



**A report on the discussion of the PhD thesis submitted by
Researcher / Wafa'a Mugahed Ahmed Al-Qadassi**

On Monday, 3/4/2024, the PhD thesis submitted by researcher Wafa'a Mugahed Ahmed Al-Qadassi was discussed in the Seminar Hall at the Faculty of Petroleum and Natural Resources, entitled “Recent Benthic Foraminifera from Socotra Island and Hadhramout Coastline; Systematic Classification and Environmental Significances”

This thesis was supervised by Prof. Dr. Muhammad A. Al-Wosabi.

The examination committee was formed of:

- 1- Prof. Dr. Hesham M. H. Naji -Sana'a University- Internal Examiner “Chairman”
- 2- Prof. Dr. Muhammad A. Al-Wosabi - Supervisor - member
- 3- Dr. Saeed Omar Wasel - Hodeidah University - external examiner

The thesis forms part of a database for future studies on climate changes in the Socotra coastlines “Indian Sea”. Foraminiferal species, which were considered one of the most important evidences for inferring climate changes were identified and then the environmental significances of this foraminiferal assemblage was discussed.

The researcher presented her thesis, and then the members of the examination committee directed many comments and inquiries to the thesis.

The examiner committee read their decision in front of the audience, which was summed up by “granting the researcher a PhD degree in stratigraphy and Paleontology.

The discussion was attended by Professor Dr. Basim Al-Khribash, Dean of the College, Vice-Deans, and a number of faculty academic members and students of the College, in addition to many guests and interested researchers.

Supervisor

Prof. Dr. Muhammad Abdullah Al-Wasabi



ABSTRACT

The study area, Socotra Island and Hadhramout coastline are located in the Arabian Sea and Indian Ocean. Thirty-two surface sand samples were collected along the northern and southern coastlines of Socotra Island during January 2017 and the Hadhramout coastline during August 2018. These samples were collected at a depth ranging between 0 – 4 m. Thirteen of these samples were collected from the north and south of Socotra Island and the rest came from Hadhramout coastline. Foraminiferal assemblages were represented by two hundred and sixteen species belonging to ninety-one genera. They are dominated by species belonging to the Miliolina, Rotaliina, Textulariina, Lagenina, Globigerinina, Spirillinina and Involutinina suborders respectively. Many genera were recorded in the two study areas, such as *Elphidium* spp., *Amphisorus*, *Borelis*, *Calcarina*, *Discorbis*, *Heterostegina*, *Marginopora*, *Nonion* and *Peneroplis*, indicate shallow marine depth environments and continental environments such as marshes, lagoons and tidal flats; *Quinqueloculina* and *Triloculina* were recorded in the study area to emphasize their nearshore and inner shelf environments such as the intertidal and turbulent zones, lagoons, bays, reefal deposits, shallow open ocean (warm water) and marshes. Physical and chemical factors have an effect on the distribution of foraminifera, such as turbulence, substrate, light, temperature, Dissolved oxygen and salinity. Salinity, temperature and substrate were the major factors that affected the environment, and this was reflected in the presence and distribution of foraminifera. The main factor influencing the presence of the identified species at the two study areas is the substrate. The diverseness of the substrate is reflected in the different ornamentation on the test surface and also in variations in the test shape. These differences helped in the adaptation of the foraminifera to the type of substrate.

