

Yearly totals of solar radiation incident on slopes of various inclinations and azimuths at 77°30'S. (relative to a horizontal surface).

the closest approximation on earth to this model. The topographical modulation is quite specific to Meserve Glacier, but it is not a very significant source of error for many other localities. This work was supported by National Science Foundation grant GV-28804. Computer time was made available by the Instruction and Research Computer Center, The Ohio State University.

References

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Distribution of benthic foraminifera at Arthur Harbor, Anvers Island

WILLIAM L. STOCKTON

Department of Geology
University of California, Davis

Primary works on the distribution of benthic foraminifera of the ocean around the Antarctic Peninsula have been concerned with shelf and deep water faunas (Heron-Allen and Earland, 1932; Earland, 1933, 1934,

1936; Herb, 1971; Echols, 1971) found at depths greater than 200 meters. During 1971-1972, the distribution of shallow water foraminifera at depths of less than 60 meters was investigated in Arthur Harbor, adjacent to Palmer Station (fig. 1). This work is part of a study of the biology and ecology of shallow water foraminifera, supported by National Science Foundation grant GV-31162 (Lipps *et al.*, 1972). The samples were taken from aboard a small boat, with the use of a small mudgrab. They were stained with Rose Bengal to differentiate live and dead foraminifera, and sieved over a 200-mesh sieve. The foraminifera were picked wet. For the purposes of this paper, no distinction is made between dead and alive foraminifera in relation to aspects of distribution.

Four basic assemblages were evident from the data (table) which appeared to be correlated with depth and relative exposure to wave action (fig. 1). Central Arthur Harbor, uniformly shallow (about 30 meters), had an assemblage of foraminifera dominated by *Hippocrepinella birudinea* Heron-Allen and Earland. The relatively narrow inlet to the south of the station was dominated by *Trochammina malovensensis* Heron-Allen and Earland, and *Psammosphaera fusca* Schultze. The deeper portions of the harbor, at its entrance, had a diverse fauna, with *Reophax dentaliniformis* Brady and *Cassidulina crassa* D'Orbigny as notable elements (fig. 2). The assemblage south of Bonaparte Point was dominated by *C. crassa* and by a planktonic foraminiferid, *Globigerina* sp. Planktonic foraminifera were rare in the sediment within the harbor.

