**SUPPLEMENTARY DATA FOR: *The literature on Triassic, Jurassic and earliest Cretaceous dinoflagellate cysts: supplement six* by James B. Riding**

**Appendix 1: List of Literature**

Thirty eight contributions on Triassic to earliest Cretaceous dinoflagellate cysts issued after the publication of Riding (2012, 2013, 2014, 2019, 2020a, 2020b), and papers encountered after these compilations were made, are listed in alphabetical/chronological order below. The reference format used is much the same as in Riding (2013), which was slightly modified from Riding (2012). The full digital object intentifier (doi) numbers are included as appropriate. The five papers which are deemed to be of major significance are asterisked. The language in which a paper was written in is indicated if it is not in English. A synthesis of the scope of each item is given as a string of keywords in parentheses after each citation. These keywords attempt to comprehensively summarise the principal subject matter, for example: age range; major geographical region(s); and country/countries. A distinction is made between publications which present new data (‘primary data’), and those which compile, review or summarise existing data (‘compilation/review’ etc.). If the author(s) have included occurrence charts, photographs and a zonal breakdown, these are also indicated in the keywords. For the purpose of this work, the world is subdivided into 23 major geographical regions. These are East Africa, North Africa, Southern Africa, Central America, northern South America, southern South America, Greater Antarctica, the Antarctic Peninsula, East Arctic, West Arctic, Southeast Asia, Australasia, sub-Arctic East Canada, sub-Arctic West Canada, China and Japan, East Europe, sub-Arctic West Europe, the Indian subcontinent, the Middle East, sub-Arctic Russia east of the Ural Mountains, sub-Arctic Russia west of the Ural Mountains, U.S.A. east of the Rocky Mountains and U.S.A. west of the Rocky Mountains (Tables 1, 2). The assignment of the disputed territory of Crimea to Russia is merely for internal consistency and geographical pragmatism, and has no political significance whatsoever.

**A**

ABERHAN, M., BUSSERT, R., HEINRICH, W.-D., SCHRANK, E., SCHULTKA, S., SAMES, B., KRIWET, J., and KAPILIMA, S. 2002. Palaeoecology and depositional environments of the Tendaguru Beds (Late Jurassic to Early Cretaceous, Tanzania). *Mitteilungen aus dem Museum für Naturkunde in Berlin. Geowissenschaftliche Reihe*, 5(1): 19–44 (https://doi.org/10.1002/mmng.20020050103).

(acritarchs; bivalves; charophytes; corals; dinosaurs; fish; foraminifera; freshwater algae; gastropods; geological background; German-Tanzanian Tendaguru Expedition 2000; lithostratigraphy [Tendaguru Beds]; Mandawa Basin; microforaminiferal linings; ostracods; palaeoclimate; palaeoecology; plant fossils; pollen and spores; reptiles; sedimentology; *Sentusidinium capitatum*; taphonomy; primary data; photograph; generalised, non-quantitative occurrence chart; Late Jurassic–Early Cretaceous [?Oxfordian/Kimmeridgian–Hauterivian]; East Africa [Tendaguru, near Lindi, southeast Tanzania])

ARKADIEV, V.V., SHUREKOVA, O.V., and SAVELIEVA, J.N. 2021. New palynological and microfaunistic data on Triassic–Jurassic deposits Bodrak River Basin (south-west Crimea). *In*: ARKADIEV, V.V. (editor). Geology of Crimea. *Scientific Notes of the Department of Sedimentary Geology*, 3: 59–70. LEMA Publishing House, Saint Petersburg, Russia (in Russian with an English abstract).

(acritarchs; Crimean Mountains; Bodrak River Basin; *Nannoceratopsis gracilis*; *Nannoceratopsis senex*; *Nannoceratopsis spiculata*; ostracods; palaeoecology; palynofacies; pollen and spores; prasinophytes; Triassic reworking; primary data; photographs; Early and Middle Jurassic [Toarcian and Bajocian]; sub-Arctic Russia west of the Ural Mountains [Bodrak River area, southwest Crimea)

**B**

BOOMER, I., COPESTAKE, P., RAINE, R., AZMI, A., FENTON, J.P.G., PAGE, K.N., and O’CALLAGHAN, M. 2020. Stratigraphy, palaeoenvironments and geochemistry across the Triassic–Jurassic boundary transition at Carnduff, County Antrim, Northern Ireland. *Proceedings of the Geologists Association*, https://doi.org/10.1016/j.pgeola.2020.05.004.

(acritarchs; ammonites; biostratigraphy; bivalves; *Botryococcus*; carbon cycle; carbon isotope record and excursions; carbonate content; Carnduff-1 and Carnduff-2 boreholes; Central Atlantic Magmatic Province [CAMP]; correlation; diversity; end-Triassic extinction event; foraminifera; geochemistry; hyperthermal event; lithostratigraphy [Penarth and Lias groups]; ostracods; oxygen isotope record; palaeoecology; pollen and spores; prasinophytes; sedimentology; trace fossils; Triassic–Jurassic boundary; primary data; quantitative occurrence chart; Late Triassic–Early Jurassic [Norian–Sinemurian]; sub-Arctic West Europe [Carnduff, south of Larne, County Antrim, Northern Ireland])

**C**

\*CORREIA, V.F., RIDING, J.B., DUARTE, L.V., FERNANDES, P., and PEREIRA, Z. 2021. The effects of the Jenkyns Event on the radiation of Early Jurassic dinoflagellate cysts. *In*: DUARTE, L.V., and MATTIOLI, E. (editors). Carbon Cycle and Ecosystem Response to the Jenkyns Event in the Early Toarcian (Jurassic). *Geological Society, London, Special Publication*, 514, in press.

