PROGRAMME & ABSTRACTS

INTERNATIONAL PALAEONTOLOGICAL CONGRESS

IPC 3

LONDON
2010
June 28 - July 3

S12 - IDENTIFYING *OSEDAX* TRACES ON FOSSIL WHALE FALLS

Higgs, Nicholas D.[1,2], Glover, Adrian G.[2], Dahlgren, Thomas G.[3] and Little, Crispin T.S.[2]

[1]School of Earth & Environment, University of Leeds, Leeds, LS2 9JT, UK

[2]Zoology Department, The Natural History Museum, Cromwell Road, London, SW7 5BD, UK

[3]Uni Research, Thormøhlensgt. 49, N-5006 Bergen, Norway

e-mail: *n.higgs@nhm.ac.uk*

In 2004 a new genus of worms, *Osedax*, was described from whale skeletons on the deep-sea floor. These worms were found to be actively boring into the whale bones for nutritional benefit. On some whale remains they have been found at high densities, causing rapid degradation of the skeletal material. The taphonomic consequences of this boring have not yet been fully resolved. *Osedax* worms are very important members of whale fall communities. Their destructive activities decrease the longevity of skeletons on the seabed and may also regulate sulphide flux from the bones by increasing their porosity. Thus, *Osedax* directly affect the ability of whale skeletons to host chemosynthetic communities and act as dispersal stepping-stones for sulphophilic organisms over long periods of time. Since the initial reports at least 17 species of *Osedax* have been identified, with more awaiting description. The group appear to be cosmopolitan in the deep-sea, living at depths from 30m to over 3000m. They have been found from both sides of the Pacific and the NE Atlantic. With such a large potential taphonomic footprint it is important to consider how *Osedax* may have shaped past whale fall communities. Yet it is unclear how, or if, *Osedax* could be recognised in the fossil record. Using micro computed-tomography we have determined the morphology of *Osedax* borings in recent whale bone, documenting the changes over time. With this information it is now possible to identify potential *Osedax* traces, allowing their past taphonomic and ecological significance to be assessed.

S5 - PALAEONTOLOGICAL COLLECTIONS IN ESTONIA: AN EXAMPLE OF DEVELOPMENT OF NATIONAL COLLECTION MANAGEMENT SOFTWARE

Hints, Olle[1], Isakar, Mare[2] and Hints, Rutt[3]

[1]Institute of Geology at Tallinn University of Technology, Ehitajate 5, 19086 Tallinn, Estonia

[2]Geological Museum, University of Tartu, Vanemuise 46, 51014 Tartu, Estonia

[3]Estonian Museum of Natural History, Lai 29A, 10133 Tallinn, Estonia

e-mail: *Olle.Hints@gi.ee*

Large palaeontological collections in Estonia are owned by three institutions: Tallinn University of Technology (GIT), University of Tartu (TUG) and Estonian Museum of Natural History (ELM). Altogether the number of fossil specimens is close to 0.5 million; most of them are Ordovician and Silurian invertebrates and Devonian vertebrates from the Baltica palaeocontinent. Some early Paleozoic microfossil collections (chitinozoans, scolecodonts, conodonts, ostracods) are among the largest in the world for this time interval. The electronic management of palaeontological collections started in late 1990s when an in-house MS Access database was developed at GIT. Since then the system has continuously grown, both in functionality and the amount of data. ELM and TUG deployed the same data model and software in 2005 and 2008, respectively, making up a virtual “national geological collection” together with GIT. Now the system contains over a hundred related tables served by open source MySQL database server. The front-end for regular collection management procedures (accessioning, keeping track of the specimens, printing labels and loan invoices etc) is still largely based on MS Access. However, with the emergence of new standards and technologies, the focus is switching to web-based solutions, which will eventually replace the desktop software. As of 2010, about 20% of Estonian fossil collections are electronically catalogued. Most of these data, including specimen records, digital images, information on geological localities, literature and so on, are publicly available through a common web portal at http://geokogud.info. The Estonian palaeontological collections are also accessible via BioCASE and GBIF specimen-level data networks.