The living-dead ratios (as indicated by a positive-

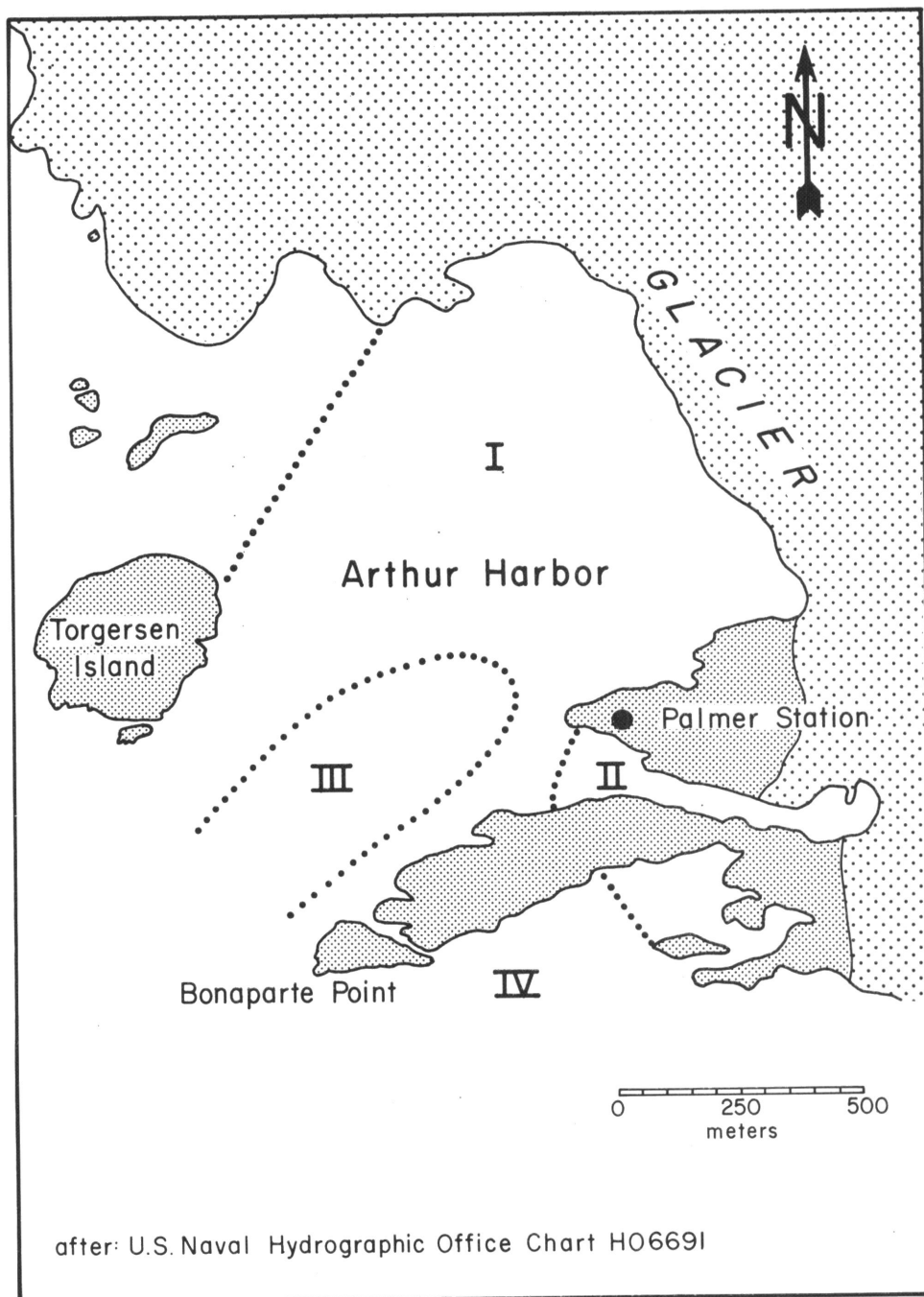


Figure 1. Approximate distribution of foraminiferal assemblages.

after: U.S. Naval Hydrographic Office Chart HO669I

negative test in Rose Bengal) for most of the samples ranged from about 0.20 to 1.5, but an exception to this was the extreme rarity of live foraminifera in the inlet south of the station. Rose Bengal staining indicated that roughly 90 percent of all *R. dentaliniformis* and *H. birudinea* appeared to be alive.

Although I did not see a precise boundary between the shallow assemblage of *H. birudinea* and the deeper

one of *R. dentaliniformis* and *C. crassa*, the fauna at 30 meters depth differs markedly from the fauna at 40 meters. Preliminary work suggests that this difference is not caused by differences in the physical characteristics of the sediments. In contrast, the faunal difference between Arthur Harbor and comparable depths south of Bonaparte Point appears to be caused by differences in wave exposure and sediment.

