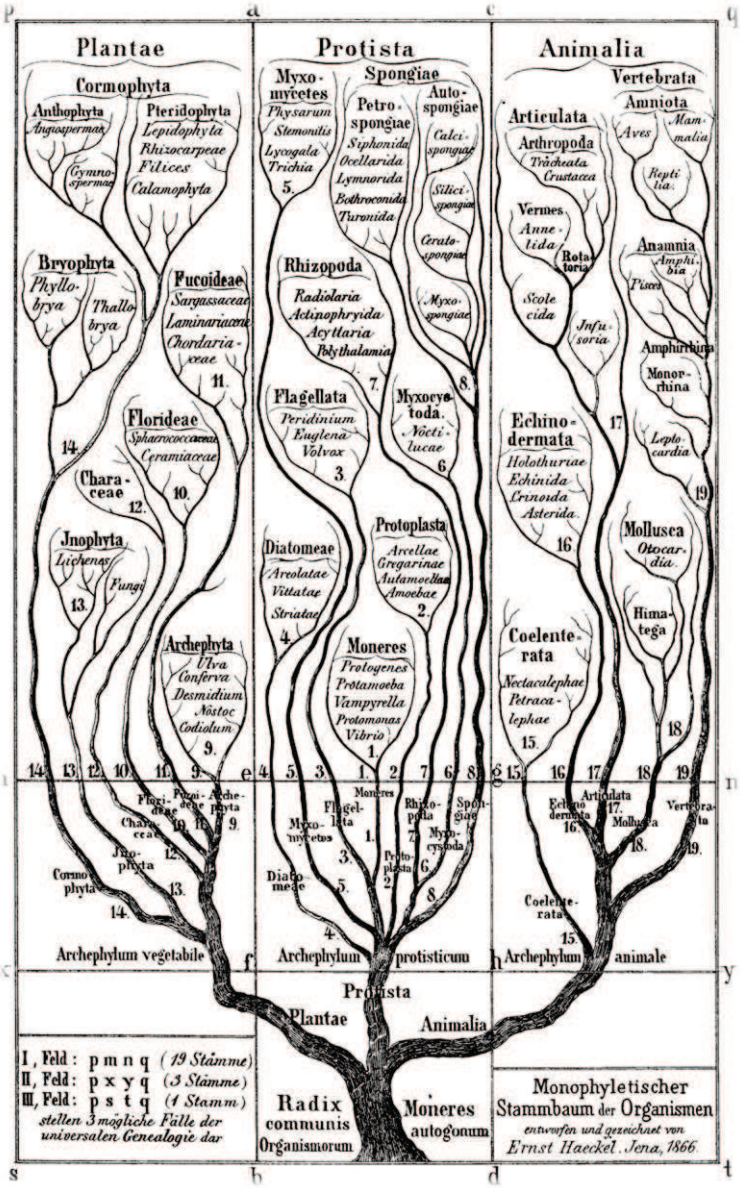
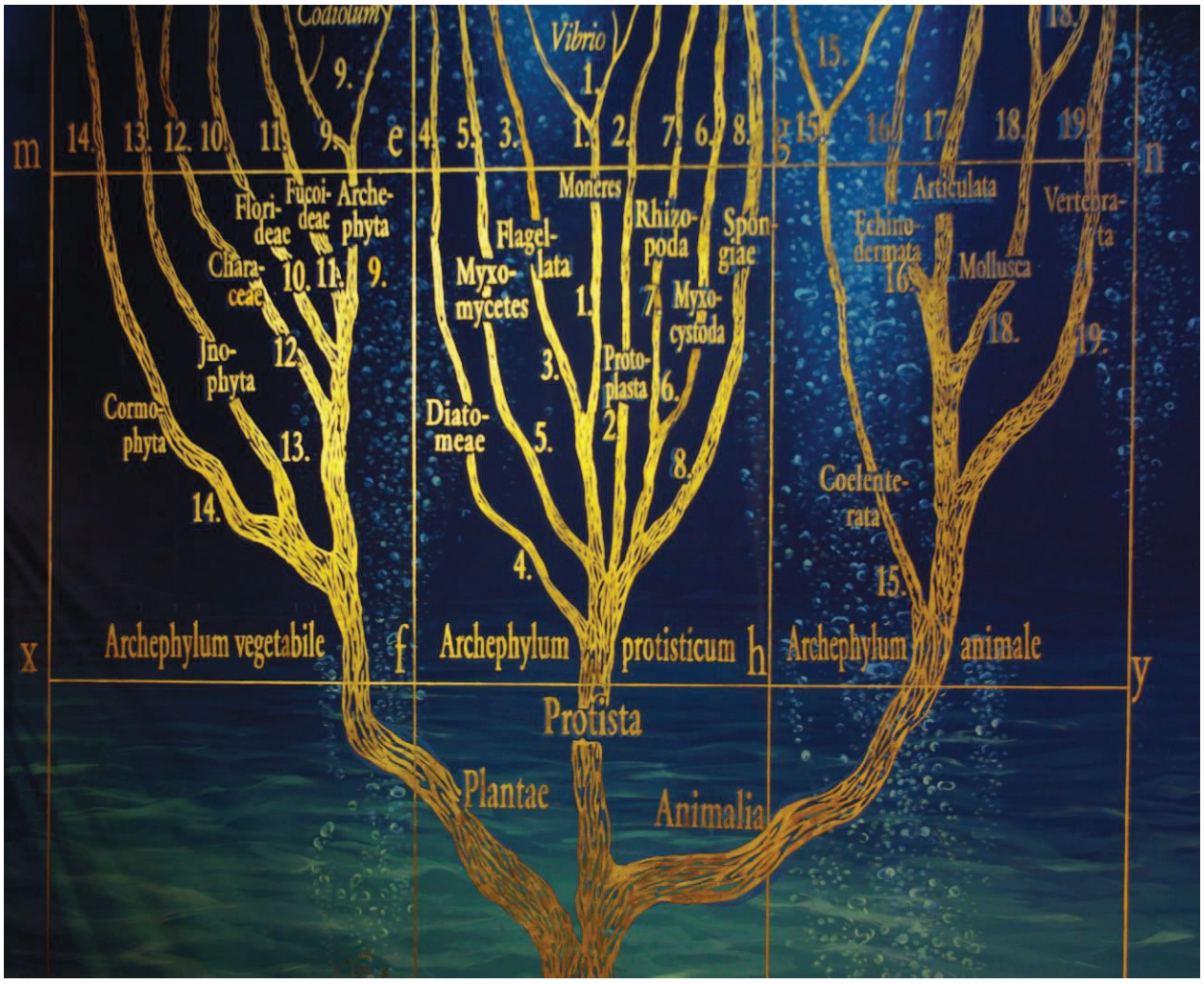
7th

