

# Lagerstätten: Where Creationist and Secular Studies Coincide

Warren H. Johns, 4076 E. Shawnee Road, Berrien Springs, Michigan 49103

# Abstract

Lagerstätten deposits can be simply defined as deposits of fossils with superb preservation at a single locality or concentrations of usually just a few fossil species in what appear to be mass-kill sites. While Lagerstätten were first defined for geological studies in 1970, the geological literature paid little attention to Lagerstätten before 1990. Creationists are beginning to recognize Lagerstätten as important sites for discovery of fossils with superb preservation, and they are indicators of rapid burial and thus catastrophic activity throughout the fossil record. However, most journal articles or short news reports on creationist websites rarely mention the word "Lagerstätten." The paper attempts to end this deficiency by linking creationist writings with their corresponding sources in the geological literature. To date, only two creationist geologists have provided an extensive discussion on the importance of Lagerstätten, accompanied by lists of numerous Lagerstätten sites discovered throughout the geological column around the world. This paper is written with the hope that many additional Lagerstätten studies can be produced by highly trained creationist scientists for years to come.

**Keywords:** Konservat-Lagerstätten; Konzentrat-Lagerstätten; Autochthonous; Allochthonous; Parautochthonous; in situ; exceptionally well-preserved; soft tissue; Green River Formation (GRF); Flood catastrophism

### Introduction

The central challenge of Young-Earth Creationism (YEC) is to assemble the best scientific methods that support a young earth. One of the greatest obstacles to a young-earth concept is the fossil record. The quickest way to reduce the age of the earth towards the biblical timescale is to assign all or most of the fossil record to the work of the Flood, yet nothing in Genesis speaks of fossilization. Creationists have sometimes listed six or more scientific evidences in favor of Creation and a universal Flood. One of the best, or even the best, is the discovery of wellpreserved fossils in pristine condition that testify of very rapid burial (Morris 2010). A survey of peerreviewed scientific articles published in the last three or four decades have pinpointed sites that have an abundance of amazingly well-preserved fossils and such have been labeled "Lagerstätten." If it is true that one of the best geological evidence for a catastrophic Flood is the existence of extremely well-preserved fossils, then the subject of Lagerstätten should be high on the list of areas meriting comprehensive studies by creationists. The result of this is that Lagerstätten can be viewed as an important tool to advance creationist studies and to develop credible earth-history models. The primary purpose of this study is to foster additional creationist studies to much greater depths on this important topic. A secondary purpose is to demonstrate that creationist studies in some cases can rely heavily on secular studies where the two coincide with similar conclusions.

### Definitions of "Lagerstätten"

The simplest definition of Lagerstätte (pl. Lagerstätten) is found in Wikipedia: "A Fossil-Lagerstätten (from the German, Lager "storage, lair" and Stätte "place") is a sedimentary deposit that exhibits extraordinary fossils with exceptional preservation—sometimes including preserved soft tissues." Two major types of Lagerstätten are known: Konservat-Lagerstätten and Konzentrat-Lagerstätten, also from the German. Konservat-Lagerstätten or "conserved fossil sites" are characterized by their pristine preservation, sometimes to the cellular level, in comparison with the general preservation of most fossils. Terms that apply to it in the literature are "exceptionally well preserved," "exquisite preservation," etc. The term Konzentrat-Lagerstätten or "concentrated fossil sites" by contrast does not apply to the quality of preservation, but to the concentration of large quantities of fossils, sometimes of the same type of animals, such as fishes, but often with a rich diversity at one location. The terms sometimes used for applying to this are "mass kill sites" or "fossil graveyards." The common denominator for explaining the cause for these two rare formations is "rapid burial," but in some cases geologists theorize they can form without rapid burial. Paleontologist Adolf Seilacher (1925–2014) was the first to introduce the term Lagerstätten in a German publication in 1970 (Bottjer et al. 2002), but it was more than two decades before the term became widely used by the geological

ISSN: 1937-9056 Copyright © 2025 Answers in Genesis, Inc. All content is owned by Answers in Genesis ("AiG") unless otherwise indicated. AiG consents to unlimited copying and distribution of print copies of Answers Research Journal articles for non-commercial, non-sale purposes only, provided the following conditions are met: the author of the article is clearly identified; Answers in Genesis is acknowledged as the copyright owner; Answers Research Journal and its website, www.answersresearchjournal.org, are acknowledged as the publication source; and the integrity of the work is not compromised in any way. For website and other electronic distribution and publication, AiG consents to republication of article abstracts with direct links to the full papers on the ARJ website. All rights reserved. For more information write to: Answers in Genesis, PO Box 510, Hebron, KY 41048, Attn: Editor, Answers Research Journal. The views expressed are those of the writer(s) and not necessarily those of the Answers Research Journal Editor or of Answers in Genesis.

community. Creationist geologist, William A. Hoesch (2007) in his article "Lagerstatten!" agrees with the classic definition of Lagerstätten by describing it as "a sedimentary deposit extraordinarily rich in the diversity or quality of preservation of its fossils." Of the two kinds of Lagerstätten, he states that the Konservat-Lagerstätten are of the most interest to creationists because of their "exceptional quality of preservation of the fossilized organisms, especially of their soft parts, that set them apart." Hoesch has amplified the importance of Lagerstätten with two words, "sedimentary" and "diversity" not found generally in the other definitions. For creationists the important point is that Lagerstätten are largely formed as water-driven, sedimentary deposits "extraordinarily rich in diversity." Adding the element of greater diversity to the element of rapid burial gives creationists the ability to interpret more accurately these exceptional deposits.

### **Creationist Studies of Lagerstätten**

As far as can be determined, the first mention of "Lagerstätten" in major creationist periodicals is by Kurt Wise (1996, 318), who defined Lagerstätten as "fossil locations with extraordinarily well-preserved fossils, such as Solnhofen, Burgess, and Mazon Creek." This most likely is the introduction of the importance of Lagerstätten for creationist studies. Any reference to Lagerstätten finds in creationist literature has generally followed the theme of remarkable or unusual preservation of fossil finds. Added to the three Lagerstätten sites he originally mentioned, he cited the Australian site of Riversleigh, which is noted for preserving delicate fauna and flora, such as insects and fungi. Although he never referred to Konzentrat-Lagerstätten, he sets the stage for the introduction of that concept by reporting on the find of "20 million tiny nautiloids" in the Devonian of Alaska representing one or more "mass mortality event(s)," according to geologists.

Prior to Wise's technical discussion of Lagerstätten, John C. Whitcomb and Henry M. Morris in their classic The Genesis Flood (1961, 154-161) give examples of fossil sites exhibiting rapid, catastrophic burial. Three examples of amazing preservation are found in Lincoln County, Wyoming (the Green River Formation), in Florissant, Colorado, with its abundance of insects, and at the Geiseltal Lignite, where well-preserved leaves still have remnants of chlorophyll. All these and other examples, such as bonebeds, are described under the heading of "Fossil Graveyards." The Whitcomb/Morris illustration of the well-known Agate Springs Bonebed (Nebraska) with mainly extinct mammal vertebrates is reminiscent of another Agate Springs photo found in creationist Byron C. Nelson's Deluge Story in Stone (1931, 99).

But it has been only in the last three decades that creationists have realized the extreme importance of Lagerstätten as windows to catastrophism.

excellent of Two comprehensive studies Lagerstätten have been produced by young-earth creationists, both having been published in 2009. John H. Whitmore (2009) contributed one chapter on fossil preservation for the creationist anthology, Rock Solid Answers. He completed his Ph.D. degree in Biology at Loma Linda University on fossil fish preservation at the Eocene Green River Formation, a clear Lagerstätten burial ground in Wyoming and Utah. His expertise is in fossil fish taphonomy, which is the science of providing a detailed explanation of how an organism dies and is turned into a fossil. Whitmore (2009, 239) tabulated a list of 33 well-known fossil Lagerstätten sites around the world along with their geographical and geological locations and the type of rock in which the fossils are found. Only two of these 33 sites were preserved by volcanic ash, supporting the observation that generally Lagerstätten are the products of water action, usually much water, whether terrestrial or marine. Appendix A identifies the 33 Whitmore sites with a superscript "2" next to the name of the site.

The second major contribution to Lagerstätten studies is by Andrew A. Snelling (2009). The first inkling that Snelling was aware of the importance of Lagerstätten appeared in 2008 in an article, "The World's a Graveyard" which appeared in the Answers magazine (Snelling 2008, 76–79). According to his 2008 study, a site at Montceau-les-Mines, France, reportedly has "hundreds of thousands" of fossil specimens, while the Lagerstätten site of Mazon Creek, Illinois, has many more than 100,000 specimens, mostly plant fossils. He also noted that a bed of Redwall Limestone in the American Southwest contains an even greater number of fossils than the other two sites-a mass graveyard of cephalopods studied by creationist geologist Steven A. Austin (2003). In the same 2008 article, Snelling reported on the oddity of a toothed whale buried together with a marsupial opossum in Tasmania, testifying to catastrophism because of the mixing of the marine and terrestrial realms. His conclusion was based on well-preserved fossils that only a global catastrophe could produce.

An even more complete discussion of Lagerstätten is found in Snelling (2009), which highlighted Lagerstätten as a central pillar of creationist thought, especially as it relates to Flood geology. He has described in detail Lagerstätten sites from around the world in his attempt at an update of Whitcomb and Morris' *The Genesis Flood* entitled *Earth's Catastrophic Past* (Snelling 2009, 537–548). Chapters 69 and 72 are entitled "Fossil Graveyards" and "Further Examples of Fossil Graveyards," respectively. His listing starts with the Cambrian Burgess Shale, which is a model Lagerstätten with its amazing preservation of early extinct marine creatures. The listing ends with two of the best-discussed Lagerstätten from the Eocene of Germany-Grube Messel and Geiseltal. Significantly for creationists, the fossil fauna of these last two sites is closely parallel to, and in many cases quite similar to, the fauna of another Eocene site described by Snelling (2009, 571–572), the Green River Formation of Wyoming, which has been thoroughly studied by many creationists, such as John Whitmore (2006) and publicized by others, such as Paul Garner (1997), Daniel Woolley (2001), Tommy Mitchell (2011), and James J.S. Johnson (2024). Snelling's two chapters list 24 Lagerstätten sites, 11 of which coincide with Whitmore's study. Snelling's 24 sites are identified in Appendix A with a superscript "4".

The year after Snelling published his 1,102-page book he published one chapter in The New Answers Book 3 (2010, 283-298) on the six leading evidences for the Flood. The thesis of that study is that his evidence #2 is the best for supporting both the Flood and Creation, entitled "Rapid burial of plants and animals." He also noted that fossils are often so well preserved that they can be used as laboratory specimens. His other five evidences were sedimentary and stratigraphic in nature, but perhaps are not as relevant for evidence against the evolutionary model. For example, one evidence of "fossils of sea creatures high above sea level" does not prove or disprove whether those fossils were a product of Darwinian evolution. More recently, Snelling (2021) has set forth the six best evidences for the Flood. Now he has added two other evidences supportive of our study, "Massive fossil graveyards around the world," and "Exquisitely preserved fossils." Both of these are extensions of the 2010 evidence, "Rapid burial of plants and animals."

The evidence of soft, well-preserved tissue throughout the fossil record, especially in dinosaur bones, can be added as another closely related evidence (Menton 2012). For hundreds of years, fossils have been set forth as proof of the Noachian Flood, but the contexts in which those fossils have been found have taken on increasing importance. Creationist studies of well-preserved fossils have now advanced far beyond what Whitcomb and Morris have described, especially with the discovery of original biological tissue in fossils that should have been dissipated long ago by normal decay processes.

# Creationist Studies of Soft-Tissue Preservation in Fossils

Closely allied to the argument of well-preserved fossils is that of soft-tissue preservation. A search of the Research Assistance Database of creationist articles revealed what is possibly the first complete article on fossil soft-tissue preservation (Snelling 1998). Snelling rightly perceived the importance of Lagerstätten for the potential of preserving a variety of soft tissues as evidence of rapid burial. He mentions three Lagerstätten sites-the Santana Formation of Brazil, the Yixian Formation of China, and the Pietraroia Plattenkalk of Italy, all of which are Cretaceous deposits. It is the third one, which has yielded a very well-preserved Maniraptora, that he describes in detail. But almost no fossil softtissue articles appeared in creationist literature until 2005 when Mary Schweitzer made the stunning announcement that her team had found osteocytes and blood vessels in Tyrannosaurus rex bone (Schweitzer et al. 2005). This finally alerted creationists to the potential of fossil soft tissues furthering their cause.

An initial survey of soft-tissue preservation studies from a secular viewpoint has been summarized by ICR's Brian Thomas (2013). He lists a total of 42 studies, the first one being by H.P. Buchheim and R.C. Surdam (1977) on catfish fatty acids derived from fossils of the Green River Formation, a Lagerstätte. The late Paul Buchheim was a geologist who taught at Loma Linda University and who spent most of his career studying the Green River Formation. Five of the reports are by Mary Schweitzer, the principal paleontologist defending the discovery of fossil dinosaur soft tissue as being credible. More recently, (Schweitzer et al. 2019) have summarized past and present soft-tissue studies on fossil dinosaur bone as well as projecting what direction future studies should take. The Thomas 2013 list has been updated with seven additional reports in John D. Morris (2012, 126). However, the most complete listing of fossil soft-tissue studies has arrived at a total of 85 proteomics (soft-tissue protein) papers in the last 53 years (Thomas and Taylor 2019). Apparently, this monumental study will be updated as needed.

Two creationists who have studied soft tissue and published on it in secular literature are Mark Armitage and Kevin Anderson (2013, 2014). Another who has been one of the leading creationist researchers on soft tissues is ICR's Brian Thomas (2015a, 2015b). Like Armitage and Anderson, Thomas has had amazing success in getting his proteome studies published in secular scholarly journals (Thomas 2025; Thomas and Taylor 2019; Tuinstra et al. 2025). Scores of creationist soft-tissue articles, most of which are short and have been published on the world-wide web, are now available since the Brian Thomas 2013 ICC report. One recent example is Coulson (2022).

This raises the issue of whether soft-tissue discoveries can be directly linked to Lagerstätten,

especially to the Green River Formation. A few, such as Elson et al. (2024), can be linked, but very few are clearly linked to well-defined Lagerstätten. For the purposes of this study, the evidence of soft-tissue preservation is distinct from Lagerstätten evidences. Our Lagerstätten study, however, does note a few soft-tissue reports in creationist literature that can be clearly linked to Lagerstätten. Preserved soft tissue can be extracted from even fragments of animal parts, whereas the advantage of Lagerstätten is that they often preserve whole or nearly whole animals and offer a broader picture of the context in which the fossils are found. Creationists and non-creationists are deeply divided on the geological-age interpretation of preserved soft tissue, whereas they are essentially agreed that both Lagerstätten and soft-tissue preservation in most cases indicate rapid burial of flora and fauna. This study focuses on what scientists, no matter their philosophical persuasion, can offer as sound interpretations of the data found in the field.

The most accessible Armitage report for creationists is found in *Creation Research Society* Quarterly (Armitage 2016). The Triceratops horn studied in all three of his reports (Armitage and Anderson 2013, 2014, Armitage 2016) is from the Hell Creek Formation at Glendive, Montana. While portions of the extensive Hell Creek Formation are labeled by geologists as Lagerstätten (DePalma et al. 2019), nothing in the Armitage reports would support a Lagerstätten preservation of the horn. What is absent from his reports is a discussion of the taphonomy of the dinosaur specimen. This stands in contrast with the Whitmore (2009) discussion of Lagerstätten and his listing of sites around the world where taphonomy is one of the uppermost questions of solving the riddle of how Lagerstätten are formed. The current survey on creationist Lagerstätten reports only touches upon soft-tissue preservation, important as that is, so long as it intersects with Lagerstätten studies.

# Results of the Collection of Lagerstätten Reports from Creationist Literature

Appendix A collects the identifiable Lagerstätten sites around the world derived from the scientific literature, some of which are touched upon in creationist literature. Appendix A lists names and locations of 374 sites, while Appendix B has bibliographic references to some, but not all, the 374 sites. Out of the 374 Lagerstätten sites identified in this study, about one-fourth are commented on by creationists—all of which are highlighted in boldface. Many of the creationist references connected to these sites appear in Appendix B, also highlighted with boldface. One problem is that some creationists have commented upon the most unusual, rarest discoveries of fauna without identifying the sites where the rare fossils are found. The advantage of having a master list is that creationist researchers can put these isolated finds within their Lagerstätten contexts. Almost never do these creationist reports mention the word, "Lagerstätten." The author of the present paper has employed a variety of bibliographic resources to unite the usually brief creationist reports with their sources in the scientific literature. Quite often a helpful footnote with one bibliographic reference makes the link accessible, but not always. Most often, the scientific literature has multiple articles linked to a single Lagerstätten site. The websites of three major creationist organizations-Creation Ministries International (CMI), Institute of Creation Research (ICR), and Answers in Genesis (AIG)have been investigated for any possible reference to Lagerstätten. A few other creationist websites have been investigated as well. The advantage of searching these major websites is that each offers full-text searching of their entire websites, so that all references to "Lagerstätten" can be identified. Also searched are key expressions sprinkled throughout these studies to locate Lagerstätten studies, such as "well-preserved," "exceptional preservation," "exquisitely preserved," "amazing," "unusually exquisite preservation," etc. As already noted, rarely does the term "Lagerstätten" appear in creationist reports of specific fossils, but they can be identified as such by sifting through the list of 374 sites. The connection with the scientific literature is usually made in the footnotes and references of the creationist reports. A survey of creationist weboriginated reports has found that nearly all reports have one major goal, and that is to demonstrate the incredible speed with which organisms are buried and become part of Lagerstätten. The rate of burial and quality of preservation can be nicely explained by creationists as a product of a world-wide watery catastrophe.

Some of the amazing studies reported by creationists are turtles in the process of mating, one fish swallowing another fish, copulating froghoppers in the Jurassic, copulating cephalopods in the Mississippian of Montana, fossil fish vomit in the Cretaceous of Denmark, a Burgess Shale arthropod in the process of molting, octopus smoke-screen ink preserved intact, undigested food in the stomachs of several different fossil predators, etc. Morris (2007, 105) has photos illustrating one fish in the process of swallowing another fish and an ichthyosaur giving live birth-all perfectly preserved. The purpose of this study is not to describe in detail these amazing discoveries and many more cited in creationist literature, but simply to provide adequate bibliographic resources to expand Lagerstätten

studies and publications among creationists. The Green River Formation (GRF), first alluded to in Whitcomb and Morris (1961, 156–157), makes a good starting site for creationist Lagerstätten studies. The researcher can start with the thorough GRF studies of John Whitmore (2006a, 2006b, 2006c, 2008) and Whitmore and Wise (2008). For comparison, the lower Cretaceous fish fossils of the Santana Formation, Brazil, studied by creationist Gabriela Haynes (2019), should be examined. Further work on the GRF will need to address the question of whether its fossil stromatolites formed in situ (Clarey 2018; Coulson 2018, 2021; Oard and Klevberg 2008; Purdom and Snelling 2013; Snelling 2017).

The GRF site has had more in-depth studies produced by creationist scientists than any other site. For a sample of stunning photos of GRF fossils taken by creationists, see figs. 1, 2, and 3. For hundreds of GRF fossil photos, see: https://www.nps. gov/fobu/learn/nature/fossils.htm. The GRF ranks with the Grand Canyon, USA, as a major focus of creationists, especially those trained in geology, geophysics, and biology/paleontology. An example of a recent brief report on the GRF, Wyoming, is found in Clarey (2024), who has highlighted Fossil Butte National Monument as a good place for creationists to visit and study. The Grand Canyon would have been even more useful for creationist research if it were to have Lagerstätten in any of its formations.



**Fig. 1.** A fully articulated extinct Eocene horse, *Protorohippus venticolum*, the first of only two found in the Green River Formation (Fossil Butte Member, Fossil Lake, Wyoming). Notice the front foot with its four digits and the back foot with three digits. Also note one of hundreds of exceptionally well-preserved fresh-water fish found at the same site, the Jim Tynsky Quarry. (Photo of a cast of the original courtesy of Roberto E. Biaggi, Earth and Biological Sciences Department, Loma Linda University, the original specimen being held in the Smithsonian Museum).

Even the massive rock formations north of Grand Canyon—known as "the Grand Staircase"—lack any evidences of Lagerstätten. The Triassic Petrified Forest of Arizona, which is located just over 200mi



**Fig. 2.** Exceptionally well-preserved palm frond representing the extinct genus *Sabalites* from the Fossil Butte Member, Green River Formation, Fossil Basin, Wyoming (Thomas Lindgren Quarry). Photo courtesy of Roberto E. Biaggi, Loma Linda University. Frond is about 2 m in length.



