Small is beautiful? Progress and collections of the Geology Museum, University of the West Indies, Mona

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Geology has been taught at the University of the West Indies, Mona, since 1961. The associated Geology Museum (UWIGM) opened to the public in 1969/1970, although the idea for such a museum was over 100 years old at that time. The collections of the UWIGM share many hazards with those in museums in other parts of the world, such as dust, insect pests and indifferent specimen records, and some that are less common, such as earthquakes and hurricanes. The curatorship is not tenured. Since the mid 1980s the UWIGM has become a more dynamic visitor attraction in many ways, shaking off its 'old-fashioned' appearance and expanding the displays to include, for example, its first mounted vertebrate skeleton. An aggressive collections policy involves establishing a type and figured collection, supplemented by rearranged historical collections, such as that of the 19th century geologist Lucas Barrett (1837-1862), and improving holdings of significant Antillean groups such as Cretaceous rudist bivalves, which includes part of the collection of Lawrence J. Chubb (1887-1971).

Contents

Introduction

The only geological museum in the English-speaking Caribbean, located on the Mona campus of the University of the West Indies (UWI) in Kingston, Jamaica, is only about 35 years old (Wood, 1995), but includes specimens and collections of historical significance (Draper, 1976; Wood, 1997; Brown & Langner, 2002; Donovan, 2004). It is worthwhile introducing the University of the West Indies Geology Museum (UWIGM)

to a wider audience through this paper, if for no other reason than it has so far failed to be noticed by some of the major international reference works on palaeontological and geological collections. Webby (1989) failed to recognise the existence of a geological museum in Jamaica, even though the UWIGM opened in 1969/1970. Cleevely (1983, pp. 82, 361) included information on L.J. Chubb's rudists in the Institute of Jamaica collections (see below), the rock and fossil specimens from which had been transferred to UWIGM in 1979-1980, and noted (p. 82) that "Rudists in the museums of the Geological Survey of Jamaica and the Geology Dept., Univ. of the West Indies, Kingston were transferred [to the Smithsonian Institution, Washington, D.C.]." Cleevely (1983, p. 101) also noted Lucas Barrett's collection in the Sedgwick Museum, Cambridge, which were also transferred to UWIGM in 1975 (Draper, 1976).

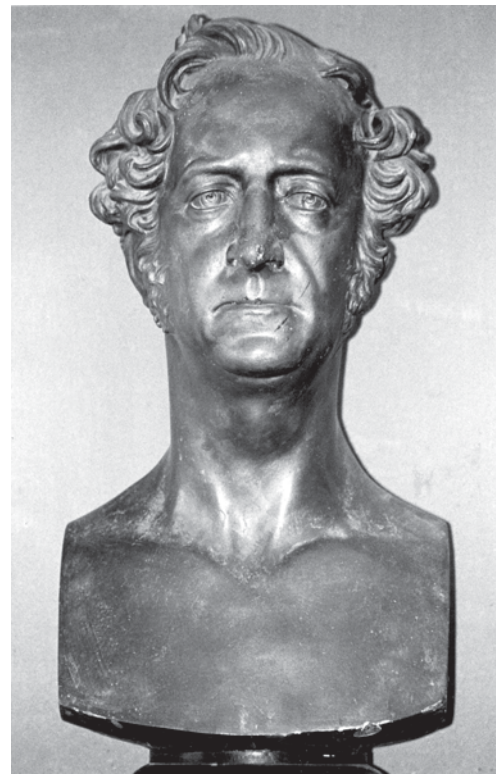

Fig. 1. Plaster bust of Sir Henry Thomas De la Beche (1796-1855) on display in the UWIGM.