POLISH EVOLUTIONARY CONFERENCE



Gdańsk

September 18-20, 2019



The wall painting in the main hall of the Faculty of Biology (University of Gdańsk) building made by students of Art Academy in Gdańsk: Jacek Zdybel, Katarzyna Marcinkowska, Joanna Mularska, Magdalena Pelak, Klaudia Szalewska, Wojciech Woźniak in 2012. Presents the Ernst Haeckel tree of life, which is Darwin's metaphorical description of the pattern of universal common descent. This is the English version of Ernst Haeckel tree from the *The Evolution of Man* (1879), one of several depictions of a tree of life by Haeckel. Man is at the crown of the tree; for Haeckel, as for many early evolutionists, humans were considered the pinnacle of evolution. Go to fifth floor to appreciate all the tree, including the tree crown. Photo credit: Dorota Kidawa

Hemiptera tree, Hemiptera on the Tree (of Life)

Jacek Szwedo

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Hemiptera is the fifth larger insects order on terms of species taxic diversity, and the most diversified regarding morphological disparity reflected in over 300 currently recognised families extant and extinct. Their fossil record could be traced back to the Carboniferous, with molecular calibrations suggesting older, Devonian period as time of origination. The group was established by Linnaeus, but since these time its concept and content changed many times. Currently, the order is divided into six suborders: Paleorrhyncha (extinct), Sternorrhyncha, Fulgoromorpha, Cicadomorpha, Coleorrhyncha and Heteroptera. The first classification and relationships proposals had been proposed in the 19 th century. The development of palaeoentomology, and data brought by these investigations shaped the first relationships trees presented in the beginning of 20th century. Also cladistic methodology approach enabled to propose some new interpretations of classification and relationships of the Hemiptera. End of 20th century brought molecular earthquake of newly available data, which reshaped the evolutionary and classification proposals for the Hemiptera. Development of these techniques and accumulation of palaeontological data, together with new morphological data, in the beginning of 21st century resulted in several new proposals. However, there is still no full consensus. There are several reasons: selection and sampling of taxa, mistakes in identification, wrongly selected or wrongly dated fossils used for calibration of the molecular clock, misinterpretation of morphological structures, unclear homologies, lack of reliable data for certain crown groups, etc. Despite these biases, the general shape of the tree of Hemiptera could be presented, with relationships of most groups more or less solved. The second is the placement of the Hemiptera on the Tree of Life. Here the situation seemed to be more or less stable, but recent findings of fossils and reinterpretations of crucial morphological characters put some new questions on relationships of the Hemiptera with other paraneopteran insects.

