ABSTRACT
During the research program BENTART 95 carried out from 16 January to 4 February 1995 on board RV Hespérides, semi-quantitative Agassiz trawl and quantitative Van-Veen grab were used at 31 subtidal stations between 40 and 850 m depth. Among the molluscs sampled around Livingston Island, Deception Island and Bransfield Strait were 1,786 individuals belonging to 70 species of Bivalvia, Gastropoda, Scaphopoda, Opistobranchia, Solenogaster and Poliplacophora which have been determined by several authors.

The malacological data were organized into matrices by stations and species. The Shannon-Wiener (H') and Pileou's (J) evenness indices were used to assess species diversity and evenness; while the qualitative data (presence-absence) of the species in the sampling stations were performed by applying the Jaccard coefficient. Based on the group of stations defined using the Jaccard coefficient, the species were classified according to criteria of constancy and fidelity, based on number of species.

The values of the Shannon-Wiener diversity index fluctuated between 0.00 (1 specimen), in station 27, and 3.95, in station 24, and evenness between 0.0, in station 27, and 1.00 in stations 26 and 28. The bivalve Thyasira cf. dearborni was the most abundant species (227 specimens). Species richness varied from 1 (station 27) to 19 species (station 7). Diversity shows great variations at different sample-sations.

The clustering analysis distinguished four groups of stations: a first group which separate clearly the stations of the inner bay of Deception Island, excepting the station 1, and other three groups that comprising the remaining stations, from southern and northern of Livingston Island and Bransfield Strait, correlated with environmental factors (granulometric composition, organic matter and carbonates) recorded.
MATERIAL AND METHODS

The Mollusc were collected, together with other benthic invertebrates, during the BENTART95 cruise, aboard the RV Hesperides, from 16 January to 4 February 1995. A total of 31 stations, located around Deception Island (Port Foster), Livingston Island and Bransfield Strait, were sampled, using a semi-quantitative Agassiz trawl and quantitative Van-Ween grab between 40 and 850 m depth. The sampling methodology were presented in RAMOS (1995); ARNAUD et al. (1998) and SÁIZ-SALINAS et al. (1997). The environmental variables measured were: depth, pH, organic matter, carbonates and granulometric composition (SÁIZ-SALINAS et al., opus cit.). The specimens were fixed in formalin and preserved in 70% ethanol.

Data were organized into station by species matrices. The Shannon-Wiener and Pielou's evenness indices (WASHINGTON, 1984) were used to assess species diversity and evenness. The data for population studies were processed using qualitative data (presence-absence), applying the Jaccard coefficient, for species with constancy index >6.67, followed by classification into clusters. Based on the group of stations defined using the Jaccard coefficient, the species were classified according to the criteria of constancy and fidelity, based in number of species (DAJOZ, 1971).

RESULTS

A total of 1,786 specimens of Molluscs, belonging to 5 Classes, 38 families and 70 species. The best represented clase in terms of species richness were Gastropoda (19 families and 33 species) following by Bivalvia (15 families and 31 species), Solenogastra (2 families and 4 species), Scaphopoda (2 families and 2 species) and Poliplacophora (1 specimen no identified) (Figure 1). The family Buccinidae (Gastropod) was the most diverse in number of species (7) following by the Bivalves of families Philobryidae (5) and Sareptide (4).

The greatest number of Molluscs in terms quantitative and qualitative was presented at station L7 (19 species and 239 specimens).

FAUNISTIC ANALYSIS: SPECIES RICHNESS, ABUNDANCE AND DIVERSITY

Species richness, abundance, diversity (H') and evenness (J) varied widely.

Species richness
(Figure 2)

The stations with the highest number of species were D7 (19 species), B24 (17), L19 (15), L6 (14) and L3, L5, L10, L13 with 12 specimens; the stations with the lowest species richness was NL27 with only 1 species, D22 and B25 (2), D18 (3) and D1, D12, NL28, NL31 with 4 species.

Abundances
(Figure 3)

The greatest number of abundances was present at stations L7 (239 specimens), L13 (223), L14 (152), L19 (117) and a dive station in Trinity Island with 109 specimens;
the low values of abundance are B25 (2 specimens), NL27 (9), NL28 (4) and NL31 (13).