(acritarchs; ammonite zones; biostratigraphy; Boreal and Tethyan realms; carbon isotope analysis; correlation; dinoflagellate cyst families; diversity; endosymbiosis; environmental recovery; evolution; extinction; family Gonyaulacaceae; geological background; Jenkyns Event/Toarcian Oceanic Anoxic Event [T-OAE]; lithostratigraphy [Água de Madeiros, Vale das Fontes, Lemede, Cabo Carvoeiro, São Gião and Póvoa da Lomba formations]; Lusitanian Basin; marine anoxia-euxinia; migration; ocean acidification; palaeobiology; palaeoclimate; palaeogeography; palaeoceanography; pollen and spores; prasinophytes; regional trends; thermal gradients; primary data/review; photographs; occurrence chart; Early Jurassic [Sinemurian–Toarcian]; sub-Arctic West Europe [Brenha, Fonte Coberta, Maria Pares, Peniche, São Pedro de Moel and Vale das Fontes, central west Portugal])

**D**

DYPVIK, H., SMELROR, M., MØRK, A., WERNER, S.C., and TORSVIK, T.H. 2010. Chapter 5. Impact cratering and post-impact sedimentation. *In*: DYPVIK, H., TSIKALAS, F., and SMELROR, M. (editors). *The Mjølnir Impact Event and its Consequences*. Impact Studies. Springer-Verlag, Berlin and Heidelberg, 139–174 (https://doi.org/10.1007/978-3-540-88260-2\_5).

(acritarchs; ammonites; biostratigraphy; bivalves; cratering; foraminifera; inorganic and organic geochemistry; lithostratigraphy [Ragnarok, Hekkingen and Klippfisk formations]; magnetic density and susceptibility; meteorite impact; mineralogy; Mjølnir Crater Core 7329/03-U-01; Mjølnir Impact Event and Structure; pollen and spores; prasinophytes; reworking; sequence stratigraphy; shocked quartz; spectral gamma; trace fossils; primary data; photographs; Late Jurassic–Early Cretaceous [Oxfordian–Valanginian]; East Arctic [Barents Sea, southeast of Svalbard])

**F**

FEIST-BURKHARDT, S., BLÄSI, H., DEPLAZES, G., HOSTETTLER, B., and WOHLWEND, S. 2018. 6.2. High resolution dinoflagellate cyst palynostratigraphy of the Middle Jurassic in northern Switzerland. *Symposium 6: Stratigraphy. Eighteenth Swiss Geoscience Meeting, 2018. Platform Geosciences, Swiss Academy of Science (SCNAT)*, 192–193.

(ammonite zones and subzones; biostratigraphy; composite standard; depth/age plots; geochronology; graphic correlation; radioactive waste disposal; sedimentation rates; sequence stratigraphy; extended abstract; Middle Jurassic [undifferentiated]; sub-Arctic West Europe [northern Switzerland])

FENSOME, R.A., and MUNSTERMAN, D.K. 2020. Dinoflagellates. Subchapter 3I *In*: GRADSTEIN, F.M., OGG, J.G., SCHMITZ, M.B., and OGG, G.M. (editors). *Geologic Time Scale 2020*. *Volume 1, Part II Concepts and Methods*. Elsevier Science Publishing Company Incorporated, The Netherlands, 99–108.

(acritarchs; archaeopyle; classification; dinosteranes; ecology; evolution; history of research; life cycle; lineages; living dinoflagellates; morphological diversity; morphology; phylogeny; tabulation; generic review; photographs; Triassic–Quaternary; no specific geographical focus)

FERREIRA, J., MATTIOLI, E., SUCHERÁS-MARX, B., GIRAUD, F., DUARTE, L.V., PITTET, B., SUAN, G., HASSLER, A., and SPANGENBERG, J.E. 2019. Western Tethys Early and Middle Jurassic calcareous nannofossil biostratigraphy. *Earth-Science Reviews*, 197, 102908 (https://doi.org/10.1016/j.earscirev.2019.102908).

(ammonite zones; bioevents; biostratigraphy; biozonation; calcareous nannofossils; carbon and oxygen stable isotopes; correlation; evolution; geological background; *Liasidium variabile*; Lusitanian Basin; palaeogeography; palaeoceanography; provincialism; sedimentology; taxonomic concepts; Western Tethys; primary data; Early and Middle Jurassic [Sinemurian–Bajocian]; sub-Arctic West Europe [Brenha, Cabo Mondego, Peniche, Rabaçal, and São Pedro de Moel, west central Portugal])

FONSECA, C., MENDONÇA FILHO, J.G., LÉZIN, C., DUARTE, L.V., and FAURÉ, P. 2018. Organic facies variability during the Toarcian Oceanic Anoxic Event record of the Grands Causses and Quercy basins (southern France). *International Journal of Coal Geology*, 190: 218–235 (https://doi.org/10.1016/j.coal.2017.10.006).

(acritarchs; ammonite zones; eustacy; freshwater algae; geochemistry; geological background; Grands Causses and Quercy basins; hydrozoans; lithostratigraphy [Marnes de Villeneuve Formation, Schistes Cartons and Marnes de Fontaneilles formations, and Barre à Pecten and Penne formations]; *Nannoceratopsis gracilis*; organic petrology; palaeoecology; palaeoceanography; palynofacies; pollen and spores; prasinophytes; sedimentary organic matter; statistics; Toarcian Oceanic Anoxic Event [T-OAE]; total organic carbon [TOC]; primary data; photograph; Early Jurassic [Pliensbachian–Toarcian]; sub-Arctic West Europe [Caylus and Suèges, southern France])

FONSECA, C., MENDONÇA FILHO, J.G., LÉZIN, C., BAUDIN, F., DE OLIVEIRA, A.D., SOUZA, J.T., and DUARTE, L.V. 2021. Boosted microbial productivity during the Toarcian Oceanic Anoxic Event in the Paris Basin, France: new evidence from organic geochemistry and petrographic analysis. *In*: DUARTE, L.V., and MATTIOLI, E. (editors). Carbon Cycle and Ecosystem Response to the Jenkyns Event in the Early Toarcian (Jurassic). *Geological Society, London, Special Publications*, 514, https://doi.org/10.1144/SP514-2020-167.