**Fig. 3.** Silicified slabbed fossil stromatolite from Delaney Rim, Washakie Basin, Eocene Laney Member, Green River Formation, Wyoming. This shows a layered organo-sedimentary structure (or microbialite) created by photosynthetic microorganisms that live in microbial mats on the surface of stromatolites, which are thought to represent nearshore regions. Stromatolites are common in all Eocene Green River Formation lakes. (Photo from the private collection of the late H. Paul Buchheim, Loma Linda University.)

southeast of the Grand Canvon, has one of the world's best concentrations of petrified logs, but it is not considered an example of Konzentrat-Lagerstätten. Fossil forests have long captured the interest of creationists ever since creationist teams began studying the fossil forests of Yellowstone in the 1960s (Johns 2019). But prostrate logs in both Yellowstone and Petrified Forest National Parks appear to be clearly transported. For example, the bark has often been stripped off presumably during transport. Branches and leaves are stripped off the logs as well. The associated flora in terms of leaves and fruits and the associated fauna are almost nonexistent in these two sites, thus disqualifying them from being classified as Lagerstätten. For example, the stacked "forest" deposits in Yellowstone lack any vertebrate or invertebrate fossils. By contrast, the single-layer forest preserved at Florissant, Colorado, has a rich deposit of insects and leaves perfectly preserved in addition to the well-preserved upright conifer trees, thus qualifying it as a Lagerstätten site, the importance of which was recognized by Whitcomb and Morris (1961, 157-158).

# Non-Creationist Studies of Lagerstätten

Non-creationist scholarly studies should provide a wealth of information for future creationist studies on Lagerstätten. Already a few thousand articles and many books and dissertations deal with Lagerstätten as ideal sites for preserving plants and animals from otherwise near-certain dissolution and decay. The use of superlatives to describe those sites has been incorporated into creationist literature in the last 25 years or so: "well preserved," "exceptional preservation," "extremely well preserved," "exquisitely preserved," "extremely high quantity," "unusual preservation," "extraordinary fossil," "rare or amazing condition," "exceptional conditions," "truly remarkable," "a bonanza," etc. The present study attempts to assemble a list of selected sites that are highlighted on the internet, now a total of more than 370 sites spread across every continent including Antarctica (Appendix A). The easiest web site in which to find a fairly comprehensive listing of Lagerstätten is www.fossilbonanza, organized by the museum educator Andy Connolly. His list of more than 150 Lagerstätten sites are organized by geological era and are linked to relevant websites. He has produced podcasts on important fossil sites, including the history and background of their early discovery and importance today. These are produced for the non-specialist and are recommended for creationists who wish to have a greater understanding of Lagerstätten. All of Connolly's sites are listed in this study at Appendix A and are identified with a superscript "1".

Another helpful listing of Lagerstätten sites is found on the Virtual Fossil Museum website, which has links to 28 sites. It starts with four Precambrian sites and ends with one Pleistocene site, Rancho La Brea. The 28 sites are designated with a superscript "3" at Appendix A. Another good coverage is found in Wikipedia under the heading of "Lagerstätte." It is surmised that this website will be ever expanding as new Lagerstätten come to light. The latest update to the site was 1 April, 2024, which listed a total of 189 Lagerstätten sites, making this the most comprehensive listing published online at present. Its 189 sites are identified on Appendix A with the superscript of "5." All sites are well-documented with bibliographic references in addition to descriptions, which makes *Wikipedia* the recommended starting point for scholarly creationist studies.

There has been an exponential increase in published Lagerstätten reports in the last 35 years. Our study's listing totals 374 sites, as already noted, making it approximately double the *Wikipedia* tally. But the 374 is just a little over half of the published listing of 700 known Lagerstätten sites (Muscente et al. 2017). As of 1991, there were a total of just 59 Lagerstätten sites mentioned in the published literature (Allison and Briggs 1991, 44–47). For the present, the Lagerstätten listings found at Fossil Bonanza, Virtual Fossil Museum, and Wikipedia are sufficient for providing links to creationist studies because they cover the best-known and best-studied Lagerstätten sites. The present creationist study should offer a reliable comprehensive bibliography for incorporating Lagerstätten into creationist earth history models. Since many YEC studies assign the beginning of the Flood in or above the Precambrian and the end the Flood sometime prior to the Pleistocene, we have reduced the Wikipedia tally to 168 by excluding all Precambrian and Pleistocene studies.

# General Observations of This Study

The following observations are pointers indicating the direction for future creationist studies on Lagerstätten. They should be considered as preliminary conclusions, however, because comprehensive creationist Lagerstätten studies have just begun.

1. *Rapid burial*. Many Lagerstätten studies stress the important role of rapid burial to preserve fossils in pristine condition. One striking example of rapid burial is the Pisco, Peru, whale mass burial Lagerstätte, which likely lasted only hours or days at most prior to burial for the baleen to have been so well preserved (Boscovic et al. 2021; Brand et al. 2004; Esperante et al. 2015).

- 2. Watery catastrophe. The common denominator for nearly all Lagerstätten deposits is the agency of water in preserving the organisms through rapid burial in fine-grained sediments and/or in chemical or biological films around the organisms. Interestingly, only a few Lagerstätten in this study have been blanketed with volcanic ash (Opuštil et al. 2009; Pfefferkorn and Wang 2007; Rößler et al. 2012). Even if the exact cause of the death of organisms cannot be determined, the cause can be described as catastrophic.
- 3. Dominance of autochthony over allochthony. Autochthony simply means the Lagerstätten organisms are buried where they lived and died. There is almost no post-mortem transport, even with the Koncentrat-Lagerstätten. A more recent concept has been proposed to describe situations where there is minimal transport, perhaps tens of meters or no more than a few hundred metersparautochthonous deposits. Most secular authors assume that Lagerstätten deposits preserve the fauna and/or flora in the general locale where they were living and thriving; thus, we can consider the plant and animal life to have been in situ prior to burial, although there may have been some shortdistance transport after the death-producing catastrophe. Of course, many Lagerstätten demonstrate clear evidence of allochthonous or transported deposits. Much further research needs to be accomplished to distinguish the major styles of deposits for Lagerstatten.
- 4. Holistic ecosystems. Even though many Lagerstätten are composed largely of extinct organisms, secular scientists assume that the death assemblage of plants and animals is a window into the living assemblage of the same plants and animals. They view Lagerstätten as "snapshots" of the history of life on earth. Whereas creationist scientists are not so insistent, realizing that many environments can be mixed in transport as noted earlier. Greater diversity of animals and plants in a given Lagerstätte lends itself to the assumption that the taxonomy of organisms is more complete than in deposits that are clearly not Lagerstätten. Having "holistic ecosystems" does not mean "complete ecosystems," but it means that such deposits give the researcher the advantage of considering them "wholistically," which helps in the reconstruction of ancient ecosystems to make them more complete than would be otherwise achieved.

A recent assessment by secular scientists of the importance of Lagerstätten for reconstructing the past is the following observation by Kimmig and Schiffbauer (2024): "Fossil-Lagerstätten are amongst the most important windows onto the paleobiology of ancient ecosystems." Lagerstätten sites described either as terrestrial or marine offer an amazing amount of species diversity and preservation, usually interpreted in secular literature as storm burials. Chrzastek, Jagt-Yazykova, and Jagt (2024) report on a well-diversified near-shore fauna in the Cretaceous of Poland by observing: "This assemblage is well preserved, suggesting rapid burial as a result of storm events." The issue of autochthony versus allochthony will require creationist studies for decades to come. However, each fossil Lagerstätte needs to be reviewed on a case-by-case basis. To prove that one site, such as GRF, has by far the majority of evidences in favor of it being in situ does not necessarily mean that other sites are autochthonous. Few sites on separate continents or in different geological formations have identical flora and fauna. Rules for interpreting one Lagerstätte do not apply to all. The above four preliminary observations lead to the conclusion that creationists can safely pursue Lagerstätten studies as a means for better understanding creationism and Flood catastrophism. Much of creationist thought is already imbedded in Lagerstätten studies, resulting in areas of agreement between creationist and noncreationist research-broader than in other aspects of geology.

# Recommendations to Creationists for Future Lagerstätten Studies

First, all articles or website news announcements should identify the name of the Lagerstätte site that yields the spectacular finds. The purpose is to enable the readers to place that discovery in a correct paleontological context. Appendices 1 and 2 should be invaluable for creationist research for this purpose to be achieved.

Second, books should be properly indexed and footnoted when reporting on these unusual finds derived from Lagerstätten. Incredibly, the word "Lagerstätten" generally does not appear in creationist book indices, two exceptions being Whitmore (2009) and Mitchell (2017). There may be a few others not described in this study, but by far the majority of creationist books do not have any direct reference to Lagerstätten.

Third, a book surveying Lagerstätten sites from a creationist viewpoint is desperately needed. It should be well illustrated because of pictures of wellpreserved fossils being readily available. Its strength could be having many authors as contributors.

Fourth, Lagerstätten studies should be incorporated into all creationist Flood models. That has not happened yet. The Lagerstätten give windows or snapshots of living things on earth at a particular level in the geological column. Institute for Creation Research geologist, Timothy Clarey, has given a brilliant description of the effects of water on geological sediments using a standard geological framework in his book, *Carved in Stone* (2020). The flip side of using a stratigraphic/hydrological approach, as in Clarey's book, is to use an approach focusing largely on the biological/paleontological contents buried in the strata. They can be described sequentially, just as Clarey has described the sequential arrangement of rock formations. Taking the "snapshots" of Lagerstätten life and arranging them sequentially can result in a "motion picture" of life on earth.

Fifth, a correct understanding of Lagerstätten may assist the determination of Flood boundaries in the geological record-the pre-Flood/Flood and Flood/ post-Flood boundaries. What divides creationists into two or more camps has been the assigning of Flood boundaries to the geological column. During the 1990s creationism rose to new levels as it incorporated much more up-to-date geological findings into its viewpoint as more creationists obtained master's and doctoral degrees in the geological sciences and related fields. The discovery and recognition of Lagerstätten, starting in the 1990s could have made an impact on all Flood models to date. To remedy this, it is highly recommended that creation modelers go back and reexamine where Lagerstätten can be best fitted into their detailed Flood models. The best set of studies on this topic may be found in a special issue of what is now known as the Journal of Creation, introduced by Andrew A. Snelling (1996). His introduction should be read and re-read before beginning the quest to reexamine Flood boundaries in the light of Lagerstätten findings. It is up to creationists to do this, but it will take a team effort.

Finally, a creationist worldview of the history of life on earth needs to have Lagerstätten incorporated into it. As already mentioned, the founders of modern creationism, Whitcomb and Morris (1961, 156-160), described in detail the excellent preservation discovered in three major Lagerstätten sites-Green River Formation, Florissant, and Geiseltal. It is not only legitimate, but mandatory, that creationists do much more with Lagerstätten evidences in developing a unique worldview. Such evidences need to be coupled with the most influential research project on radioactive dating-the two-volume study by top creationist physicists and geologists under the title, Radioisotopes and the Age of the Earth (Vardiman, Snelling, and Chaffin 2000, 2005). This has become the definitive creationist study on radioisotope dating. When more geological and geophysical studies are united closely with paleontological studies within creationism, the outcome will be more powerful than books that separate these topics from one another. The one subdiscipline that incorporates paleontology

into the *Radioisotopes* book is radiocarbon dating (Vardiman, Snelling, and Chaffin 2005, 588–630, 753–756). Young-earth creationist textbooks, when revised, will need to have a section or chapter on Lagerstätten. A good example is the one authored by Brand and Chadwick (2016), which has been already revised twice and which is one of the most comprehensive creationist texts published to date. Another college-level textbook that fails to describe Lagerstätte is published by Harold Coffin (2005).

Overall, a holistic approach to creationist geology is highly recommended. The researcher can start with Leonard Brand's 2007 article, "Wholistic geology" (Brand 2007). Again, Lagerstätten studies from both creationist and secularist perspectives need to be incorporated into holistic geology to bring it up to date and make it even more relevant. No longer can Lagerstätten evidences be isolated from geophysical, geochemical, and sedimentological evidences in the earth's crust. All viable earth history models should give a holistic picture of the sedimentary and fossil record of the earth, the processes that form the strata of the earth, and the fossils contained within the strata.

### Conclusion

The fossil discoveries in unusual deposits known as Lagerstätten offer great promise for creationist studies in the future. The reason is because the two of Lagerstätten-Konservat-Lagerstätten types and Konzentrat-Lagerstatten-lend themselves remarkably well as support for certain creationist interpretations of the fossil record. What is recommended for the future is that Lagerstätten occupy a significant place in comprehensive studies, whether the revising of current Flood models or more importantly the development of a creationist worldview based on Scripture and on the discoveries derived from earth sciences. What is presented in this study is 374 examples of excellent preservation of fossils, 374 evidences for rapid burial, and 374 arguments for a catastrophic interpretation of earth history.

### References

- Allison, Peter A., and Derek E. G. Briggs, eds. 1991. Taphonomy: Releasing the Data Locked in the Fossil Record. New York, New York: Plenum Press.
- Armitage, Mark Hollis, and Kevin Lee Anderson. 2013. "Soft Sheets of Fibrillar Bone from a Fossil of the Supraorbital Horn of the Dinosaur *Triceratops horridus*." Acta Histochemica 115, no.6 (July): 603–608.
- Armitage, Mark H., and Kevin L. Anderson. 2014. "Light and Electron Microscopic Study of Soft Bone Osteocytes from a *Triceratops horridus* Supraorbital Horn." *Microscopy and Microanalysis* 20 (S3), 1 August: 1274–1275.
- Armitage, Mark. 2016. "Soft Bone Material from a Brow Horn of *Triceratops horridus* from Hell Creek Formation, Montana." *Creation Research Society Quarterly* 51, no.4 (Spring): 248–258.

- Austin, Steven A. 2003. "Nautiloid Mass Kill and Burial Event, Redwall Limestone (Lower Mississippian), Grand Canyon Region, Arizona and Nevada." In Proceedings of the Fifth International Conference on Creationism. Edited by Robert L. Ivey: 55–100. Pittsburgh, Pennsylvania: Creation Science Fellowship.
- Boscovic, Danilo S., Uriel L. Vidal, Kevin Eugene Nick, Raúl Esperante, Leonard H. Brand, Kenneth R. Wright, Lawrence B. Sandberg, and Bethania C.T. Siviero. 2021. "Structural and Protein Preservation in Fossil Whale Bones from the Pisco Formation (Middle-Upper Miocene), Peru." *Palaios* 36, no.4 (April): 155–164.
- Bottjer, David J., Walter Etter, James W. Hagadorn, and Carol M. Tang. 2002. *Exceptional Fossil Preservation*. New York, New York: Columbia University Press.
- Brand, Leonard. 2007. "Wholistic Geology: Geology Before, During, and After the Biblical Flood." Origins (Loma Linda) 61: 7–34. https://www.grisda.org/assets/public/publications/ origins/61007.pdf.
- Brand, Leonard H., Raúl Esperante, Arthur V. Chadwick, Orlando Poma Porras, and Merling Alomia . 2004. "Fossil Whale Preservation Implies High Diatom Accumulation Rate in the Miocene-Pliocene Pisco Formation of Peru." *Geology* 32, no.2 (February): 165–168.
- Brand, Leonard, and Arthur Chadwick. 2016. Faith, Reason, and Earth History: A Paradigm of Earth and Biological Origins by Intelligent Design. Berrien Springs, Michigan: Andrews University Press.
- Buchheim, H. Paul, and Ronald C. Surdam. 1977. "Fossil Catfish and the Depositional Environment of the Green River Formation, Wyoming." *Geology* 5, no.4 (April 1): 196–198.
- Chrząstek, Alina, Elena A. Jagt-Yazykova, and John W.M. Jagt. 2024. "Body Fossil Assemblages in the Lower Idzików Beds (Coniacian) in the Upper Nysa Kłodzka Graben, South-West Poland: Preliminary Taphonomic, Palaeoecological and Palaeogeographical Data." Cretaceous Research 158, no.2 (February): Article no. 105853.
- Clarey, Tim. 2018. "Stromatolites: Evidence of Pre-Flood Hydrology." Acts & Facts 47, no.5 (April 30).
- Clarey, Timothy. 2020. Carved in Stone: Geological Evidence of the Worldwide Flood. Dallas, Texas: Institute for Creation Research.
- Clarey, Tim. 2024. "Fossil Butte National Monument: Spectacular Flood Graveyard." Acts and Facts 53, no.1 (December 29): 8–11.
- Coffin, Harold G. 2005. *Origin by Design*. Hagerstown, Maryland: Review and Herald Publishing Association.
- Coulson, K.P. 2018. "Global Deposits of in situ Upper Cambrian Microbialites—Implications for a Scientific Model of Origins." In Proceedings of the Eighth International Conference on Creationism. Edited by J.H. Whitmore, 379–388. Pittsburgh, Pennsylvania: Creation Science Fellowship.
- Coulson, Ken P. 2021. "Using Stromatolites to Rethink the Precambrian–Cambrian Pre-Flood/Flood Boundary." Answers Research Journal 14 (May 5): 81–123. https:// answersresearchjournal.org/stromatolites-precambrianflood-boundary/.
- Coulson, Ken P. 2022. "Dinosaur Soft Tissues Still Provide Compelling Evidence for Young Age." *e Origins Journal of the Biblical Creation Trust* 4: 2–13.

- DePalma, Robert A., Jan Smit, David A. Burnham, Klaudia Kuiper, Phillip L. Manning, Anton Oleinik, Peter Larsen, Florentin J. Maurrasse, Johan Vellekoop, Mark A. Richards, Loren Gurche, and Walter Alvarez. 2019. "A Seismically Induced Onshore Surge Deposit at the KPg Boundary, North Dakota." Proceedings of the National Academy of Sciences USA 116, no. 17 (April 1): 8190–8199.
- Elson, Amy L., Lorenz Schwark, Jessica H. Whiteside, Peter Hopper, Stephen F. Poropat, Alex I. Holman, and Kliti Grice. 2024. "A Paleoenvironmental and Ecological Analysis of Biomarkers From the Eocene Fossil Basin, Green River Formation, U.S.A." Organic Geochemistry 195 (September): Article number 104830.
- Esperante, Raúl, Leonard R. Brand, Arthur V. Chadwick, and Orlando Poma. 2015. "Taphonomy and Paleoenvironmental Conditions of Deposition of Fossil Whales in the Diatomaceous Sediments of the Miocene/ Pliocene of the Pisco Formation, Southern Peru—A New Fossil Lagerstätte." *Palaeogeography, Palaeoclimatology, Palaeoecology* 417 (1 January): 337–370.
- Garner, Paul. 1997. "Green River Blues." Creation 19, no.3 (June): 18–19.
- Haynes, Gabriela. 2019. "Santana Fossils—Delighting in the Details." *Answers* 14, no.2 (March 1): 24–27.
- Hoesch, William A. 2007. "Lagerstatten!" Acts and Facts 36, no.8 (August 1): 14.
- Johns, Warren H. 2019. "The Challenge of Fossil Forests For Creationist Research." Answers Research Journal 12 (August 7): 17–209. https://answersresearchjournal.org/ challenge-of-fossil-forests/.
- Johnson, James J.S. 2024. "How Did Stingrays Get Fossilized in Wyoming?" Acts and Facts 53, no.1 (December 29): 21.
- Kimmig, Julien, and James D. Schiffbauer. 2024. "A Modern Definition of Fossil-Lagerstätten." Trends in Ecology and Evolution 39, no. 7 (July): 621–624.
- Menton, David. 2012. "#3. Soft Tissue in Fossils. 10 Best Evidences in Science that Confirm a Young Earth." Answers 7, no. 4 (October–December): 50–51.
- Mitchell, J.D. 2017. Fossils: Description and Interpretation: Within a Biblical Worldview. Gresham, Oregon: C.E.C. Publications.
- Mitchell, Tommy. 2011. "More Soft Tissue in 'Old' Fossils." Answers 6, no.3: July–September: 34.
- Morris, John. 2007. The Young Earth: The Real History of the Earth—Past, Present, and Future. Green Forest: Arkansas: Master Books.
- Morris, John D. 2010. "Do fossils show signs of rapid burial?"
  In: *The New Answers Book 3*, edited by Ken Ham, 91-97.
  Green Forest, Arkansas: Master Books. (5<sup>th</sup> ed.). Dallas, Texas: ICR Publishing Group.
- Morris, John D. 2012. *The Global Flood: Unlocking Earth's Geologic History*. Dallas, Texas: Institute for Creation Research.
- Muscente, A.D., James D. Schiffbauer, Jesse Broce, Marc Laflamme, Kenneth O'Donnell, Thomas H. Boag, Michael Meyer, et al. 2017. "Exceptionally Preserved Fossil Assemblages Through Geologic Time and Space." Gondwana Research 48 (August): 164–188.
- Nelson, Byron C. 1931. Deluge Story in Stone: A History of the Flood Theory of Geology. Minneapolis, Minnesota: Augsburg Publishing House.

