tion of the Upper Silurian (Pridoli) nautiloid cephalopod fauna of Eggenfeld near Gratkorn (Graz Paleozoic, Styria). Preliminary results of a systematic study indicate the presence of representatives of the families Oonoceratidae and Lechritrochoceratidae and subfamilies Michelinoceratinae, Kionoceratinae and Leurocycloceratinae with at least 7 genera: *Michelinoceras*, *Merocycloceras*, *Plagiostomoceras*, *Parakionoceras*, *Orthocycloceras*, *Oonoceras* and *Lechritrochoceras*. These genera document faunal exchange between the Graz Paleozoic, central Bohemia, the Carnic Alps, Sardinia, France (Montagne Noire), Spain (the Ossa Morena Zone) and Morocco during the late Silurian. Detailed microfacies study of the "Silurian Cephalopod Limestone Biofacies" (i.e. Orthoceras-limestone in the old literature) in the Prague Basin resulted in the identification of two distinct depositional environments: one by surface currents and one within a shallower setting affected by storm action. The cephalopod bearing limestone beds from the studied section also show diverse orientation of the nautiloid conchs on the bedding surface. Uni-directional orientation of conchs may indicate deposition by surface currents while the perpendicular orientation of conchs and distinct time-rich taphonomic features such as dissolution of shell material and disarticulation of septal chambers on the bedding surface may indicate deposition within a shallower setting and periods of non-deposition. The more shallow water, morphologically facies restricted, nautiloid species possibly reflect the closeness of the depositional environment of the Eggenfeld locality to the Carnic Alps and to Bohemia while the more pelagic faunas may reflect the exchange between the various North Gondwana terranes, Baltica and the Urals due to migration events related to the prevailing warm water currents (e.g. South tropical Current). As the effect of long-term post-mortem drift has long been discounted by researchers based on shell morphology the use of nautiloid cephalopods as a reliable tool for paleogeographic reconstruction is now more than ever feasible as new data is emerging from localities, such as those from the Graz Paleozoic, within precise biostratigraphic biozones. These data now allow detailed, reliable correlation of these commonly found pelagic faunas on both a regional and global scale.

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Seasonal control in a ETM 2 vegetation, the microflora from Krappfeld (Carinthia, Austria)

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Palynomorphs from Lower Eocene terrestrial sediments of the recultivated Pemberg quarry (Carinthia, Austria) are still under ongoing examination. The formerly exposed Holzer Formation is an eight meter thick succession of soft green and red clays with intermingled coal lenses and both marine and terrestrial palynomorphs are preserved. The dinocyst assemblages are of low diversity dominated by up to 90% of *Apectodinium* species (*A. homophorum, A. paniculatum, A. parvum* and *A. spp.*), whereas the terrestrial pollen and spore assemblages are very diverse (up to now ca. 135 taxa) and are characterized by mostly mesothermal and megathermal floral elements. Despite that the bulk of angiosperms comprises mesothermal Juglandaceae, Rhoipteleaceae, Fagaceae and Myricaceae, the highest diversity lies in the less abundant and accessory megathermal genera from families, such as Arecaceae (at least 16 palm taxa, e.g., from Arecoideae, Calamoideae, Ceroxyloideae, Coryphoideae and Nypoideae subfamilies), Alangiaceae, Anacardiaceae, Avicenniaceae, Bignoniaceae, Burseraceae, Calycanthaceae, Chloranthaceae, Euphorbiaceae, Icacinaceae, Hamamelidaceae, Malvaceae (e.g. Helicteroideae, Bombacoideae, Sterculioideae, Tilioideae Subfamilies), Olacaceae, Oleaceae, Picrodendraceae, Rhizophoraceae, Rutaceae, Sapotaceae, Styracaceae, Theaceae, and Thymelaeaceae. For further climatic and ecological interpretation it is essential to affiliate the pollen taxa at least down to genus level 8comvination of LM and SEM), because the ecological and climatic amplitudes of a family can vary. Most of these megathermal elements were growing under an equivalent of today sub/tropical and seasonally controlled (passat-like or monsoon-like subtropical precipitation) climatic conditions, such as *Alangium villosum*-type (Alangiaceae), Aristogeitonia-type (Picrodendracerae), *Camellia* (Theaceae), *Iodes* type (Icacinaceae), *Lannea* (Anacardiaceae), *Leucroton* (Euphorbiaceae), *Pithecoctenium*-type (Bignoniaceae), *Canarium*-type (Burseraceae), *Rhodognaphalopsis* (syn. *Pachira*, Bombacoideae), *Palaquium* and *Pouteria* (Sapotaceae) and therefore do not reflect pure tropical everwet conditions.

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