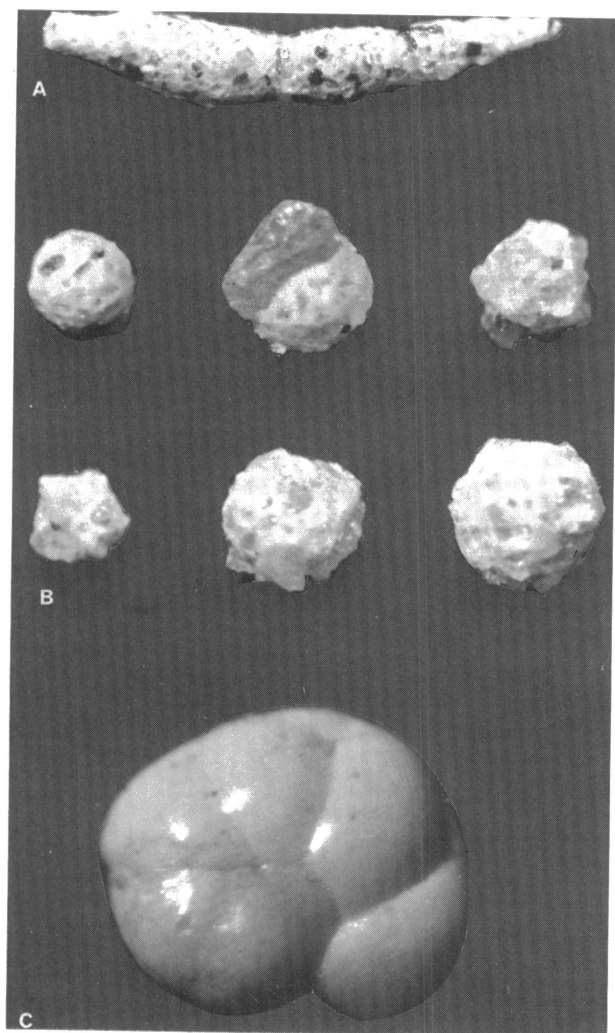


Figure 2. (a) *Reophax dentaliniformis* Brady (enlarged 62x). (b) *Psammosphaera fusca* Schultze (enlarged 62x). *Cassidulina crassa* D'Orbigny (enlarged 124x).

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Preliminary faunal list and relative abundances of foraminifera in the assemblages of Arthur Harbor.

	I	II	III	IV
<i>Astrorbiza triangularis</i> Earland	1	0	0	0
<i>Cassidulina crassa</i> D'Orbigny	1	2	2	3
<i>Cassiduloides parkeriana</i> Brady	0	1	0	0
<i>Cornuspira diffusa</i> Heron-Allen & Earland	1	1	0	0
<i>Ehrenbergina crassa</i> Heron-Allen & Earland	1	0	1	0
<i>Globigerina</i> sp.	1	1	1	3
<i>Gordiospira fragilis</i> Heron-Allen & Earland	1	0	0	0
<i>Haplophragmoides canariensis</i> D'Orbigny	0	1	0	0
<i>Hippocrepinella birudinea</i> Heron-Allen & Earland	3	1	0	0
<i>Miliammina arenacea</i> Chapman	0	1	0	0
<i>Miliolina lucida</i> Karrer	0	1	0	0
<i>Nonion stelligerus</i> D'Orbigny	1	0	0	0
<i>Protonina tubulata</i> Rhumbler	1	0	0	0
<i>Psammosphaera fusca</i> Schultze	0	3	2	1
<i>Pyrgo depressa</i> D'Orbigny	0	0	1	0
<i>Pyrgo williamsoni</i> Silvestri	0	0	1	0
<i>Reophax dentaliniformis</i> Brady	0	0	2	0
<i>Reophax pulifer</i> Brady	0	1	0	0
<i>Reophax subfusiformis</i> Earland	1	0	0	0
<i>Trochammina intermedia</i> Heron-Allen & Earland	0	1	1	1
<i>Trochammina malovens</i> Heron-Allen & Earland	1	3	2	2
<i>Uvigerina angulosa</i> Williamson	0	1	0	0
<i>Webbinella hemisphaerica</i> Jones, Parker & Brady	1	1	1	1

0-absent

1-rare

2-common

3-abundant

Recent activities of the Committee on Polar Research

LOUIS DEGOES

Committee on Polar Research
National Academy of Sciences

The Committee on Polar Research (CPR), established in January 1958, advises on U.S. research programs in polar regions and represents the National Academy of Sciences in the affairs of the Scientific Committee on Antarctic Research (SCAR) of the International Council of Scientific Unions. Dr. James H. Zumberge is the U.S. delegate to SCAR. Also he chairs the CPR, which is supported by a grant from the National Science Foundation. The CPR held its 32nd meeting at the Academy on December 1 and 2, 1972, in Washington, D.C., and its 33rd meeting at Seattle, Washington, May 11 and 12, 1973. In addition, four panels and seven *ad hoc* groups met during the period covered by this report.

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