

## **IGCP 587 – "Identity, Facies, and Time, the Ediacaran (Vendian) Puzzle" 2012 Report on Canadian Activities**

### **IGCP 587 Meeting - Neoproterozoic to Cambrian Evolution of the Earth and Life**

The major activity of IGCP 587 in 2012 took place May 24 – June 2, 2012 in conjunction with the annual meeting of the Geological Association of Canada in St. John's Newfoundland. Three events sponsored by IGCP 587 are described in detail in the attached "Conference Report", and a brief description of each follow in this report. Each of the activities below attracted a good mix of established professionals, new researchers, and students from across the globe.

#### **May 24 – 26: Pre-meeting fieldtrip "The dawn of the Paleozoic on the Burin Peninsula"**

This trip, co-led by Guy Narbonne (Canada) and Paul Myrow (USA) examined the Ediacaran-Cambrian GSSP and overlying fossiliferous basal Cambrian (Fortunian) strata on the Burin Peninsula of Newfoundland. This trip was attended by 22 participants from 5 countries.

#### **May 27--29: "Neoproterozoic to Cambrian Evolution of the Earth and Life: A Symposium in Memory of Hans J. Hofmann"**

This well-attended symposium attracted 31 presentations by researchers from eight countries on six continents. This symposium was a highlight of the GAC conference, and superbly showcased the activities and contributions of IGCP to this broader geological community.

#### **May 30th –June 2nd: Post-meeting fieldtrip "The Mistaken Point biota of Avalon: Ediacaran glaciation, oxidation, and the origin of animals"**

This trip, co-led by Canadian researchers Guy Narbonne, Marc Laflamme, and Richard Thomas examined the fossils and environmental setting of Earth's oldest Ediacaran fossils, the Mistaken Point biota of Newfoundland. This trip was attended by 30 participants from 6 countries.

### **Canadian Research Activities**

**Newfoundland** - Research by G.M. Narbonne and his team (Queen's University) at Mistaken Point focussed on the paleobiology of Ediacaran discs in the Avalon and Bonavista peninsulas. D. McIlroy (MUN) is also carrying out field studies of the fossils at Mistaken Point and elsewhere in eastern Newfoundland.

**NW Canada** – Fieldwork in the Mackenzie Mountains of NW Canada was carried out by G.M. Narbonne and his team. Highpoints included discovery of additional types of Ediacaran body fossils in the Sheepbed Formation and a more thorough analysis of the Ediacaran trace fossil evolution in the Blueflower and Ingta formations. The position of the Ediacaran-Cambrian boundary was further refined.

**Namibia** - G.M. Narbonne and C. Greentree examined the field context of newly discovered specimens of the keystone Ediacaran fossil *Rangea* in southern Namibia and for the newly reported specimens of *Otavia* in northern Namibia. Dr. Narbonne also presented a public lecture "When Life Got Big" at the Geological Society of Namibia in Windhoek, Namibia.

## Canadian Publications

### Refereed Journal Papers:

- Laflamme, M., Flude, L.I., and Narbonne, G.M., 2012, Ecological tiering and the evolution of a stem: the oldest stemmed frond from the Ediacaran of Newfoundland, Canada, *Journal of Paleontology* 84: 193-200.
- Laflamme, M., Schiffbauer, J. D., and Narbonne, G. M., 2012, Deep-Water Microbially Induced Sedimentary Structures (MISS) in Deep Time: The Ediacaran Fossil *Ivesheadia*, In Noffke, N. (ed.), *Microbial Mats in Siliciclastic Sediments, SEPM Special Publication 101*: 111-123.
- Liu, A.G., Mcllroy, D., Matthews, J. J., and Brasier, M.D. 2012. A new assemblage of juvenile Ediacaran fronds from the Drook Formation, Newfoundland, *Journal of the Geological Society* 169: 395-403.
- Narbonne, G.M., Xiao, S., and Shields, G., 2012, Ediacaran Period. Chapter 18 in: Gradstein, F.M., Ogg, J.G., Schmidt, M.D., and Ogg, G.M. (eds.), *Geologic Timescale 2012*, Elsevier, pp. 427-449.

### Non-refereed Papers:

- Vickers-Rich, P., Fedonkin, M.A., Gehling, J.G., and Narbonne, G.M., 2012, IGCP 493 and 587: Rise and Fall of the Vendian (Ediacaran) biota (2003-2007 and 2010-2014). Tales set in stone. 40 years of the International Geoscience Program (IGCP), UNESCO, Paris, pp. 28-31.

### Field guides:

- Myrow, P., and Narbonne, G.M., 2012, The Dawn of the Paleozoic on the Burin Peninsula, GAC Field Trip Guidebook A2, 42p.
- Narbonne, G.M., Laflamme, M., and Thomas, R. 2012, When Life Got Big: Glaciation, Oxidation, and the Mistaken Point biota of Newfoundland, GAC Field Trip Guidebook B1, 78p.

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