33	12.00	3.33	0.00
12-14	20.15	0.00	46.27	0.00	0.00	0.00	7.46	0.00	0.00	1.12	19.40	6.72	0.00
14-16	37.10	0.00	40.28	2.12	0.00	0.00	6.36	1.06	0.00	0.35	9.89	4.24	0.00
16-18	51.25	0.00	4.17	18.75	0.00	0.00	4.17	0.00	0.00	0.00	14.58	0.00	7.08
18-20	34.49	0.00	27.85	10.44	0.00	0.00	4.11	2.85	0.00	0.00	12.97	9.81	0.32
20-22	54.59	0.00	11.01	31.19	0.00	0.00	2.29	0.00	0.00	0.00	0.00	0.92	0.00
22-24	52.45	0.00	16.08	20.28	0.00	0.00	3.50	0.00	0.00	0.00	1.40	1.40	4.90
24-26	57.14	0.00	7.56	23.53	0.00	0.00	8.40	0.00	0.00	0.00	0.00	3.36	0.00
26-28	65.93	0.00	9.89	24.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28-30	54.64	0.00	15.46	28.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.03	0.00
30-32	54.69	0.00	11.98	29.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65	0.00
32-34	53.57	0.00	13.39	32.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	0.00
34-36	51.29	0.00	13.18	34.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86	0.00
36-38	42.51	0.00	15.46	40.58	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.97	0.00
38-40	50.53	0.00	17.37	25.79	0.00	0.00	1.05	0.00	0.00	0.00	5.26	0.00	0.00
40-42	44.74	0.00	18.42	26.32	0.00	0.00	0.00	0.00	0.00	0.00	7.89	2.63	0.00
42-44	26.92	0.00	23.08	40.38	0.00	0.00	3.85	0.00	0.00	0.00	3.85	1.92	0.00
44-46	49.24	0.00	17.26	22.84	0.00	0.00	1.02	0.00	0.00	0.00	3.55	5.58	0.00
46-48	60.43	0.00	8.63	28.06	0.00	0.00	0.00	0.00	0.00	0.00	2.88	0.00	0.00
48-50	57.78	0.00	17.78	16.67	0.00	0.00	1.11	0.00	0.00	0.00	6.67	0.00	0.00
50-52	46.28	0.00	23.14	24.79	0.00	0.00	1.65	0.00	0.00	0.00	4.13	0.00	0.00
52-54	38.22	0.00	14.67	40.89	0.00	0.00	0.00	0.00	0.00	0.00	6.22	0.00	0.00
54-56	43.64	0.91	17.27	30.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64	4.55	0.00
56-58	50.00	0.00	20.24	26.19	2.38	0.00	0.00	0.00	0.00	0.00	1.19	0.00	0.00
58-60	38.80	0.00	14.00	41.20	0.00	0.00	2.00	0.00	0.00	0.00	4.00	0.00	0.00
60-62	66.18	0.00	18.25	15.33	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00
62-64	59.71	0.00	20.88	19.12	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00
64-66	71.36	0.00	16.11	12.02	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66-68	68.89	0.00	23.33	7.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68-70	63.24	0.00	36.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70-72	70.48	0.27	12.77	14.36	0.00	0.00	0.27	0.00	0.00	0.00	1.86	0.00	0.00
72-74	61.22	0.00	11.22	27.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74-76	48.21	0.00	29.64	21.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00
76-78	45.18	0.00	16.94	36.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
78-80	58.49	0.00	15.72	23.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.89	0.00
80-82	51.34	0.00	12.95	33.48	0.89	0.00	0.00	0.00	0.00	0.00	0.00	1.34	0.00
82-84	62.65	0.00	4.82	22.29	0.00	4.82	4.82	0.00	0.00	0.00	0.00	0.60	0.00
84-86	48.73	0.00	14.91	26.18	1.82	0.00	8.36	0.00	0.00	0.00	0.00	0.00	0.00

Table 1: Relative abundance (%) of benthic foraminifers in Core T-24.

Species	<i>Trochammina</i> sp.	<i>Triloculina</i> sp.	TOTAL COUNT
Depth (cm)			
0-2	0.00	0.00	276
2-4	0.31	0.00	323
4-6	0.00	0.00	311
6-8	0.34	0.00	291
8-10	0.65	0.00	307
10-12	0.00	0.00	300
12-14	0.00	0.00	268
14-16	0.00	0.00	283
16-18	0.00	0.00	240
18-20	0.00	0.00	316
20-22	0.00	0.00	218
22-24	0.00	0.00	143
24-26	0.00	0.00	119
26-28	0.00	0.00	91
28-30	0.52	0.00	194
30-32	0.00	0.00	192
32-34	0.00	0.00	112
34-36	0.00	0.00	349
36-38	0.00	0.00	207
38-40	0.00	0.00	190
40-42	0.00	0.00	114
42-44	0.00	0.00	52
44-46	0.51	0.00	197
46-48	0.00	0.00	139
48-50	0.00	0.00	90
50-52	0.00	0.00	121
52-54	0.00	0.00	225
54-56	0.00	0.00	110
56-58	0.00	0.00	84
58-60	0.00	0.00	250
60-62	0.00	0.00	411
62-64	0.00	0.00	340
64-66	0.00	0.00	391
66-68	0.00	0.00	450
68-70	0.00	0.00	389
70-72	0.00	0.00	376
72-74	0.00	0.00	196
74-76	0.00	0.00	280
76-78	0.00	0.00	301
78-80	0.00	0.00	159
80-82	0.00	0.00	224
82-84	0.00	0.00	166
84-86	0.00	0.00	275

Table 2: Relative abundance (%) of molluscs in Core T-24.