(acritarchs; ammonite zones; anoxia/euxinia; bacteria; biomarkers; carbon isotope analysis; confocal laser scanning microscopy [CLSM]; EST433 borehole; freshwater algae; geological background; hydrocarbon prospectivity; hydrological cycle; inorganic and organic geochemistry; *Luehndea spinosa*; *Nannoceratopsis senex*; organic petrography; palaeoclimate; palaeoecology; palaeoceanography; palynofacies; Paris Basin; pollen and spores; prasinophytes; Rock–Eval pyrolysis; scanning electron microscopy; sedimentary organic matter; Toarcian Oceanic Anoxic Event [T-OAE]; zooclasts; primary data; photographs; Early Jurassic [Toarcian]; sub-Arctic West Europe [Bure, Meuse, northeast France])

**G**

GALASSO, F., SCHMID-RÖHL, A., FEIST-BURKHARDT, S., BERNASCONI, S.M., and SCHNEEBELI-HERMANN, E. 2021. Changes in organic matter composition during the Toarcian Oceanic Anoxic Event (T-OAE) in the Posidonia Shale Formation from Dormettingen (SW-Germany). *Palaeogeography,* *Palaeoclimatology, Palaeoecology*, https://doi.org/10.1016/j.palaeo.2021.110327.

(acritarchs; ammonite zones; anoxia; bioturbation; bivalves; black shale; carbon isotope analysis; Central European Basin; eustacy; extinction event; foraminiferal test linings; fungal remains; geological setting; lithostratigraphy [Amaltheenton and Posidonia Shale formations]; *Luehndea spinosa*; *Nannoceratopsis*; onset/main phase/recovery; palaeoclimate; palaeoecology; palaeogeography; palaeoceanography; palynofacies; particulate/sedimentary organic matter; pollen and spores; prasinophytes; pyrite framboids; sedimentology; Toarcian Oceanic Anoxic Event [T-OAE]; primary data; photographs; Early Jurassic [Pliensbachian–Toarcian]; sub-Arctic West Europe [Dormettingen, southwest Germany])

\*GRAVENDYCK, J., SCHOBBEN, M., BACHELIER, J.B., and KÜRSCHNER, W.M. 2020. Macroecological patterns of the terrestrial vegetation history during the end-Triassic biotic crisis in the central European Basin: A palynological study of the Bonenburg section (NW-Germany) and its supra-regional implications. *Global and Planetary Change*, 194, 10328 (https://doi.org/10.1016/j.gloplacha.2020.103286).

(acritarchs; biostratigraphy; biozonation; Chlorophyceae including *Botryococcus*; correlation; diversity; end-Triassic biotic crisis; eustacy; fungal spores; geological background; Germanic Basin; lithostratigraphy [Postera Beds, Contorta Beds, Triletes Beds and Psilonotenton Formation]; mass extinction; palaeoclimate and palaeoenvironmental change and stress; microforaminiferal linings; palaeoecology; palaeogeography; palynofacies; pollen and spores; prasinophytes; reworking; statistics; teratology; tetrad formation; vegetational dynamics and history; weathering; primary data; photographs; quantitative occurrence chart; Late Triassic–Early Jurassic [Rhaetian–Hettangian]; sub-Arctic West Europe [Bonenburg Clay Pit, near Bonenburg, Warburg, North Rhine Westphalia, northwest Germany])

GRISHCHENKO, V.A., and SHUREKOVA, O.V. 2020. The Lower Cretaceous magnetostratigraphy and dinocysts of Koklyuk Mount (the East Crimea). In: BARABOSHKIN, E.Yu., and GUZHIKOV, A.Yu. (editors). *Cretaceous system of Russia and neighboring countries: problems of stratigraphy and paleogeography*. Materials of the tenth All-Russia Meeting, Magadan, September 20th to 25th 2020, 72–75 (in Russian with an English summary).

(biostratigraphy; biozonation; magnetostratigraphy; primary data; extended abstract; semi-quantitative occurrence chart; Early Cretaceous [Berriasian–Barremian]; sub-Arctic Russia west of the Ural Mountains [Koklyuk Mountain, eastern Crimea])

**J**

JAIN, K.P., GARG, R., and KHOWAJA-ATEEQUZZAMAN. 1992. Fossil dinoflagellates: an emerging tool in Indian biostratigraphy. *In*: VENKATACHALA, B.S., and SINGH, H.P. (editors). Four decades of Indian palaeobotany. *The Palaeobotanist*, 40: 420–428.

(ammonites; biostratigraphy; calcareous nannofossils; case examples; foraminifera; history of study; misidentifications; compilation/review; non-quantitative range charts; earliest Jurassic–Pliocene [Hettangian–Pliocene]; the Indian subcontinent [India])

JANOUŠKOVEEC, J., GAVELIS, G.S., BURKI, F., DINH, D., BACHVAROFF, T.R., GORNIK, S.G., BRIGHT, K.J., IMANIAN, B., STROM, S.L., DELWICHE, C.F., WALLER, R.F., FENSOME, R.A., LEANDER, B.S., ROHWER, F.L., and SALDARRIAGA, J.F. 2017. Major transitions in dinoflagellate evolution unveiled by phylotranscriptomics. *PNAS* *(Proceedings of the National Academy of Sciences of the United States of America)*, 1147: E171–E180 (https://doi.org/10.1073/pnas.1614842114).