- Oard, Michael J., and Peter Klevberg. 2008. "Green River Formation Very Likely Did Not Form in a Postdiluvial Lake." *Answers Research Journal* 1 (September 22): 99– 108.
- Opluštil, Stanisav, Josef Pšenička, Milan Libertín, Jiří Bek, Jiřna Dašková, Zbyněk Šimůnek, and Jana Drábková. 2009. "Composition and Structure of an in situ Middle Pennsylvanian Peat-Forming Plant Assemblage Buried in Volcanic Ash, Radnice Basin (Czech Republic)." Palaios 24, no. 11 (November): 726–746.
- Pfefferkorn, Hermann W., and Jun Wang. 2007. "Early Permian Coal-Forming Floras Preserved as Compressions From the Wuda District (Inner Mongolia, China)." *International Journal of Coal Geology* 69, nos. 1–2 (2 January): 90–102.
- Purdom, Georgia, and Andrew A. Snelling. 2013. "Survey of Microbial Composition and Mechanisms of Living Stromatolites of the Bahamas and Australia: Developing Criteria to Determine the Biogenicity of Fossil Stromatolites." In *Proceedings of the Seventh International Conference on Creationism* Edited by Mark Horstemeyer, article 11.
- Rößler, Ronny. 2021. "The Most Entirely Known Permian Terrestrial Ecosystem on Earth—Kept by Explosive Volcanism." *Palaeontographica Abeilung B* 303, nos. 1–3 (August 6): 1–75.
- Schweitzer, Mary H., Jennifer L. Wittmeyer, John R. Horner, and Jan K. Toporski. 2005. "Soft-Tissue Vessels and Cellular Preservation in *Tyrannosaurus rex.*" Science 307, no.5717 (25 March): 1952–1955.
- Schweitzer, Mary Higby, Elena R. Schroeter, Timothy P. Cleland, and Wenxia Zheng. 2019. "Paleoproteomics of Mesozoic Dinosaurs and Other Mesozoic Fossils." *Proteomics* 19, no. 16 (August): e1800251.
- Snelling, Andrew A. 1996. "Where Should We Place the Flood/ post-Flood boundary in the Geological Record?" CEN Technical Journal 10, no. 1 (April): 29–31.
- Snelling, Andrew. 1998. "Exceptional Soft-Tissue Preservation in a Fossilised Dinosaur." Creation Ex Nihilo Technical Journal 12, no.2 (August): 130–131.
- Snelling, Andrew A. 2008. "The World's a Graveyard." Answers 3 no.2, (April–June): 76–79.
- Snelling, Andrew A. 2009 *Earth's Catastrophic Past: Geology, Creation, and the Flood.* Vols 1 and 2. Dallas, Texas: Institute for Creation Research.
- Snelling, Andrew A. 2010. "What are some of the best Flood evidences?" In *The New Answers Book 3*. Edited by Ken Ham, 283–298. Green Forest, Arkansas: Master Books.
- Snelling, Andrew A. 2017. "Stromatolites—Rare Reminders of a Lost World." Answers 12, no.5 (September 1): 34–36.
- Snelling, Andrew A. 2021. "Global Evidences of the Genesis Flood." Answers 16, no.3 (July–September): 44–52.
- Thomas, Brian. 2013. "A Review of Original Tissue Fossils and Their Age Implications." In *Proceedings of the Seventh International Conference on Creationism*. Edited by Mark Horstemeyer, article 14. Pittsburgh, Pennsylvania: Creation Science Fellowship.
- Thomas, Brian. 2015a. "Solid Answers on Soft Tissue." AIG, Answers Magazine 10, no. 1 (January–March): 36–38.

- Thomas, Brian. 2015b. "Original Biomaterials in Fossils." Creation Research Society Quarterly 51, no.4 (Spring): 234–247.
- Thomas, Brian. 2025. "ICR Scientist Publishes Dino Protein in Mainstream Journal." February 20. https://www.icr.org/ article/15147/.
- Thomas, Brian, and Stephen Taylor. 2019. "Proteomes of the Past: The Pursuit of Proteins in Paleontology." *Expert Review of Proteomics* 16, nos. 11–12 (November–December): 881–895.
- Tuinstra, Lucien, Brian Thomas, Steven Robinson, Krzysztof Pawlak, Gazmend Elezi, Kym Francis Faull, and Stephen Taylor. 2025. "Evidence For Endogenous Collagen in *Edmontosaurus* Fossil Bone." *Analytical Chemistry* 97, no.5 (January 17): 2618–2628.
- Vardiman, Larry, Andrew A. Snelling, and Eugene F. Chaffin, eds. 2000. Radioisotopes and the Age of the Earth: A Young-Earth Creationist Research Initiative. El Cajon, California: Institute for Creation Research, and St. Joseph, Missouri: Creation Research Society.
- Vardiman, Larry, Andrew A. Snelling, and Eugene F. Chaffin, eds. 2005. Radioisotopes and the Age of the Earth: Results of a Young-Earth Creationist Research Initiative. El Cajon, California: Institute for Creation Research, and Chino Valley, California: Creation Research Society.
- Whitcomb, John C., and Henry M. Morris. 1961. The Genesis Flood: The Biblical Record and Its Scientific Implications. Phillipsburg, New Jersey: Presbyterian and Reformed Publishing Co.
- Whitmore, John H. 2006a. "The Green River Formation: A Large Post-Flood Lake System." *Journal of Creation* 20, no.1 (March): 55–63.
- Whitmore, John H. 2006b. "The Geologic Setting of the Green River Formation." Journal of Creation 20, no.1 (March): 72–78.
- Whitmore, John H. 2006c. "Difficulties with a Flood Model for the Green River Formation." *Journal of Creation* 20, no. 1 (March): 81–85.
- Whitmore, John H. 2006. "Exploding Fish: Evidence for Rapid Burial." Answers 1, no.2 (October–December): 27–31.
- Whitmore, John H. 2008. "Aren't Millions of Years Required for Geological Processes?" In *New Answers Book 2*. Edited by Ken Ham and Bodie Hodge, 229–244. Green Forest: Arkansas: Master Books.
- Whitmore, John H. 2009. "Fossil Preservation." In *Rock Solid Answers*. Edited by Mike Oard, and John K. Reed, 231–244. Green Forest, Arkansas: Master Books.
- Whitmore, John H., and Kurt P. Wise. 2008. "Rapid and Early Post-Flood Mammalian Diversification Evidenced in the Green River Formation." In *The Proceedings of the Sixth International Conference on Creation*. Edited by Andrew A. Snelling, 449–457. Pittsburgh, Pennsylvania: Creation Science Fellowship.
- Wise, Kurt P. 1996. "North American Paleontology Convention 96." Journal of Creation 10, no.3 (December): 315–321.
- Woolley, Daniel A. 2001. "Fish Preservation, Fish Coprolites and the Green River Formation." *TJ (Journal of Creation)* 15, no. 1 (April): 105–111.

# Appendix A Lagerstätten of the World—Arranged by Geological Era and Continents

# Introduction

Lagerstätten are well-preserved fossils found as part of fossil communities, not just isolated fossils. The excellent preservation of fossils in the geological record is one of the six greatest arguments for a universal Flood. Dr. Andrew Snelling has written an article, "What Are Some of the Best Flood Evidences?" taken from chapter 29, *The New Answers Book 3* (2010). The best argument appears to be #2, "Rapid burial of plants and animals." Since Lagerstätten deposits have some of the best-preserved fossils in the world, it is only natural that creationists should apply such to the Noachian Flood. Hence, youngearth creationist articles often cite Lagerstätten sites, and even describe several in detail, such as, the Green River Formation of Wyoming/Utah.

# **Bibliographic Note**

The footnotes direct the researcher to the source for the identification of these Lagerstätten sites, or in many cases two or more sources including creationist sources. Go to the end of this appendix to see in general what are the sources. Not all Lagerstätten sources have footnotes attached. Those that do not have sources are identified in the list of bibliographic data in Appendix B. Thus, the reader can find research materials for much deeper discussions of all the 374 sites. Sites in boldface below are those cited or discussed by young-earth creationists, indicating the great interest that creationists have shown in the significance of many of these sites for creationist studies.

### **Omitted Sites**

All Precambrian Lagerstätten deposits are omitted in the tabulation below because young-earth creationists generally do not include those deposits in the Flood, according to recent studies. All Pleistocene sites, such as the La Brea tar pits of Los Angeles, California, are omitted because none of the major Flood models include the Pleistocene in the Flood. In addition, all sites based solely upon the discovery of amber (fossilized resin) have been omitted because of a continued controversy over the question whether amber should qualify as Lagerstätten examples. The Virtual Fossil Museum excludes amber on the basis that it does not fit the definition of a Lagerstätte. The present study is geared to linking Lagerstätten deposits with the Noachian Flood, not to pre-Flood or post-Flood deposits.

# Cambrian—46 sites

### Asia

Europe

Qingjiang Biota (S. China)<sup>1,5</sup> Guanshan Biota (E. Yunnan, China)<sup>1</sup> Fandian Biota (Yangtze Platform, China)<sup>1</sup> Chengjiang Fauna (SW China)<sup>2,3,7</sup> Kaili Formation (SW China)<sup>3,5</sup> Blackberry Hill (Wisconsin<sup>5</sup> Sinsk Biota (Siberia)<sup>5</sup> Linyi (N. China)<sup>5</sup> Guole (S. China) Xiaoshiba (S. China) Maotianshan Shale (Yunnan, China) Achchagyy Tuoydakh (E. Siberia) Hetang Biota (S. China) Zhangjiagou (S. China) [Fortunian Stage] Shipai/Three Gorges (S. China) Kimiltei (Irkutsk, Russia) Wangcun (Hunan, S. China) Kuanchuanpu Biota (S. China) Fulu Biota (SE Yunnan, China) Balang Formation (Hunan, China) Orsten (Sweden)<sup>2,5,7</sup> [incl. Alum Shale] Walcott Rust Quarry (Shropshire,

England)

Murero (northeast Spain) Alum Shale Formation (Poland) Skyberg (Norway)—first Lagerstätten discovered in Norway. Drumian (Spain) North America Spence Shale (SE Idaho, NE Utah)<sup>1,5,7</sup> Burgess Shale (W. Canada)<sup>1,2,3,4,5,6,7</sup> Sirius Passet (N. Greenland)<sup>1,2,3,5</sup> Wheeler Shale Formation (Utah)<sup>1,3,5,7</sup> [House Range] Weeks Formation (Utah)<sup>5</sup> Parker Quarry (NW Vermont)<sup>1</sup> Indian Springs (W. Nevada)<sup>1,5</sup> [Poleta Formation] Marium Formation (Western Utah)<sup>5,7</sup> Buen Formation (North Greenland)<sup>7</sup> Mount Cap Formation (NW Territories) Gros Ventre Formation (Wyoming) Latham Shale (California) **Pioche Shale** (Nevada) Henson Gletscher Fm. (N. Greenland) Cranbrook (British Columbia) Ravens Throat River (NW Canada) Conasauga Shale (Alabama/Georgia) Ruin Wash (Nevada) [Pioche Fm.] South America

Africa Souss (Morocco – earliest Lager, Africa)<sup>1</sup> Australia Emu Bay Shale (S. Australia)<sup>1,3,5,7</sup> (part of Kangaroo Island Group) Ordovician—33 sites Asia Fenxiang Formation (Hubei, S. China)<sup>1</sup> Liexi Fauna (S. China)<sup>5</sup> Ziyang Fauna (S. China) Europe Valongo Formation (N. Portugal)<sup>1</sup> Llandegley Rocks (Central Wales)<sup>1</sup> Castle Bank Biota (Central Wales)<sup>5</sup> Saaremaa (W. Estonia)<sup>7</sup> Llanfawr Mudstones (Central Wales) Arouca Geopark (Portugal) Girvan (SW Scotland) Katian Echinoderm Fauna (SW Wales) Letna Formation (Bohemia, Czech Rep.) Cabrieres Biota (S. France) Vasalemma Algae Flora (Estonia) Asia Afon Gam Biota (Wales) North America Fezouata Biota (S. Ontario)<sup>1,5</sup> Brechin (Mississippi)<sup>1,5</sup> Winneshiek Biota (NE Iowa)<sup>1,5</sup> Beecher's Trilobite Bed (N.Y. State)<sup>1,3,5,7</sup> Big Hill (Upper Peninsula, Michigan)<sup>1,5</sup> Fairview Formation (Kentucky)<sup>1</sup> Tonoloway Formation (Pennsylvania)<sup>5</sup> Walcott-Rust Quarry (Central New York State)<sup>3,5</sup> Harding Sandstone (Colorado)<sup>5</sup> Airport Cove (Manitoba, Canada)<sup>5</sup> Douglas Dam (Tennessee)<sup>5</sup> [sinkhole] Cat Head Member/McBeth Point (Manitoba, Can.)<sup>5</sup> Georgian Bay Formation (Ontario, Can.)<sup>5</sup> William Lake (Manitoba, Can.)<sup>5</sup> Anticosti Island (Eastern Canada) [Vaireal Lagerstätten.] South America Africa Tafilalt (east of Anti-Atlas, Morocco)<sup>1,5</sup> Soom Shale (Cape Province, S. Africa)<sup>1,2,4,5</sup> Waterloo Farm (Eastern Cape, S. Africa) Australia Silurian—15 sites Asia Chongqing (S. China)<sup>1,5</sup> Fentou Biota (Wuhan, China) Europe Herefordshire (Welsh Basin, U.K.)<sup>1,5</sup>

Kalana Formation (Estonia)<sup>1,5</sup> Ludford Lane Bonebed (England)<sup>2</sup> Wenlock Series (SW England)<sup>3</sup> Pentland Hills Eurypterid Bed (Scotland) North America Eramosa (Ontario, Canada)<sup>1,5</sup> Waukesha Biota (Wisconsin)<sup>1,5</sup> Bertie Group (S. Ontario - W. New York)<sup>1,5</sup> [also known as Fiddler's Green Formation] Gilboa (New York)<sup>2</sup> Rochester Shale (New York)<sup>5</sup> Thornton Quarry (Illinois) Napolean Quarry (SE Indiana) [Massie Formation] Moydart Formation (Nova Scotia) South America Africa Australia Devonian—25 sites Xiaoshan Formation (China) Europe Kowala Quarry (Poland)<sup>1,5</sup> Hunsruck Slate (Germany)<sup>1,2,3,4,5,7</sup> Rhynie Chert (Scotland)<sup>1,2,3,5,7</sup> Brown Clee Hill (Welsh Borderland, UK)<sup>1</sup> Lode Clay Quarry (Latvia)<sup>1</sup> Heckelmann Mill (SW Germany)<sup>5</sup> Waxweiler Lagerstätte (Germany)<sup>5</sup> [Klerf Formation] Strud (Belgium)<sup>5</sup> Achanarras Fish Bed (Scotland)<sup>7</sup> Alken Quarry (W. Germany)<sup>7</sup> [near Willwerath, Eiffel Hills] Ardenno-Rhenish Massif (Germany, Luxembourg) Holy Cross Mountains (Poland) North America Miguasha Biota (New Brunswick)<sup>1,5</sup> Cleveland Shale (Ohio)<sup>1,7</sup> Gilboa (New York)<sup>2,7</sup> Cairo Quarry (New York) Arkona Shale (Ontario) South America Ponta Grossa (Brazil) Africa Waterloo Farm (South Africa)<sup>1,5</sup> Thylacocephalan Formation (Morocco)<sup>1</sup> Maider Basin (Morocco)<sup>5</sup> Hangenberg Black Shale (Morocco) Australia Gogo Formation (W. Australia)<sup>1,2,4,5</sup> Canowindra (New South Wales, Australia)<sup>4,5</sup> [Mandagery SS]

Carbor	niferous—32 sites	
Asia		S
	Wuda Tuff (N. China)	
	[Taiyuan Fm.: time-transgressive	
	into the Permian]	
Europe		A
	East Kirkton Limestone (Scotland) <sup>1,5,7</sup>	
	Montceau-les-Mines (France) <sup>1,4,5,7</sup>	
	Avion (France) <sup>1</sup>	
	Coseley (West Midlands, U.K.) <sup>1</sup>	
	Bickershaw (Lancashire, Eng.) <sup>5</sup>	
	Granton Shrimp Bed (Scotland) <sup>5,7</sup>	A
	Bearsden (Scotland) <sup>7</sup>	
	Glencartholm (Scotland) <sup>7</sup>	
	Castlecomer Fauna (Ireland)	
	Hagen Verhalle (Germany)	т
	Piesberg Quarry (Germany)	- A
	Denee (Belgium)	1
	Jarrow Assemblage (Ireland)	
	Coseley (Westindian Midlands, U.K.)	
	Edlington/Doncaster (Yorkshire, U.K.)	
	Loch Humphrey Burn (SW Scotland)	
North A	America	
	Buckhorn Asphalt Quarry (Pennsylvania) <sup>1</sup>	
	Hamilton Quarry (Kansas) <sup>1,5,7</sup>	
	Joggins Fossil Cliffs (Nova Scotia) <sup>1,5</sup>	F
	Mazon Creek (Illinois) <sup>1,2,3,4,5,7</sup>	1
	Francis Creek Shale <sup>4</sup>	
	Bear Gulch Beds (Central Montana) <sup>1,3,5,7</sup>	
	Kinney Brick Quarry (New Mexico) <sup>1,5</sup>	
	Tinajas Lagerstätte (New Mexico) <sup>1</sup>	
	Linton Diamond Coal Mine (Ohio) <sup>5</sup>	
	Hamilton Quarry (Kansas) <sup>5</sup>	
	Carisso Arroyo (New Mexico) <sup>5</sup>	
	Union Chapel (Alabama)	
	Copan Crinoid Beds (Oklahoma)	
a .1 .	Pony Creek Shale (Kansas)	
South A	America	
A.C. '	Campeleo Outcrop (S. Brazil)	
Africa	•	
Austral	18	N
Pormia	n 15 sites	-
Agio	II—15 sites	
Asia	Wuda Tuff Flora (N. China) <sup>1</sup> soo	
	Carboniforous	
	Chekarda (Russia) <sup>5</sup>	
	[Kosheleyka Formation]	
	Huonu (Guizhou China) <sup>5</sup>	S
Europe	Huopu (Guizhou, Ghina)	
Larope	<b>Chemnitz Petrified Forest</b> (Germany) <sup>1,5</sup>	A
	Bourbon-l'Archambault Basin (France) <sup>5</sup>	
	[also known as Franchesse]	
	Kupferschiefer (central Europe) <sup>5</sup>	A
	· · · · · · · · · · · · · · · · · · ·	

# North America

Wellington Shale (Kansas)<sup>2</sup>

[Elmo, Kansas; Midco, Oklahoma] South America Mangrullo Formation (Uruguy)<sup>1,5</sup> Goias (central-western Brazil) Tocantins (central-north Brazil) Africa Onder Karoo (South Africa)<sup>1,5</sup> Teekloof Formation (South Africa)<sup>1</sup> Karoo Supergroup (South Africa)<sup>2</sup> Sakamena Formation (Madagascar)<sup>5</sup> [spans Permian/Triassic] Australia/Antarctica Toploje Chert (Prince Chas. Mountains Antarctica,)<sup>1,5</sup> riassic—30 sites Asia Madygen Formation (Kyrgyzstan)<sup>1,5</sup> Guanling (Guizhou Province, SW China)<sup>5</sup> Luoping Biota (S. China<sup>1,5</sup>) [some may be in uppermost Permian] Jialingjiang Formation (Hubei, China)<sup>5</sup> Nanlinghu Formation (Anhui, China)<sup>5</sup> Xingyi Biota (Guizhou/Yunnan, China)<sup>5</sup> Guiyang Biota (China) Europe Monte San Giorgio (Italy)<sup>1,4</sup> Kozja dnina Member (Slovenia)1 Montral-Alcover (NE Spain)<sup>1,7</sup> Cassian Formation (Italy)<sup>1</sup> Gastropod Oolite Member (Italy)<sup>1</sup> Norian Limestone (Turkey)<sup>1</sup> Petropavlovka (Russia, Poland?)<sup>5</sup> Gres a Voltzia (E. France)<sup>2,5,7</sup> Besano Formation (Italy/Switzerland)<sup>5</sup> [World Heritage Site] Strelovec Formation (Slovenia) Muschelkalk Mud Flats (Germany) Kupferzell (Germany) Vellberg (Germany) North America Ghost Ranch Quarry (Arizona)<sup>1</sup> Solite Quarry (N. Carolina and Virginia)<sup>1</sup> Cow Branch Formation (Virginia)<sup>4,5</sup> (main site Solite Quarry) Sinbad Limestone (Utah)<sup>1</sup> Paris Biota (Idaho/Nevada) South America Chanares Formation (Argentina)<sup>1</sup> Africa Molteno Formation (South Africa)<sup>1</sup> Zarzaitine Series (Algeria)<sup>1</sup> Australia Polzberg (Australia)<sup>1,5</sup> Hawkesbury Sandstone (Australia)<sup>4</sup>