The UWIGM is housed in the basement of the De la Beche Building on Mona Campus, home of the Department of Geography and Geology. The museum could easily be missed, particularly as it is away from the main entrance of the building. One of the most delightful features of the museum is the bust of Sir Henry Thomas De la Beche (1796-1855) (Fig. 1), after whom the building was named. De la Beche was the first geologist to publish on Jamaican (and Antillean) geology (as opposed to earlier travellers' reports of caves and scenery; reviewed in Fincham, 1997) and his map of eastern Jamaica (1827) is considered to be the oldest geological map of anywhere in the western hemisphere (Draper & Dengo, 1990; Draper, 1996). De la Beche (1827, pl. 21) also figured an internal mould of the giant gastropod *Campanile*, and used it to correlate the rocks that yielded it with the *Campanile*-bearing London Clay and the sedimentary rocks of the Paris Basin. This may be the first example of intercontinental biostratigraphic correlation (Donovan, research in progress). De la Beche's contribution to Jamaican geology has been discussed by Draper (1996), Donovan (1996a), Sharpe (1997) and Sharpe & McCartney (1998).

University of the West Indies Geology Museum

In early 1986, when the senior author first arrived at the Mona campus of UWI as a new lecturer, the UWIGM was cramped, poorly lit and uninviting. The public

display, arranged in a long room in the basement, about one third the length of the building, was maze-like, crammed full of cabinets and display boards, with a relief map of Jamaica at the far end cutting out most of the light and a dismal paint scheme adding to the gloom. Although the first curator of UWIGM in 1969-1970 was Peter Jung from the Natuurhistorisches Museum in Basel, in Jamaica on sabbatical leave, subsequent appointments had been graduate students on one year contracts, who were understandably more interested in finishing a thesis than curating a museum. The displays and administration of the museum started to change in the late 1980s, when the museum was rearranged in a more open style and repainted. By the time it was illustrated by Wood (1995, fig. 2), the display area was less cramped and altogether more inviting to visitors. Since then, the arrangement of the museum has continued to change while adhering to a similar philosophy (e.g., see Brown & Langner, 2002, fig. 1). With the recent arrival of the first mounted skeleton for public display (see below), the museum has been further rearranged to exhibit this specimen in a display case. Some displays, such as the invertebrates from a 'Modern Jamaican coral reef,' have been revitalised with new cabinets, bought with a grant from the Environmental Foundation of Jamaica. Recent conference posters by staff and graduate students provide a changing backdrop around the walls. Though small, the UWIGM has maintained a thrust towards public education through tours for students from preparatory through high schools, as well as mounting displays outside the Museum.

Collections in the UWIGM were originally arranged stratigraphically and by reference to geographic areas of Jamaica. An aggressive collections policy over the past 10 years has resulted in a significant increase in holdings of palaeontological and lithological specimens from Jamaica. However, the wider Caribbean including Central America is also represented, particularly collections from the eastern part of the region. The current arrangement will probably give way to a taxonomic organization of the palaeontology collections and a geographic arrangement of petrological specimens.

Funding

Since the time of its inception the UWIGM has received the bulk of its financial support from the budget of the Department of Geology (now Geography & Geology). The post of museum curator is a university appointment and overhead costs are met through the department's maintenance account. Hurricane Gilbert in 1988 badly damaged the entire University campus and the Geology Museum did not go unscathed. Collections and displays were affected and it was a slow process to restore the museum to its former state.

In the 1990s a concerted effort was made to seek outside funding to rebuild and refurbish the museum, and in the past decade there has been financial assistance from the Environmental Foundation of Jamaica (EFJ) (an agency funded by USAID, the U.S. Agency for International Development) and the University of the West Indies Development & Endowment Fund (UWIDEF) totalling just over 2 million Jamaican dollars (J$35=US$1 at that time). The money has been used primarily to modernize the museum. Two computers were purchased, one of which was dedicated to establishing a computerized database for the museum's collections. A television and VCR were acquired to show educational videos to visitors, in addition to a series of interactive