(biogeochemistry; bioluminescence; cellulose metabolism; cytology; dinoflagellate thecae; dinosterol; diversity; endosymbiosis; evolution; horizontal gene transfer; photosynthesis; phylogeny; phylotranscriptomics; plastids; sequence data; tabulation; transcriptomes; primary data; no specific geographical or stratigraphical focus)

**L**

LINDSTRÖM, S., CALLEGARO, S., DAVIES, J., TEGNER, C., VAN DE SCHOOTBRUGGE, B., PEDERSEN, G.K., YOUBI, N., SANEI, H., and MARZOLI, A. 2021. Tracing volcanic emissions from the Central Atlantic Magmatic Province in the sedimentary record. *Earth-Science Reviews,* 212, 103444 (https://doi.org/10.1016/j.earscirev.2020.103444).

(acid rain; ammonoids; ash beds; biostratigraphy; biozonation; carbon dioxide concentrations; carbon isotope analysis and excursions; Central Atlantic Magmatic Province [CAMP]; charcoal; chemostratigraphy; climate change; conodonts; correlation; *Dapcodinium priscum*; end-Triassic mass extinction [ETME]; eustacy; geochemistry; geochronology; global warming; halogens; iridium; mercury; organic geochemistry; osmium isotopes; Pangaea; pollen and spores; polycyclic aromatic hydrocarbons [PAHs]; radiolaria; *Rhaetogonyaulax rhaetica*; stable isotope analysis; *Suessia swabiana*; Triassic–Jurassic boundary; volcanic activity; weathering; wildfire; review article; latest Triassic–earliest Jurassic [Rhaetian–Hettangian]; multi-region: North Africa [Morocco]; northern South America [Pucará Basin, Peru]; East Arctic [Jameson Land, Greenland]; Australasia [North Island, New Zealand]; sub-Arctic East Canada [Fundy Basin]; sub-Arctic West Canada [Haida Gwaii,]; China and Japan [southwest Japan]; East Europe [Hungary; Poland]; sub-Arctic West Europe [Austria; Denmark; England; Germany]; U.S.A. east of the Rocky Mountains [Newark Basin]; U.S.A. west of the Rocky Mountains [Nevada])

**M**

\*MANTLE, D.J., RIDING, J.B., and HANAFORD, C. 2020. Late Triassic dinoflagellate cysts from the Northern Carnarvon Basin, Western Australia. *Review of Palaeobotany and Palynology*, 281, 104254 (https://doi.org/10.1016/j.revpalbo.2020.104254).

(biostratigraphy; biozonation; deltaic systems; diversity; eustasy; evolution; exploration wells; flooding events; geological background; lithostratigraphy [Mungaroo and Brigadier formations]; migrations; morphology; nutrients; palaeoclimates; palaeogeography; palaeosalinity; petroleum geology; phylogeny; pollen and spores; provincialism; radiation; sequence stratigraphy; taxonomy; Tethys; primary data; photographs; semi-quantitative occurrence chart; Late Triassic [Carnian–Rhaetian]; Australasia [Northern Carnarvon Basin, North West Shelf, offshore northwestern Australia])

MAYS, C., VAJDA, V., and McLOUGHLIN, S. 2021. Permian–Triassic non-marine algae of Gondwana—Distributions, natural affinities and ecological implications. *Earth-Science Reviews*, 212, 103382 (https://doi.org/10.1016/j.earscirev.2020.103382).

(abundance anomalies; acritarchs; biological affinities; biomarkers; biostratigraphy; charophytes; dinoflagellate cyst stem groups; end-Permian mass extinction; evolution; freshwater palaeoecology; Gondwana; mass extinctions; non-marine algae; palaeobiogeography; palaeoecology; palaeogeography; *Peltacystia* Microalgal Province; pollen and spores; prasinophytes; Sydney Basin; Zygnematophyceae; primary data; photographs; non-quantitative occurrence chart; latest Permian to earliest Triassic [Changhsingian–Induan]; Australasia [four coastal localities between Newcastle and Wollongong, New South Wales, southeast Australia)

MEGO, N., and PRÁMPARO, M.B. 2021. A new monosulcate pollen from the Early Cretaceous of central-western Argentina. *Palynology*, 45, https://doi.org/10.1080/01916122.2020.1843558.

(biostratigraphy; botanical affinity; lithostratigraphy [El Gigante Group]; monosulcate gymnosperm pollen [*Shanbeipollenites*]; morphology; San Luis Basin; taxonomy; primary data and compilation; compilation range chart; photographs; Early Jurassic–Late Cretaceous [Toarcian–Cenomanian]; southern South America [San Luis Province, central western Argentina])

\*MITTA, V.V., GLINSKIKH, L.A., SAVELIEVA, Y.N., and SHUREKOVA, O.V. 2021. Microfauna, palynomorphs, and biostratigraphy of the Upper Bajocian Garantiana garantiana Zone (Middle Jurassic) of the Bolshoi Zelenchuk River Basin, North Caucasus. *Stratigraphy and Geological Correlation*, 29(1): 36–54 (doi: 10.1134/S0869593821010068) (this is an English translation of the original Russian text published in 2021 as *Stratigrafiya, Geologicheskaya Korrelyatsiya*, 29(1): 28–47).