Species	<i>Acteocina</i>	<i>Acteon</i>	<i>Bitium varium</i>	Terrestrial/Freshwater Gastropods	<i>Bulla</i> sp.	<i>Caecum</i>	<i>Cerithidea</i> spp.	<i>Cerithium</i> spp.	<i>Crepidula</i> sp.	<i>Gastrocopta</i> sp.	Marginellids	<i>Melongena corona</i>	<i>Modiolus modiolus</i>
Depth (cm)													
0-2	4.32	0.00	4.32	23.02	0.00	0.00	3.60	5.76	1.44	0.00	0.00	0.00	0.72
2-4	3.28	0.00	0.00	18.03	0.82	0.00	3.28	10.66	4.92	0.00	0.00	0.82	0.00
4-6	3.92	0.00	6.54	29.41	0.65	0.00	3.92	5.23	5.23	0.00	0.65	0.00	0.65
6-8	2.17	0.00	4.35	35.87	0.00	0.00	1.63	5.98	3.80	0.00	0.00	0.00	0.00
8-10	2.29	0.76	4.58	20.61	0.00	0.00	1.53	4.58	3.82	0.76	0.00	0.00	0.76
10-12	1.36	0.00	0.68	21.77	0.68	0.00	4.08	3.40	2.04	0.00	0.00	0.00	1.36
12-14	5.41	0.00	6.76	8.11	0.00	0.00	5.41	3.38	4.73	0.00	1.35	0.00	0.00
14-16	3.06	0.00	3.57	32.65	1.02	0.00	2.55	7.65	3.06	0.00	0.00	0.00	0.00
16-18	3.55	0.00	5.67	24.11	0.00	0.00	5.67	2.13	2.13	0.00	0.00	0.00	1.42
18-20	5.71	0.00	5.71	26.43	0.00	0.00	2.14	2.14	0.71	0.71	1.43	0.00	0.71
20-22	1.08	0.00	7.03	34.59	0.54	0.00	7.57	5.95	0.00	0.00	0.00	0.00	0.00
22-24	6.29	0.00	1.71	36.00	0.57	0.00	12.57	2.29	0.00	0.00	0.00	0.00	0.00
24-26	4.95	0.00	3.30	29.12	0.00	0.00	6.59	3.85	0.55	0.00	0.00	0.00	0.00
26-28	2.60	0.00	2.60	34.94	0.74	0.00	2.60	1.86	0.74	0.00	0.37	0.37	0.00
28-30	5.31	0.00	3.10	28.32	0.00	0.00	4.42	1.77	0.00	0.00	0.00	0.00	0.00
30-32	4.93	0.00	2.96	35.47	0.00	0.00	2.96	3.45	0.99	0.00	0.00	0.00	0.00
32-34	6.86	0.49	3.92	36.27	0.49	0.00	4.41	0.98	1.47	0.00	0.00	0.00	0.00
34-36	3.08	0.00	3.85	30.00	0.00	0.00	7.69	3.85	0.00	0.00	0.77	0.00	0.00
36-38	3.92	0.00	1.47	37.75	0.00	0.00	5.88	0.98	0.00	0.00	0.98	1.47	0.00
38-40	8.57	0.00	1.90	32.86	0.48	0.00	5.71	2.86	0.48	0.00	0.00	0.00	0.48
40-42	8.25	0.00	8.25	39.81	0.49	0.00	4.37	0.49	1.46	0.00	0.00	0.00	0.49
42-44	6.42	0.00	5.88	29.95	0.00	0.00	5.88	3.74	1.60	0.00	0.00	0.53	0.00
44-46	7.45	0.00	2.66	36.70	2.13	0.00	5.85	6.38	0.53	0.00	0.00	0.00	0.00
46-48	5.46	0.00	4.92	27.87	1.09	0.00	3.28	2.73	0.55	0.00	1.09	0.00	0.00
48-50	8.00	0.00	4.57	40.57	0.57	0.00	2.86	0.57	0.57	0.00	0.00	0.00	0.00
50-52	7.82	0.00	5.59	35.20	1.12	0.00	7.26	5.59	0.00	0.00	0.00	0.00	0.00
52-54	6.44	0.00	9.41	37.13	0.00	0.00	3.47	3.96	0.99	0.00	1.49	0.00	0.00
54-56	6.10	0.00	4.23	46.95	0.47	0.00	6.10	4.69	0.00	0.00	0.47	0.00	0.00
56-58	8.63	0.00	5.08	46.19	0.00	0.00	7.11	2.03	0.00	0.00	0.00	0.00	0.51
58-60	5.10	0.00	4.08	52.55	0.51	0.00	4.08	1.02	0.00	0.00	0.51	0.00	0.00
60-62	8.04	0.00	1.79	41.07	0.00	0.00	5.36	3.57	0.00	0.00	0.00	0.00	0.00
62-64	4.90	0.00	2.94	38.24	0.00	0.00	12.75	1.96	0.00	0.00	0.00	0.00	0.00
64-66	10.43	0.00	2.61	30.43	0.00	0.00	7.83	1.74	0.00	0.00	0.00	0.00	0.00
66-68	2.78	0.00	7.41	37.04	0.00	0.00	8.33	0.93	0.00	0.00	0.00	0.00	0.00
68-70	5.76	0.00	5.04	35.97	0.72	0.00	6.47	0.72	0.00	0.00	0.00	0.00	0.00
70-72	4.72	0.00	2.83	37.74	0.94	0.00	10.38	1.89	0.00	0.00	0.00	0.94	0.00
72-74	2.63	0.00	0.88	34.21	0.00	0.00	5.26	0.00	0.00	0.00	0.00	0.00	0.00
74-76	3.92	0.00	0.00	31.37	0.00	0.00	6.86	0.00	0.00	0.00	0.00	0.00	0.00
76-78	7.09	0.00	1.57	37.01	0.00	0.00	8.66	0.00	0.00	0.00	0.00	0.00	0.00
78-80	10.78	0.00	1.96	25.49	0.00	0.00	9.80	0.00	0.00	0.00	0.00	0.00	0.00
80-82	6.84	0.00	2.56	32.48	0.85	0.00	5.98	0.85	0.00	0.00	0.00	0.00	0.00
82-84	5.56	0.00	0.00	22.22	0.00	0.93	6.48	2.78	0.00	0.00	0.00	0.00	0.93
84-86	7.84	0.00	3.92	31.37	0.00	0.00	1.96	0.00	0.00	0.00	0.00	0.00	0.00

Table 2: Relative abundance (%) of molluscs in Core T-24.

Species	<i>Triplicha</i> sp.	<i>Truncatella</i> spp.	<i>Turbonilla</i> sp.	Turrid	Vitrinidae	Unidentified Gastropods	<i>Anomalocardia</i> spp.	<i>Arcopsis adamsi</i>	<i>Brachiodontes</i> sp.	<i>Cumingia tellinoidea</i>	<i>Laevecardium</i> spp.	<i>Lucina</i> spp.	<i>Mytilopsis leucophaeta</i>
Depth (cm)													
0-2	0.00	1.44	0.00	0.00	0.72	0.72	28.06	0.00	5.04	0.00	2.88	0.00	5.04
2-4	0.00	0.00	0.00	0.00	1.64	0.82	36.89	0.00	8.20	0.00	1.64	0.00	0.82
4-6	0.00	1.31	0.00	1.31	0.00	0.65	24.84	0.00	5.23	0.00	1.31	0.00	0.65
6-8	0.00	0.00	0.00	0.00	0.54	0.54	30.43	0.00	2.17	0.00	1.63	0.00	0.54
8-10	0.00	1.53	0.00	0.00	0.00	0.00	25.19	0.00	8.40	0.00	4.58	0.00	5.34
10-12	0.00	0.68	0.00	0.00	0.68	0.00	25.85	0.00	11.56	0.00	4.08	0.00	2.72
12-14	0.00	0.00	0.00	0.00	0.68	0.00	34.46	0.00	8.11	0.68	2.70	0.00	2.03
14-16	0.00	0.00	0.51	0.00	0.51	1.02	26.02	0.00	4.59	0.00	3.06	0.00	0.00
16-18	0.00	0.71	0.00	0.00	0.00	0.00	28.37	0.71	4.96	0.00	2.13	0.00	2.13
18-20	0.00	0.00	0.00	0.00	0.00	0.00	28.57	0.00	4.29	0.00	4.29	0.00	0.00
20-22	0.00	0.00	0.00	0.54	0.54	1.08	22.70	0.00	0.54	0.00	2.16	0.00	0.54
22-24	0.00	0.00	0.00	0.00	0.00	0.57	16.57	0.00	0.57	0.00	1.14	0.00	0.00
24-26	0.00	0.00	1.10	0.00	0.00	0.00	23.08	0.00	2.20	0.55	0.00	0.00	2.20
26-28	0.00	0.00	0.00	0.00	0.00	0.37	24.16	0.00	1.49	0.00	2.97	0.37	0.37
28-30	0.00	0.00	0.00	0.00	0.00	0.44	24.34	0.00	3.98	0.00	0.00	0.00	1.77
30-32	0.00	0.00	0.00	0.00	0.49	0.00	26.11	0.00	1.48	0.00	0.49	0.00	0.49
32-34	0.00	0.49	0.00	0.00	0.00	0.00	27.45	0.00	1.47	0.00	1.47	0.00	0.00
34-36	0.00	0.00	0.00	0.00	0.00	0.77	25.38	0.00	0.00	0.00	0.77	0.00	0.77
36-38	0.00	0.00	0.00	0.00	0.00	0.49	27.94	0.00	0.98	0.00	0.49	0.00	0.00
38-40	0.00	0.00	0.00	0.00	0.48	0.00	24.76	0.00	2.38	0.00	0.48	0.00	0.48
40-42	0.00	0.00	0.00	0.97	0.00	0.00	20.39	0.00	1.94	0.00	0.00	0.00	0.49
42-44	0.00	0.00	0.00	0.53	0.00	0.53	26.74	0.00	1.07	0.00	0.53	0.00	0.00
44-46	0.00	0.00	0.00	0.00	0.00	0.00	23.94	0.00	1.06	0.00	0.53	0.00	1.06
46-48	0.00	0.00	0.00	0.00	0.00	0.00	30.60	0.00	1.09	0.00	1.09	0.00	0.00
48-50	0.00	0.00	0.00	1.71	0.00	0.00	24.57	0.00	0.57	0.00	0.00	0.00	0.00
50-52	0.56	0.00	0.00	0.56	0.00	0.56	22.35	0.00	2.79	0.00	1.12	0.00	0.00
52-54	0.00	0.00	0.00	0.00	0.00	0.00	19.31	0.50	0.99	0.00	0.00	0.00	0.00
54-56	0.00	0.00	0.00	0.47	0.94	0.00	15.96	0.00	1.88	0.00	0.47	0.00	0.00
56-58	0.00	0.00	0.00	0.00	0.00	0.00	16.24	0.00	2.03	0.00	0.00	0.00	0.00
58-60	0.00	0.00	0.00	0.00	0.00	0.00	15.31	0.00	1.02	0.00	0.00	0.00	0.00
60-62	0.00	0.00	0.00	0.00	0.00	0.00	22.32	0.00	0.00	0.00	0.89	0.00	0.00
62-64	0.00	0.00	0.00	0.00	0.98	0.00	23.53	0.00	0.00	0.00	0.00	0.98	0.00
64-66	0.00	0.87	0.00	0.00	0.87	0.00	26.09	0.00	0.00	0.00	0.87	0.00	0.87
66-68	0.00	0.00	0.00	0.00	0.00	0.00	25.93	0.00	0.00	0.00	1.85	0.00	0.93
68-70	0.00	0.00	0.00	0.72	0.00	0.00	20.14	0.00	0.00	0.00	0.72	0.00	1.44
70-72	0.00	0.00	0.00	0.94	0.00	0.00	14.15	0.00	0.00	0.00	0.94	0.00	0.00
72-74	0.00	0.00	0.00	0.00	0.00	0.00	22.81	0.00	0.00	0.00	0.88	0.00	0.00
74-76	0.00	0.00	0.00	0.98	0.00	0.00	27.45	0.00	0.00	0.00	0.98	0.00	0.98
76-78	0.00	0.00	0.00	0.00	0.00	0.00	26.77	0.00	0.00	0.00	0.00	0.00	0.79
78-80	0.00	0.00	0.00	0.00	0.00	0.00	19.61	0.00	0.98	0.00	0.98	0.00	0.00
80-82	0.00	0.00	0.00	0.00	0.00	0.00	20.51	0.00	0.00	0.00	0.00	0.00	0.00
82-84	0.00	0.00	0.00	0.00	0.00	0.00	14.81	0.00	0.00	0.00	0.93	0.00	0.00
84-86	0.00	0.00	0.00	0.00	0.00	0.00	14.71	0.00	0.98	0.00	0.00	0.00	0.00