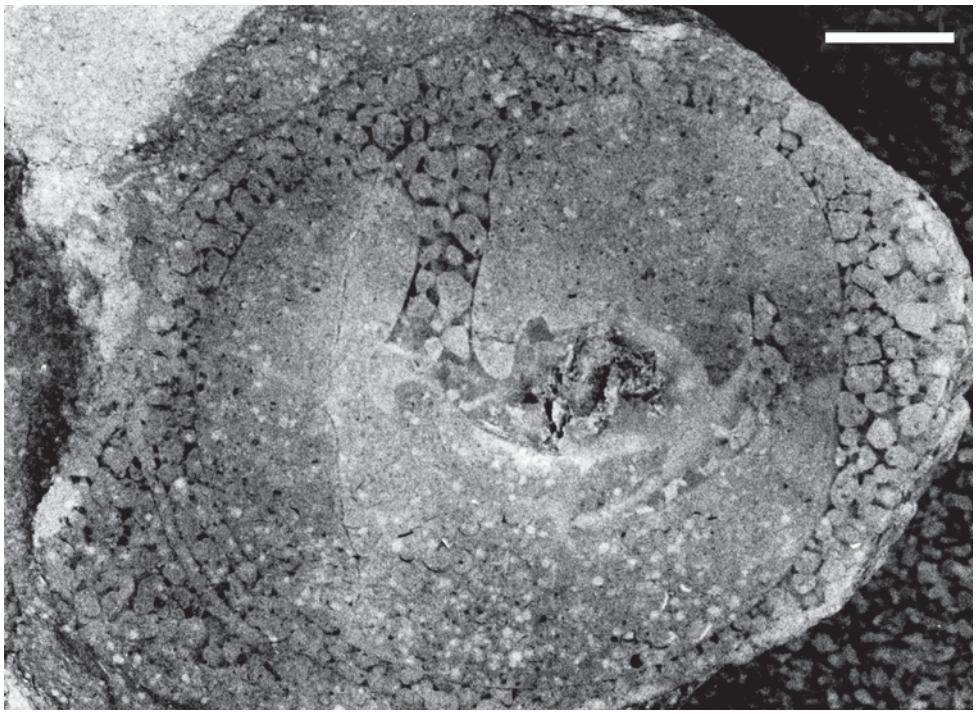

Fig. 2. Polished, oblique transverse section (viewed under water) of Jamaican Eocene *Campanile* sp. infested by *Entobia* sp. cf. *E. laquea* Bromley & D'Alessandro (after Donovan & Blissett, 1998, fig. 1), UWIGM 1997.17, part of the type and figured collection. Scale bar represents 10 mm.

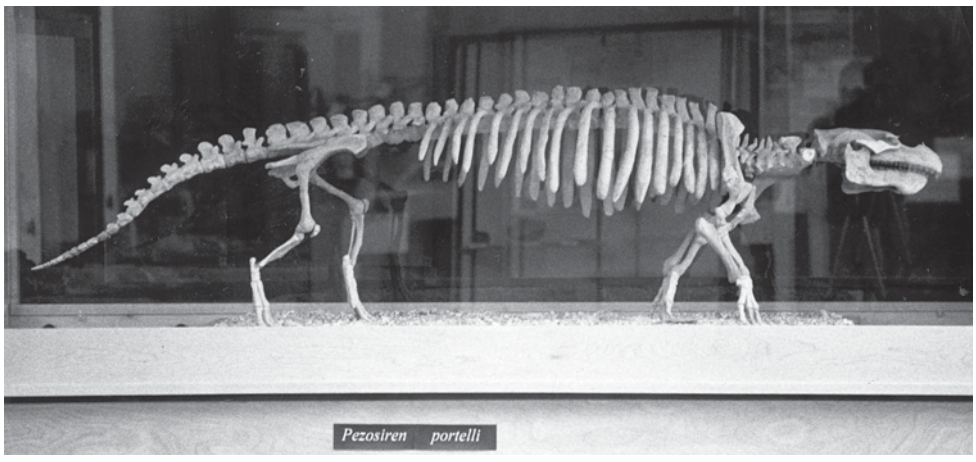

Fig. 3. Cast of reconstructed skeleton of the Eocene quadrupedal sirenian *Pezosiren portelli* Domning, on display at the UWIGM. An identical cast is exhibited at the Florida Museum of Natural History, Gainesville.