(acritarchs; ammonites; biostratigraphy; biozonation; correlation; Djangura Formation; foraminifera; *Garantiana garantiana* and *Parkinsonia parkinsoni* ammonite zones; Kuban River Basin; *Meiourogonyaulax valensii*; ostracods; pollen and spores; prasinophytes; *Rhynchodiniopsis*? *regalis*, primary data; photographs; semi-quantitative occurrence chart; Middle Jurassic [Bajocian–Bathonian]; sub-Arctic Russia west of the Ural Mountains [Kyafar and Bolshoi Zelenchuk rivers, Karachay-Cherkess Republic, North Caucasus, southwest Russia])

**P**

PANCHENKO, I.V., GATINA, N.N., VISHNEVSKAYA, V.S., ROGOV, M.A., SHUREKOVA, O.V., FEDYAEVSKY, A.G., and RASUMKOVA, E.S. 2020. The post-sedimentation nature of anomalous sequences of Bazhenov and Georgiev formations (West Siberia) as evidenced by their lithology, biostratigraphy and correlation of new core data. In: BARABOSHKIN, E.Yu., and GUZHIKOV, A.Yu. (editors). *Cretaceous system of Russia and neighboring countries: problems of stratigraphy and paleogeography*. Materials of the tenth All-Russia Meeting, Magadan, September 20th to 25th 2020, 201–205 (in Russian with an English summary).

(correlation; biostratigraphy; diachroneity; landslide event; lithostratigraphy [Bazhenov and Georgiev formations]; prasinophytes; sedimentology; primary data; photographs; latest Jurassic to Early Cretaceous [Tithonian–Valanginian]; sub-Arctic Russia east of the Ural Mountains [Surgut region, West Siberia])

PIEŃKOWSKI, G., HODBOD, M., and ULLMANN, C.V. 2016. Fungal decomposition of terrestrial organic matter accelerated Early Jurassic climate warming. *Science Reports*, 6, 31930 (https://doi .org /10 .1038 /srep31930).

(acritarchs; *Botryococcus*; carbon cycle dynamics; carbon isotope analysis; foraminiferal test linings; fungal decomposition of terrestrial organic matter; fungal spores; inorganic geochemistry; lithostratigraphy [Drzewica, Komorowo, Blanowice, Ciechocinek and Borucice formations]; megaspores; palaeoclimate; palaeogeography; palynofacies; Polish Basin; pollen and spores; prasinophytes; terrestrial carbon flux; Toarcian Oceanic Anoxic Event [T-OAE]; total organic carbon; primary data; basic occurrence chart and quantitative spreadsheet; Early Jurassic [Pliensbachian–Toarcian]; East Europe [Brody-Lubienia, Gorzow Wielkopolski, Mechowo and Parkoszowice, Poland])

**Q**

QUIRIE, A.K., SCHOFIELD, N., JOLLEY, D.W., ARCHER, S.G., HOLE, M.J., HARTLEY, A., WATSON, D., BURGESS, R., PUGSLEY, J.H., UNDERHILL, J.R., and HOLFORD, S.P. 2020. Palaeogeographical evolution of the Rattray Volcanic Province, Central North Sea. *Journal of the Geological Society*, 177(4): 718–737 (https://doi.org/10.1144/jgs2019-182).

(acritarchs; basalt; *Botrycoccus*; eustacy; foraminifera; geological background; hyaloclastite; lacustrine deposition; lithostratigraphy [Rattray Volcanics Member, Pentland Formation]; North Sea rift system; ostracods; palaeogeography; petrography; petroleum geology; petrophysical logs; pollen and spores; Rattray Volcanic Province; seismic data; subsidence; volcanism; primary data; Middle Jurassic [Bajocian–Bathonian]; sub-Arctic West Europe [central North Sea]).

**R**

RAAFAT, A., TAHOUN, S.S., and ABOUL, ELA, N.M. 2021. Palynomorph biostratigraphy, palynofacies, thermal maturity and paleoenvironmental interpretation of the Bajocian–Aptian succession in the OBA D-8 Well, Matruh Basin, Egypt. *Journal of African Earth Sciences*, https://doi.org/10.1016/j.jafrearsci.2021.104157.

(biostratigraphy; biozonation; drill cuttings; eustacy; foraminiferal test linings; geological background; hydrocarbon potential; lithostratigraphy [Khatatba, Masajid and Alam-El Bueib formations]; Matruh Basin; palaeoecology; palynofacies; pollen and spores; Rock-Eval Pyrolysis; thermal maturity; total organic carbon [TOC]; primary data; photographs; semi-quantitative occurrence chart; Middle Jurassic–Early Cretaceous [Bajocian–Aptian]; North Africa [OBA D-8 Well, Obaiyed area, north Western Desert, Egypt])

REOLID, M., MATTIOLI, E., DUARTE, L.V., and MAROK, A. 2020. The Toarcian Oceanic Anoxic Event and the Jenkyns Event (IGCP-655 final report). *Episodes*, 43(2): 833–844 (<https://doi.org/10.18814/epiiugs/2020/020051>).

(carbon cycle; climate change; eustacy; fossils; geochemistry; global warming; Jenkyns Event; mass extinction; sedimentology; Toarcian Oceanic Anoxic Event [T-OAE]; compilation; Early Jurassic [Pliensbachian–Toarcian]; multi-region: sub-Arctic West Canada [Bighorn Creek]; China and Japan [Sakuraguchi-dani, Japan]; sub-Arctic West Europe [England; Portugal; Spain; Wales])

REISDORF, A.G., HOSTETTLER, B., JAEGGI, D., DEPLAZES, G., BLÄSI, H., MORARD, A., FEIST-BURKHARDT, S., WALTSCHEW, A., DIETZE, V., and MENKVELD-GFELLER, U. 2016. Litho- and biostratigraphy of the 250 m-deep Mont Terri BDB-1 borehole through the Opalinus Clay and bounding formations, St-Ursanne, Switzerland. *Mont Terri Project Technical Report*, 2016-02, 67 p.

