Capacity Building Trip to the Royal Museum for Central Africa

Belgian Global Taxonomic Initiative

Activity Report

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INTRODUCTION

Funding for a visit to Belgium to examine South African Echinoderm material and training was successfully obtained through the Belgian National Focal Point to the Global Taxonomy Initiative (GTI). In addition, an oral presentation was given at the 14th International Echinoderm Conference in Brussels. The examinations took place at the Royal Museum for Central Africa in Tervuren.

OBJECTIVES

The objectives of the visit were to i) present a small echinoderm collection that was found in South Africa to delegates of the 14th International Echinoderm Conference (IEC), ii) complete examinations of all South African brittle stars (Echinodermata: Ophiuroidea), iii) obtain photographs of material using automontage software iv) obtain SEM images for *Ophioconis cupida*, a new distribution record for South Africa, and v) obtain literature that is unavailable in South Africa.

OUTCOMES

During the three week stay, each objective was met and additional data, photographs and information were obtained.

i) IEC Presentation – Lost in the Museum

A presentation at the 14th International Echinoderm Conference, entitled Lost in the Museum (Figure 1) was presented on the first day of the conference. The main thrust of the presentation was to inform echinoderm scientists of the re-discovery of two echinoderm holotypes that were thought to be missing. The holotype of an asteroid (*Anthenoides marleyi*) and a brittle star (*Asteroschema capensis*) were found in the Durban Natural Science Museum in Durban, South Africa. In addition, the presentation also highlighted some of the issues and challenges with curation and loans of South African echinoderm material.

Figure 1. Presentation given in Brussels at the 14th Echinoderm Conference 2012.

ii) Examination of South African ophiuroids at the RMCA and iii) photography using Automontage Software

Detailed examinations of 167 specimens (34 species, representing 8 families) were completed. Examinations included measurements, photographs and capturing data (Figure 2). During the examinations, the preparation of a publication entitled the Ophiuroids of KwaZulu-Natal was substantially edited. This manuscript is approximately 80% complete and it's expected to be submitted to Zookeys or Zootaxa later in 2012.