Warren H. Johns

Jurassic—45 sites Asia Shar Teg (Mongolia)<sup>1</sup> Karatau (Kazakhstan)<sup>2</sup> Daohugou=Yanliaho (Mongolia, China)<sup>1,6</sup> Mesa Chelonia (Shanshun, China)<sup>5</sup> Karabastau Formation (Kazakhstan)<sup>5</sup> Tiaojishan (Liaoping, China)<sup>5</sup> Junggar Basin (Shishugou Formation, NW China) Turpan Basin (Xinjiang, China) Europe La Voulte-sur-Rhone (France)<sup>1,2,5,7</sup> Slottsmoya Member (Spitsbergen)<sup>1,5</sup> Posidonia Shale (SW Germany)<sup>1,2,3,5,6,7</sup> [also called Holzmaden.] Solnhofen Limestone (Southern Germany)<sup>1,2,3,4,5,6,7</sup> Strawberry Bank (Somerset, U.K.)<sup>1,5</sup> Cabeco da Ladeira (Portugal)<sup>1</sup> Magliano Vetere Plattenkalk (Italy)<sup>1</sup> Owadow-Brzezinki Quarry (Poland)1 Osteno (Italy)<sup>5,7</sup> [Moltrasio Formation] Monte Fallano (Italy)<sup>5</sup> Canjuers (France)<sup>5</sup> Cerin (France)<sup>7</sup> Christian Malford (England)<sup>7</sup> Cordebugle (France) Wattendorf Plattenkalk (S. Germany) Janusfjellet (Central Spitsbergen) Anina (Romania) Czestochowa (South/Central Poland) Causse Mejean (S. France) **Opalinuston Formation (N. Switzerland)** Toarcian (Slovakia) Aalenian (N. Switzerland) Ettling (S. Germany) Nusplingen Lithographic Limestone (Germany) Corbulomima Horizon (Poland) Sedan (France) Chassiron (western France) North America Morrison Formation (Western U.S.)<sup>1,2,4</sup> Hell Creek/Lance Formations (Montana/

North Dakota/IWyoming)<sup>4,6</sup> La Casita Formation (Coahuyla, Mexico)<sup>1</sup> Ya Ha Tinda (Alberta, Canada)<sup>1,5</sup> **Cleveland-Lloyd Dinosaur Quarry** (Utah)<sup>5</sup> **Johnson Farm** (St. George, Utah) South America La Bajada Chert (Patagonia, Argentina)<sup>1</sup> San Agustin (Patagonia, Argentina)

Muzinho Shale (Argentina) [Parnaiba Basin] Africa Tendaguru Formation (East Africa)<sup>1</sup> Australia Talbragar [New South Wales]<sup>5</sup> Cretaceous—61 sites Asia Jehol Biota (NE China)<sup>1</sup> [Liaoning Province] Sahel Alma (Lebanon)<sup>1</sup> [Sahel Aalma] Khasurty Fossil Insects (Transbaikalia, Russia)1 Hjoula (Lebanon)<sup>1</sup> Mogi Fauna (Inner Mongolia)<sup>1</sup> Djadokhta/Ukhaa Tolgod (Mongolia)<sup>4,6</sup> Liaoning Province/Yixian (NE China)<sup>2,3,5</sup> (incl. the Jianshangou Bed and others) Xiagou Formation (NW China)<sup>3,5</sup> Jiufotang Formation (Liaoning, China)<sup>5</sup> Shenkingkou (Xinjiang, China)<sup>5</sup> Zhucheng (Shandong, China)<sup>5</sup> Jinju Formation (S. Korea)<sup>5</sup> Hakel [or Hagel] (Lebanon)<sup>5,7</sup> [Hadjoula, Lebananon] Nammoura (Lebanon) Harrana (Jordan)<sup>5</sup> [Muwaqqar Chalk] Gyeonsang Basin (Korea) Turga (E. Transbaikalia, Russia) Khasurty (Transbaikalia, Russia) Jinju Formation (Korea)

# Europe

Las Hoyas (Central Spain)<sup>1,2,5</sup> Puy-Puy (France)<sup>1,5</sup> Angeac-Charente (France)<sup>1,5</sup> Komen Limestone (Slovenia)<sup>1</sup> Lo Hueco (Spain)1 Nardo (Italy)<sup>5</sup> [Calcari de Melissano] El Montsec (Spain)5,7 Pesciara-Monte Postale (Italy Villaggio del Pescatore (Italy) **Pietrarojo** (S. Italy) Moli del Baro-1 site (NE Spain) Jaunay-Clan-Ormeau (France) Miechow Trough (Poland) La Pedrera de Meia (NE Spain) Foieta la Sarra-A (Spain) North America El Espinal/El Chango (Mexico)<sup>1</sup> Vallecillo Village (Mexico)<sup>1,5</sup> Tlavua Quarry (Central Mexico)<sup>1,2,4,5</sup> (also known as **Tepexi**) Provincial Park (Alberta)<sup>1</sup>

# 244

Niobrara Chalk (Kansas, Nebraska)<sup>1,4,5</sup> [includes Smoky Hill Chalk] Ingersoll Shale (Alabama)<sup>1,5</sup> Coon Creek (Mississippi)<sup>5</sup> Tiayua (Pueblo, Mex.)<sup>5</sup> Tanis (North Dakota)<sup>5</sup> Tzimol (SE Mexico) Muzquiz (Mexico) Eutaw Formation (E. Alabama) Pawpaw Shale (Tarrant County, Texas) Mooreville Chalk (Alabama) South America Paja Formation (Colombia)<sup>1,5</sup> Romualdo Formation (Brazil)<sup>1,5,7</sup> Crato/Santana (Brazil)<sup>1,2,3,4,5,6,7</sup> Amargosa Biota (Brazil)<sup>1</sup> Torres del Paine (Chile) Auca Mahuevo (Argentina)<sup>5</sup> San Rafael and La Frontera Formations (Colombia) Boyaca (Colombia) La Buitrera Paleontological Area (Patagonia, Argentina) Africa Jebel Oum Tkout (Morocco)<sup>1</sup> Kem Kem Beds (E. Morocco)<sup>1</sup> Gara Sbaa (SE Morocco)<sup>5</sup> [Akrabou Formation] Australia Koonwarra Fossil Bed (Australia)<sup>1,5</sup>

Paleogene (Paleocene, Eocene, Oligocene)—36 sites Asia Mummified Plants of Nanning (China)<sup>1</sup> Sangtang (Guangxi, China)<sup>5</sup>

### Europe

Messel Pit (S. Germany)<sup>1,2,3,4,5,6,7</sup> [also known as Grube Messel] Lake Enspel (Germany)<sup>1</sup> Geiseltal (Germany)<sup>4,7</sup> Maar Lake of Menat (France)<sup>1,2,5</sup> Phosphorites du Quercy (France)<sup>1,5</sup> [Quercy Phosphates] Monte Bolca (Italy)<sup>1,2,3,5,7</sup> Rauenberg (Germany)<sup>1,5</sup> Fur Formation (Denmark)<sup>1,5</sup> Chiusole Formation (N. Italy)<sup>1</sup> London Clay (England)<sup>5</sup> Aix-en-Provence (France)<sup>5</sup> Monte Solane (N. Italy)<sup>5</sup> Rott Fossil Lagerstätte (Germany)<sup>7</sup> English Chalk (England) Isle of Wight Insect Fauna (S. England) Luberon Geopark (SE France) Rauenberg (Germany) [Oligocene] Sieblos (Germany)

Lessini Mountains (N. Italy) Stary Waliszów (Poland) Baunekule Facies (Denmark) North America Green River Formation (Wyoming, Utah)<sup>1,2,3,4,5,7</sup> Florissant Fossil Beds (Colorado)<sup>1,2,4,7</sup> **Paskapoo Formation** (SW Alberta)<sup>4</sup> Canadian Arctic Megaflora (Ellesmere, Axel Heiberg, Geodetic Hills, etc., Canada)<sup>1,5</sup> Split Lake/Geodetic Hills (Can. Arctic)<sup>5</sup> Kishenehn Formation (Montana)<sup>1,5</sup> Horsefly (British Columbia)<sup>7</sup> Canvon Ferry Reservoir (Montana) McAbee (British Columbia) South America Laguna del Hunco (Argentina)<sup>1</sup> Africa Kilwa Group (Tanzania)<sup>1</sup> Maar Lake of Mahenge (Tanzania)<sup>1,5</sup> Wadi Al-Hitan=Valley of the Whales (Egypt) Australia Neogene (Miocene, Pliocene)-36 sites Asia and Antarctica Shanwang Natl. Geological Park (China)<sup>1,5</sup> Morozaki Group (China)<sup>1,5</sup> La Meseta (Seymour Island, Antarctica) Europe Gracanica Coal (Bosnia-Herzegovina)<sup>1</sup> Libros Formation (NE Spain)<sup>1</sup> Camp dels Ninots Maar (NE Spain)<sup>1</sup> Willershausen (Germany)<sup>1,7</sup> [Late Pliocene] Sandelzhausen (S. Germany)<sup>1,5</sup> Tresjuncos (Spain)<sup>5</sup> Saint Bauzile Diatomite (France)<sup>1,5-</sup> Pi Gros (Catalonia, Spain)<sup>5</sup> Tunjice (Slovenia)<sup>5</sup> Oeningen (southwest Germany)<sup>7</sup> Vilanova Basin (NE Spain) Bicorb Palaeolake (E. Spain) Dolnja Stara (Slovenia) Vergheretto (N. Italy) Ribesalbes/Alcora Basin (Spain) Vera Basin (SE Spain) North America Ashfall Fossil Beds (NE Nebraska)<sup>1,2,5</sup> Clarkia Fossil Beds (Idaho)<sup>1,5,7</sup> Barstow Formation (S. California)5,7 Okanagan Highlands (British Columbia)<sup>5</sup> Gray Fossil Site (Tennessee)<sup>5</sup> South America

**Pisco Formation** (Peru)<sup>1,5</sup>

La Venta Site (Colombia) Cerro Ballena (Chile) [a Konzentrat- Lagerstätte]

Africa

Ngorora Formation (Kenya)<sup>1,5</sup>

Australia (incl. New Zealand and Antarctica) Foulden Maar (S. New Zealand)<sup>1,5,7</sup> **McGraths Flat** (New South Wales)<sup>1,5</sup> **Riversleigh** (Queensland)<sup>2,5</sup> Hindon Maar Complex (New Zealand)<sup>5</sup> Bullock Creek (Northern Territories, Australia)<sup>5</sup> Alcoota Fossil Beds (Northern Territories, Australia)<sup>5</sup> **Gippsland Basin** (SE Australia); also known as Latrobe Valley Coal] Dry Valley (Western Olympus Range)

**Quaternary** (all creationists treat this as post-Flood; thus, it can be safely overlooked)

Total Cambrian through Neogene sites—374 (as of August, 2024).

Total sites cited by creationists: 97 (all in **boldface**)

Sources for data for the above Lagerstätten sites:

<sup>1</sup> These sites are listed by Andy Connolly, M.S. (Geology), at his website: https://fossilbonanza.com/lagerstatten-of-the-world/. More than 150 sites are listed.

<sup>2</sup> These sites are listed by creationist John H. Whitmore in his chapter:

Whitmore, John H. 2009. "Fossil Preservation." In *Rock Solid Answers*. Edited by Michael J. Oard and John K. Reed, 239. Master Books, Green Forest, Arkansas, 2009), p. 239. Unfortunately, one of the links in the footnotes is broken—the one to the U.K. The reader is referred to the other link for information on half of the 33 sites listed by Whitmore: https://www.peripatus.gen.nz/Paleontology/Index.html.

<sup>3</sup> These sites are taken from a shorter list than the above two lists: "Lagerstätten Fossil Sites," found at the Virtual Fossil Museum website:

http://www.fossilmuseum.net/Fossil\_Sites/ Lagerstatten.htm.

It has links to helpful descriptions as well as beautiful color photos.

<sup>4</sup> Extensive discussion of these sites is made by Snelling, Andrew A. 2009. *Earth's Catastrophic Past: Geology, Creation and the Flood.* Vol.2, 524– 528, 537–548, 566–573. Dallas, Texas: Institute for Creation Research.

<sup>5</sup> Some of the most valuable information is collected at one internet site: *Wikipedia: The Free Encyclopedia*, "Lagerstatte." https://en.wikipedia.org/wiki/ Lagerst%C3%A4tte. It has many links to helpful articles found posted online.

<sup>6</sup> References to articles by Elizabeth Mitchell appearing in AIG's "Answers in Depth" or "News to Know" featuring fossil finds from the following Lagerstätten sites:

(1) Djadokhta, Mongolia

- Mitchell, Elizabeth. 2011. "Matching Footprint Found Under *Protoceratops.*" *News to Know*, September 17.
- (2) Messel, Germany
- Mitchell, Elizabeth. 2014. "Secrets of the Messel Pit, Fossil Graveyard." *News to Know*, January 4.
- (3) Burgess Shale, British Columbia
- Mitchell, Elizabeth. 2014. "Canada's New Cambrian Explosion: Burgess Shale Chapter Two." Answers in Depth, March 1.
- Mitchell, Elizabeth. 2014. "Jaw-Dropping Discovery in the Burgess Shale." *Answers in Depth*, June 21.
- Mitchell, Elizabeth. 2014. "Cambrian Predator Wore Its Brain out in Front." Answers in Depth, July 30.
- Mitchell, Elizabeth. 2014. "Wormlike Evolutionary Misfit from the Burgess Shale Finds a home." Answers in Depth, September 4.
- Mitchell, Elizabeth. 2015. "Hallucigenia Really Does Have a Head." Answers in Depth, July 30.
- (4) Daohugou, Mongolia
- Mitchell, Elizabeth. 2014. "Thirty Million Years Didn't Really Change China's Jurassic Park." Answers in Depth, March 6.
- (5) Hell Creek Formation
- Mitchell, Elizabeth. 2014. "Hell Creek Formation Tells a Tale of *Triceratops*." Answers in Depth, July 17.
- (6) Solnhofen, Germany
- Mitchell, Elizabeth. 2014. "Archaeopteryx's Feathery Legs Fuel Flightless Evolutionary Claims." News to Know, July 22.
- (7) Liaoning Province, China
- Mitchell, Elizabeth. 2014. "Feathered Dinosaur' Featured Long Tail Plumage, Evolutionists Say." Answers in Depth, July 22.

For more recent creationist reports see:

- McLain, Matthew A. 2020. "Feathered Dinosaurs and the Creation Model." *e-Origins* 2: 2–8; and
- Ham, Ken. 2024. "Feathered Dinosaurs." *Ken Ham Blog*, November 25.
- (8) Posidonia, Germany
- Mitchell, Elizabeth. 2014. "Triassic Fossil Said to be a Transitional Ichthyosaur." *Answers in Depth*, November 8.
- (9) Mazon Creek, Illinois
- Mitchell, Elizabeth. 2016. "Discovery of Hagfish Eyes Debunks the Claim About Eye Evolution." *Answers in Depth*, October 17.
- (10) Crato, Brazil

Mitchell, Elizabeth. 2016. "Four-Legged Snake Fails as a Transitional Form and Perhaps Even as a Snake." *Answers in Depth*, November 22.

<sup>7</sup> Allison, Peter A. and Derek E. Briggs. 1991. *Taphonomy: Releasing the Data Locked in the fossil* 

# Appendix B A Select Bibliography for Fossil Lagerstätten Sites

Note: This is a select list of articles featuring Lagerstätten sites around the world. For a complete listing of the sites connected with these articles see Appendix A, which arranges the sites according to the geological systems, Cambrian through Neogene. In both appendices the sites and articles directly related to creationist articles or news reports on creationist websites are highlighted in boldface.

### Part 1 Secular Literature (Creationist Citations)

Bibliographic notes are included in brackets as needed, making this a partially annotated bibliography.

#### Precambrian

Not included in Appendix A of this study, but these are a few samples of the dozens of scientific articles on Precambrian sites.

- Cai, Yaoping, Hong Hua, Shuhai Xiao, James D. Schiffbauer, and Peng Li. 2010. "Biostratinomy of the Late Ediacaran Pyritized Gaojiashan Lagerstätte from Southern Shaanxi, South China: Importance of Event Deposits." *Palaios* 25, no.8 (August 1): 487– 506. [A Precambrian Lagerstätte with soft bodied or lightly skeletonized tubular fossils]
- Li, Chao, Noah J. Planavsky, Wei Shi, Zihu Zhang, Chuanming Zhou, Meng Cheng, Lidya G. Tarhan, Genming Luo and Shucheng Xie. 2015. "Ediacaran Marine Redox Heterogeneity and Early Animal Systems." *Scientific Reports* 5: Article no. 17097. [Very late pre-Cambrian, Miaohe Konservat-Lagerstätte, South China.]
- Liu, Alexander G., J.J. Mathews, L.R. Menon, D. McIlroy, and M.D. Brasier. 2014. "Haootia quadriformis, n. gen., n. sp., Interpreted as a Muscular Cnidarian Impression From the Late Ediacaran Period (Approx. 560Ma)." Proceedings of the Royal Society B 281, no.1793 (22 October): Article no. 20141202 [Mitchell 2014b]
- Maloney, Katie M. James d. Schiffbauer, Galen P. Halverson, Shuhai Xiao, and Marc Laflamme. 2022. "Preservation of Early Tonian Macroalgal Fossils from the Dolores Creek Formation, Yukon." *Scientific Reports* 12: Article no. 6222. [Early Proterozoic, Yukon, western Canada]
- Martin, M.W. D.V. Grazhdahkin, S.A. Bowring, DA.D. Evans, M.A. Fedonkin, and J.L. Kirschvink.

*Record*, 44–47. New York, New York: Plenum Press. This book is much out of date by now, but it has a list of the known Phanerozoic Konservat- Lagerstätten around the world, as of 1990. It lists 58 sites, which is a little over one-third the number of sites currently posted at www.fossilbonanza.com.

2000. "Age of Neoproterozoic Bilaterian Body and Trace Fossils, White Sea, Russia: Implications for Metazoan Evolution." *Science* 288, no. 5467 (5 May): 841–845.

Yun, Zhang, Leiming Yin, Shuhai Xiao, and Andrew H. Knoll. 1998. "Permineralized Fossils from the Terminal Proterozoic Doushantuo Formation, South China." *Memoir* (The Paleontological Society) 50, no.4 (July): 1–52.