Table 2: Relative abundance (%) of molluscs in Core T-24.

Species	<i>Mytilid</i> sp.	Ostreid	<i>Parastarte triquetra</i>	Pectinid	<i>Phacoides pectinatus</i>	<i>Pinctada radiata</i>	<i>Polymesoda</i> sp.	? <i>Semele</i> sp.	<i>Tagelus</i> sp.	<i>Tellina</i> spp.	<i>Transennella</i> spp.	Unidentified Pelecyc. Frags.	TOTAL COUNT
Depth (cm)													
0-2	1.44	0.00	0.00	0.00	0.00	0.00	0.00	2.16	0.00	5.04	0.00	4.32	139
2-4	0.82	0.00	0.00	0.00	0.00	0.00	1.64	1.64	0.00	1.64	0.82	1.64	122
4-6	0.65	0.00	0.00	0.00	0.00	0.00	1.31	0.65	0.65	3.27	1.96	0.00	153
6-8	0.54	0.00	0.00	0.54	0.00	0.00	5.43	0.54	0.00	1.63	1.63	0.00	184
8-10	0.00	0.00	0.00	0.00	0.00	0.76	3.05	0.00	0.00	3.05	6.11	2.29	131
10-12	0.00	0.00	0.00	0.00	0.00	0.00	2.04	2.04	0.00	5.44	4.76	4.76	147
12-14	0.68	0.00	0.00	0.00	0.00	0.00	3.38	2.70	0.00	0.68	5.41	3.38	148
14-16	0.00	0.00	0.00	0.00	0.00	0.00	3.06	1.02	0.51	3.06	3.06	0.00	196
16-18	0.00	0.00	0.00	0.00	0.00	0.00	5.67	2.84	0.00	5.67	2.13	0.00	141
18-20	0.00	0.00	0.71	0.00	0.00	0.00	4.29	0.00	2.14	5.00	2.86	2.14	140
20-22	1.62	0.00	0.00	0.00	0.00	0.00	4.32	1.08	0.00	4.86	2.16	1.08	185
22-24	6.29	0.00	0.00	0.00	0.00	0.00	4.00	2.29	0.00	6.86	2.29	0.00	175
24-26	1.10	0.00	0.00	0.00	0.00	0.00	5.49	4.40	0.00	6.59	3.30	1.65	182
26-28	1.12	0.00	0.37	0.00	0.00	4.09	2.97	0.37	0.37	9.29	2.23	2.60	269
28-30	0.88	0.00	0.00	0.00	0.00	0.00	1.77	2.65	0.00	12.39	4.42	4.42	226
30-32	0.49	0.00	0.00	0.00	0.00	0.00	3.94	1.48	0.00	9.85	3.45	0.99	203
32-34	0.98	0.00	0.00	0.00	0.00	0.00	3.92	1.96	0.49	3.92	2.94	0.00	204
34-36	4.62	0.00	0.00	0.00	0.00	0.00	6.15	2.31	0.77	6.15	3.08	0.00	130
36-38	1.47	0.00	0.49	0.00	0.00	0.00	4.90	0.98	0.49	5.88	3.43	0.00	204
38-40	2.38	0.00	0.00	0.00	0.00	0.00	6.19	1.43	0.95	4.76	2.38	0.00	210
40-42	0.49	0.00	1.94	0.00	0.00	0.00	2.91	0.97	0.00	2.43	2.43	1.46	206
42-44	2.14	0.00	0.53	0.00	0.00	0.00	5.88	2.14	0.00	2.14	3.21	0.53	187
44-46	1.06	0.00	0.53	0.00	0.00	0.00	2.13	2.13	0.00	2.13	2.66	1.06	188
46-48	2.19	0.55	0.00	0.00	0.00	0.00	3.28	3.83	0.00	1.64	1.09	7.65	183
48-50	1.71	0.00	0.00	0.00	0.00	0.00	2.29	1.71	0.00	2.29	4.00	3.43	175
50-52	0.00	0.00	0.00	0.00	0.00	0.00	5.03	0.56	0.00	1.12	2.79	0.00	179
52-54	5.45	0.00	0.00	0.00	0.00	0.00	6.93	0.00	0.00	1.49	1.98	0.50	202
54-56	0.47	0.00	0.00	0.00	0.00	0.00	7.98	0.47	0.00	0.47	1.41	0.47	213
56-58	1.52	0.00	0.00	0.00	0.00	0.00	6.60	1.52	0.00	2.03	0.51	0.00	197
58-60	0.51	0.00	0.51	0.00	0.00	0.00	9.69	1.53	0.00	2.04	1.02	0.51	196
60-62	0.89	0.00	0.00	0.00	0.00	0.00	10.71	0.89	0.00	0.89	1.79	1.79	112
62-64	3.92	0.00	0.00	0.00	1.96	0.00	3.92	0.98	0.00	1.96	0.98	0.00	102
64-66	2.61	0.00	0.00	0.00	0.87	0.00	12.17	0.87	0.00	0.00	0.87	0.00	115
66-68	3.70	0.00	0.00	0.00	0.00	0.00	5.56	3.70	0.00	0.93	0.93	0.00	108
68-70	0.00	0.00	0.72	0.00	0.00	0.00	12.23	7.91	1.44	0.00	0.00	0.00	139
70-72	1.89	0.00	0.00	0.00	0.94	0.00	10.38	6.60	1.89	0.00	2.83	0.00	106
72-74	1.75	0.00	0.00	0.00	1.75	0.00	10.53	12.28	3.51	0.88	0.00	2.63	114
74-76	0.98	0.00	0.00	0.00	0.00	0.00	15.69	8.82	1.96	0.00	0.00	0.00	102
76-78	0.79	0.00	0.00	0.00	0.00	0.00	9.45	6.30	1.57	0.00	0.00	0.00	127
78-80	2.94	0.00	0.00	0.00	0.00	0.00	19.61	5.88	0.98	0.98	0.00	0.00	102
80-82	0.85	0.00	0.00	0.00	0.00	0.00	18.80	9.40	0.85	0.00	0.00	0.00	117
82-84	0.00	0.00	0.00	0.00	0.00	0.00	35.19	8.33	0.93	0.93	0.00	0.00	108
84-86	1.96	0.00	0.00	0.00	0.00	0.00	22.55	13.73	0.00	0.98	0.00	0.00	102

Table 3: Relative abundance (%) of ostracodes in Core T-24.

