

ARCHAEOGASTROPODS COLLECTED FROM BREID BAY  
AND GÜNNERUS BANK, ANTARCTICA BY JAPANESE  
ANTARCTIC RESEARCH EXPEDITIONS  
(EXTENDED ABSTRACT)

Hideki NUMANAMI and Takashi OKUTANI

*Tokyo University of Fisheries, 5-7, Konan 4-chome, Minato-ku, Tokyo 108*

Among gastropod specimens trawled from Breid Bay and Gunnerus Bank, those belonging to the Order Archaeogastropoda were investigated. Up to this date 114 species of 40 genera and 12 families of the Order Archaeogastropoda have been described from both the Antarctic and Subantarctic regions (POWELL, 1960). Among them only four species have hitherto been reported from Breid Bay (OKUTANI, 1986; NUMANAMI and OKUTANI, 1990).

The beam-trawl was towed by the icebreaker "Shirase" at five stations in Breid Bay (depth range 271-310 m) and Günnerus Bank (depth 280 m and 955 m) during

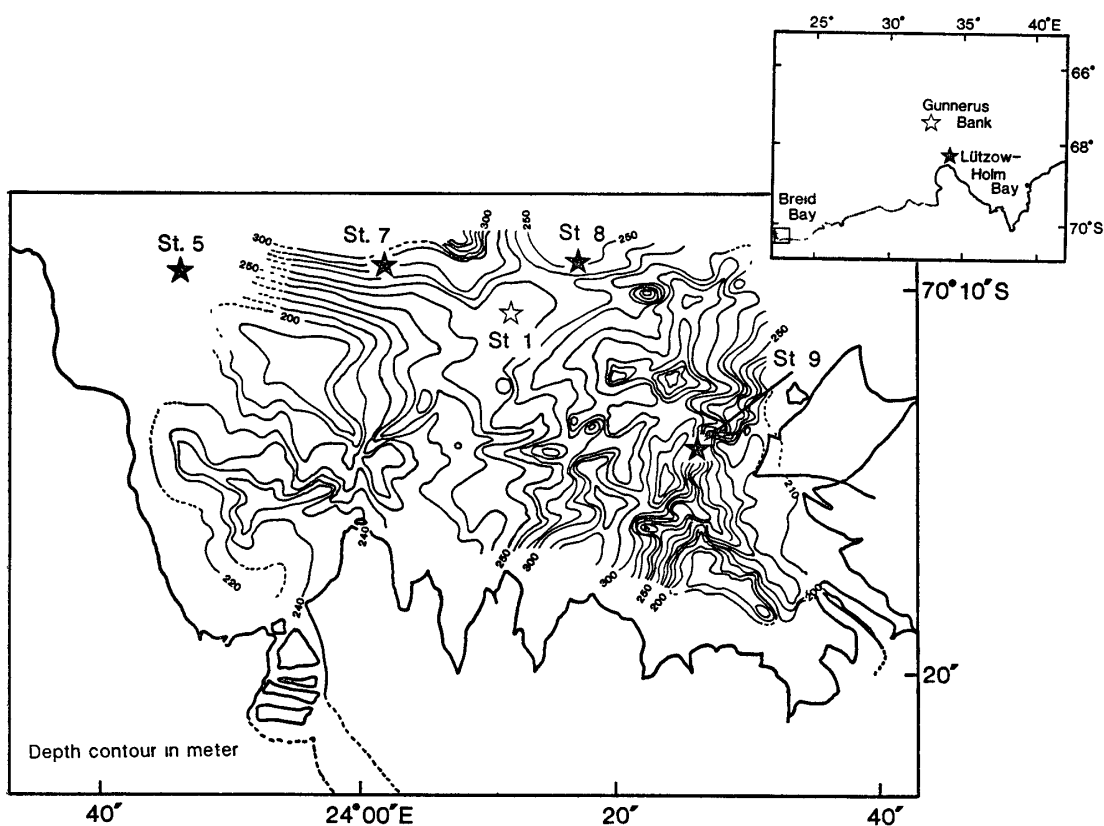
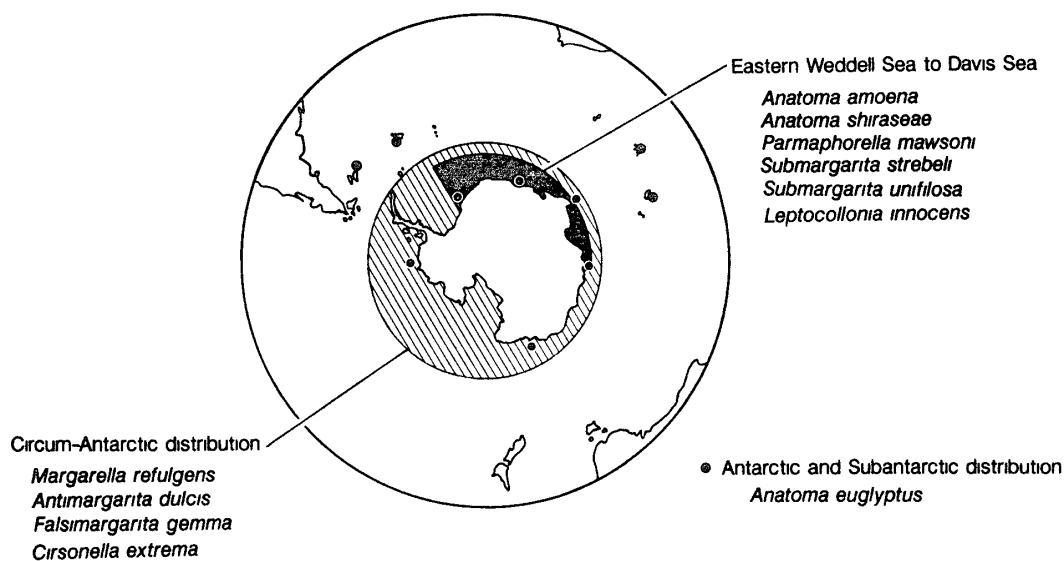