### Cambrian

- Babcock, Loren E., Wentang Zhang, and Stephen A. Leslie. 2001. "The Chengjiang Biota: Record of the Early Cambrian Diversification of Life and Clues to Exceptional Preservation of Fossils." *GSA Today* 11, no.2 (February): 4–8. [China]
- Braddy, Simon J., Kenneth C. Gass, and Todd C. Gass. 2022. "Fossils of Blackberry Hill, Wisconsin, USA: The First Animals on Land, 500 Million Years Ago." *Geology Today* 38, no.1 (January/ February): 25–31.
- Briggs, Derek E.G. 1994. "Giant Predators From the Cambrian of China." *Science* 264, no.5163 (27 May): 1283–1284. [Thomas 2011]
- Csonka, Jayme D., and Danita S. Brandt. 2012. "Sedimentary Dynamics and Biostratinomy of a Middle Cambrian *Rusophycus* Lagerstätte, Gros Ventre Formation, Wyoming, USA." In *Microbial Mats in the Siliciclastic Depositional Systems Through Time. SEPM Special Publication* 101 (January 1). Edited by Nora Noffke, and Henry Chafetz.
- Dong, Xi-ping, Baichuan Duan, Jianbo Liu, and Philip C.J. Donoghue. 2022. "Internal Anatomy of a Fossilized Embryonic Stage of the Cambrian-Ordovician scalidophoran *Markuelia*." *Royal Society Open Science* 9, no.10 (5 October): Article 220115. [Wangcun Lagerstätte].
- Duan, Xiaoli, Marissa J. Betts, Lars E. holmer, Yanlong Chen, Fan Liu, Yue Liang, and Zhifel Zhang. 2021. "Early Cambrian (Stage 4) Brachiopods from the Shipai Formation in the Three Gorges Area of South China." Journal of Paleontology 95, no.3 (May 1): 497–526.
- Fu, Dongjing, Guanghui Tong, Tao Dai, Wei Liu, Yuning Yang, Yuan Zhang, Linhao Cui, et al. 2019. "The Qingjiang Biota: A Burgess Shale-Type Fossil Lagerstätte from the Early Cambrian of South China." *Science* 363, no.6433 (22 March): 1338–1342. [Gibson 2019b]

- García-Bellido, Diego C., and Desmond H. Collins. 2004. "Moulting Arthropod Caught in the Act." *Nature* 429, no.6987 (6 May): 40. [Burgess Shale; Catchpoole 2005]
- Geyer, Gerd, and Ed Landing. 2021. "The Souss Lagerstätte of the Anti-Atlas, Morocco: Discovery of the First Cambrian Fossil Lagerstätte from Africa." *Scientific Reports* 11: article no. 3107.
- Maeda, Haruyoshi, Gengo Tanaka, Norimasa Shimobayashi, Terufumi Ohno, and Hiroshige Matsuoka. 2011. "Cambrian Orsten Lagerstätte from the Alum Shale Formation: Fecal Pellets as a Probable Source of Phosphorous Preservation." *Palaios* 26, no.4 (April): 225–231. [Southern Scandinavia]
- Moon, Justin, Jean-Bernard Caron, and Joseph Moysiuk. 2023. "A Macroscopic Free-Swimming Medusa from the Middle Cambrian Burgess Shale." Proceedings of the Royal Society B 290, no. 2004 (2 August): Article no. 20222490.
- Gould, Stephen Jay. 1989. Wonderful Life: The Burgess Shale and the Nature of History. New York, New York: Critica. [Undoubtedly the bestknown Cambrian Lagerstätten site; reviewed by Oard 1990; and by Brown and Coffin 1990]
- Harper, David A.T. Emma U. Hammarlund, Timothy P. Topper, Arne T. Nielsen, Jan A. Rasmussen, Tae-Yoon S. Park, and M. Paul Smith. 2019. "The Sirius Passet Lagerstätte of North Greenland: A Remote Window on the Cambrian Explosion." *Journal of the Geological Society* 176, no.6 (26 July): 1023–1037.
- Harvey, Thomas H. P., and Nicholas J. Butterfield. 2011. "Great Canadian Lagerstatten 2. Macro- and Microfossils of the Mount Cap Formation (Early and Middle Cambrian, Northwest Territories)." *Geoscience Canada* 38, no.4 (December): 165–174.
- Hofmann, M.H., X.H. Li, J. Chen, L.A. MacKenzie, and N.W. Hinman. 2016. "Provenance and Temporal Constraints of the Early Cambrian Maotianshan Shale, Yunnan Province, China." *Gondwana Research* 37 (September): 348–361.
- Hopkins, Melanie J., Feiyang Chen, Shixue Hu, and Zhifel Zhang. 2017. "The Oldest Known Digestive System Consisting of Both Paired Digestive Glands and a Crop from Exceptionally Preserved Trilobites of the Guanshan Biota (Early Cambrian, China)." *PLoS One* 12, no.9 (September 21): e0184982. [Cambrian; Anon. 2017b]
- Hou, Jin-Bo, Jie Yang, Xi-Guant Zhang, Nigel C.
  Hughes, and Tian Lan. 2019. "Trilobite-Based Biostratigraphy of the Xiaoshiba Lagerstätte." Fossils and Strata. Papers from the 6th International Conference on Trilobites and their Relatives. Edited by Alan W. Owen, and David L. Bruton: 173–191. Hoboken, New Jersey: John Wiley and Sons. [Lower Cambrian, s. China]

- Hou, Xianguang, and Jan Bergström. 2003. "The Chengjiang Fauna: The Oldest Preserved Animal Community." *Paleontological Research* 7, no.1 (31 March): 55–70. [Early Cambrian; Yunnan province, China]
- Hou, Xian-Guang, David J. Siveter, Derek J. Siveter, Richard J. Aldridge, Cong Pei-Yun, Sarah E. Gabbott, Ma Xiao-Ya, Mark A. Purnell, and Mark Williams. 2017. The Cambrian Fossils of Chengjiang, China: The Flowering of Early Animal Life. 2nd ed. Chichester, West Sussex: John Wiley and Sons. [Chengjiang Lagerstätte]
- Hoyberget, Magne, Jan Ove R. Ebbestad, Bjørn Funke, and May-Lisa K. Funke, and Hans Arne Nakrem. 2023. "The Skyberg Lagerstätte from the Mjøsa Area, Norway: A Rare Window into the Late Early Cambrian Diodiversity of Scandinavia." *Lethaia* 55, no.2 (2 May): 1–28.
- Ivantsov, Andrey Yu, and Ryszard Wrona. 2004. "Articulated Palaeoscolecid Sclerite Arrays from the Lower Cambrian of Eastern Siberia." *Acta Geologica Polonica* 54, no.1 (January): 1–22. [Achchagyy Tuoydakh Fossil Lagerstätte]
- Ivantsov, Andrey Yu et al. (5 others). 2005. "Palaeoecology of the Early Cambrian Sinsk biota from the Siberian Platform." *Palaeogeography*, *Palaeoclimatology*, *Palaeoecology* 220 (1-2): 69-88.
- Izquierdo-López, Alejandro, and Jean-Bernard Caron. 2022. "Extreme Multisegmentation in a Giant Bivalved Arthropod from the Cambrian Burgess Shale." *Cell* 25, no.7 (15 July): Article 104675. [**Tuinstra 2023**]
- Kimmig, Julien, and Brian R. Pratt. 2018. "Coprolites in the Ravens Throat River Lagerstätte of Northwestern Canada: Implications for the Middle Cambrian Food Web." *Palaios* 33, no. 4 (April 3): 125–140.
- Lee, Michael S.Y., James B. Jaog, Diego C. García-Bellido, Gregory D. Edgecombe, James G. Gehling, and John R. Paterson. 2011. "Modern Optics in Exceptionally Preserved Eyes of Early Cambrian Arthropods from Australia." *Nature* 474, no.7353 (20 June): 631–634. [Emu Bay Shale; Thomas 2011]
- Lerosey-Aubril, Rudy, Thomas A. Hegna, Carlo Kier, Enrico Bonino, Jörg Habersetzer, and Matthieu Carré. 2012. "Controls on Gut Phosphatization: The Trilobites from the Weeks Formation Lagerstätte (Cambrian; Utah)." *PLoS One* 7, no.3 (March 14): e32934.
- Lerosey-Aubril, Rudy, Robert R. Gaines, Thomas A. Hegna, Javier Ortega-Hernández, Peter Van Roy, Carlo Kier, and Enrico Bonino. 2018. "The Weeks Formation Konservat-Lagerstotte and the Evolutionary Transition of Cambrian Marine Life." *Journal of the Geological Society* 175, no.5 (28 June): 705–715.

- Lerosey-Aubril, Rudy, J. Kimmig, S. Pates, J. Skabelund, A. Weug, and J. Ortega-Hernández. 2020. "New Exceptionally-Preserved Panarthropods from the Drumian Wheeler Konservat-Lagerstätte of the House Range of Utah." *Papers in Palaeontology* 6, no. 4 (November): 501–531. [Cambrian]
- Lieberman, Bruce S. 2003. "A New Soft-Bodied Fauna: The Pioche Formation of Nevada." Journal of Paleontology 77, no.4 (July): 674–690. [Lower-Middle Cambrian with Burgess Shale-like fossils]
- Lindgren, Johan, Dan-Eric Nilsson, Peter Sjövall, Martin Jarenmark, Shosuke Ito, Kazumasa Wakamatsu, Benjamin P. Kear, et al. 2019. "Fossil Insect Eyes Shed Light on Trilobite Optics and the Arthropod Pigment Screen." *Nature* 573, no.772 (September): 122–125. [Cambrian; Gibson 2019a]
- Liu, Qing, and Qianping Lei. 2013. "Discovery of an Exceptionally Preserved Fossil Assemblage in the Balang Formation (Cambrian Series 2, Stage 4) in Hunan, China." *Alcheringa* 37, no.2: 269–271. [A Burgess-Shale type formation]
- Moon, Justin, Jean-Bernard Caron, and Joseph Moysink. 2023. "A Macroscopic Free Swimming Medusa from the Middle Cambrian Burgess Shale." *Proceedings of the Royal Society of London* B 290, no.2004 (9 August): Article no. 20222490. [Sherwin 2023b]
- Morris, Simon Conway, and H.B. Whittington. 1979. "The Animals of the Burgess Shale." *Scientific American* 241, no. 1 (July): 122–135. [Coffin 1974; Brown and Coffin 1990; Snelling 2009, 537-538; Mitchell 2014a,d; Ham 2021; and dozens of references to Burgess Shale in creationist literature]
- Morris, Simon Conway, and Jean-Bernard Caron. 2014. "A Primitive Fish from the Cambrian of North America." *Nature* 512, no. 7515 (28 August): 419–422. [Mitchell 2014b]
- Morris, S. C., J. S. Peel, A. K. Higgins, N.J. Soper, and N.C. Davis. 1987. "A Burgess Shale-Like Fauna from the Lower Cambrian of North Greenland." *Nature* 326, no.6109 (1 March): 181–183. [Buen Formation]
- Naimark, E.B., A.V. Sizov, and V.B. Khubanov. 2023. "Kimiltei Is a New Late Cambrian Lagerstätte with the Faunistic Complex of Arthropods (Euthycarcinoidae, Synziphosurina, and Chasmataspidida) in the Irkutsk Region." Doklady Earth Sciences 512 (9 August): 859–870.
- Nolan, Morrison R., Sally E. Walker, Tara Selly, and James Schiffbauer. 2023. "Is the Middle Cambrian *Brooksella* a Hexactinellid Sponge, Trace Fossil, or Pseudofossil?" *PeerJ* 90 (February 24): e14796. [Conasauga Shale]
- Ortega-Hernández, Javier, Rudy Lerosey-Aubril, and Stephen Pates. 2019. "Proclivity of Nervous

System Preservation in Cambrian Burgess Shale-Type Deposits." *Proceedings of the Royal Society B* 286, no. 1917 (18 December): Article no. 20192370. [Marjum Formation and Pioche Shale Lagerstätten; **Anon. 2020b; Gibson 2020**]

- Paterson, John R., Gregory D. Edgecombe, and Diego C. García-Bellido. 2020. "Disparate Compound Eyes of Cambrian Radiodonts Reveal Their Developmental Growth Mode and Diverse Visual Ecology." Science Advances 6, no. 49 (December 2). DOI: 10.1126/sciadv.abc67. [Thomas 2016]
- Pates, Stephen, and Samuel Zamora. 2023. "Large Euarthropod Carapaces from a High Latitude Cambrian (Drumian) Deposit in Spain." *Royal Society Open Science* 10, no.10 (25 October); Article no. 230935.
- Peel, John S. 2023. "A Phosphatised Fossil Lagerstätte from the Middle Cambrian (Wuliuan Stage) of North Greenland (Laurentia)." *Bulletin* of the Geological Society of Denmark 72: 101–122. [Henson Gletscher Formation]
- Peng, Shan-Chi, Xian-Feng Yang, Yu Liu, Xue-Jian Zhu, Hai-Jing Sun, Samuel Zamora, Ying-Yan Mao, and Yu-Chen Zhang. 2020 "Fulu Biota, a New Exceptionally Preserved Cambrian Fossil Assemblage from the Longha Formation in Southeastern Yunnan." *Palaeoworld* 29, no.3 (September): 453–461.
- Shao, Tiequan, Hanhua Tang, Yunhuan Liu, Dieter Waloszek, Andreas Maas, and Huaqiao Zhang. 2018. "Diversity of Cnidarians and Cycloneuralians in the Fortunian (Early Cambrian) Kuanchuanpu Formation at Zhangjiagou, China." Journal of Paleontology 92, no.2 (15 February): 115–129.
- Shu, D.-G., S. Conway Morris, J. Han, L. Chen, X.-L. Zhang, Z.-F. Zhang, H.-Q. Liu, Y. Li and J.-N. Liu. 2001. "Primitive Deuterostomes from the Chengjiang Lagerstätte (Lower Cambrian, China)." *Nature* 414, no.6862 (22 November): 419– 424. [Gibson 1992]
- Siveter, David J., Mark Williams, and Dieter Waloszek. 2001. "A Phosphatocopid Crustacean with Appendages from the Lower Cambrian." *Science* 293, no.5521 (20 July): 479–481. [Walcott Rust Quarry, Shropshire, England]
- Smith, Martin, and Jean-Bernard Caron. 2015. *Hallucigenia*'s Head and the Pharyngeal Armature of Early Ecdysozoans." *Nature* 523, no.7558 (24 June): 75–78. [Burgess Shale, Cambrian; Mitchell 2015b]
- Sun, Zhixian, Fangchen Zhao, Han Zeng, Cui Luo, Heyo Van Iten, and Maoyan Zhu. 2022. "The Middle Cambrian Linyi Lagerstätte from the North China Craton: A New Window on Cambrian Evolutionary Fauna." National Science Review 9, no.7 (July): nwac069.

- Webster, Mark, Robert R. Gaines, and Nigel .C. Hughes. 2008. "Microstratigraphy, Trilobite Biostratinomy, and Depositional Environment of the 'Lower Cambrian' Ruin Wash Lagerstätten, Pioche Formation, Nevada." *Palaeogeography*, *Palaeoclimatology*, *Palaeoecology* 264, nos. 1–2 (7 July): 100–122.
- Yuan, Xunlai, Shuhai Xiao, Ronald L. Parsley, Chuanming Zhou, Zhe Chen, and Jie Hu. 2002.
  "Towering Sponges as an Early Cambrian Lagerstätte: Disparity Between Non-Bilateralian and Bilateralian Epifauna Tierers at the Neoproterozoic Transition." *Geology* 30, no.4 (April): 363–366. [Hetang Biota, Precambrian/ Cambrian transition, South China]
- Zhu, Xuejian, Shanchi Peng, Samuel Zamora, Bertrand Lebvre, and Guiying Chen. 2016.
  "Furongian (Upper Cambrian) Guole Konservat-Lagerstätte from South China." Acta Geologica Sinica 90, no. 1 (February): 30–37.

# Ordovician

- Botting, Joseph P., and Lucy A. Muir. 2023. "A New Thalassematid Echiuran Worm from the Middle Ordovician Castle Bank Biota of Wales, UK." *Acta Palaeontologica Polonica* 68, no. 4: 571–581.
- Botting, Joseph P., Lucy A. Muir, Mark D. Sutton, and Talfan Barnie. 2011. "Welsh Gold: A New Exceptionally Preserved Pyritized Ordovician Biota." *Geology* 39, no.9 (September 1): 879– 882. [Llanfawr Mudstones Lagerstätte, upper Ordovician, central Wales]
- Brett, Carlton E., Thomas E. Whiteley, Peter A. Allison, and Ellis L. Yochelson. 1999. "The Walcott-Rust Quarry: Middle Ordovician Trilobite Konservat-Lagerstätten." *Journal of Paleontology* 73, no.2 (March): 288–305. [Trenton Falls, New York]
- Briggs, Derek E. G., Huaibao P. Liu, Robert M. McKay, and Brian J. Witzke. 2018. "The Winneshiek Biota: Exceptionally Well-Preserved Fossils in a Middle Ordovician Impact Crater." *Journal of the Geological Society* 175, no.5 (24 September): 865– 874. [St. Peter Formation, Middle Ordovician, north-east Iowa]
- Cole, Selina R., David F. Wright, and William I Ausich. 2019. "Phylogenetic Community Paleoecology of One of the Earliest Complex Crinoid Faunas (Brechin Lagerstätte, Ordovician)." *Palaeogeography, Palaeoclimatology, Palaeoecology* 521 (February): 82–98. [Brechin Lagerstätte, Ordovician; Ontario, Canada]
- Deardren, Richard P., Agnese Lanzetti, Sam Giles, Zerina Johanson, Andy S. Jones, Stephan Lautenschlager, Emma Randle, and Ivan J. Sansom. 2023. "The Oldest Three-Dimensionally Preserved Vertebrate Neurocranium." *Nature*

621, no.7980 (28 September): 782–787. [Harding Sandstone, Colorado]

- Fang, Xiang , Yingyan Mao, Qi Liu, Wenwei Yuan, Zhongyang Chen, Rongchang Wu, Lixia Li, et al. 2022. "The Liexi Fauna: A New Lagerstätte from the Lower Ordivican of South China." *Proceedings* of the Royal Society B 289, no.1978 (13 July): Article no. 20221027.
- Farrell, Úna C., Markus J. Martin, James W. Hagadorn, Thomas Whitely, and Derek E.G. Briggs. 2009. "Beyond Beecher's Trilobite Bed: Widespread Pyritization of Soft Tissues in the Late Ordovician Taconic Foreland Basin." *Geology* 37, no. 10: 907–910.
- Gabbott, Sarah E., Claire Browning, Johannes N. Theron, and Rowan J. Whittle. 2017. "The Late Ordovician Soom Shale Lagerstätte: An Extraordinary Post-Glacial Fossil and Sedimentary Record." Journal of the Geological Society 174, no. 1 (January): 1–9. [Snelling 2009, 538-539]
- Gutiérrez-Marco, Juan Carlos, Artur A. Sá, Diego C. Garcia-Bellido, and Isabel Rábano. 2015.
  "Giant Trilobites and Trilobite Clusters from the Ordovician of Portugal." *Geology* 37, no.5 (May): 443–446. [Arouca Geopark Lagerstätte]
- Hearing, Thomas Wong, David Legg, Joseph Botting, Lucy Muir, Patrick Dyland McDermott, Stephanie Faullkner, Adam Taylor, and Martin D. Brasier. 2016. "Survival of Burgess Shale-Type Animals in a Middle Ordovician Deep-Water Setting." Journal of Geological Society 173, no.4 (February): 628– 633. [Welsh Llanfallteg Formation Konservat-Lagerstätte; has "ash-fall laminae"]
- Knaust, Dirk, and André Desrochers. 2019. "Exceptionally Preserved Soft-Bodied Assemblage in Ordovician Carbonates of Anticosti Island, Eastern Canada." *Gondwana Research* 71 (July): 117–128. [Vaireal Konservat-Lagerstätte—first appearances of major groups, such as Nematoda]
- Kröger, Björn, Oive Tinn, Jouko Rikkinen, and Ester M. Jolis, Alan R. Butcher, Ursula Toom, and Olle Hints. 2023. "Noncalcified Dasyclad Algae from the Vasalemma Formation Late Sandbian (Late Ordovician) of Estonia." *Review of Palaeobotany* and Palynology 318, no.1 (September): Article no. 104970.
- Lamsdell, James C., Steven J. LoDuca, Gerald O. Gunderson, Ronald C. Meyer, and Derek E.G. Briggs. 2017. "A New Lagerstätte from the Late Ordovician Big Hill Formation, Upper Peninsula, Michigan." Journal of the Geological Society 174, no. 1 (9 September): 18–22.
- McCobb, Lucy M. E., Patrick D. McDermott, and Alan W. Owen. 2019. "The Taphonomy of a Trilobite Fauna from an Uppermost Katian Echinoderm

Lagerstätte in South West Wales." Fossils and Strata 64 (1 March): 193–203. [Upper Ordovician]