Species	<i>Acutocythereis laevis</i>	<i>Candona</i>	<i>Cyprina</i>	<i>Cypris</i> sp.	<i>Cyprideis salebrosa</i>	<i>Cypridopsis okeechobei</i>	<i>Cytheromorpha paracastanea</i>	<i>Cytherura sandbergi</i>	<i>Cytherura reticulata</i>	<i>Dolerocypris</i> sp.	<i>Heterocypris punctata</i>	<i>Leptocythere</i> sp.	<i>Limnocythere floridana</i>	<i>Loxococoncha matagordensis</i>
Depth (cm)														
0-2	0.68	0.00	0.00	1.35	10.81	0.68	2.03	7.43	0.00	0.68	0.00	0.00	0.00	12.84
2-4	0.00	0.00	0.00	0.66	9.21	0.00	1.32	11.18	0.00	0.00	0.00	0.00	0.00	11.84
4-6	0.00	0.00	0.55	0.00	4.97	0.55	0.00	12.71	0.00	0.55	0.00	0.00	0.00	13.26
6-8	0.00	0.00	0.00	1.82	6.67	0.00	1.21	7.27	0.61	0.00	0.00	0.61	0.00	14.55
8-10	0.00	0.44	0.00	0.44	4.87	0.44	3.54	7.96	0.88	0.00	0.00	0.44	0.00	11.95
10-12	0.00	0.42	0.00	0.85	9.32	0.42	0.85	5.08	0.42	0.00	0.00	0.00	1.27	9.75
12-14	0.56	0.56	0.00	1.40	7.54	0.28	1.12	5.03	0.28	0.28	0.00	0.28	0.28	6.70
14-16	0.00	0.00	0.00	1.25	9.38	0.00	0.63	5.00	0.00	0.00	0.00	0.00	0.00	10.00
16-18	0.00	0.00	0.00	1.06	6.38	0.53	0.00	4.79	0.53	0.00	0.00	0.00	0.53	5.32
18-20	0.00	0.00	0.00	1.92	8.65	0.96	0.00	3.85	0.96	0.00	0.00	0.00	0.00	9.62
20-22	0.00	0.00	0.00	0.84	7.56	0.00	0.84	2.52	0.00	0.00	0.00	0.00	0.84	9.24
22-24	0.00	0.00	0.00	0.00	6.92	0.00	0.63	1.89	0.63	0.00	0.00	1.26	1.26	6.29
24-26	0.00	0.00	0.00	1.05	10.53	0.00	1.05	2.11	0.00	0.00	0.00	0.00	0.00	4.21
26-28	0.00	0.00	0.00	3.64	23.64	0.00	0.00	2.73	0.00	0.00	0.00	0.00	0.91	4.55
28-30	0.00	0.00	0.00	2.97	5.94	1.98	0.00	0.99	0.00	0.00	0.00	0.00	0.00	4.95
30-32	0.00	0.00	0.00	0.93	14.02	0.00	0.00	3.74	1.87	0.00	0.00	0.00	0.93	8.41
32-34	0.00	0.93	0.00	0.00	10.19	1.85	0.00	6.48	1.85	0.00	0.00	0.00	0.93	4.63
34-36	0.00	0.00	1.00	1.00	15.00	0.00	0.00	3.00	1.00	1.00	0.00	0.00	1.00	5.00
36-38	0.00	0.00	0.00	3.00	11.00	1.00	0.00	3.00	0.00	0.00	0.00	1.00	1.00	10.00
38-40	0.00	0.00	0.00	0.97	11.65	0.00	0.00	0.00	1.94	0.00	0.00	0.00	0.00	4.85
40-42	0.00	0.00	0.00	2.04	13.27	1.02	0.00	1.02	0.00	0.00	0.00	0.00	2.04	14.29
42-44	0.00	0.00	0.00	1.96	9.80	1.96	0.98	4.90	0.00	0.00	0.00	0.00	0.00	10.78
44-46	0.00	0.00	0.00	1.94	13.59	0.00	0.00	1.94	0.00	0.00	0.00	0.00	0.97	8.74
46-48	0.00	0.00	0.00	0.00	7.62	0.00	0.00	0.00	0.00	0.00	0.00	0.95	0.95	11.43
48-50	0.00	0.00	0.00	0.94	4.72	0.94	0.94	0.94	1.89	0.00	0.00	0.00	0.00	16.04
50-52	0.00	0.00	0.00	1.96	6.86	0.00	0.98	0.98	0.00	0.00	0.00	0.00	0.00	5.88
52-54	0.00	0.00	0.90	0.90	8.11	2.70	0.00	5.41	0.00	0.00	0.00	0.00	0.00	9.91
54-56	0.00	0.00	0.00	0.91	8.18	1.82	0.00	3.64	0.00	0.00	0.00	1.82	1.82	10.91
56-58	0.00	0.00	0.00	1.00	7.00	2.00	0.00	8.00	1.00	0.00	0.00	0.00	3.00	6.00
58-60	0.00	0.00	0.00	2.70	9.91	2.70	0.00	4.50	0.00	0.00	0.00	1.80	0.90	6.31
60-62	0.00	0.00	1.68	2.52	43.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.72
62-64	0.00	0.00	0.00	3.51	31.58	0.00	0.00	0.88	0.00	0.00	0.88	0.00	0.00	5.26
64-66	0.00	0.00	0.87	3.48	31.30	6.09	0.00	0.00	0.00	0.00	1.74	0.00	0.00	5.22
66-68	0.00	0.00	0.00	3.91	33.59	3.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.91
68-70	0.00	0.00	0.00	4.42	44.25	3.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.65
72-74	0.00	0.00	1.90	10.48	36.19	8.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.76
74-76	0.00	0.00	2.91	3.88	48.54	2.91	0.00	0.00	0.00	0.00	0.97	0.00	0.00	4.85
76-78	0.00	0.00	0.90	9.01	45.95	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78-80	0.00	0.00	0.76	4.55	59.09	3.03	0.00	0.00	0.00	0.00	0.76	0.00	0.00	3.79
80-82	0.00	0.00	0.00	9.60	32.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80	2.40
82-84	0.00	0.00	0.79	3.15	19.69	7.09	0.00	0.00	0.79	0.00	0.00	0.00	1.57	1.57
84-86	0.00	1.85	0.93	5.56	32.41	4.63	0.00	0.00	0.93	0.00	0.00	0.00	0.00	0.93

Table 3: Relative abundance (%) of ostracodes in Core T-24.