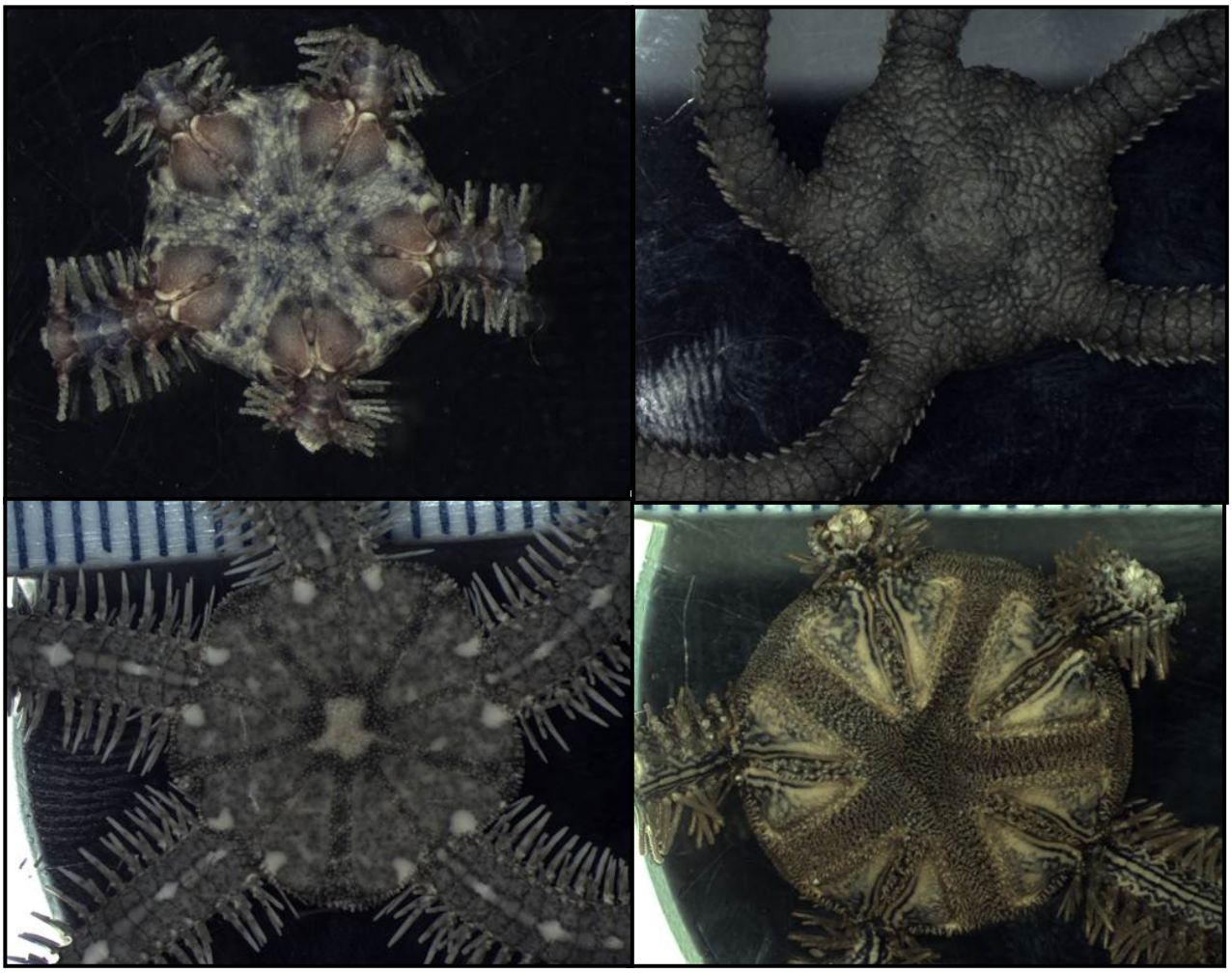

Figure 2. Some photographs that were taken using automontage software. *Macrophiothrix propinqua* (top left), *Ophioplocus imbricatus* (top right), *Ophiocnemis marmorata* (bottom left), *Macrophiothrix hirsuta chenyi* (bottom right).

iv) SEM images for *Ophioconis cupida*

SEM photographs were taken of *Ophioconis cupida,* a new distribution record for South Africa. The jaw structure (Figure 3), arm plates (Figure 4) and arm spines (Figure 5) were photographed. Additional SEM photos were taken of *Aspidophiura corone* (Family Ophiolepididae) which is endemic to East Africa (Figure 6) and a small unidentified ophiuroid which was attached to an adult *Ophiothela venusta* (Figure 7) was also taken.

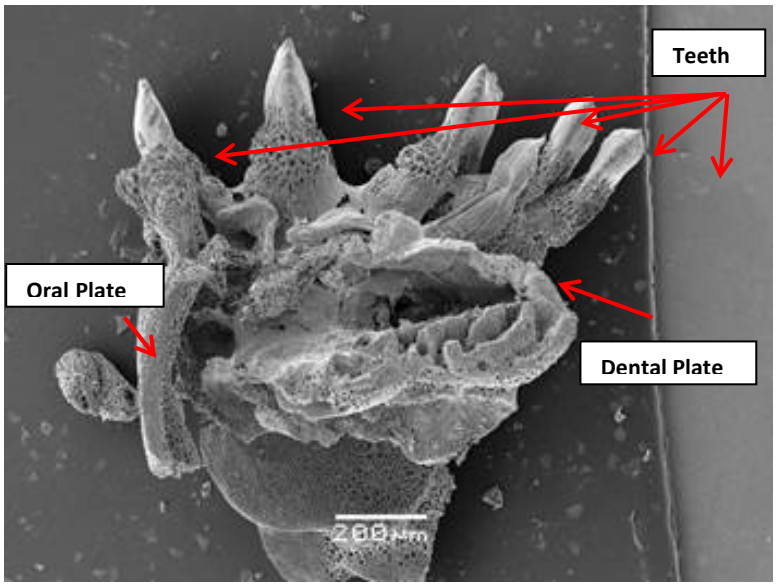

Figure 3. Lateral view of jaw of *Ophioconis cupida*.

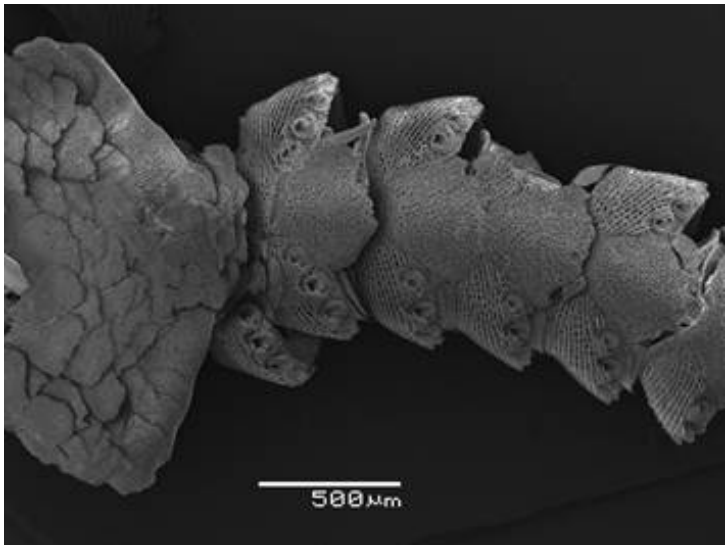

Figure 4. Dorsal portion of disc and arm of *Ophioconis cupida*.