- Nohejlová, Martina, B. Jefebvre, Elise Nardin, Oldřich Fatka, and Petra Budil. 2022. "New Echinoderm Lagerstätte from the Letná Formation (Sandbian, Upper Ordovician) of Bohemia." In: Abstracts of 10th European Conference on Echinoderms. Edited by S.V. Rozhnov, P. Yu. Dgebuadze, and G.V. Mirantsev. Moscow, Russia: Borissiak Paleontological Institute Russian Academy of Sciences, Moscow. [Czech Republic]
- Pates, Stephen, Joseph Botting, Lucy Mccobb, and Lucy Muir. 2020. "A Miniature Ordovician Hurdiid from Wales Demonstrates the Adaptability of Radiodonta." *Royal Society Open Science* 7 (June): 1–15. [Afon Gam Biota]
- Robson, Sean P., and Graham A. Young. 2016. "Late Ordovician Conulariids from Manitoba, Canada." *Journal of Paleontology* 87, no.5 (20 May): 775– 785. [Cat Head Member; also known as McBeth Point]
- Rudkin, David, Graham Young, and Godfrey Nowlan. 2008. "The Oldest Horseshoe Crab: A New Xiphosurid from Late Ordovician Konservat-Lagerstätten Deposits, Manitoba, Canada." *Palaeontology* 51, no.1 (January): 1–9. [Two Lagerstätten: William Lake and Airport Cove]
- Saleh, Farid, Lorenzo Lustri, Pierre Gueriau, Gaëtan J-M Potin, Francesc Pérez-Peris, Lukáš Laibl, Valentin Jamart, et al. 2024. "The Cabrières Biota (France) Provides Insights into Ordovician Polar Ecosystems." Nature Ecology and Evolution 8, no. 4 (April): 651–662.
- Scott, Christopher A., O. Erik Tetlie, Simon Braddy, Godfrey Nowlan, and Matthew G. Devereux. 2005. "A New Eurypterid (Chelicerata) from the Upper Ordovician of Manitoulin Island, Ontario, Canada." *Journal of Paleontology* 79, no.6 (November): 1166–1174. [Georgian Bay Formation Lagerstätte]
- Stewart, Sarah E., and Alan W. Owen. 2008. "Probing the Deep Shelf: A Lagerstätte from the Upper Ordovician of Girvan, Southwestern Scotland." *Lethaia* 41, no.2 (June): 139–146.
- Van Roy, Peter, Derek E.G. Briggs, and Robert R. Gaines. 2015. "The Fezouata Fossils of Morocco: An Extraordinary Record of Marine Life in the Early Ordovician." *Journal of the Geological Society* 172 (7 July): 541–549. [Fezouata Lagerslatten]
- Vannier, Jean, Muriel Vidal, Robin Marchant, Khadija El Hariri, Khaoula Kouraiss, Bernard Pittet, Abderrazak El Albani, Arnaud Mazurier, and Emmanuel Martin. 2019. "Collective Behaviour in 480-Million-Year-Old Trilobite Arthropods from Morocco." Nature Scientific Reports 9 (17 October): Article no. 14941. [Fezouata Lagerstätten; Ham 2019b; Robinson 2020b]

- Wang, Jian, Hong Hua, Xin Wang, and Yinhua Li. 2023. "Early Ordovician Selenceme (Trilobita) in Ziyang Fauna, South China." *Historical Biology* 35, no.2: 227–234. [Abstract—"The Ziyang Fauna is a significant Early Ordovician Floian fossil Lagerstätte"]
- Young, Graham A., Dave Rudkin, Edward P. Dobrzanski, S.P. Robson, Michael B. Cuggy, Matthew W. Demski, and Deborah P. Thompson. 2012. "Great Canadian Lagerstätten 3. Late Ordovician Konservat-Lagerstätten in Manitoba." Geoscience Canada 39, no.4 (January): 201–213. [Three different, but related, sites in Manitoba—Cat Head, William Lake, Airport Cove]

### Silurian

- Anderson, Evan P., James D. Schiffbauer, Sarah M. Jacquer, James C. Lamsdell, Joanne Kluessendorf, and Donald G. Mikulic. 2021. "Stranger Than a Scorpion: A Reassessment of *Parioscorpio venator*, a Problematic Arthropod from the Llandoverian Waukesha Lagerstätten." *Palaeontology* 64, no.3 (May): 429–474. [Silurian; Wisconsin, USA; Anon. 2020]
- Anderson, Lyall I., Euan N.K. Clarkson, Sarah E. Steward, and D. Mitchell. 2007. "An Upper Llandovery Konservat-Lagerstätte in a Depositional Context: The Pentland Hills Eurypterid Bed, Midlothian." Scottish Journal of Geology 43, no.1 (April): 41–50.
- Ausich, William I., Mark A. Wilson, and Olev Vinn. 2015. "Wenlock and Pridoli (Silurian) Crinoids from Saaremaa, Western Estonia (Phylum Echinodermata)." Journal of Paleontology 89, no.1: 72–81. [Saaremaa Lagerstätte]
- Burrow, Carole J., and David Rudkin. 2014. "Oldest Near-Complete Acanthodian: The First Vertebrate from the Silurian Bertie Formation Konservat-Lagerstätte, Ontario." *PLoS One*, 9, no.8 (August 5): e104171.
- Donovan, Stephen K., and Ron K. Pickerill. 1995a. "Crinoid Columns Preserved in Life Position in the Arisaig Group of Nova Scotia, Canada." *Palaios* 10, no.4 (1 August): 362–370. [Moydart Lagerstätte]
- Donovan, Stephen K., Ron K. Pickerill, Donald G. Mikulic, and Joanne Kluessendorf. 1996. "Upright Crinoid of the Thornton Reef, Wenlock (Silurian) of Illinois, USA." *Palaios* 10, no.4 (December): 362–370. [Thornton Quarry reef discussed in D'Armond 1980]
- Loydell, David K., Gary L. Mullins, Peep Mannik, Donald G. Mikulic, and Joanne Kluessendorf.
  2002. "Biostratigraphical Dating of the Thornton Fossil-Lagerstätte, Silurian, Illinois, USA." Geological Journal 37, no.3 (July/September): 269–278. [Thornton reef discussed in D'Armond 1980]

- Mastik, Viirika, and Olive Tinn. 2015. "New Dasycladalean Algal Species from the Kalana Lagerstätte (Silurian, Estonia)." *Journal of Paleontology* 89, no.2 (28 April): 262–268. [Llandoverian; heavy concentration of thallophytic algae]
- Sivetan, David J., Mark D. Sutton, Derek. E.G. Briggs, and Derek J. Siveter. 2003. "An Ostracode Crustacean with Soft Parts from the Lower Silurian." *Science* 302, no.5651 (5 December): 1749–1751. [Herefordshire Lagerstätte; Oard 2004]
- Taylor, Wendy L., and Carlton E. Brett. 1996. "Taphonomy and Paleoecology of Echinoderm Lagerstätten Silurian (Wenlockian) Rochester Shale." *Palaios* 11, no.2 (April): 118–140. [W. New York and s. Ontario]
- Thomka, James R., Carlton E. Brett, Thomas E. Bantel, Allison L. Young, and Donald L. Bissett. 2016. "Taphonomy of 'Cystoids' (Echinodermata: Diploporita) from the Napolean Quarry of Southeastern Indiana, USA: The Lower Silurian Massie Formation as an Atypical Lagerstätte." *Palaeogeography, Palaeoclimatology, Palaeoecology* 443 (1 February): 263–277.
- Von Bitter, Peter H., Mark A. Purnell, Denis K. Tetreault, and Christopher A. Stott. 2007. "Eramosa Lagerstätten—Exceptionally Preserved Soft-Bodied Biotas with Shallow-Marine Shelly and Bioturbating Organisms (Silurian, Ontario, Canada)." *Geology* 35, no. 10 (October 1): 879–882.
- Vrazo, Matthew B., Jeffrey M. Trop, and Carlton E. Brett. 2014. "A New Eurypterid Lagerstatte from the Upper Silurian of Pennsylvania." *Palaios* 29, no.8 (July–August): 431–448. [Tonoloway Formation]
- Wellman, Charles H., Borja Cascales-Miñana, and Thomas Servais. 2022. "Terrestrialization in the Ordovician." *Geological Society (London) Special Publications* 532 (10 November): 171–190. [Mentions three Lagerstätten: Ludford Lane (Sil.), Brown Clee Hill (Dev.), and Rhynie Chert (Dev.)]
- Zong, Rui-Weng, Qi Lui, Fan Wei, and Yi-Ming Gong. 2017. "Fentou Biota: A Llandovery (Silurian) Shallow-Water Exceptionally Preserved Biota from Wuhan, Central China." *Journal of Geology* 125, no.4 (July): 469–478.

### Devonian

- Cloutier, Richard, Jean-Noel Proust, and Bernadette Tessier. 2011. "The Miguasha Fossil-Fish-Lagerstätte: A Consequence of the Devonian Land-Sea Interactions." *Palaeobiology* andPalaeoenvironments 91 (December): 293–323.
- Dennis, Carina. 2008. "The oldest pregnant mum." Nature 453, no.7195 (29 May): 575. [Gogo Formation; Catchpoole and Sarfati 2008]

- Farrell, Úna C., and Derek E.G. Briggs. 2007.
  "A Pyritized Polychaete from the Devonian of Ontario." *Royal Society Proceedings B* 274, no. 1609 (22 February): 499–504. [Arkona Shale]
- Fraga, Malton Carvalho, and Cristina Silveira Vega. 2022. "Preservation Models of Ophiuroids in Epicontinental Basins: Examples from a New Devonian Echinoderm Lagerstätte from Brazil." *South American Journal of Earth Sciences* 120 (December): Article no. 104060. [Ponta Gross Lagerstätte]
- Frey, Linda, Alexander Pohle, Martin Rücklin, and Christian Klug. 2020. "Fossil-Lagerstätten, Palaeoecology and Preservation of Invertebrates and Vertebrates from the Devonian in the Eastern Anti-Atlas, Morocco." *Lethaia* 53, no.2 (April): 242–266. [Authors examined eight Koncentrat-Lagerstätten and two Konservat-Lagerstätten, one of which is the Hangenberg Black Shale]
- Gess, Robert W., and Carole J. Burrow. 2024. "A New Gyracanthid (Stem Chondrichthyes) from the Late Devonian (Famennian) of the Eastern Cape, South Africa." *Journal of Vertebrate Paleontology* 43, no.57 (February): e2305888. [Waterloo Farm Lagerstätte]
- Glasspool, I.J., D. Edwards, and L. Axe. 2006. "Charcoal in the Early Devonian: A Wildfire-Derived Konservat-Lagerstätte." *Review of Palaeobotany and Palynology* 142, nos.3–4 (December): 131–136. [Welsh Borderland—Brown Klee Hill]
- Kühl, Gabriele, Derek E.G. Briggs, and Jes Rust. 2009. "A Great-Appendage Arthropod with a Radial Mouth from the Lower Devonian Hunsrück Slate, Germany." *Science* 323, no. 5915 (6 February): 771–773. [Snelling 2009, 569; Sherwin 2022]
- Long, John, and Kate Trinajstic. 2010. "The Late Devonian GoGo Formation Lagerstätte of Western Australia: Exceptional Early Vertebrate Preservation and Diversity." Annual Review of Earth and Planetary Sciences 38 (May): 255–279.
  [Snelling 2009, 570; Sherwin 2022]
- Poschmann, Markus. 2020. "Pelmatozoan 'Rooting Grounds' from the Early Devonian (Late Emsian) Heckelmann Mill Fossil-Lagerstätte (Lahn Syncline, Rhineland-Palatinate, SW-Germany): Morphological, Palaeoenvironmental, and Taphonomic Aspects." *PalZ* 94 (15 July): 311– 325.
- Poschmann, Markus, and Christian Franke. 2006. "Arthropods and Trace Fossils from the Lower Devonian (Emsian) of the West Eifel Region/ Germany and the Grand Duchy of Luxembourg." *Ferrantia* 46 (January): 97–115. [Lagerstätten in the Ardenno-Rhenish Massif]

- Shear, William A., Patrician M. Bonamo, James D. Grierson, W.D. Ian Rolfe, Edward Laidlaw Smith, and Roy A. Norton. 1984. "Early Land Animals in North America: Evidence from Devonian Age Arthropods from Gilboa, New York." *Science* 224, no. 4648 (4 May): 492–494. [Gilboa Lagerstätte]
- Siveter, Derek J., Derek E. G. Briggs, David J. Siveter, and Mark D. Sutton. 2020. "The Herefordshire Lagerstätte: Fleshing Out Silurian Marine Life." *Journal of the Geological Society* 177, no. 1 (January): 1–13. [Cited by **Oard 2004**]
- Stack, Jack, and Lauren Sallan. 2018. "An Examination of the Devonian Fishes of Michigan." *PeerJ.* 6, no.2 (September): e5636. [Thunder Bay Formation and Four Mile Dam Formation, having well-preserved, rapidly-buried vertebrates, but neither are Lagerstätten]
- Stein, William E. 2012. "Surprisingly Complex Community Discovered in the Mid-Devonian Fossil Forest at Gilboa." *Nature* 483, no.7387 (February 29): 78–81. [Oard 2014]
- Tanner, Paul, and Susan Tremblay. 2022. "A Mid-Devonian Lagerstätte from the Catskills (New York, USA) Reveals Invertebrates from an Early Freshwater Ecosystem." *Geological Society of America Abstracts with Programs*, 54, no.5. [Cairo Quarry Lagerstätte; Anon. 2020c]
- Trewin, Nigel H. 1986. "Palaeoecology and Sedimentology of the Achanarras fish bed of the Middle Old Red Sandstone, Scotland." *Transactions of the Royal Society of Edinburgh Earth Sciences* 77, no.1 (3 November): 21–46.
- Trinijstic, Kate, Derek E. G. Briggs, and John A. Long. 2022. "The Gogo Formation Lagerstätte: A View of Australia's First Great Barrier Reef." *Journal* of the Geological Society 179, no.1 (January): jgs2021-105.
- Zaton, Michał, and Krzysztof Broda. 2015. "First Record of Soft Tissue Preservation in the Upper Devonian of Poland." *PLoS One* 10, no.11 (November 11): e142619. [Identified as the Holy Cross Mountains Lagerstätte, distinct from the Kowala Lagerstätte, which is lower in the Devonian, in the Frasnian-Fammenian interval]
- Zhikkun, Gai, Xianghong Lin, Xianren Shan, Humberto G. Ferrón, and Philip C.J. Donoghue. 2023. "Postcranial Disparity of Galeaspids and the Evolution of Swimming Speeds in Stem-Gnathostomes." *National Science Review* 10, no.7 (July): nwad050. [Xiaoshan Formation]

### Carboniferous

Bateman, Richard M., Liadan G. Stevens, and Jason Hilton. 2016. "Stratigraphy, Palaeoenvironments, and Palaeoecology of the Loch Humphrey Burn Lagerstätte and Other Mississippian Palaeobotanical Localities of the Kilpatrick Hills, Southwest Scotland." *Peer J* 4 (February 18): e1700.

- Bicknell, Russell D.C., Javier Ortega-Hernández, Gregory D. Edgecombe, Robert R. Gaines, and John R. Paterson. 2021. "Central Nervous System of a 310-m.y.-Old Horseshoe Crab: Expanding the Taphonomic Window for Nervous System Preservation." *Geology* 49, no. 11 (July 26): 1381– 1385. [Carboniferous; Anon. 2022]
- Boardman, Daiana Rockenbach, Paulo A. Souza, Ana Karina Scomazzon, Cristina Moreira Félix, Ana Luisa Outa Mori, and Luiz Carlos Weinschütz. 2024.
  "Palynological Analysis (Biochronostratigraphy and Paleoenvironments) from a Fossil-Lagerstätte Section Within the Late Paleozoic Ice Age Unit of the Paraná Basin (Itararé Group), Western Gondwana." Sedimentary Geology 459 (January): Article no. 106543 [Campeleo Outcrop].
- Cater, J.M.L., D.E.G. Briggs, and E.N.K. Clarkson. 1989. "Shrimp-Bearing Sedimentary Successions in the Lower Carboniferous (Dinantian) Cementstone and Oil Shale Groups of Northern Britain." Transactions of the Royal Society of Edinburgh Earth Sciences 80, no.1: 5–15. [Glencartholm Lagerstätte.]
- Clark, Neil Donald Lewis, and Andrew J. Ross. 2024. "Caridoid Crustaceans from the Ballagan Formation (Tournaisian, Lower Carboniferous) of Willie's Hole, Chirnside, Scottish Borders, UK." Earth and Environmental Science Transactions of the Royal Society of Edinburgh First View (8 March): 1–12. [Bearsden Lagerstätte]
- Clements, Thomas, Mark Purnell, and Sarah Gabbott. 2018. "The Mazon Creek Lagerstätte: A Diverse Late Paleozoic Ecosystem Entombed Within Siderite Concretions." Journal of the Geological Society 176, no.1 (4 October): 1–11. [Mitchell 2016b; Wise 2016; Sherwin 2023a; Doran 2017, where the "Tully monster" is described, which is unique to Mazon Creek]
- Cunningham, Christopher R., Howard R. Feldman, Evan K. Franseen, and Roberto A. Gastaldo. 1993. "The Upper Carboniferous Hamilton Fossil-Lagerstätte in Kansas: a valley-fill, tidally influenced deposit." *Lethaia* 26 (3): 225-236.
- D'Angelo, José A., and Erwin L. Zodrow. 2015. "Chemometric Study of Structural Groups in Medullosalean Foliage (Carboniferous, Fossil Lagerstätte, Canada): Chemotaxonomic Implications." International Journal of Coal Geology 138 (15 January): 42–54.
- Dunlop, Jason A. 2023. "The First Palaeozoic Spider (Arachnida: Araneae) from Germany." PalZ 97 (16 July): 497–504. [Piesberg Quarry; Sherwin 2024]

- Gogain, Aodhán Ó., Gary O'Sullivan, Thomas Clements, Brendan C. Hoare, John Murray, Patrick N. Wyse Jackson. 2022. "Metamorphism as the Cause of Bone Alteration in the Jarrow Assemblage (Langsettian, Pennsylvanian) of Ireland." *Palaeontology* 65, no.6 (November/ December): e12628.
- Ilger, Jan-Michael. 2011. "Young Bivalves on Insect Wings: A New Taphonomic Model of the Konservat-Lagerstätten Hagen-Vorhalle (Early Late Carboniferous; Germany)." *Palaeogeography*, *Palaeclimatology*, *Palaeoecology* 310, nos.3–4 (1 October): 315–323.
- Leibach, Wade W., Nick Rose, Kenneth Bader, Laura J. Mohr, Kristopher Super, and Julien Kimmig. 2021. "Horseshoe Crab Trace Fossils and Associated Ichnofauna of the Pony Creek Shale Lagerstätte, Upper Pennsylvanian, Kansas, USA." *Ichnos* 28, no.1: 34–45.
- Lerner, Allan J., Spencer G. Lucas, Justin A. Speilmann, Karl Krainer, William A. Dimichele, Dan S. Chaney, Joerg W. Schneider, W. John Nelson, and Alexander Ivanov. 2009. "The Biota and Paleoecology of the Upper Pennsylvanian (Missourian) Tinajas Locality, Socorro County, New Mexico." Geology of the Chupadera Mesa: New Mexico Geological Society Guidebook, 60th Field Conference Guidebook. Edited by Virgil W. Lueth, Spencer G. Lucas, and Richard M. Chamberlin, 267–280. Socorra, New Mexico: New Mexico Geological Society.
- Lomax, Dean R., Peter Robinson, Christopher J. Cleal, Alistair Bowden, and Nigel R. Larkin. 2016.
  "Exceptional Preservation of Upper Carboniferous (Lower Westphalian) Fossils from Edlington, Doncaster, South Yorkshire, UK." *Geological Journal* 51, no. 1 (January/February): 42–50.
- Lucas, Spencer G., William A. DiMichele, and B.D. Allen. 2021. The Kinney Brick Quarry Lagerstätte: Late Pennsylvanian of New Mexico: Bulletin 84 New Mexico Museum of Natural History and Science. Albuquerque, New Mexico: New Mexico Museum of Natural History.
- Mapes, Royal H., Neil H. Landman, and Christian Klug. 2018. "Caught in the Act? Distraction Sinking in Ammonoid Cephalopods." Swiss Journal of Palaeontology 138, Supplement 1 (19 November): 141–149. [Lacey and Haynes 2021]
- Mottequin, Bernard, Edouard Poty, and Cyrille Prestianni. 2015. "Catalogue of the Types and Illustrated Specimens Recovered from the 'Black Marble' of Denée, a Marine Conservation-Lagerstätte from the Mississippian of Southern Belgium." *Geologica Belgica* 18, no.1 (January): 1–14.