(acritarchs; ammonites; belemnites; biostratigraphy; biozonation; bivalves; correlation; echinoderms; foraminifera; fungal remains; geological background; geophysical logs; lithostratigraphy [Staffelegg Formation, Opalinus Clay, Passwang Formation and Hauptrogenstein]; macrofossils; microforaminferal linings; Mont Terri BDB-1 borehole; ostracods; pollen and spores; prasinophytes; sedimentation rates; primary data; Early–Middle Jurassic [Toarcian–Bajocian] sub-Arctic West Europe [Mont Terri, St-Ursanne, northwest Switzerland])

RIDING, J.B. 2021. A guide to preparation protocols in palynology. *Palynology*. 45 Supplement 1 (https://doi.org/10.1080/01916122.2021.1878305).

(acetolysis; alkali treatment; background to palynology; *Chytroeisphaeridia hyalina*; contamination; density separation; guide; history of research; laboratory photographs; mineral acid digestion; non-acid preparation; oxidation; palynomorph preparation techniques; preparation of microscope slides; sampling; sieving; specialist equipment; staining; storage of residues, samples etc.; training manual; ultrasonic treatment; University of Sheffield; review article; photographs; no specific geographical or stratigraphical focus)

RODRIGUES, B., DUARTE, L.V., SILVA, R.L., and MENDONÇA FILHO, J.G. 2020. Sedimentary organic matter and early Toarcian environmental changes in the Lusitanian Basin (Portugal). *Palaeogeography, Palaeoclimatology, Palaeoecology*, 554: 109781 (https://doi.org/10.1016/j.palaeo.2020.109781).

(acritarchs; ammonite zones; foraminiferal test linings; freshwater algae; geochemistry; geological background; hydrological cycle; kerogen; *Luehndea spinosa*; Lusitanian Basin; *Nannoceratopsis gracilis*; *Nannoceratopsis senex*; organic geochemistry; palaeoclimate; palaeoecology; palynofacies; Pliensbachian–Toarcian Event; pollen and spores; prasinophytes; terrestrial ecosystem dynamics; Toarcian Global Stratotype Section and Point; Toarcian Oceanic Anoxic Event [T-OAE]; total organic carbon; Western Iberian Margin; primary data; non-quantitative occurrence chart; Early Jurassic [Pliensbachian–Toarcian]; sub-Arctic West Europe [Peniche, Rabacal and five other localities in central western Portugal])

RODRIGUES, B., SILVA, R.L., MENDONÇA FILHO, J.G., COMAS-RENGIFO, M.J., GOY, A., and DUARTE, L.V. 2020. Kerogen assemblages and δ13CKerogen of the uppermost Pliensbachian–lower Toarcian succession of the Asturian Basin (northern Spain). *International Journal of Coal Geology*, 229: 103573 (https://doi.org/10.1016/j.coal.2020.103573).

(acritarchs; ammonite zones; Asturian Basin; carbon isotope analysis; correlation; foraminiferal test linings; freshwater algae; geological background; inorganic and organic geochemistry; *Luehndea spinosa*; palaeoclimate; palaeoceanography; palaeoecology; palaeogeography; palynofacies; pollen and spores; prasinophytes; Toarcian Oceanic Anoxic Event [T-OAE]; total organic carbon; weathering; primary data; photographs; Early Jurassic [Pliensbachian–Toarcian]; sub-Arctic West Europe [Rodiles, near Oviedo, northern Spain])

RODRIGUES, B., SILVA, R.L., REOLI, M., MENDONÇA FILHO, J.G., and DUARTE, L.V. 2019. Sedimentary organic matter and δ13CKerogen variation on the southern Iberian palaeomargin (Betic Cordillera, SE Spain) during the latest Pliensbachian–Early Toarcian. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 534: 109342 (https://doi.org/10.1016/j.palaeo.2019.109342).

(acritarchs; ammonite zones; carbon cycle; carbon isotope analysis; correlation; foraminiferal test linings; freshwater algae; geological background; global warming; hydrological cycle; Iberian Peninsula; inorganic and organic geochemistry; *Luehndea spinosa*; *Nannoceratopsis gracilis*; ocean acidification; oceanic productivity; palaeoclimate; palaeoceanography; palaeoecology; palaeogeography; palynofacies; pollen and spores; prasinophytes; Pliensbachian–Toarcian Event; thermal maturation analysis; Toarcian Oceanic Anoxic Event [T-OAE]; total organic carbon; primary data; photographs; Early Jurassic [Pliensbachian–Toarcian]; sub-Arctic West Europe [Fuente Vidriera and La Cerradura, near Jaén, Betic Cordillera, southeast Spain])

**S**

\*SABBAGHIYAN, H., ARIA-NASAB, M., and GHASEMI-NEJAD, E. 2020. The palynology of the Nayband Formation (Upper Triassic) of the Tabas Block, Central Iran. *Review of Palaeobotany and Palynology*, 283: 104308 (https://doi.org/10.1016/j.revpalbo.2020.104308).

(biogeography; biostratigraphy; biozonation; Central-East Iranian microcontinent [CEIM]; correlation; lithostratigraphy [Bidestan and Howz-e-Sheikh members of the Nayband Formation; Shemshak Group]; palaeoecology; pollen and spores; provincialism; Tabas Block; primary data; non-quantitative occurrence chart; photographs; Late Triassic [Norian–Rhaetian]; Middle East [Chah-Talkh section south of Tabas city, central Iran])

SANTOS, A., JAIN, S., and DIEZ, J.B. 2021. Upper Jurassic palynology from the Blue Nile Basin (Ethiopia). *Review of Palaeobotany and Palynology*, 285: 104361 (https://doi.org/10.1016/j.revpalbo.2020.104361).