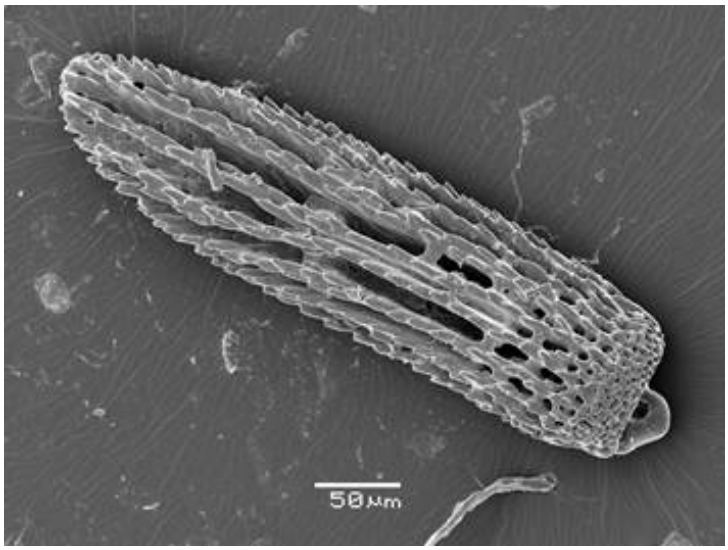

Figure 5. Arm spine of *Ophioconis cupida*.

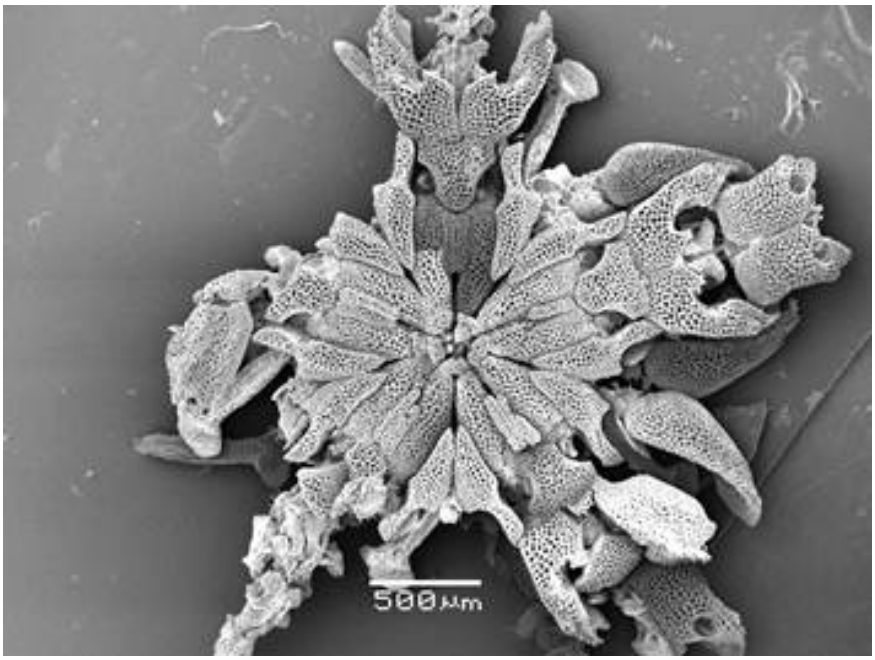

Figure 6. SEM of ventral disc of *Aspidophiura corone*

Figure 7. Unidentified ophiuroid on *Ophiothela venusta.*

v) Obtain literature

Historical literature which is somewhat difficult to acquire in South Africa was obtained. Literature included the monumental monographs of Mortensen written in the 1930's, a series of 15 volumes of detailed descriptions of echinoids. The journal 'Zoological Record', a series which began in 1864 and has been published every year since, was also partially obtained. Volumes from 1864 to 1902 were digitised and converted to pdf.

CONCLUSION

The trip was a success and all objectives were met with some additional work being completed. The South African collection at the Royal Museum for Central Africa has now been fully examined and results will be published shortly. This trip also added extensive value to the broader project on documenting and revising the biodiversity of the ophiuroids of South Africa.

AKNOWLEDGMENTS

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