**Diversity**  
(Figure 4)  
The diversity (H') varies strongly between stations, showing highest values of H' in stations B24 (3.95), NL 30 (3.14); to lower than 1 at D22, NL27, DV and in the rest of stations the values fluctuated between 3 and 1.

**Evenness**  
(Figure 5)  
The values of evenness (J) were usually high, showing values higher than 0.8 at D2 (0.83), L4 (0.87), B24 (0.97), B25 (1.0), NL28 (1.0) and NL30 (0.91); the low values of (J) are L7 (0.35), L16 (0.38), D22 (0.14), DV (0.22), the rest of stations the values fluctuated between 0.79 (L3) and 0.54 (L19).

The station NL27 has the lowest values of H', J and R as a consequence of the presence only the one specie, *Lissarca notocardensis*.

**MOLLUSCA COMMUNITY STRUCTURE**

The classification (Fig. 6) that was obtained after applying the Jaccard coefficiente showed four assemblages D1, L1, L2 and L3, a first group which separate clearly the stations of the inner bay of Deception Island (Port Foster), excepted the station D1, and the other three groups that comprising the remaining satations, from southern and northern of Livingston Island and Bransfield Strait.

**Subgroup D1** (10 species in 5 stations: D2, D11, D12, D17 and D18) located in the inner bay (Foster Bay) of the Deception Island. This area had shallow water stations (107.8-162.8 m depth), diversity (H') was between 1.01 and 2.13, the eveness values fluctuated from 0.61 to 0.83. The number of species varied from 3 (D18) to 6 (D2 and D11), are the lowest values for richness. This group was represented by ten species, primarily *Yoldiella inaequisculpta* (constant occasional; see classification in Table III), *Yoldia (Aequioldia) eightsi* (constant accessory), *Thyasira cf. dearbonti* (constant occasional), *Laternula elliptica* (very common accessory), *Genaxinus debilis* (common occasional) and *Mysella antarctica* (common accessory), the rest of species are not very common.

**Subgroup L1** (23 species in 4 stations: L9, L10, L13 and L14) located in Walker Bay, shallow water stations (45.1-216.3m depth). This group had highest percentages of carbonates (39.06-54.69). The diversity (H') values ranges from 2.07 to 2.51 and eveness from 0.58 to 0.76. Species richness varied from 8 (L14) to 12 (L10 and L13). This subgroup was primarily composed of *Thyasira cf. dearboni* (constant occasional), *Thyasira falklandica* (very common elective), *Yoldia eightsi* (constant accessory), *Yoldia inaequisculpta* (constant accessory), *Cyamiocardium denticulatum* (very common preferential), *Cyclocardia astartoides* (very common accessory), *Aforia*
magnifica (common accessory), Harpovoluta charcoti (common occasional), Cyamiocardium crassilabrum (common elective) and Yoldiella valettei (common elective).

Subgroup L2 (27 species in 6 stations: L5, L15, L19, L20, NL28 and NL29) located in South Bay and North of Livingston Island, deep water stations (239.5-393.9m depth) except NL28 (126m depth). The diversity values fluctuated between 1.87 and 2.41, evenness ranged from 0.54 to 1.00. The number of species varied from 4 in shallow water station NL28 to 15 specimens in L19. The most noteworthy species were Limopsis lilliei (constant elective), Thyasira cf. dearboni (constant occasional), Silicula rouchi (very common elective) and Cadulus dalli antarcticus (very common preferential), the rest of species are common and not very common.

Subgroup L3 (40 species in 6 stations: L3, L6, L7, L8, L16 and B23) shallow water stations (68.5-121.4m depth) except L16 (416m depth) located in South Bay and Bransfield Strait. The diversity (H') values ranges from 1.13 to 2.85 and the evenness values between 0.35 to 0.79. The value of richness in L7 is the highest in the area with 19 specimens, the rest of stations fluctuated from 14 (L6) to 10 (B23). This subgroup was represented by a great number of common and not very common species; according to the values of the constancy and fidelity indices, the most characteristic species were: Cyclocardia astartoides (constant preferential), Amauropsis sp. (very common preferential), Adacnarca nitens (very common exclusive), Cyamiocardium denticulatum (very common accessory) and Thyasira cf. dearboni (very common occasional).

DISCUSSION
Interpretation of spatial variations in the abundance of benthic species is difficult, in view of the large number of environmental factors which may act on benthic communities.