Species	<i>Malzella floridana</i>	<i>Parapontoparta</i> sp.	<i>Paracytheroma repexa</i>	<i>Paracytheroma stephensoni</i>	<i>Peratocytheridea setipunctata</i>	<i>Perissocytheridea brachyforma</i>	<i>Perissocytheridea cf. cribrosa</i>	<i>Reticulocytheris floridana</i>	<i>Thalassocypria</i>	<i>Xestoleberis</i> spp.	Other	TOTAL COUNT
Depth (cm)												
0-2	32.43	0.00	1.35	0.68	0.00	18.92	2.70	0.00	0.68	6.76	0.00	148
2-4	31.58	0.00	0.00	0.00	0.00	25.00	3.29	1.32	0.00	4.61	0.00	152
4-6	27.62	0.00	1.10	0.55	2.76	25.97	1.66	0.55	0.55	4.97	1.66	181
6-8	25.45	0.00	1.82	0.00	0.00	30.30	4.24	0.00	1.21	4.24	0.00	165
8-10	26.11	0.00	1.33	0.44	0.00	30.09	3.10	0.88	1.33	5.75	0.00	226
10-12	31.78	0.42	0.00	0.42	1.27	31.36	3.39	0.85	0.00	2.12	0.00	236
12-14	28.77	0.56	0.84	0.28	0.28	37.71	2.79	0.84	0.00	3.63	0.00	358
14-16	25.63	0.00	0.00	0.00	0.63	33.75	10.00	0.00	0.63	2.50	0.63	160
16-18	34.57	0.00	0.53	0.53	0.53	37.77	2.13	0.53	0.00	3.19	1.06	188
18-20	20.19	0.00	0.00	0.00	0.96	42.31	9.62	0.00	0.00	0.96	0.00	104
20-22	26.05	0.00	0.84	0.00	0.00	44.54	6.72	0.00	0.00	0.00	0.00	119
22-24	27.04	1.89	0.00	0.00	0.00	45.91	3.14	0.63	0.00	1.89	0.63	159
24-26	29.47	0.00	2.11	0.00	0.00	45.26	2.11	0.00	0.00	2.11	0.00	95
26-28	11.82	0.00	0.00	0.00	0.00	40.91	10.00	0.00	0.91	0.91	0.00	110
28-30	20.79	0.00	0.00	0.00	0.00	58.42	3.96	0.00	0.00	0.00	0.00	101
30-32	19.63	0.00	1.87	0.00	0.00	39.25	6.54	0.00	0.00	2.80	0.00	107
32-34	18.52	0.00	0.00	0.00	1.85	50.00	0.93	0.00	0.00	1.85	0.00	108
34-36	21.00	0.00	1.00	0.00	2.00	37.00	6.00	0.00	3.00	1.00	1.00	100
36-38	23.00	0.00	1.00	0.00	2.00	33.00	8.00	0.00	0.00	3.00	0.00	100
38-40	19.42	2.91	0.97	0.00	0.00	52.43	1.94	0.00	0.00	2.91	0.00	103
40-42	24.49	0.00	1.02	0.00	3.06	32.65	3.06	1.02	0.00	1.02	0.00	98
42-44	21.57	0.98	0.98	0.00	0.00	38.24	2.94	0.00	0.98	3.92	0.00	102
44-46	30.10	0.00	0.00	0.00	0.00	32.04	4.85	0.97	0.00	4.85	0.00	103
46-48	29.52	1.90	1.90	0.00	0.00	34.29	1.90	1.90	1.90	4.76	0.95	105
48-50	25.47	3.77	3.77	0.00	0.94	33.02	1.89	0.00	0.00	4.72	0.00	106
50-52	37.25	2.94	2.94	0.00	0.98	31.37	2.94	0.00	0.00	4.90	0.00	102
52-54	36.04	0.90	0.90	0.00	0.90	26.13	2.70	0.00	0.00	4.50	0.00	111
54-56	28.18	0.00	0.00	0.00	1.82	32.73	5.45	0.00	0.91	1.82	0.00	110
56-58	19.00	0.00	0.00	0.00	1.00	45.00	2.00	2.00	0.00	3.00	0.00	100
58-60	17.12	1.80	1.80	0.00	0.00	45.95	2.70	0.00	0.00	1.80	0.00	111
60-62	8.40	0.00	0.00	0.00	0.84	35.29	0.00	0.00	0.00	0.00	0.84	119
62-64	6.14	0.00	0.88	0.00	3.51	44.74	2.63	0.00	0.00	0.00	0.00	114
64-66	11.30	0.00	0.00	0.00	3.48	32.17	1.74	2.61	0.00	0.00	0.00	115
66-68	11.72	0.00	0.00	0.00	3.13	36.72	2.34	0.78	0.00	0.00	0.78	128
68-70	7.08	0.00	0.00	0.00	4.42	29.20	4.42	0.00	0.00	0.00	0.00	113
72-74	4.76	0.00	0.00	0.00	1.90	29.52	1.90	0.00	0.00	0.00	0.00	105
74-76	9.71	0.00	0.00	0.00	4.85	15.53	2.91	0.97	0.00	1.94	0.00	103
76-78	8.11	0.00	0.00	0.00	7.21	23.42	2.70	1.80	0.00	0.00	0.00	111
78-80	4.55	0.00	0.00	0.00	4.55	18.18	0.76	0.00	0.00	0.00	0.00	132
80-82	5.60	0.00	0.00	0.00	3.20	37.60	4.00	0.00	0.00	0.00	0.80	125
82-84	6.30	0.00	0.00	0.00	3.15	53.54	2.36	0.00	0.00	0.00	0.00	127
84-86	5.56	0.00	0.00	0.00	1.85	42.59	0.93	0.93	0.00	0.00	0.93	108

Table 4: Relative abundance (%) of pollen in Core T-24 showing the scientific and common (in parentheses) names.

