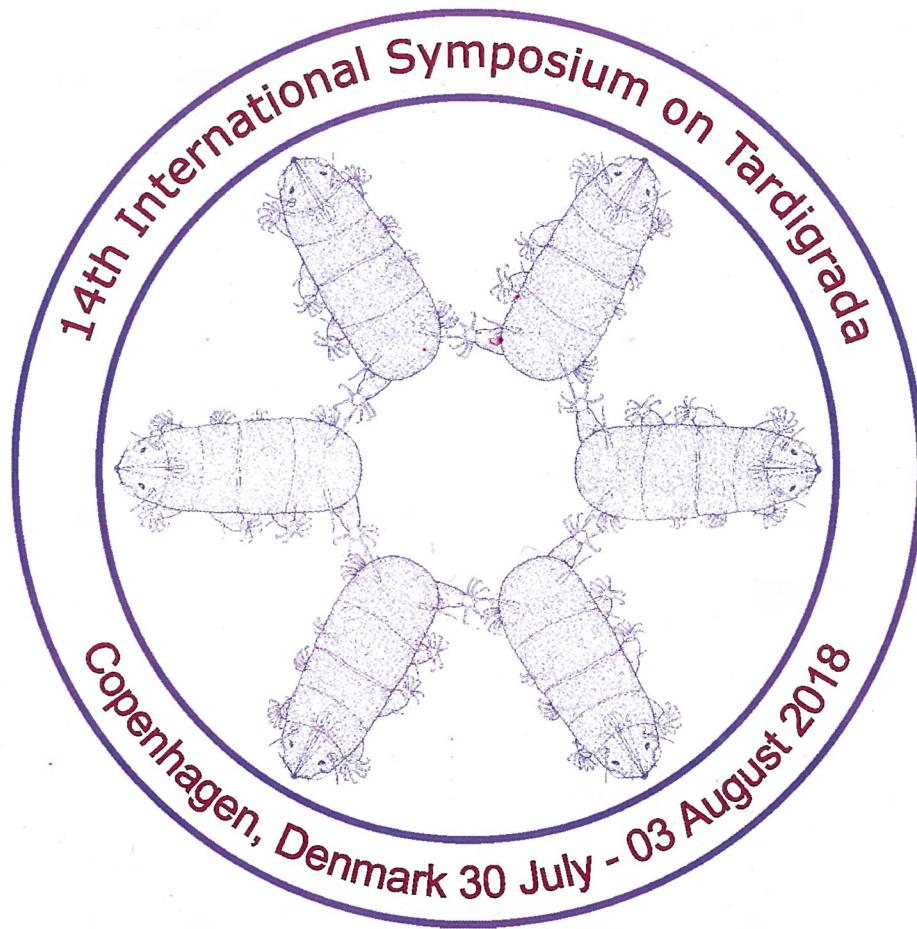


WELCOME TO TARDIGRADA 2018
14TH INTERNATIONAL SYMPOSIUM ON TARDIGRADA

CONFERENCE PROGRAM



COPENHAGEN BIOCENTER, DENMARK • www.tardigrada2018.org

UNIVERSITY OF COPENHAGEN
FACULTY OF SCIENCE



MONDAY 30/7-2018

07:30 - 10:30 Registration & Poster installation (Session 1) - Welcome & Keynote 1

- 07:30 - 09:30 Registration and Poster installation (Poster session 1)
- 09:30 - 09:45 Welcome by N. Møbjerg and Dean John Renner Hansen, SCIENCE, UCPH
- 09:45 - 10:30 G. GIRIBET - Another round of animal phylogenetics: known, unknowns, needs
- 10:30 - 11:00 **COFFEE/TEA**

11:00 - 12:30 Session 1.1 Taxonomy, Phylogeny & Evolution - Chairs: Giribet & Kristensen

- 11:00 - 11:15 J. ORTEGA-HERNÁNDEZ & R. GARWOOD - New evolutionary insights from the tardigrade fossil record
- 11:15 - 11:30 J. KIHM, J. LIU, S. KIM & T.S. PARK - Comparative morphological study between tardigrades and Cambrian lobopodians (*J. Kihm is a Young Scientist Award contestant*)
- 11:30 - 11:45 R. BERTOLANI, M. CESARI & R.M. KRISTENSEN - Progress in the integration of morphological and molecular investigations in tardigrade taxonomy and phylogeny
- 11:45 - 12:00 K. SHORT, S. McINNES, D. PISANI, C. SANDS & P. CONVEY - A new comprehensive phylogeny of the Tardigrada may alter the hypotheses for their colonisation of Antarctica (*K. Short is a Young Scientist Award contestant*)
- 12:00 - 12:15 P. GAŚIOREK, W. MOREK, D. STEC & Ł. MICHALCZYK - Combined morphological and molecular phylogeny of *Echiniscus* C.A.S. Schultze, 1840 (*P. Gaśiorek is a Young Scientist Award contestant*)
- 12:15 - 12:30 D.V. TUMANOV - Analysis of non-morphometric morphological characters used in the taxonomy of the genus *Pseudechiniscus*