- Pashin, Jack C. 2005. "Pottsville Stratigraphy and the Union Chapel Lagerstätte." In *Pennsylvanian Footprints in the Black Warrior Basin of Alabama*. *Alabama Paleontological Society Monograph*, no. 1. Edited by Ronald J. Buta, Andrew K. rindsberg, and David C. Kopaska-Merkel, 39–58. Birmingham, Alabama: Alabama Paleontological Society.
- Pazinato, Paul G., Carolin Haug, Angelika Leipner, and Joachim Haug. 2022. "Pygocephalomorphan Crustaceans Further Emphasise the Similarities Between the Carboniferous Piesberg Quarry and the Mazon Creek Lagerstätte in North America." *Palaeontologia Electronica* 25, no.1 (January): 1–14. [Piesberg Quarry Lagerstätte, Germany]
- Perrier, Vincent, and Sylvain Charbonnier. 2014. "The Montceau-les-Mines Lagerstätte (Late Carboniferous, France)." *Comptes Rendus Palevol* 13, no.5 (July–August): 353–367. [Wieland 1989; Snelling 2009, 239-541]
- Orr, Patrick J., Derek E.G. Briggs, and Matthew A. Parkes. 1996. "The 'Castlecomer Fauna': A New Konservat-Lagerstätte from the Upper Carboniferous of Ireland." *Irish Journal of Earth Sciences* 15: 93–106.
- Saldanha, João Pedro, Lucas Del Mouro, Rodrigo Scalise Horodyski, Matias do Nascimento Ritter, and Hugo Schmidt-Neto. 2023. "Taphonomy and Paleoecology of the Lontras Shale Lagerstätte: Detailing the Warming Peak of a Late Paleozoic Ice Age Temperate Fjord." *Palaeogeography, Palaeoclimatology, Palaeoecology* 609, no.1 (1 January): Article no. 111326.
- Schmitz, Mark D., Hermann W. Pfefferkorn, Shu-Zhong Shen, and Jun Wang. 2020. "A Volcanic Tuff Near the Carboniferous-Permian Boundary, Taiyuan Formation, North China: Radioisotopic Dating and Global Correlation." *Review of Palaeobotany and Palynology* 294 (November), Article no. 104244. [Wuda Tuff]
- Schultze, Hans-Peter, Christopher G. Maples, and Christopher R. Cunningham. 1993. "The Hamilton Konservat-Lagerstätte: Stephanian Terrestrial Biota in a Marginal-Marine Setting." Earth and Environmental Science Transactions of the Royal Society of Edinburgh 84, no.3–4: 443–451. [Carboniferous, Kansas].
- Thomka, James R., and Ronald D. Lewis. 2013.
  "Siderite Concretions in the Copan Crinoid Lagerstätte (Upper Pennsylvanian, Oklahoma): Implications for Interpreting Taphonomic and Depositional Processes in Mudstone Successions." *Palaios* 28 nos.9–10 (September–October): 697– 709. [Northeast Oklahoma]
- Zapalski, Mikolaj, and Euan N.K. Clarkson. 2015. "Enigmatic Fossils from the Lower Carboniferous

Shrimp Bed, Granton, Scotland." *PLoS One* 11, no.2 (December 23): e0150047. [Known as the Granton Lagerstätte]

### Permian

- Beckemeyer, Roy J. 2000. "The Permian Insect Fossils of Elmo, Kansas." *The Kansas School Naturalist* 46, no. 1 (February), 1–16. [Wellington Lagerstätte, Elmo, Kansas]
- Beckemeyer, Roy J., and Joseph D. Hall. 2007. "The Entomofauna of the Lower Permian Fossil Insect Beds of Kansas and Oklahoma, USA." *African Invertebrates* 48, no.1 (April): 23–39. [More than 150 species of insects found at the Elmo Lagerstätte]
- Botha, J., and R. M. H. Smith. 2006. "Rapid Vertebrate Recuperation in the Karoo Basin of South Africa Following the End-Permian Extinction." *Journal* of African Earth Sciences 45, nos. 4–5 (August): 502–514. [Many creationist articles published on the vertebrate fossils of the Karoo; the best summary found at CMI is Woodmorappe 2000]
- Mouro, Lucas D., Michał Zatoń, Antonio C.S. Fernandes, and Breno L. Waichel. 2016. "Larval Cases of Caddisfly (Insecta: Trichoptera) Affinity in Early Permian Marine Environments of Gondwana." *Scientific Reports* 6 (14 January): Article no. 19215. [The Lontras Shale of Brazil said to be a Lagerstätten, possibly Carboniferous]
- Neregato, Rodrigo, Ronny Rößler, Rosemarie Rohn, and Robert Noll. 2015. "New Petrified Calamitaleans from the Permian of the Parnaíba Basin, Central-North Brazil: Part 1." *Review of Palaeobotany and Palynology* 215 (April): 23–45. [Moluca Formation, Tocantins Lagerstätte]
- Oplustil, Stanislav, Jun Wang, Hermann W. Pfefferkorn, Josef Pšenička, Jiří Bek, Milan Libertín, et al. 2021. "T<sup>0</sup> Early Permian Coal-Forest Preserved *in situ* in Volcanic Ash Bed in the Wuda Coalfield, Inner Mongolia, China." *Review of Palaeobotany and Palynology* 294 (November): Article no. 104347.
- Prevec, Rosemary, André Nel, Michael O. Day, Robert A. Muir, Aviwe Matiwane, Abigail P. Kirkaldy, Sydney Moyo, et al. 2022. "South African Lagerstätte Reveals Middle Permian Gondwana Lakeshore Ecosystem in Exquisite Detail." *Communications Biology* 5 (30 October): Article no. 1154. [Onder Karoo Lagerstätte]
- Sébastien Steyer, J., Sophie Sanchez, Pierre J.
  Debriette, Andrea M.F. Valli, Francois Escuille, Burkhard Pohl, Deschambre R.-P, et al. 2012.
  "A New Vertebrate Lagerstätte from the Lower Permian of France (Franchesse, Massif Central): Palaeoenvironmental Implications for the Bourbon-l'Archambault Basin." Bulletin de la

Societe Gologique de France 183, no.6 (December): 509–515.

- Silva, Rivaldo Raimundo, Jorge Ferigolo, Piotr Bajdek, and Graciela Piñeiro. 2017. "The Feeding Habits of Mesosauridae." Frontiers in Earth Science 5 (13 March): 1–18. [Permian, State of Goias, central-western Brazil]
- Voigt, Sebastian, Spencer G. Lucas, and Karl Krainer. 2013. "Coastal-Plain Origin of Trace-Fossil Bearing Red Beds of the Early Permian of Southern New Mexico, U.S.A." *Palaeogeography*, *Palaeoclimatology*, *Palaeoecology* 369: 323–334. [Robledo Mountains Lagerstätte].
- Wang, Jun, Hermann W. Pfefferkorn, Yi Zhang, and Zhuo Feng. 2012. "Permian Vegetational Pompeii from Inner Mongolia and its Implications for Landscape Paleoecology and Paleobiogeogrphy of Cathaysia." *Proceedings of the National Academy* of Sciences 109, no.13 (February 21): 4927–4932. [Wuda Lagerstätte; Thomas 2012a, but other than Brian Thomas apparently no other creationist comments on this site, other than Johns 2019; for critical comments on this issue, see Duff 2017, 2018]
- Wang, Jun, Hermann W. Pfefferkorn, Stanislav Opuštil, and Hans Kerp. 2021. "Permian 'Vegetational Pompeii:' A Peat-Forming in-situ Preserved Forest from the Wuda Coalfield, Inner Mongolia, China—Introduction to a Volume of Detailed Studies." *Review of Palaeobotany and Palynology* 294 (November): Article no. 104502. [The definitive study on the Wuda Lagerstätte]

#### **Triassic**

- Bicknell, Russell D. C., Jure Žalohar, Primož Miklavc, Bogomir Celarc, Matija Križnar, and Tomaž Hitij.
  2021. "Revisiting Horseshoe Crab Fossils from the Middle Triassic (Anisian) Strelovec Formation of the Konservat-Lagerstätte of Slovenia." *Palaeontologia Electronica* 24, no.3 (December): Article no. PE 24.3.36.
- Bürgin, Toni, Olivier Rieppel, P. Martin Sander, and Karl Tschanz. 1989. "The Fossils of Monte San Giorgio." *Scientific American* 260, no.6 (June): 74–81.
- Criscione-Vastano, Julia C., and David A. Grimaldi. 2024. "Remarkable Diversity of Beetles (Coleoptera) in the Late Triassic (Norian) 'Solite Deposit' of Virginia and North Carolina." *Bulletin* of the American Museum of Natural History 2024, no. 467 (31 May): 1–137.
- Romero, Aldemaro Jr., Raymond R. Rogers, and Lisa-ann Gershwin. 2011. "Medusoid Cnidarians from the Montral-Alcover Lagerstätten (Triassic), Northeastern Spain." Batalleria 16, no.16 (January): 50–57.

- Gall, Jean-Claude, and Léa Grauvogel-Stamm. 2005. "The Early Middle Triassic 'Grès à Voltzia' Formation of Eastern France: A Model of Environmental Refugium." *Comptes Rendus Paleovol* 4, nos.6–7 (September–October): 637– 652.
- Jiang, Da-Yong, Ryosuke Motani, Andrea Tintori, Olivier Rieppel, Cheng Ji, Min Zhou, Xue Wang, Hao Lu, and Zhi-Guang Li. 2020. "Evidence Supporting Predation of 4-m Marine Reptile by Triassic Megapredator." *iScience* 23, no.9 (25 September): Article no. 101347. [Xingyi Fauna; Robinson 2021a]
- Klug, Christian, Stephan N.F. Spiekman, Dylan Bastiaans, Beat Scheffold, and Torsten M. Scheyer. 2024. "The Marine Conservation Deposits of Monte San Giorgio (Switzerland, Italy): The Prototype of Triassic Black Shale Lagerstätten." Swiss Journal of Palaeontology 143, no.1 (March 4): Article no. 11. [Snelling 2009, 541-543]
- Knaust, Dirk. 2010. "Remarkably Preserved Benthic Organisms and their Traces from a Middle Triassic (Muschelkalk) Mud Flat." *Lethaia* 43, no.3 (September): 344–356. [Fossils found at the end of traces helps to identify the makers of the traces. Location: County of Thuringia, Germanic Basin]
- Lu, Hao, Da-Yong Jiang, Ryosuke Motani, Pei-Gang Ni, Zuo-Yu Sun, Andrea Tintori, Shi-Zhen Xiao, Min Zhou, Cheng Ji, and Wan-Lu Fu. 2018.
  "Middle Triassic Xingyi Fauna: Showing Turnover of Marine Reptiles from Coastal to Oceanic Environments." *Palaeoworld* 27, no.1 (March): 107–116. [Robinson 2021a]
- Lukeneder, Alexander, and Petra Lukeneder. 2021. "The Upper Triassic Polzberg Palaeobiota from a Marine *Konservat-Lagerstätte* Deposited During the Carnian Pluvial Episode in Austria." *Scientific Reports* 11 (17 August): Article no. 16644.
- Moisan, Philippe, Sebastian Voigt, Christian Pott, and Michael Buchwitz. 2011. "Cycadalean and Bennittitalean Foliage from the Triassic Madygan Lagerstätte (SW Kyrgyzstan, Central Asia)." *Review of Palaeobotany and Palynology* 164, nos. 1–2 (February): 93–108.
- Motani, Ryosuke, Da-Yong Jiang, Guan-Bao Chen, Andrea Tintori, Olivier Rieppel, Cheng Ji, and Jian-Dong Huang. 2015. "A Basal Ichthyosauriform with a Short Snout from the Lower Triassic of China." *Nature* 517, no.7535 (22 January): 485–

488. [Nanlinghu Formation Lagerstätte; Mitchell 2014h; Thomas 2016b]

- Motani, Ryosuke, Da-yong Jiang, Andrea Tintori, Olivier Rieppel, and Guan-bao Chen. 2014. "Terrestrial Origin of Viviparity in Mesozoic Marine Reptiles Indicated by Early Triassic Embryonic Fossils." *PLoS* 9, no.2 (February 12): e88640. [Chaohu Lagerstätte; **Sarfati 2014**]
- Roden, Vanessa Julie, Imelda M. Hausmann, Alexander Nützel, Barbara Seuss, Mike Reich, Max Urlichs, Hans Hagdorn, and Wolfgang Kiessling. 2019. "Fossil Liberation: A Model to Explain high diversity in the Triassic Cassian Formation." *Palaeobiology* 63, no. 1 (January): 85– 102. [Southern Alps, France-Italy]
- Sherbakov, Dmitry E., Tarmo Timm, Alexander B. Tzetlin, Olev Vinn, and Andrey Y. Zhuravlev. 2020.
  "A Probable Oligochaete from an Early Triassic Lagerstätte of the Southern Cis-Urals and its Evolutionary Implications." *Acta Palaeontologica Polonica* 65, no.2: 219–233. [Petropavlovka Lagerstätte, Poland]
- Shoch, Rainer R., and Dieter Seegis. 2016. "A Middle Triassic Palaeontological Gold Mine: The Vertebrate Deposits of Vellberg (Germany)." *Palaeogeography, Palaeoecology, Palaeoclimatology* 459 (1 October): 249–267.
- Shoch, Rainer R., Dieter Seegis, and Eudald Mujal. 2022. "The Middle Triassic Vertebrate Deposits of Kupferzell (Germany): Palaeoenvironmental Evolution of Complex Ecosystems." *Palaeogeography, Palaeoclimatology, Palaeoecology* 603 (1 October): Article no. 111181.
- Stockar, Rudolf. 2010. "Facies, Depositional Environment, and Palaeoecology of the Middle Triassic Cassina Beds (Meride Limestone, Monte San Giorgio, Switzerland)." Swiss Journal of Geosciences 103, no. 1 (July): 101–119.
- Xiaofeng, Wang, Gerhard H. Bachmann, Hans Hagdorn, P. Martin Sander, Gilles Cuny, Chen Xiaohong, Wang Chuanshang, Chen Lide, Cheng Long, Meng Fangsong, and Xu Guanghong. 2008.
  "The Late Triassic Black Shales of the Guanling Area, Guizhou Province, South-West China: A Unique Marine Reptile and Pelagic Crinoid Fossil Lagerstätte." *Paleontology* 51, no.1 (January): 27–61.

# Jurassic

- Blazejowski, Blazej, Piotr Gieszcz, and Daniel Tyborowski. 2016. "New Finds of Well-Preserved Tithonian (Late Jurassic) Fossils from Owadów-Brzezinki Quarry, Central Poland: A Review and Perspectives." *Volumina Jurassica* 14, no.1 (January): 123–132.
- Briggs, Derek E. G., Rachel A. Moore, Jeffrey W. Shultz, and Günter Schweigert. 2005. "Mineralization

of Soft-Part Anatomy and Invading Microbes in the Horseshoe Crab *Mesolimulus* from the Upper Jurassic Lagerstätte of Nusplingen, Germany." *Proceedings of the Royal Society B* 272, no.1563 (March 22): 627–632. [Nusplingen Lithographic Limestone]

- Cardosa, Alexandre Ribeiro, Guilherme Raffaeli Romano, Gabriel Ladeira Osés, and Afonso César Rodrigues Noguiera. 2020, "Taphonomy of Lacustrine Fish Fossils of the Parnaíba of Northeastern Brazil: Spatial and Causative Relations of Konservat-Lagerstätten in West Gondwana During Jurassic-Cretaceous." Palaeogeography, Palaeoclimatology, Palaeoecology 542 (15 March): Article no. 109602.
- Caze, Bruno, Didier Merle, and Simon Schneider. 2015. "UV Light Reveals the Diversity of Jurassic Shell Colour Patterns: Examples from the Cordebugle Lagerstätten (Calvados, France)." *PLoS One* 10, no.6 (June 3): e0126745.
- Charbonnier, Sylvain. 2009. Le Lagerstätte de La Voulte: Un Environnement Bathyal au Jurassique. Paris, France: Publications Scientifiques du Museum.
- Charbonnier, Sylvain, Denis Audo, Bruno Caze, and Vincent Biot. 2014. "The La Voulte-sur-Rhône Lagerstätte (Middle Jurassic, France)." Comptes Rendu Paleovol 13, no.5 (July–August)): 369–381.
- Dai, Xu Joshua H. F. L. Davies, Zhiwei Yuan, Arnaud Brayard, Maria Ovtcharova, Guanghui Xu, Xiaokang Liu. et al. 2023. "A Mesozoic Fossil Lagerstätte from 250.8 Million Years Ago Shows a Modern-Type Marine Ecosystem." *Science* 379, no. 6632 (9 February): 567–572. [Guiyang Biota]
- Delsett, Lene L., Henrik Friis, Martina Kölbi-Ebert, and Jørn H. Hurum. 2022. "The Soft Tissue and Skeletal Anatomy of Two Late Jurassic Ichthyosaur Specimens from the Solnhofen Archipelago." *PeerJ* 10 (April 7): e13173. [Ham, 2022]
- Dong, LiPing, DiYing Huang, and Yuan Wang. 2011. "Two Jurassic Salamanders with Stomach Contents from Inner Mongolia, China." *Chinese Science Bulletin* 57, no.1 (26 September): 72–76. [Daohugou Biota; Mitchell 2014c; Thomas, 2012b]
- Du, Xuheng, Kecheng Nui, and Tong Bao. 2023. "Giant Jurassic Dragon Lacewing Larvae With Lacustrine Palaeoecology Represent the Oldest Fossil Record of Larval Neuropterans." *Proceedings of the Royal Society, London B* 290, no. 1993 (15 February): Article ID:20222500. [Daohugou Lagerstätte, **Mitchell 2014f**]
- Duffin, Christopher J., Alessandro Garassino, and Giovanni Passini. 2023. "Squaloraja Riley 1833

(Holocephala: Squalorajidae ) from the Lower Jurassic Konservat-Lagerstätte (Como, NW Italy)." *Natural History Sciences* 10, no. 1 (19 May): nhs.2023.642.

- Ebert, Martin, Martina Kölbl-Ebert, and Jennifer A. Lane. 2015. "Fauna and Predator-Prey Relationships of Ettling, an Actinopterygian Fish-Dominated Konservat-Lagerstätte from the Late Jurassic of Southern Germany." *PLoS One* 10, no.1 (January 28): e0116140.
- Funnell, Rachael. 2024. "World-First Fossil of a 155-Million-Year-Old Brittle Star Mid-Cloning Itself." *IFLScience* May 15. [Nusplingen Lithographic Limestone, Jurassic] [Ham 2024b]
- Fursich, Franz T., Matthias Mäuser, Simon Schneider, and Winfried Werner. 2007. "The Wattendorf Plattenkalk (Upper Kimmeridgian): A New Conservation Lagerstätte from the Northern Franconian Alb, Southern Germany." Neues Jahrbuch Geologia und Paläontologie– Abhandlungen 245, no.1 (July): 45–58. [Upper Jurassic]
- Gaillard, Christian, Jacqueline Goy, Paul Bernier, Jean Paul Bourseau, Jean Claude Gall, Georges Barale, Eric Buffetaut, and Sylvie Wenz. 2006. "New Jellyfish Taxa from the Upper Jurassic Lithographic Limestones of Cerin (France): Taphonomy and Ecology." *Palaeontology* 49, no.6 (November): 1287–1302.
- Guido, Diego M., Alan Channing, Kathleen A. Chapman, and Alba Zamuner. 2010. "Jurassic Geothermal Landscapes and Fossil Ecosystems at San Agustín, Patagonia, Argentina." *Journal* of the Geological Society 167, no.1 (7 January): 11–20. [Compares favorably with the Rhynie chert preservation, but not listed as a Lagerstätte]
- Gurley, L.R., J.G. Valdez, W.D. Spall, B.F. Smith, and D.D. Gillette. 1991. "Proteins in the Fossil Bone of the Dinosaur, *Seismosaurus.*" *Journal of Protein Chemistry* 10, no.1 (1 February): 75–90. [Possibly not from a Lagerstätte; Miller 2022]
- Hunt, Adrian P., and Spencer G. Lucas. 2006. "The Significance of the St. George Dinosaur Discovery Site at Johnson Farm: A Jurassic Konzentrat-Ichnolagerstätte, Utah, U.S.A." New Mexico Museum of Natural History Bulletin 37: 282–288.
  [Walker 2009a]
- Hunt, Adrian P., Spencer G. Lucas, Karl Krainer, and J. Spielman. 2006. "The Taphonomy of the Cleveland-Lloyd Dinosaur Quarry, Upper Jurassic Morrison Formation, Utah: A Re-Evaluation." In: Paleontology and Geology of the Upper Jurassic Morrison Formation. Edited by J.R. Foster, and S.G. Lucas, 57–65. [World famous for 44 adult specimens of Allosaurus; Clarey 2015, 74–75]
- Jenny, Dominique, Dirk Fuchs, Alexander I. Arkhipkin, Rolf B. Hauff, Barbara Fritschi, and

Christian Klug. 2019. "Predatory Behaviour and Taphonomy of a Jurassic Belemnoid Coleoid (Diplobelida Cephalopoda)." *Scientific Reports* 9, no. 1 (May 28): Article no. 7944. [Posidonia Shale, Jurassic; Lacey and Haynes 2021]