Species	<i>Pinus</i> (Pine)	<i>Carya</i> (Hickory)	<i>Taxodiaceae</i> (Cypress)	<i>Quercus</i> (Oak)	<i>Casuarina</i> (Australian Pine)	<i>Schinus</i> (Pepper Tree)	<i>Melaleuca</i> (Melaleuca)	<i>Rhizophora</i> (Red Mangrove)	<i>Avicennia</i> (Black Mangrove)	<i>Cephalanthus</i> (Buttonbush)	<i>Conocarpus</i> (Buttonwood)	<i>Fagus</i> (Beech)
Depth (cm)												
0-2	31.08	0.00	1.35	10.81	11.49	0.00	0.00	12.84	0.68	0.00	2.70	0.00
2-4	39.50	1.00	0.00	7.50	3.50	0.00	0.00	4.50	0.00	0.00	1.00	0.50
4-6	39.72	1.42	0.71	4.96	2.13	0.00	0.00	12.77	0.00	0.00	4.96	0.00
6-8	24.35	1.74	0.00	11.30	6.09	0.87	0.00	8.70	0.00	0.00	5.22	0.00
8-10	32.65	0.00	0.00	11.56	8.16	0.68	0.00	7.48	0.00	0.00	2.04	0.00
10-12	32.31	0.51	0.00	8.72	11.79	0.51	0.00	5.13	0.00	0.00	1.03	0.00
12-14	29.37	1.59	0.00	10.32	8.73	0.00	0.00	4.76	0.79	0.00	5.56	0.00
14-16	39.27	0.00	1.05	8.90	2.62	0.00	0.00	7.85	2.09	0.00	1.57	0.00
16-18	41.26	0.70	0.00	4.20	5.59	0.00	0.00	6.99	0.00	0.00	4.20	0.00
18-20	47.33	0.00	0.00	3.82	2.29	0.00	0.00	4.58	0.00	0.00	1.53	0.00
20-22	31.44	1.75	1.31	7.42	12.66	0.00	0.00	4.80	3.93	0.00	1.31	0.00
22-24	27.96	0.00	0.54	5.91	2.69	0.54	0.00	6.99	0.00	0.00	6.99	0.00
24-26	50.00	0.00	0.63	4.43	3.16	0.00	0.00	0.00	3.80	0.00	2.53	0.00
26-28	37.50	1.14	0.00	4.55	11.93	0.00	0.00	0.57	0.00	0.00	0.57	0.00
28-30	41.91	0.00	0.00	3.68	14.71	0.00	0.74	2.94	0.00	0.00	0.00	0.00
30-32	34.97	0.00	1.84	3.68	7.36	0.00	0.00	3.07	0.61	0.00	3.68	0.00
32-34	39.90	0.00	0.52	4.15	7.77	0.52	0.00	1.04	0.00	0.00	1.04	0.52
34-36	40.15	6.82	0.00	6.82	9.85	0.00	0.00	1.52	0.00	0.00	1.52	0.76
36-38	32.80	0.00	1.08	4.30	9.68	0.00	0.00	5.91	0.00	0.00	2.69	0.00
38-40	53.57	0.00	0.00	5.36	8.04	0.00	0.00	2.68	0.00	0.00	1.79	0.00
40-42	63.91	0.87	0.00	6.09	3.48	0.87	0.00	5.22	1.30	0.00	0.43	0.00
42-44	51.80	0.00	0.45	5.41	5.41	0.90	0.00	3.15	0.00	0.00	3.60	0.00
44-46	52.57	0.00	0.79	7.51	4.35	0.00	0.00	1.19	0.00	0.00	3.16	0.40
46-48	54.85	0.00	0.00	5.83	2.91	0.00	0.00	0.00	0.00	0.00	4.37	0.00
48-50	59.12	0.00	0.73	5.11	3.65	0.00	0.00	0.73	0.00	0.00	0.73	0.00
50-52	59.66	0.00	1.02	5.42	2.71	0.00	0.00	0.00	0.00	0.00	1.69	0.00
52-54	63.01	0.46	0.00	2.74	2.74	0.00	0.00	1.83	0.46	0.00	2.28	0.00
54-56	60.08	0.82	0.00	4.53	3.29	0.41	0.00	0.82	0.00	0.00	0.00	0.00
56-58	57.65	0.00	0.00	8.82	2.94	0.00	0.00	1.18	0.00	0.00	1.76	0.00
58-60	53.44	0.00	0.53	6.35	1.59	0.53	0.00	1.59	0.53	0.00	1.06	0.00
60-62	60.56	0.00	0.35	3.52	1.41	0.00	0.35	0.35	0.00	0.00	1.76	0.00
62-64	56.47	0.00	0.59	8.82	2.35	0.00	0.00	0.59	0.00	0.00	0.00	0.00
64-66	57.64	0.00	0.00	7.39	4.43	0.00	0.00	2.46	0.49	0.00	0.49	0.00
66-68	59.72	0.35	0.00	9.19	4.24	0.00	0.00	1.06	0.00	0.00	0.00	0.00
68-70	54.46	0.00	0.66	5.28	2.31	0.00	0.00	3.63	0.00	0.00	1.32	0.00
70-72	56.94	0.00	0.36	6.76	1.78	0.00	0.00	0.36	0.00	0.36	0.71	0.00
74-76	59.16	0.32	0.32	2.25	3.86	0.32	0.00	0.64	0.00	0.00	0.96	0.32
74-76	62.77	0.31	0.62	3.69	3.08	0.62	0.00	0.31	0.00	0.00	0.31	0.31
76-78	62.67	0.00	0.00	3.33	4.67	0.00	0.00	0.33	0.00	0.00	0.33	0.00
78-80	78.07	0.33	0.00	4.65	1.99	0.00	0.00	1.00	0.00	0.00	0.00	0.00
80-82	91.28	0.00	0.00	1.34	1.34	0.00	0.00	1.68	0.00	0.00	0.00	0.00
82-84	79.61	0.66	0.00	2.30	3.29	0.00	0.00	0.00	0.00	0.33	0.00	0.00
84-86	88.59	0.00	0.34	1.68	1.68	0.00	0.00	0.34	0.00	0.00	0.00	0.00

Table 4: Relative abundance (%) of pollen in Core T-24 showing the scientific and common (in parentheses) names.

Species	<i>Tilia</i> (Basswood)	<i>Nuphar</i> (Spatter Dock)	<i>Nyssa</i> (Tupelo)	<i>Liquidambar</i> (Sweet Gum)	<i>Magnolia</i> (Magnolia)	<i>Palmae</i> (Palms)	<i>Liliaceae</i> (Lilies)	<i>Liriodendron</i> (Tulip Tree)	<i>Acaanthaceae</i> (Shrimp plants)	<i>Planera</i> (Planer Tree)	<i>Cyrilla</i> (Cyrilla)	<i>Ilex</i> (Holly)
Depth (cm)												
0-2	0.00	0.00	0.00	0.68	0.68	0.00	0.68	0.00	0.00	0.00	0.00	0.00
2-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4-6	0.00	0.00	0.71	0.71	0.00	0.00	0.00	0.00	0.71	0.00	0.00	1.42
6-8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8-10	0.00	0.00	0.00	0.00	0.00	0.68	0.00	0.00	0.00	0.00	0.00	0.00
10-12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.59	0.79
14-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16-18	0.00	0.00	0.00	0.00	0.70	0.00	0.00	0.00	0.70	0.00	0.00	0.00
18-20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.53
20-22	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.00
24-26	0.63	0.00	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63
26-28	0.00	0.00	0.00	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.57	1.70
28-30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30-32	0.00	0.00	0.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32-34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04
34-36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52
36-38	0.00	0.54	0.00	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.54
38-40	0.00	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40-42	0.00	0.00	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.00
42-44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.00
44-46	0.00	0.00	0.00	0.40	0.40	0.00	0.00	0.00	0.00	0.00	0.40	0.00
46-48	0.00	0.00	0.00	0.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48-50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.73	0.00
50-52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52-54	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54-56	0.00	0.00	0.41	0.41	0.00	0.00	0.00	0.00	0.82	0.00	0.00	0.41
56-58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.18	0.00	0.00	0.00
58-60	0.00	0.00	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60-62	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62-64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.76	0.00	0.00	0.59
64-66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.49	0.00	0.00
66-68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.00	0.00	0.00
68-70	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70-72	0.00	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74-76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00
74-76	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31
76-78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33
78-80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80-82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
82-84	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00
84-86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00

Table 4: Relative abundance (%) of pollen in Core T-24 showing the scientific and common (in parentheses) names.