12:30 - 13:30 **LUNCH**

13:30- 15:00 Session 1.2 Taxonomy, Phylogeny & Evolution - Chairs: Bertolani & Hansen

- 13:30 - 13:45 R.M. KRISTENSEN, A. JØRGENSEN & N. MØBJERG - A new interstitial species and genus of Echiniscoididae with unique anal system structures
- 13:45 - 14:00 W. MOREK & Ł. MICHALCZYK - Multilocus molecular phylogeny of the genus *Milnesium* Doyère, 1840 (*W. Morek is a Young Scientist Award contestant*)
- 14:00 - 14:15 E. SANTOS, P. VEIGA, M. RUBAL, P.J. BARTELS, C.M.C. DA ROCHA & P. FONTOURA - *Batillipes pennaki* Marcus, 1946 (Arthrotardigrada: Batillipedidae): deciphering a species complex
- 14:15 - 14:30 O. LISI, R. LONDOÑO & S. QUIROGA - Description of a new genus and species (Eutardigrada, Richtersiidae) from Colombia, with discussion on Richtersiidae
- 14:30 - 14:45 D. STEC, Ł. KRZYWAŃSKI, K. ZAWIERUCHA & Ł. MICHALCZYK - Integrative redescription of *Paramacrobotus (Amicrobotus) areolatus* (Murray, 1907) with notes on the phylogeny of the genus *Paramacrobotus* Guidetti et al. (2009) (*D. Stec is a Young Scientist Award contestant*)
- 14:45 - 15:00 N.J. MARLEY - Is it time to change how we present morphology-based taxonomic information to make it more accessible?

15:00 - 15:30 **COFFEE/TEA**

15:00 - 16:30 Poster Session 1: Posters S1.P1-S1.P39

16:30 - 18:00 **ICEBREAKER**

Comparative morphological study between Cambrian lobopodians and extant tardigrades

캄브리아기 엽족동물과 현생 완보동물 간 형태비교연구

Kim, Ji-Hoon, LIU JIANNI, Kim, Sanghee, Park, Tae-Yoon S.

Background: Order Arthrotardigrada includes marine heterotardigrades which have been known to retain more plesiomorphic conditions than the Eutardigrada. Especially, *Parastygarctus* was considered as the most primitive genus, based on the morphological comparison with a Cambrian lobopodian, *Aysheaia pedunculata* from the Burgess Shale, Canada, which was one of the two known Cambrian lobopodian until the 1980's. However, since the 90's thirteen more Cambrian lobopodian species have been discovered from the Chengjiang, China, which have significantly promoted our knowledge on the Cambrian lobopodian morphology, necessitating novel morphological comparison between tardigrades and the Cambrian lobopodians.

Results: We have compared morphological characters between tardigrades and the Cambrian lobopodians. Among several species of Cambrian lobopodians, *Aysheaia pedunculata* displays six peri-buccal papillae around the mouth opening, which are reminiscent of those of apochelan *Milnesium tardigradum*. Eutardigrades and the Cambrian lobopodians have terminally-opened mouth which is an important plesiomorphic character of panarthropods, whereas most heterotardigrade show a ventrally-opened mouth. The Cambrian lobopodians had claws at the end of their limbs, lacking digits or toes which are present in heterotardigrades. The Cambrian lobopodians and eutardigrades show lobe-like limbs, while heterotardigrades have telescopic limbs. Presence of circum-oral elements and pharyngeal teeth are plesiomorphic for Ecdysozoa, but only eutardigrades have these structures. In addition, the elongated pharyngeal bulb and parallel piercing stylets of apochelan tardigrade reminds the elongated pharynx and

parallel rostral spines of *Kerygmachela kierkegaardi* respectively.

Conclusions: Based on the morphological comparison with the Cambrian lobopodians, it is suggested that eutardigrades retain more plesiomorphic morphologies than heterotardigrades. Particularly, apochelans display many similarities with Cambrian lobopodians.