Keywords: phylogeny, classification, evolution, insects

Poster number in the exhibition corridor: P18

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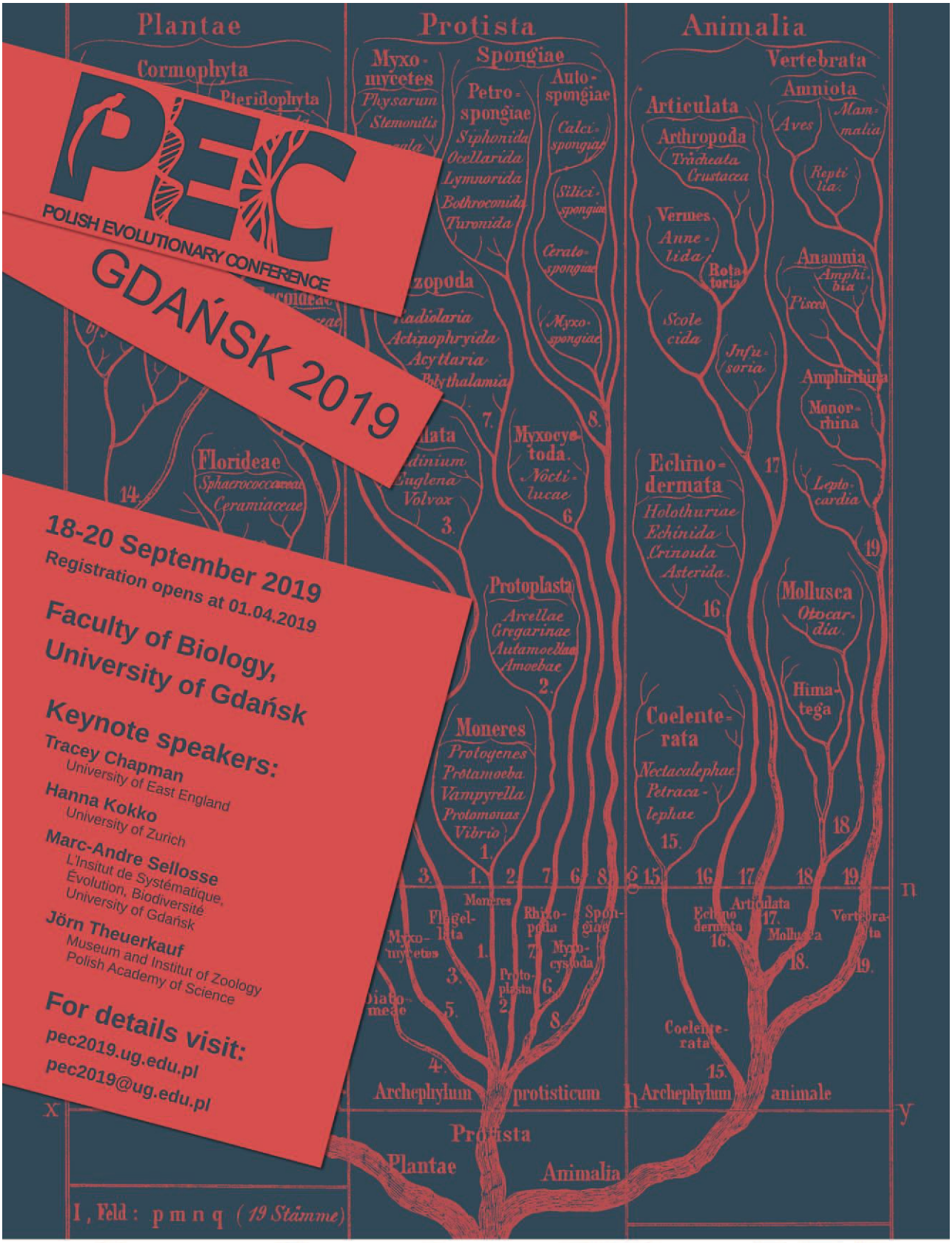

PEC

POLISH EVOLUTIONARY CONFERENCE

GDAŃSK 2019

18-20 September 2019

Registration opens at 01.04.2019

Faculty of Biology,
University of Gdańsk

Keynote speakers:

Tracey Chapman
University of East England

Hanna Kokko
University of Zurich

Marc-Andre Sellosse
L'Insitut de Systématique,
Evolution, Biodiversité
University of Gdańsk

Jörn Theuerkauf
Museum and Institut of Zoology
Polish Academy of Science

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