(bioevents; biostratigraphy; Blue Nile Basin; botanical affinities; floral dynamics; fungal spores; geological setting; lithostratigraphy [Antalo Limestone and Gohatsion formations]; microforaminiferal linings; palaeoclimate; palaeoecological preferences of pollen and spores; palaeoecology; palynofacies; pollen and spores; prasinophytes; sporomorph ecogroups; cf. *Systematophora* sp.; primary data; photographs; Late Jurassic [Kimmeridgian–Tithonian]; East Africa [central western Ethiopia])

SARJEANT, W.A.S. 1970. Recent developments in the application of fossilised planktonic organisms to problems of stratigraphy and palaeoecology. *Paläobotanik* *B*, 3(3–4): 669–682.

(acritarchs; archaeopyles; biological affinities; biostratigraphy; classification; history of research; hystrichospheres; life cycles; living dinoflagellates; marine; morphology; palaeoecology; plankton; prasinophytes; review paper; Precambrian–Paleogene; no geographical focus)

SAVELIEVA, Yu.N., SHUREKOVA, O.V., FEODOROVA, A.A., PLATONOV, E.S., ARKADIEV, V.V., GUZHIKOV, A.Yu., GRISHCHENKO, V.A., and MANIKIN, A.G. 2020. Bio-, magneto and cyclostratigraphy of upper Berriasian near v. Alexeevka (Belogorskiy region, Republic of Crimea). Article 2. foraminifers, ostracods, сalpionellids, organic-walled dinoflagellate cysts. *Izvestiya of Saratov University. New Series. Earth Science Series*, 20(2): 127–145 (doi: https://doi.org/10.18500/1819-7663-2020-20-2-127-145) (in Russian with an English summary).

(acritarchs; biostratigraphy; calpionellids; Crimean mountains; cyclostratigraphy; foraminifera; lithostratigraphy [Sultanovka and Zelenogorsk formations]; magnetostratigraphy; ostracods; *Phoberocysta neocomica*; pollen and spores; prasinophytes; primary data; photographs; semi-quantitative occurrence chart; earliest Cretaceous [Berriasian]; sub-Arctic Russia west of the Ural Mountains [Alekseeva village, Belogorsk region, central Crimea)

**V**

VAN DE SCHOOTBRUGGE, B., MANGERUD, G., GALLOWAY, J.M., and LINDSTRÖM, S. 2020. The Mesozoic Arctic: warm, green, and highly diverse. *Geological Magazine*, 157: 1543–1546 (https://doi.org/10.1017/S0016756820000990).

(biodiversity; biostratigraphy; climate change; geochemistry; macrofossils; palaeoecology; palaeooceanography; *Parvocysta*; *Phallocysta*; pollen and spores; sea levels; Toarcian Oceanic Anoxic Event (T-OAE); uniformitarianism; Mesozoic [Triassic–Cretaceous]; review article; multi-region: East Arctic [Barents Sea; Russia; Siberia; Svalbard]; West Arctic [Alaska; Canada; Greenland])

VAN DE SCHOOTBRUGGE, B., VAN DER WEIJST, C.M.H., HOLLAAR, T.P., VECOLI, M., STROTHER, P.K., KUHLMANN, N., THEIN, J., VISSCHER, H., VAN KONIJNENBURG-VAN CITTERT, H., SCHOBBEN, M.A.N., SLUIJS, A., and LINDSTRÖM, S. 2020. Catastrophic soil loss associated with end-Triassic deforestation. *Earth-Science Reviews*, 210: 103332 (https://doi.org/10.1016/j.earscirev.2020.103332).

(biological degradation; biostratigraphy; catastrophic soil loss; Central Atlantic Magmatic Province [CAMP]; clay minerals; correlation; Danish Basin; deforestation; ecology; end-Triassic mass extinction; erosion; feedbacks; floral dynamics; forest fires; Neoproterozoic, Palaeozoic and intra-Triassic reworking; North and South German basins; organic matter decay; palynomorph corrosion and preservation; Paris Basin; pollen and spores; provenance; recovery; regolith and soil; resilience; *Rhaetogonyaulax rhaetica*; seismic activity; seismites; vegetation dieback; primary data; photographs; Late Triassic–Early Jurassic [Norian–Sinemurian]; sub-Arctic West Europe [Stenlille Borehole, Denmark; Boust Borehole, northern France; Mingolsheim and Schandelah-1 boreholes, Germany])

**W**

WIMBLEDON, W.A.P., REHÁKOVÁ, D., SVOBODOVÁ, A., ELBRA, T., SCHNABL, P., PRUNER, P., ŠIFNEROVÁ, K., KDÝR, Š., DZYUBA, O., SCHNYDER, J., GALBRUN, B., KOŠŤÁK, M., VAŇKOVÁ, L., COPESTAKE, P., HUNT, C.O., RICCARDI, A., POULTON, T.P., BULOT, L.G., FRAU, C., and DE LENA, L. 2020. The proposal of a GSSP for the Berriasian Stage (Cretaceous System): Part 1. *Volumina Jurassica*, 18(1): 53–106 (doi: 10.7306/vj.18.5).