Species	Annonaceae (Pond Apple)	Cornus (Dogwood)	Euphorbiaceae (Spurges)	Fraxinus (Ash)	Meliaceae (Mahoganies)	Polygonaceae (Knotweeds)	Decodon (Swamp Loosestrife)	Bumelia (Bumelia)	Chenopods (Pigweeds/Saltworts)	Poaceae (Grasses)	Ericaceae (Heaths)	Cyperaceae (Sawgrass)
Depth (cm)												
0-2	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.00	3.38	2.70	0.00	0.00
2-4	0.00	0.00	2.50	0.00	0.00	0.00	2.00	0.50	6.00	0.50	0.00	0.50
4-6	0.00	0.00	1.42	0.00	0.00	0.00	0.00	0.00	6.38	0.00	0.71	0.00
6-8	0.87	0.00	0.87	0.00	0.00	0.00	1.74	0.00	8.70	0.87	0.00	0.00
8-10	0.00	0.00	1.36	0.00	0.00	0.00	0.00	0.68	10.20	1.36	0.00	0.00
10-12	0.00	0.00	1.54	0.00	0.00	0.00	0.51	0.51	4.62	3.59	0.00	1.03
12-14	0.79	0.00	1.59	0.00	0.00	0.00	1.59	0.00	4.76	1.59	0.00	0.79
14-16	0.52	0.00	3.14	0.52	0.00	0.00	0.00	0.52	4.71	1.57	0.00	2.09
16-18	0.00	0.00	0.70	0.00	0.00	0.00	0.00	0.00	5.59	2.80	0.00	1.40
18-20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.63	1.53	0.00	2.29
20-22	0.00	0.00	1.31	0.00	0.00	0.00	0.00	0.00	10.48	0.87	0.44	0.44
22-24	0.00	0.00	0.00	0.00	0.00	0.00	0.54	1.08	5.91	2.15	0.00	0.00
24-26	0.00	0.00	1.27	0.00	0.00	0.00	0.00	1.27	8.86	1.27	0.00	1.27
26-28	0.00	0.00	1.14	0.00	0.00	0.00	0.00	0.57	11.93	0.00	0.00	0.00
28-30	0.00	1.47	1.47	0.00	0.00	0.00	1.47	0.00	9.56	0.00	0.00	0.00
30-32	0.00	0.00	0.61	0.00	0.00	0.00	1.84	0.61	9.82	0.61	0.00	0.00
32-34	0.00	0.00	1.04	0.00	0.00	0.00	0.00	0.00	12.44	0.52	0.00	0.52
34-36	0.00	0.00	3.79	0.76	1.52	0.00	0.76	0.00	5.30	0.76	0.00	0.00
36-38	0.00	0.00	0.54	0.54	0.00	0.00	0.00	1.08	6.99	1.08	0.00	2.15
38-40	0.00	0.00	2.23	0.45	0.00	0.00	0.45	0.45	5.80	0.00	0.00	3.13
40-42	0.00	0.00	1.74	0.00	0.00	0.00	0.00	0.00	4.78	0.87	0.00	0.00
42-44	0.00	0.00	0.90	0.00	0.00	0.00	0.45	0.00	5.86	0.90	0.00	0.00
44-46	0.00	0.00	1.19	0.00	0.00	0.00	1.19	0.00	7.11	1.19	0.00	1.19
46-48	0.00	0.00	3.40	0.00	0.00	0.00	2.91	0.00	10.68	0.49	0.00	0.00
48-50	0.00	0.00	2.19	0.00	0.00	0.00	0.73	0.00	6.57	0.73	0.00	0.00
50-52	0.00	0.00	0.34	0.00	0.00	0.00	3.05	0.00	10.51	0.00	0.00	1.36
52-54	0.00	0.00	1.83	0.00	0.00	0.00	1.83	0.00	9.59	0.46	0.00	0.91
54-56	0.00	0.00	1.65	0.00	0.00	0.00	0.82	0.41	9.88	0.41	0.00	1.65
56-58	0.00	0.00	2.35	0.00	0.00	0.00	2.35	0.00	12.94	0.59	0.00	0.00
58-60	0.00	0.00	1.06	0.00	0.00	0.00	1.06	0.00	20.63	0.53	0.00	1.06
60-62	0.00	0.00	0.35	0.35	0.00	0.00	0.70	0.35	16.20	1.41	0.00	0.35
62-64	0.00	0.00	0.00	0.00	0.00	0.00	1.18	0.59	12.35	0.59	0.00	0.00
64-66	0.00	0.00	0.49	0.00	0.00	0.00	0.49	0.00	14.78	1.97	0.00	1.48
66-68	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	10.25	0.35	0.00	0.00
68-70	0.00	0.00	0.66	0.00	0.00	0.00	1.32	0.00	16.17	0.66	0.33	0.99
70-72	0.00	0.36	1.42	0.00	0.00	0.00	0.71	0.36	15.66	1.42	0.00	0.71
74-76	0.00	0.00	0.96	0.00	0.00	0.00	0.96	0.00	18.01	0.96	0.32	0.00
74-76	0.00	0.00	0.92	0.00	0.00	0.00	0.92	0.00	12.31	0.92	0.00	1.54
76-78	0.00	0.00	1.00	0.00	0.00	0.33	1.67	0.00	16.00	0.33	0.00	1.33
78-80	0.00	0.00	1.33	0.00	0.00	0.00	1.00	0.00	5.65	0.33	0.00	0.66
80-82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.35	0.00	0.00	0.34
82-84	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	6.25	0.66	0.00	0.66
84-86	0.00	0.00	0.34	0.00	0.00	0.00	0.34	0.00	2.01	0.00	0.34	1.01

Table 4: Relative abundance (%) of pollen in Core T-24 showing the scientific and common (in parentheses) names.

Species	Asteraceae (Asters)	Typha (Cattail)	Passiflora (Passion Flower)	Clethra (Pepperbush)	Borreria (Buttonweed)	Fabaceae (Legumes)	Gentianaceae (Gentians)	Vitaceae (Grapes)	Myriophyllum (Water milfoil)	Sagittaria (Arrowhead)	Ephedra (Ephedra)	Utricularia (Bladderwort)
Depth (cm)												
0-2	5.41	2.03	0.00	0.00	0.00	1.35	0.00	0.00	0.00	0.68	0.00	0.00
2-4	9.00	2.00	0.00	0.00	0.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00
4-6	9.93	0.71	0.00	0.00	0.00	2.13	0.00	0.00	0.00	0.00	0.00	0.00
6-8	5.22	1.74	0.00	0.00	0.00	1.74	0.00	0.00	0.87	0.00	0.00	0.00
8-10	8.84	1.36	0.00	0.00	0.00	2.04	0.00	0.00	0.00	0.00	0.00	0.00
10-12	7.18	1.54	0.00	0.00	0.00	9.23	0.00	0.00	0.00	0.00	0.00	0.00
12-14	7.94	2.38	0.00	0.00	0.00	1.59	0.00	0.00	0.00	0.79	0.00	0.00
14-16	8.38	0.52	0.00	0.00	0.00	2.62	0.00	0.00	0.00	0.00	0.00	0.00
16-18	7.69	0.70	0.00	0.00	0.00	2.80	0.00	0.00	0.00	0.70	0.00	0.00
18-20	2.29	1.53	0.00	0.00	0.00	1.53	0.00	0.00	0.00	0.76	0.00	0.00
20-22	8.73	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00
22-24	9.68	1.61	0.00	0.00	0.00	3.23	1.08	0.00	0.00	0.00	0.00	0.00
24-26	3.80	0.63	0.00	0.00	0.00	0.63	0.00	0.00	0.00	0.63	0.00	0.00
26-28	7.39	1.14	0.00	0.00	0.00	0.57	0.57	0.00	0.00	0.57	0.00	0.00
28-30	2.21	0.74	0.00	0.00	0.00	1.47	0.00	0.00	0.00	0.74	0.00	0.00
30-32	5.52	1.84	0.00	0.00	0.00	3.07	1.84	0.00	0.00	0.61	0.00	0.00
32-34	5.70	1.04	0.00	0.00	0.00	3.11	0.00	0.00	0.00	0.00	0.00	0.00
34-36	3.79	0.00	0.00	0.00	0.00	0.76	0.00	0.00	0.00	0.00	0.00	0.00
36-38	2.15	0.00	0.00	0.00	0.00	3.76	0.00	0.00	0.00	0.00	0.00	0.00
38-40	0.45	0.89	0.00	0.00	0.00	4.46	0.45	0.00	0.00	0.00	0.00	0.00
40-42	0.87	0.43	0.00	0.00	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.43
42-44	1.80	0.00	0.00	0.00	0.00	5.41	0.45	0.00	0.00	0.00	0.00	0.00
44-46	2.37	0.40	0.00	0.00	0.00	4.74	0.00	0.00	0.00	0.00	0.00	0.00
46-48	2.91	0.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49
48-50	1.46	0.73	0.00	0.00	0.00	4.38	0.73	0.00	0.00	0.00	0.00	0.00
50-52	1.36	0.68	0.68	0.34	0.00	2.71	0.00	0.00	0.00	0.00	0.00	0.00
52-54	0.91	0.91	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.46
54-56	2.06	0.00	0.00	0.00	0.00	2.06	0.00	0.00	0.00	0.82	0.00	0.00
56-58	1.18	0.00	0.00	0.00	0.00	0.00	0.59	0.00	0.00	0.00	0.00	0.00
58-60	2.65	0.53	0.00	0.00	0.00	2.12	0.00	0.00	0.00	0.00	0.00	0.00
60-62	1.06	0.00	0.00	0.00	0.00	2.11	0.70	0.00	0.00	0.70	0.00	0.35
62-64	2.94	0.59	0.00	0.00	0.00	4.12	0.00	0.00	0.00	0.00	0.00	0.00
64-66	1.97	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00
66-68	2.12	0.00	0.35	0.00	0.00	5.30	0.00	0.00	0.00	0.00	0.00	0.00
68-70	2.64	0.33	0.00	0.00	0.00	1.98	0.00	0.00	0.00	0.00	0.00	0.00
70-72	3.56	0.00	0.00	0.00	0.00	1.07	0.00	0.00	0.00	0.00	0.00	0.00
74-76	1.61	0.00	0.00	0.00	0.00	1.61	0.32	0.00	0.00	0.00	0.00	0.00
74-76	2.46	0.31	0.00	0.00	0.00	0.92	0.31	0.00	0.00	0.31	0.00	0.00
76-78	1.33	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00	0.33	0.00	0.33
78-80	0.33	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.33	0.00
80-82	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00
82-84	0.00	0.66	0.00	0.00	0.00	0.33	0.00	0.00	0.00	1.64	0.00	0.00
84-86	0.67	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	1.01	0.00	0.00

Table 4: Relative abundance (%) of pollen in Core T-24 showing the scientific and common (in parentheses) names.