computer software programmes. The shelving in the dead storage area was replaced, more visitor-friendly cabinets were introduced in the display section and a small 'rock shop' was established. The purpose of the shop was to generate money to make the museum sustainable and less dependant on departmental funds. Awards from the British Council and UWIDEF enabled museum curator's to visit the Camborne School of Mines Geology Museum (UK), and the Smithsonian Institution Centre for Education and Museum Studies, respectively.

The curators

The criteria for the appointment of curators changed in 1993, when the decision was taken not to appoint graduate students, but to hire graduates who would have the inclination to focus their attention and efforts on the collections. This has done much to secure the collections and improve curatorial standards. The arrangement of a type and figured collection (see below) has encouraged a newly refined focus of palaeontological and historical research in the UWIGM. Sharon Wood was the first 'new' curator of the museum under this scheme, from November 1993-July 1996, followed by Deborah M. Langner and, since September 1997, Ian Brown.

Sharon Wood's contribution included organising new displays, applying for funding in collaboration with Trevor Jackson, then head of the Department of Geology, and writing papers on the collections of the museum. For example, the minimal and inadequate information associated with a septarian nodule was used as an example to encourage improved data provision with specimens newly deposited in the museum (Wood & Donovan, 1996). Sharon also developed a separate type and figured collection, mainly based on research material of the staff and students of the Department, while encouraging research on the existing collections. Thus, when an example of the trace fossil *Entobia* isp. was needed for a review paper (Donovan & Pickerill, 1999), it was provided from the stratigraphic collections of the museum.

Ian Brown has been curator since September 1997 and has carried on the programme initiated by Sharon. The type, figured and historical collection continues to grow. It includes fossil invertebrates collected in Britain and Jamaica by Lucas Barrett in the mid 19th century (see below). New additions have been varied. For example, research on Jamaican Eocene *Campanile* (see above) continues and a rare cast, infested by the sponge boring *Entobia* sp. cf. *E. laquea* Bromley & D'Alessandro, has been deposited as a figured specimen (Donovan & Blissett, 1998) (Fig. 2). The type and figured collection also includes casts and original specimens of vertebrates, none more revered than the recently described Eocene walking sea cow, *Pezosiren portelli* Domning, 2001. A cast of the skeleton of *Pezosiren portelli* is on display, the first mounted skeleton in the museum (Fig. 3). This is not only scientifically significant, but it adds a new dimension to museum tours.

The collections and two notable collectors

The collections of the UWIGM share many hazards with those in museums in other parts of the world. Dust is a nuisance for nine months of the year; the remaining three months are in the two rainy seasons that encourage growth of mould on damp

labels. Insect pests include silverfish and cockroaches that eat labels or just the ink. The UWIGM is at risk from flooding during tropical storms and hurricanes (see above), and the position of Jamaica within the North Caribbean Plate Boundary Zone ensures that earthquakes are a constant potential hazard (Ahmad, 1996, fig. 7B).

The UWIGM is home to two historical collections of some note (Brown & Langner, 2002). One is that of Lucas Barrett (1837-1862), first director of the first geological survey of Jamaica (Fig. 4). Barrett's collection, the oldest known from Jamaica, was presented to the museum by the Sedgwick Museum, Cambridge, in 1975. Draper (1976), Donovan & Wood (1995) and Donovan (1996b) examined aspects of the Barrett collection. For example, tests of the echinoid *Hemiaster* sp. represent the oldest known collection of Jamaican Cretaceous echinoids (Donovan & Wood, 1995). In the most detailed published study, Wood (1997) paid particular attention to the Cretaceous invertebrates, such as benthic molluscs, scleractinian corals and serpulids. Available information from his published papers and specimen labels indicate that Barrett's collecting sites in eastern Jamaica were restricted to the areas with limited exposure and poor access in the Blue Mountains (Draper, 1976, fig. 1). Wood's (1997) determination of the known stratigraphic ranges of taxa in Barrett's Jamaican Cretaceous collection demonstrate that these rocks are probably mainly from the Upper Cretaceous, in keeping with other available data.