(ammonites; belemnites; biostratigraphy; biozonation; calcareous dinoflagellate cysts; calcareous nannofossils; calpionellids; carbon, oxygen and strontium stable isotope geochemistry; chemostratigraphy; decisions and votes of the Berriasian Working Group; foraminifera; global correlation; Global Stratotype Section and Point [GSSP] definition and proposal; history of research; Jurassic–Cretaceous transition; magnetostratigraphy; palaeogeography; pollen and spores; radiolaria; radiometric dating; sea levels; stage nomenclature; compilation and primary data; compilation range chart; latest Jurassic–earliest Cretaceous [Tithonian–Berriasian]; sub-Arctic West Europe [Tré Maroua, south of Le Saix, Hautes-Alpes, southeast France])

WIMBLEDON, W.A.P., REHÁKOVÁ, D., SVOBODOVÁ, A., ELBRA, T., SCHNABL, P., PRUNER, P., ŠIFNEROVÁ, K., KDÝR, Š., FRAU, C., SCHNYDER, J., GALBRUN, B., VAŇKOVÁ, L., DZYUBA, O., COPESTAKE, P., HUNT, C.O., RICCARDI, A., POULTON, T.P., BULOT, L.G., and DE LENA, L. 2020. The proposal of a GSSP for the Berriasian Stage (Cretaceous System): Part 2. *Volumina Jurassica*, 18(2): 119–158 (doi: 10.7306/vj.18.7).

(ammonites; Berriasian Working Group; biostratigraphy; biozonation; calcareous dinoflagellate cysts; calcareous nannofossils; calpionellids; carbon and oxygen isotope analyses; chemostratigraphy; decisions and votes of the Cretaceous Subcommision; foraminifera; geological background; global and local correlation; Global Stratotype Section and Point [GSSP] definition and proposal; Jurassic–Cretaceous transition; lithostratigraphy [*Calcaires Blancs vocontiens*]; magnetostratigraphy; palaeomagnetism; *Senoniasphaera jurassica*; Tethyan Realm; Voncontian Basin; primary data; latest Jurassic–early Cretaceous [Tithonian–Valanginian]; sub-Arctic West Europe [Belvedere, Charens, Le Chouet, Saint Bertrand and Tré Maroua, south of Le Saix, Hautes-Alpes, southeast France])

**Supplementary Appendix 2: List of palynomorph species**

This Appendix alphabetically lists all valid palynomorph taxa below generic level which are mentioned in this contribution with full author citations.

**Dinoflagellate cysts:**

References to the author citations for the dinoflagellate cysts can be found in Fensome, R.A., Williams, G.L and MacRae, R.A. (2019) The Lentin and Williams Index of Fossil Dinoflagellates 2019 Edition. *American Asssociation of Stratigraphic Palynologists Contribution Series* No. 50, 1173 p. This publication is freely available at: <https://palynology.org/contribution-series-number-50-the-new-lentin-and-williams-index-2019/>).

*Aldorfia aldorfensis* (Gocht 1970) Stover & Evitt 1978

*Amphorulacysta monteiliae* (Dodekova 1994) Williams & Fensome 2016

*Atopodinium haromense* Thomas & Cox 1988

*Beaumontella*? *caminuspina* (Wall 1965) Below 1987

*Beaumontella langii* (Wall 1965) Below 1987

*Biorbifera johnewingii* Habib 1972

*Carpathodinium predae* (Beju 1971) Drugg 1978

*Chytroeisphaeridia hyalina* (Raynaud 1978) Lentin & Williams 1981

*Cribroperidinium*? *edwardsii* (Cookson & Eisenack 1958) Davey 1969

*Cribroperidinium globatum* (Gitmez & Sarjeant 1972) Helenes 1984

*Dapcodinium priscum* Evitt 1961

*Desmocysta californica* (Monteil 1992) Duxbury 2018

*Endoscrinium asymmetricum* Riding 1987

*Gochteodinia villosa* (Vozzhennikova 1967) Norris 1978

*Gonyaulacysta jurassica* (Deflandre 1938) Norris & Sarjeant 1965

*Hebecysta balmei* (Stover & Helby 1987) Below 1987

*Heibergella asymmetrica* Bujak & Fisher 1976

*Heibergella kendelbachia* (Morbey 1975) Lentin & Williams 1981

*Korystocysta gochtii* (Sarjeant 1976) Woollam 1983

*Luehndea spinosa* Morgenroth 1970

*Meiourogonyaulax* *valensii* Sarjeant 1966

*Muderongia simplex* Alberti 1961

*Nannoceratopsis gracilis* Alberti 1961

*Nannoceratopsis senex* van Helden 1977

*Nannoceratopsis spiculata* Stover 1966

*Paragonyaulacysta*? *borealis* (Brideaux & Fisher 1976) Stover & Evitt 1978

*Pareodinia ceratophora* Deflandre 1947

*Phoberocysta neocomica* (Gocht 1957) Millioud 1969

*Rhaetogonyaulax rhaetica* (Sarjeant 1963) Loeblich Jr. & Loeblich III 1968

*Rhynchodiniopsis*? *regalis* (Gocht 1970) Jan du Chêne et al. 1985

*Scriniodinium campanula* Gocht 1959

*Senoniasphaera jurassica* (Gitmez & Sarjeant 1972) Lentin & Williams 1976

*Sentusidinium capitatum* (Cookson & Eisenack 1960) Wood et al. 2016

*Sirmiodinium grossii* Alberti 1961

*Suessia swabiana* Morbey 1975

*Systematophora penicillata* (Ehrenberg 1843 ex Ehrenberg 1854) Sarjeant 1980

*Tenua anaphrissa* (Sarjeant 1966) Benedek 1972

*Tubotuberella apatela* (Cookson & Eisenack 1960) Ioannides et al. 1977

*Wanaea acollaris* Dodekova 1975

*Wanneria listeri* (Stover & Helby 1987) Below 1987

**Pollen:**

*Shanbeipollenites lagarcitensis* Mego & Prámparo 2021