Species	/tea (Virginia willow)	Polygalaceae (Polygala)	pdo tetraporate	pd4 tetraporate	pox polyporate	pc3 tricolporate	Crumpled/UN unidentifiable	Umbelliferae (Parsley)	UN P03 triporate	TOTAL COUNT	Trilete spores	Monolete spores	<i>Pteris longifolia</i>	Pollen per gram
0-2	0.00	0.00	0.00	0.00	0.00	0.00	4.05	0.00	0.00	148	2	1		2650.22
2-4	0.00	0.00	0.00	0.00	0.00	0.00	4.50	0.00	0.00	200	1	2		1260.00
4-6	0.00	0.00	0.00	0.00	0.00	0.00	2.84	0.00	0.71	141	1	1		1596.25
6-8	0.00	0.00	0.00	0.00	0.00	0.00	6.09	0.00	0.00	115	1	1		1404.96
8-10	0.00	0.00	0.00	0.00	0.68	0.00	4.08	0.00	0.00	147	1			1767.66
10-12	0.00	0.00	0.00	0.00	0.00	0.00	3.59	0.00	0.00	195	3			1018.53
12-14	0.00	0.00	0.00	0.00	0.00	0.00	5.56	0.00	0.00	126		2		1191.23
14-16	0.00	0.00	0.52	0.00	0.00	0.00	3.66	0.00	1.05	191		1		2939.53
16-18	0.00	0.00	0.00	0.00	0.00	0.00	2.10	0.70	1.40	143	2			1465.06
18-20	0.00	0.00	0.00	0.00	0.00	0.00	5.34	0.00	0.00	131		1	1	2087.15
20-22	0.00	0.00	0.00	0.44	0.00	0.44	0.00	0.00	0.00	229	1		1	1450.56
22-24	0.00	0.54	0.00	0.00	0.00	0.00	9.68	0.00	0.00	186		1		3198.70
24-26	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	158	2			1516.87
26-28	0.00	0.00	0.00	0.00	0.00	0.00	3.98	0.00	0.00	176	4	1		956.08
28-30	0.00	0.00	0.00	0.00	0.00	0.00	2.94	0.00	0.00	136	3			1026.16
30-32	0.00	0.00	0.00	0.00	0.00	0.00	7.36	0.00	0.00	163				1977.12
32-34	0.00	0.00	0.00	0.00	0.00	0.52	5.18	0.00	0.00	193	2			1633.34
34-36	0.00	0.00	0.00	0.00	0.00	0.00	6.06	0.00	0.00	132				931.39
36-38	0.00	0.00	0.00	0.00	0.00	0.00	7.53	0.00	0.00	186	2	2		1514.03
38-40	0.00	0.00	0.00	0.00	0.00	0.00	2.68	0.00	0.00	224	2	2		1828.57
40-42	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.00	0.00	230				1074.30
42-44	0.00	0.00	0.00	0.00	0.00	0.00	4.05	0.00	0.00	222	2	4		1852.76
44-46	0.00	0.00	0.00	0.00	0.40	0.00	5.14	0.00	0.00	253	2	3		2299.37
46-48	0.00	0.00	0.00	0.00	0.00	0.00	4.37	0.00	0.00	206				1078.59
48-50	0.00	0.00	0.00	0.00	0.00	0.00	2.92	0.00	0.00	137	2	1		688.73
50-52	0.00	0.00	0.00	0.00	0.00	0.34	3.05	0.00	0.00	295	1	3		1537.20
52-54	0.00	0.00	0.00	0.00	0.00	1.37	3.65	0.00	0.00	219	1	1		2156.81
54-56	0.00	0.00	0.00	0.00	0.00	0.00	3.70	0.00	0.00	243	4	2	1	1069.37
56-58	0.00	0.00	0.00	0.00	0.00	0.00	2.35	0.00	0.00	170	1	1		1229.40
58-60	0.00	0.00	0.00	0.00	0.00	0.00	2.12	0.00	0.00	189			1	959.38
60-62	0.00	0.00	0.00	0.00	0.00	0.00	2.46	0.00	0.00	284	1		1	2029.38
62-64	0.00	0.00	0.00	0.00	0.00	0.59	1.18	0.00	0.00	170	1			1948.23
64-66	0.49	0.00	0.49	0.00	0.00	0.00	0.49	0.00	0.00	203		2		1289.13
66-68	0.00	0.00	0.00	0.00	0.00	0.00	2.47	0.00	0.00	283	4	1		1370.42
68-70	0.00	0.00	0.00	0.00	0.00	0.00	2.31	0.00	0.00	303	3	3		2537.54
70-72	0.00	0.00	0.00	0.00	0.00	0.00	1.78	0.00	0.00	281	1	1		1680.48
74-76	0.00	0.00	0.00	0.00	0.00	0.00	3.22	0.00	0.00	311		1		2131.80
74-76	0.00	0.00	0.00	0.00	0.00	0.00	1.85	0.00	0.00	325	3	1		1430.23
76-78	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.00	0.00	300		1		1996.07
78-80	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.00	0.00	301		2		1753.60
80-82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	298		2		2921.76
82-84	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	304		4		2813.85
84-86	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	298	1	3		2662.05

Table 5: Relative abundance (%) of dinocysts in Core T-24.

Species			<i>Polysphaeridium zoharyi</i>	<i>Spiniferites</i> spp.	<i>Lingulodinium machaerophorum</i>	<i>Nematosphaeropsis</i> spp.	<i>Operculodinium</i> spp.	Other	TOTAL COUNT
Depth (cm)	Wt (g)	Cysts/g							
0-2	20.6	234	43.33	43.33	1.67	3.33	8.33	0.00	60
2-4	25.2	52	21.88	68.75	3.13	0.00	6.25	0.00	32
6-8	17.4	155	33.33	57.14	4.76	2.38	2.38	0.00	42
10-12	27.6	173	21.88	53.13	6.25	3.13	15.63	0.00	32
14-16	25.2	131	24.00	76.00	0.00	0.00	0.00	0.00	25
18-20	19.2	114	27.27	48.48	9.09	3.03	9.09	3.03	33
22-24	18.7	89	64.44	20.00	4.44	2.22	6.67	2.22	45
26-28	29.6	116	28.95	71.05	0.00	0.00	0.00	0.00	38
30-32	23.5	126	40.00	54.29	0.00	0.00	5.71	0.00	35
36-38	32.1	75	47.06	33.33	9.80	0.00	9.80	0.00	51
40-42	31.5	84	48.84	41.86	0.00	2.33	6.98	0.00	43
46-48	40.6	97	69.35	25.81	1.61	0.00	2.42	0.81	124
50-52	33.9	226	75.78	19.28	2.24	0.00	2.69	0.00	223
56-58	36.9	113	62.96	27.16	3.70	2.47	3.70	0.00	81
60-62	31.8	154	58.90	36.81	1.84	0.61	1.84	0.00	163
64-66	25.0	115	33.33	50.00	3.70	1.85	9.26	1.85	54
68-70	20.8	253	56.35	38.10	3.17	0.00	1.59	0.79	126
72-74	30.0	123	38.98	54.24	1.69	1.69	3.39	0.00	59
76-78	32.5	112	58.00	38.00	2.00	2.00	0.00	0.00	50
80-82	24.6	72	68.97	31.03	0.00	0.00	0.00	0.00	29
84-86	35.1	54	62.50	34.38	3.13	0.00	0.00	0.00	32

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