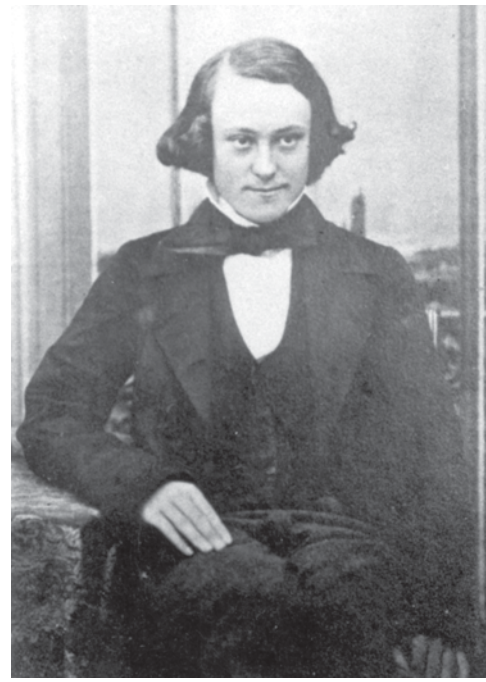

Fig. 4. Lucas Barrett (1837-1862), first Director of the first Geological Survey of Jamaica, after Wood (1997, fig. 1).

The second notable collection is that of Lawrence J. Chubb, who came to Jamaica in 1950 as an expert on the Pacific islands and the Lower Carboniferous of the British Isles. Chubb had recently retired from University College London. He joined the new Jamaican Geological Survey, and spent the last 21 years of his life researching the Cretaceous stratigraphy and rudist bivalves of the island (Robinson, 1973). His collection of Caribbean, particularly Jamaican, rudists remains an important research tool. In addition to many shorter papers, Chubb published a monograph of the Jamaican Cretaceous rudists in 1971. His collection was dispersed between the British Museum (Natural History), the National Museum of Natural History, Smithsonian Institution, and the Institute of Jamaica. The Institute of Jamaica rock, mineral and fossil collections were transferred to the UWIGM in 1979/1980, including Chubb's rudists. Some of Chubb's specimens form part of a rudist display at UWIGM, exhibited in a new cabinet purchased using funds provided by the EFJ.

Future developments

There is no documented development plan for the UWIGM. However, anticipated developments include improving collection facilities, formulating a collections management policy and expanding the displays of large vertebrates. The first Collections Management Policy (CMP) of the UWIGM is currently being drafted following the introduction of a Research Collections Policy in 2001. The latter document is mainly aimed at postgraduate students who are preparing to deposit their research collections in the museum. The CMP will be a general guide for future curators and collectors to ensure proper management and use of the collections.

Funds are currently being sought to improve the collections facilities. It is intended to provide sealed metal storage cabinets for the protection of all collections, creating a stable environment with humidity controls.

To supplement the display of the cast of *Pezosiren portelli*, the UWIGM is currently seeking a complete skeleton of a modern manatee. These two sirenians will form the basis of a new permanent display of ancient and modern tetrapods of Jamaica.

Conclusions

Although the above discussion is concerned with one small museum in Jamaica, some of the arguments and observations made herein can be extrapolated to similar institutions in Third World settings. We consider that the following general points, arising from the above discussion, may have general applicability.

1. A small geological museum in the Third World can thrive with a dedicated curator and support from within (and outside) a parent institution.
2. International collaborations can be a source of exciting specimens, otherwise beyond the reach of such a museum.
3. Curatorial continuity is important.
4. All of the above enhance the museum's profile with the public locally and professionals internationally.

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