

Curriculum Vitae

John Joseph Cawley

Departmental Address

Institut für Paläontologie, University of Vienna, Althanstrasse 14 (UZA II)
1090 Vienna, Austria.

E-mail: john.cawley@univie.ac.at

PERSONAL INFORMATION

Date of Birth: 20 Jan 1986
Place of Birth: Ireland
Nationality: Irish
Marital Status: Single

EDUCATION

October 2010 - October 2011: University of Bristol, Department of Earth Sciences

MSc in Palaeobiology (Distinction). Taught units: Vertebrate Palaeobiology and Evolution, Scientific Communication, Current Controversies, Research and Systematic Methods, Early Human Origins, Taphonomy and Palaeoecology

Research Project: I studied in detail the anatomy of 100 exquisitely preserved specimens of the genus *Pachycormus*, from the Upper Lias of Ilminster, Somerset, one of the most ancient teleost fishes. This revision of the family Pachycormidae allowed the revision of the phylogeny of basal teleosts. The work involved systematic description and detailed drawing of the anatomy of these fishes and cladistic analysis. The results showed that aspidorhynchids were basal teleosts with pachycormids as the closest sister group.

June 2009: National University of Ireland, Galway (NUIG).

BSc degree in Zoology. 2:1 honours. Taught units: Mammal Evolution, Wildlife Conservation, Fresh Water Ecology, Phylogenetics, Climate Change Effects on Marine Habitats, Stem Cell Research and Evolutionary Development.

My subjects in previous years included: botany, chemistry, zoology, microbiology, and

marine ecology.

Thesis: Benthic Habitat Quality of the Barrow Estuary in Co. Waterford, Ireland.

Synopsis: The environmental quality of the Barrow Estuary was assessed by collecting and counting benthic fauna. Environmental variables such as grain size, salinity, organic carbon content was measured and data models were created from the results using the computer program PRIMER 6. A biotic index of habitat quality e.g AMBI (AZTI Marine Biotic Index), was then applied to each station; low scores suggested organisms sensitive to ecological change thrived, therefore the habitat was undisturbed, whereas high scores suggested tolerant organisms which lived in extremely disturbed habitats. The results show that it was hard to distinguish between man-made and naturally occurring causes in waters with mixed salinity. Biodiversity was highest in waters with low levels of pollution and was predominantly freshwater or saltwater.

PEER REVIEWED PAPERS

Cawley J.J., Kriwet J. 2017. Possible sexual dimorphism in *Pankowskichthys libanicus* (Neopterygii, Pycnodontiformes) from the Cenomanian of Lebanon. *Research and Knowledge*, 3, pp 33-35.

Cawley J.J., Kriwet J. 2017. New information about late cretaceous pycnodont fishes (Actinopterygii, Pycnodontiformes) from the near east. *Research and Knowledge*, 3, pp 47-48.

Cawley J.J., Kriwet J. 2018. A new pycnodont fish, *Scalacurvichthys naishi* gen. et sp. nov., from the Late Cretaceous of Israel. *Journal of Systematic Palaeontology*, 16, pp 659–673.

Cawley, J.J., Marramà, G., Carnevale, G. and Kriwet, J. 2018. A quantitative approach to determine the taxonomic identity and ontogeny of the pycnodontiform fish *Pycnodus* (Neopterygii, Actinopterygii) from the Eocene of Bolca Lagerstätte, Italy. *PeerJ*, 6, p.e4809.

Cawley, J.J., Kriwet, J., Klug, S. and Benton, M.J., 2018. The stem group teleost *Pachycormus* (Pachycormiformes: Pachycormidae) from the Upper Lias (Lower Jurassic) of Strawberry Bank, UK. *PalZ*, pp.1-18.

Cawley, J.J. and Kriwet, J., 2019. A new genus and species of pycnodontid fish *Flagellipinna rhomboides*, gen. et sp. nov. (Neopterygii, Pycnodontiformes), from the Upper Cretaceous (Cenomanian) of Lebanon, with notes on juvenile form and

ecology. *Journal of Vertebrate Paleontology*, p.e1614012.

Kriwet, J., Cawley, J.J., Wiese, F., Lehmann, J. and Pfaff, C. in press. Some like it hot: A new early Turonian pycnodont fish, *Njoerdichthys schultzei*, advocates climate-mediated northward migration as response to global warming during the Cretaceous thermal maximum.

Cawley, J, Marramà, G., Carnevale, G., López-Romero, F. and Kriwet, J. in press. The rise and fall of Pycnodontiformes: a deep time look at diversity, competition and extinction of a successful clade of neopterygian fishes. (working title).

CONFERENCES AND SYMPOSIA

Mary Anning weekend, Marine Theatre, Lyme Regis, Dorset (2012)

Talk: The *Pachycormus* of Strawberry Bank and its relationship to the teleost fishes.

7th International Meeting on Mesozoic Fishes (2017)

Talk: New information about Late Cretaceous pycnodont fishes (Actinopterygii, Pycnodontiformes) from the Near East (co-authored by J. Kriwet).

Poster: Possible sexual dimorphism in *Pankowskichthys libanicus* (Neopterygii, pycnodontiformes) from the Cenomanian, Haqel, Lebanon (co-authored by J. Kriwet).

19th Annual Meeting of Gesellschaft für Biologische Systematik (2018)

Talk: Pycnodonts: could they be the true sister group to teleost fishes? (co-authored by J. Kriwet).

5th International Palaeontological Congress (2018)

Talk: Predicting competition between †Pycnodontiformes and Ginglymodi (Osteichthyes, Neopterygii) through geologic time based on quantitative analyses of lower jaw features (co-authored by J. Kriwet and G Marramà).

ACADEMIC GRANTS AND AWARDS

11/2016-11/2019: Ph.D. scholarship from the FWF, Austria.

02/01/2017: SYNTHESY grant for visiting fossil fish collections of MNHN, Paris.