Fig 1 Trawling sites (stars) in Breid Bay and Günnerus Bank by the icebreaker "Shirase" (★, December 1984 to February 1985, ☆, December 1985 to February 1986)

Table 1 *Archaeogastropoda* collected from Breid Bay and Gunnerus Bank by JARE-26 and -27

Family	Species	Gunnerus Bank			Total
		Breid Bay 271–310 m	280 m	955 m	
Scissurellidae	<i>Anatoma amoena</i>	2	0	0	2
	<i>Anatoma euglyptus</i>	31	0	0	31
	<i>Anatoma shiraseae</i>	0	2	0	2
Fissurellidae	<i>Parmaphorella mawsoni</i>	26	0	0	26
Trochidae	<i>Antimargarita dulcis</i>	1	0	0	1
	<i>Margarella refulgens</i>	83	0	0	83
	<i>Margarella</i> sp	0	2	0	2
	<i>Submargarita strebeli</i>	48	0	0	48
	<i>Submargarita uniflora</i>	22	0	0	22
	<i>Falsimargarita gemma</i>	0	1	0	1
	Trochidae gen sp	30	0	0	30
Turbinidae	<i>Solariella</i> sp	0	0	7	7
	<i>Leptocollonia innocens</i>	29	1	0	30
Skeneidae	<i>Cirsonella extrema</i>	56	0	0	56
	<i>Brookula sinusbreidensis</i>	1	0	0	1
	<i>Brookula</i> sp	1	0	0	1
		330	6	7	343

Fig 2 Schematic distributions of eleven *Archaeogastropoda* species

the periods from December 1984 to February 1985 and December 1985 to February 1986 (Fig 1)

Sixteen species of 10 genera and 5 families were identified (Table 1). Almost all species are smaller than 10 mm, except *Parmaphorella mawsoni*, *Antimargarita dulcis* and *Falsimargarita gemma*. The most diverse family in the area under study was the Trochidae, representing half the total number of species occurred. The most abundant species was *Margarella refulgens*, representing 24% of the total number of specimens.

The schematic distribution of 11 species is shown in Fig 2. It is clear that *An-*

*atoma euglyptus* has a widespread distribution in the Antarctic and Subantarctic regions. In contrast, *Anatoma amoena*, *Anatoma shiraseae*, *Parmaphorella mawsoni*, *Submargarita strebeli*, *Submargarita unifilosa* and *Leptocollonia innocens* have a narrow geographical range, from the eastern Weddell Sea to the Davis Sea. Four other species show circum-Antarctic distribution. *Submargarita unifilosa* has hitherto been collected only from the Davis Sea, and *S. strebeli* from the Davis Sea and the Adelie Coast (THIELE, 1912; ARNAUD, 1972). The distribution ranges of these two species are now extended to the west. According to POWELL (1960), 34 species of the Order Archaeogastropoda were distributed in the Antarctic region, while about one-third of them were collected from the area under present study.

Twelve species occurred in Breid Bay, while only four species were collected from Günnerus Bank, at 280 m depth. *Leptocollonia innocens* was the only species obtained from both areas. Only a single species, *Solariella* sp., was collected from 995 m depth in Günnerus Bank. This particular station had no species affinity with other areas. Bottom substrate in Breid Bay is mainly sponge spicules and mud, while that in Günnerus Bank is sand. A difference in diversity and a low affinity of faunulae between these areas seems to be attributable to the difference in substratum and depth.

#### References

- ARNAUD, P. M. (1972): Invertébrés marins des XIIème et XVème expéditions antarctiques françaises en Terre Adélie 8 Gastéropodes Prosobranches. *Téthys* (Suppl.), **4**, 105–135
- NUMANAMI, H. and OKUTANI, T. (1990): A new and two known species of the Genus *Anatoma* collected by the icebreaker *Shirase* from Breid Bay and Gunnerus Bank, Antarctica (Gastropoda: Scissurellidae). *Venus* (Jpn J. Malac.), **49**(2), 93–106
- OKUTANI, T. (1986). A note Antarctic benthic mollusks collected with a beam-trawl from Breid Bay by the 25th Japanese Antarctic Research Expedition Mem. Natl Inst. Polar Res., Spec. Issue, **40**, 277–287
- POWELL, A. W. B. (1960): Antarctic and Subantarctic Mollusca. *Rec. Auckland Inst. Mus*, **5**, 117–193.
- THIELE, J. (1912): Die antarktischen Schnecken und Muscheln *Wiss Erg Deut. Sudpolar Exped.* 1901–1903, **13**, 183–285.

(Received May 20, 1991, Revised manuscript received August 22, 1991)