- Kin, Adrian, Michał Gruszczyński, David Martill, Jim D. Marshall, and Błażej Błażejowski. 2013.
  "Palaeoenvironment and Taphonomy of a Late Jurassic (Late Tithonian) Lagerstätte from Central Poland." *Lethaia* 46, no.1 (January): 71–81. [Corbulomima Horizon, Jurassic, which has elements of both Konservat and Koncentrat Lagerstätten]
- Klug, Christian, Günter Schweigert, Dirk Fuchs, and Kenneth De Baets. 2021. "Distraction Sinking and Fossilized Coleoid Predatory Behaviour from the German Early Jurassic." *Swiss Journal* of *Palaeontology* 140, no.7 (16 March): 7–8. [Holzmaden Quarry Lagerstätte; Lacey and Haynes 2021]
- Klug, Christian, Günter Schweigert, Helmut Tischlinger, and Helmut Pochmann. 2021. "Failed Prey or Peculiar Necrolysis? Isolated Ammonite Soft Body from the Late Jurassic of Eichstätt (Germany)." *Swiss Journal of Palaeontology* 14 (18 January): Article no. 3. [Solnhofen; **Robinson 2021b**]
- Lindgren, Johan, Peter Sjövall, Ryan M. Carney, Aude Cincotta, Per Uvdal, Steven W. Hutcheson, Ola Gustafsson, et al. 2015. "Molecular Composition and Ultrastructure of Jurassic Paravian Feathers." *Scientific Reports* 5 (27 August): Article no. 13520. [Tiaojishan Formation Lagerstätte; Thomas 2017]
- Lindgren, Johan, Peter Sjövall, Volker Thiel, Wenxia Zheng, Shosuke Ito, Kazumasa Wakamatsu, Rolf Hauff, et al. 2018. "Soft-Tissue Evidence for Homeothermy and Crypsis in a Jurassic Ichthyosaur." *Nature* 564, no. 7736 (20 December): 359–365. [Holzmaden Quarry; **Robinson 2020a**]
- Lomax, Dean R., and Christopher A. Racay. 2012. "A Long Mortichnial Trackway of *Mesolimulus walchi* from the Upper Jurassic Solnhofen Lithographic Limestone near Wintershof, Germany." *Ichnos* 19, no. 3 (July): 175–183. [Ching 2002; Walker 2003]
- Martindale, Rowan C., Theodore R. Them II, Benjamin C. Gill, Selva M. Marroquin, and Andrew H. Knoll. 2017. "A New Early Jurassic (ca. 183Ma) Fossil *Lagerstätte* from Ya Ha Tinda, Alberta, Canada." *Geology* 45, no.3 (March 1): 255–258.
- McLoughlin, Stephen. n.d.. "Plants of the Talbragar fossil beds." https://www.academia.edu/1135510/ Plants\_of\_the\_Talbragar\_fossil\_bed?email\_work\_ card=view-paper. [Tithonian, Late Jurassic, New South Wales, Australia]

- Moreau, Jean-David, Romain Vullo, Sylvain Charbonnier, Romain Jattiot, Vincent Trincal, Didier Neraudeau, Emmanuel Fara, Louis Baret, Alessandro Garassino, Georges Gand, and Gérard Lafaurie. 2022. "Konservat-Lagerstätten from the Upper Jurassic Lithographic Limestone of the Causse Méjean (Lozère, Southern France): Palaeontological and Palaeoenvironmental Synthesis." *Geological Magazine* 159, no.5 (May): 761–781.
- Muscente, A.D., Rowan C. Martindale, James D. Schiffbauer, Abby L. Creighton, and Brooke Bogan. 2019. "Taphonomy of the Lower Jurassic Konservat-Lagerstätte at Ya ha Tinda (Alberta, Canada) and its Significance for Exceptional Fossil Preservation During Oceanic Anoxic Events." *Palaios* 34, no. 11 (November): 515–541.
- Nakrem, Hans Arne, and Wolfgang Kiessling.
  2012. "Late Jurassic (Volgian) Radiolarians from Central Spitsbergen—A Preliminary Study." Norsk Geologisk Tiddsskrift 92, no.2 (September): 149–155. [Lagerstätte in Slottsmoya Member with "well-preserved" specimens of ichthyosaurs, plesiosaurs, and pliosaurs]
- Peyer, Karin, Sylvain Charbonnier, Ronan Allain, Émilie Läng, and Renaud Vacant. 2014. "A New Look at the Late Jurassic Canjuers Conservation Lagerstätten (Tithonian, Var, France)." *Comptes Rendus Palevol* 13, no.5 (July–August): 403–420.
- Ponomarenko, A.G., D.S. Aristov, A.S. Bashkuev, Yu. M. Gubin, A.V. Khramov, E.D. Lukashevich, Yu. A. Popov, et al. 2014. "Upper Jurassic Lagerstätte, Shar Teg, Southwestern Mongolia." *Paleontological Journal* 48, no.14 (7 January): 1573–1682.
- Popa, Mihai Emilian. 2005. "Aspects of Romanian Early Jurassic Palaeobotany and Palynology. Part VI. Anina, an Exceptional Locality." Acta Palaeontologica Romaniae 5 (January): 375–378. [Romania]
- Popa, Mihai Emilian. 2014. "Early Jurassic Bennettitalean Reproductive Structures of Romania." *Palaeobiodiversity and Palaeoenvironments* 94, no.2 (June): 327–362. [Anina Lagerstätte; Doman site]
- Röhl, Hans-Joachim, Annette Schmid-Röhl, Wolfgang Oschmann, Andreas Frimmel, and Lorenz Schwark. 2001. "The Posidonia Shale (Lower Toarcian) of SW-Germany: An Oxygen-Depleted Ecosystem Controlled by Sea Level and Paleoclimate." *Palaeogeography, Palaeoclimatology, Palaeoecology* 165, nos. 1–2 (1 January): 27–52.
- Schlögl, Ján, Martin Košťák, and Matúš Hyžný. 2012. "First Record of a Gladius-Bearing Coleoid *Teudopsis bollensis* Voltz (Cephalopoda Coleoidea)

in the Toarcian of the Western Carpathians (Slovakia)." *Paläeontologische Zeitschrift* 86 (January): 367–375. [Abstract: "the first Jurassic Konservat-Lagerstätte in the Western Carpathians," Toarcian Lagerstätte]

- Selden, Paul A., and Diying Huang. 2010. "The Oldest Haplogyne Spider (Araneae: Plectreuridae) from the Middle Jurassic of China." *Naturwissenschaften* 97, no. 5 (May): 449–459. [Daohugou Lagerstätten; Thomas 2010b]
- Sullivan, Corwin, Yuan Wang, David W.E. Hone, Yuanqing Wang, Xing Xu, and Fucheng Zhang. 2014. "The Vertebrates of the Jurassic Daohugou Biota of Northeastern China." *Journal of Vertebrate Paleontology* 34, no.2: 243–280. [Has evidence of volcanic ash-fall and water turbulence; Mitchell 2014f]
- Thuy, Ben, Andrew S. Gale, and Mike Reich. 2011. "A New Echinoderm Lagerstätte from the Pliensbachian (Early Jurassic) of the French Ardennes." *Swiss Journal of Palaeontology* 130 (2 December): 173–185. [Sedan Lagerstätte]
- Thuy, Ben, Lea D. Numberger-Thuy, Jürgen Härer, Andreas Kroh, Viola Winkler and Günter Schweigert. 2024. "Fossil Evidence for the Ancient Link Between Clonal Fragmentation, Six-Fold Symmetry, and an Epizoic Lifestyle in Asterozoan Echinoderms." *Proceedings of the Royal Society B* 291, no.2023 (15 May): Article no. 20232832. [Nusplingen Lithographic Limestone, Jurassic]
- Turner, Susan, and Steve Avery. 2017. "A Jurassic Non-Marine Chondrichthyan in Australia and its Palaeogeographic Significance." *Palaeoworld* 26, no.2 (June): 268–278. [Fresh-water shark at a mass-kill site, Talbragar, NSW]
- Vullo, Romain Vullo, Dominique Abit, Michel Ballèvre, Jean-Paul Billon-Bruyat, Renaud Bourgeais, Éric Buffetaut, Véronique Daviero-Gomez, et al . 2014.
  "Palaeontology of the Purbeck-Type (Tithonian, Late Jurassic) Bonebeds of Chassiron (Oléron Island, Western France)." Comptes Rendus Palevol 13, no.5 (July–August): 421–441.
- Wetzel, Andreas, and Christian A. Meyer. 2006. "The Dangers of High-Rise Living on a Muddy Seafloor: An Example of Crinoids from Shallow-Water Mudstones (Aalenian, Northern Switzerland)." *Palaios* 21, no.2 (April 1): 155–167. [Opalinuston Formation, Middle Jurassic. Abstract: "Rapid burial of the crinoids led to their excellent preservation"]
- Wilby, Philip R., Keith Duff, Kevin Page, and Susan Martin. 2008. "Preserving the Unpreservable: A Lost World Rediscovered at Christian Malford, UK." *Geology Today* 24, no.3 (May/June): 95–98. [Jurassic]
- Williams, Matt, Michael J. Benton, and Andrew Ross. 2015. "The Strawberry Bank Lagerstätte Reveals

Insights into Early Jurassic Life." *Journal of the Geological Society* 172, no.6 (15 July): 683–692.

- Wings, Oliver, Márton Rabi, Jörg W Schneider, Leonie Schwermann, Ge Sun, Chang-Fu Zhou, and Walter G Joyce. 2012. "An Enormous Jurassic Turtle Bone Bed from the Turpan Basin of Xinjang, China." *Naturwissenschaft* 99, no.11 (November): 925–935. [Xinjiang Lagerstätte; Mitchell 2012]
- Zatoń, M. and Leszek Marynowski. 2004. "Konzentrat-Lagerstätte-Type Carbonate Concretions from the Uppermost Bajocian (Middle Jurassic) of the Czêstochowa Area, South-Central Poland." *Geological Quarterly* 48, no. 4 (January): 339–350.
- Zell, Patrick, Seija Beckmann, and Wolfgang Stinnesbeck. 2014. "Age and Depositional Conditions of the Marine Vertebrate Concentration Lagerstätte at Gomez Farías, Southern Coahuila, Mexico." Journal of South American Earth Sciences 56 (December): 91–109. [La Casita Lagerstätte]

# Cretaceous

- Alvarado-Orteaga, Jesús, Kleyton Magno Cantalice, Alejandra Martínez-Melo, Pedro García-Barrera, Bruno Andrés Than-Marchese, Jesús Alberto Díaz-Cruz, and Jair Israel Barrientos-Lara. 2020. "Tzimol, a Campanian Marine Paleontological Site of the Angostura Formation near Comitán, Chiapas, Southeastern Mexico." *Cretaceous Research* 107 (March): Article no. 104279. [Tzimol Lagerstätte, Upper Cretaceous]
- Apesteguia, Sebastián, Fernando F. Garberoglio, and Raúl O. Gomez. 2021. "Earliest Tuatara Relative (Lepidosauria: Sphenodontinae) from Southern Continents." *Ameghiniana* 58, no.5 (30 September): 416–441. [La Buitrera Paleontological Area]
- Arai, Mitsuru, and Mario Luis Assine. 2020. "Chronostratigraphic Constraints and Paleoenvironmental Interpretation of the Romualdo Formation (Santana Group, Araripe Basin, Northeastern Brazil) Based on Palynology." *Cretaceous Research* 116,no. 1 (December): Article no. 104610. [Santana Lagerstätte, Cretaceous; Haynes 2019]
- Armitage, Mark Hollis, and Kevin Lee Anderson [creationists]. 2013. "Soft Sheets of Fibrillar Bone from a Fossil of the Supraorbital Horn of the Dinosaur *Triceratops horridus.*" Acta Histochemica 115, no.6 (July): 603–608. [Hell Creek Formation; Miller 2022]
- Baillul, Alida M., Jingmai O'Connor, Shukang Zhang, Zhiheng Li, Qiang Wang, Matthew C. Lamanna, Xufeng Zhu, and Zhonghe Zhou . 2019. "An Early Cretaceous Enantiornithine (Aves) Preserving

an Unlaid Egg and Probable Medullary Bone." *Nature Communications* 10 (March 20): Article no. 1275. [Xiagou Lagerstätte, the Changma Basin, northwest China]

- Bartiromo, Antonello. 2013. "Plant Remains from the Lower Cretaceous Fossil-Lagerstätte of Pietraroja, Benevento, Southern Italy." *Cretaceous Research* 46 (November): 65–79.
- Bartiromo, Antonello, Roberto Graziano, Arturo Raspini, and Sergio Bravi. 2019. "A New Terrestrial Plant-Rich Fossil-Lagerstätte from the Middle Cenomanian (Late Cretaceous) of the Apennine Carbonate Platform (Magliano Vetere, Southern Italy)." Sedimentary Geology 388 (15 June): 37–65. [Also known as the Pietraroja, Beneveto Lagerstätte, site of the discovery of the first dinosaur in Italy; Clarey 2015, 49 (photo)]
- Caldwell, Michaell W., Tiago R. Simões, Alessandro Palci, Fernando F. Garberoglio, Robert R. Reisz, Michael S.Y. Lee, and Randall L. Nydam. 2021. "*Tetrapodophis amplectus* is not a Snake: Reassessment of the Osteology, Phylogeny, and Functional Morphology of an Early Cretaceous Dolichosaurid Lizard." *Journal of Systematic Palaeontology* 19, no. 13: 893–952.
- Chao Ma, Yanjie Tang, Ross N. Mitchell, Yongfei Li, Shouliang Sun, Jichang Zhu, Stephen F. Foley, Min Wang, Chenyang Ye, Jifeng Ying, and Rixiang Zhu. 2023. "Volcanic Phosphorous Supply Boosted Mesozoic Terrestrial Biotas in Northern China." *Science Bulletin* 68, no.12 (30 June): 1317–1326. [Yanliao and Jehol Biotas Lagerstätten]
- Chiappe, Luis M. D. Rivarola, Alberto Luis Cione, M. Fregenal Martinez, Angela Delgado Buscalioni, H. Sozzi, Luis A. Buatois, et al.. 1995. "Inland Biota from a Lower Cretaceous Lagerstätte of Central Argentina." *II International Symposium on Lithographic Limestones* 1: 57–60. [Note: Lagerstätten are rare in South America other than in the Santana Formation (Brazil); this one is not Santana: Lagarcito Formation at Loma del Pterodaustro]
- Chiappe, Luis M., Roldolfo A. Coria, Frankie D. Jackson, and Lowell Dingus. 2003. "The Late Cretaceous Nesting Site of Auca Mahuevo (Patagonia, Argentina): Eggs, Nests, and Embryos of Titanosaurian Sauropods." *Palaeovertebrata* 32, no.2–4 (15 December): 97–108. [A study heavily cited by paleontologists and by at least one creationist: **Oard 2016**]
- Chiarenza, Alfio Alessandro, Matteo Fabbri, Lorenzo Consorti, Marco Muscioni, David C. Evans, Juan L. Cantalapiedra, and Federico Fanti. 2021. "An Italian Dinosaur Lagerstätte Reveals the Tempo and Mode of Hadrosauriform Body Size Evolution." *Scientific Reports* 11: Article no. 23295. [Site: Villaggio del Pescatore: Cretaceous]

- Chang, Su-Chin, Ke-Qin Gao, Chang-Fu Zhou, and Fred Jourdan. 2017. "New Chronographic Constraints on the Yixian Formation with Implications for the Jehol Biota." *Palaeogeography*, *Palaeoclimatology*, *Palaeoecology* 487 (September): 399–406.
- Chrząstek, Alina, Elena Jagt-Yazykova, and John W.M. Jagt. 2024. "Body Fossil Assemblages from The Lower Idzików Beds (Coniacian) in the Upper Nysa Kłodzka Graben, South-West Poland." *Cretaceous Research* 158, no.2 (February): Article no. 105853. [Not a Lagerstätten, but has many well-preserved nearshore fossils: "this assemblage is well preserved, suggesting rapid burial as a result of storm events"]
- Da Silva, Victor A., Filipe G. Varejão, Suzana A. Matos, Mariza G. Rodrigues, Lucas V. Warren, Mário L. Assine, Franz T. Fürsich, and Marcello G. Simões. 2024. "A New Condensed Freshwater-Brackish Water Bivalve-Dominated Assemblage in the Aptian Crato Formation, Araripe Basin, NE Brazil and its Paleoenvironmental Significance." *Cretaceous Research* 154 (February): Article no. 105748.
- Dal Sasso, Cristiano, and Marco Signore. 2018. "Exceptional Soft-Tissue Preservation in a Theropod Dinosaur from Italy." *Nature* 392, no.6674 (26 March): 383–387. [Pietrarojo Lagerstätte; **Snelling 1998**]
- DePalma, Robert A., Anton A. Oleinik, Loren P. Gurche, David A. Burnham, Jeremy J. Klingler, Curtis J. McKinney, Frederick P. Cichocki, Peter L. Larson, Victoria M. Egerton, Roy A. Wogelius, Nicholas P. Edwards, Uwe Bergmann, and Phillip L. Manning. 2021. "Seasonal Calibration of the End-Cretaceous Chicxulub Impact Event." *Scientific Reports* 11: Article no. 23704. [Tanis Lagerstätte]
- Feldmann, Rodney, Tomas Villamil, and Erle G. Kauffman. 1999. "Decapod and Stomatopod Crustaceans from Mass Mortality Lagerstätten: Turonian (Cretaceous) of Colombia." *Journal of Paleontology* 73, no.1 (January): 91–101. [San Rafael and La Frontera Formations]
- Franțescu, Ovidui. 2014. "Fossil decapods from the Cretaceous (late Albian) of Tarrant County, Texas." *Neues Jahrbuch für Geologie und Paläontologie* 273, no.3 (September 1): 221–239. (Pawpaw Shale Lagerstätte]
- Frey, Eberhard, Ross A. Elgin, Wolfgang Stinnesbeck, José Manuel Padilla-Gutiérrez, Christina Ifrim, Samuel Giersch, and Arturo H. González-González. 2012. "A New Specimen of Nyctosaurid Pterosaur, cf. *Muzquizopteryx* sp., from the Late Cretaceous of the Northeast of Mexico." *Revista Mexicana de Ciencias Geológicas* 29, no. 1: 131–139. [Muzquiz Lagerstätten]

- Frey, Eberhard, and Helmut Tischlinger. 2012. "The Late Jurassic Pterosaur *Rhamphorhynchus*, a Frequent Victim of the Ganoid Fish *Aspidorhynchus.*" *PLoS One* 7, no.3 (March 7): e31945. [**Robinson 2015**]
- Fuchs, Dirk, Giacomo Bracchi, and Robert Weis. 2009. "New Octopods (Cephalopoda: Coleoidea) from the Late Cretaceous (Upper Cenomanian) of Hâkel and Hâdjoula, Lebanon." *Palaeontology* 52, no.1 (January): 65–81. [Graham 2009, n.1, Thomas 2009]
- Gebert, J.M. de, M.A. Fregenal-Martínez, Luis A. Buatois, and M. Gabriela Mangano. 2000. "Trace Fossils and Their Palaeoecological Significance in Lower Cretaceous Lacustrine Conservation Deposits, El Montsec, Spain." *Palaeogeography*, *Palaeoclimatology*, *Palaeoecology* 156, nos.1–2 (February): 89–101. [2 closely related sites]
- George, Hady, Mohamad Bazzi, Tamara El Hossny, Nida Ashraf, Pierre Abi Saad, and Thomas Clements. 2024. "The Famous Fish Beds of Lebanon: The Upper Cretaceous Lagerstätten of Haqel, Hjoula, Nammoura and Sahel Aalma." *Journal of the Geological Society* 181, no.5 (July 17): jgs 2023-210.
- Gil-Delgado, Alejandro, Xavier Delclòs, Alberto G. Sellés, Àngel Galobart, and Oriol Oms. 2023.
  "The Early Cretaceous Coastal Lake Konservat-Lagerstätte of La Pedrera de Meià (Southern Pyrenees)." *Geologica Acta* 21 no. 3 (April): 1–18.
- Gil-Delgado, Alejandro, David Cruset, Oriol Oms, Edgar Botero, Jordi Ibáñez-Insa, Xavier Delciós, Albert G. Sellés, Angel Galobart, and Ramon Mercedes-Martin. (2023). "Geochemical Approach for Decoding the Paleoenvironmental and Depositional Evolution of a Coastal Lacustrine Konservat-Lagerstätte (Early Cretaceous, South-Central Pyrenees)." Sedimentary Geology 453, no.2 (July): Article no. 106440. [La Pedrera de Meia Lagerstätte]
- Gomez, Bernard, Véronique Daviero-Gomez, Clément Coiffard, Carles Martín-Closas, and David L. Dilcher. 2015. "Montsechia, an Ancient Aquatic Angiosperm." *Proceedings of the National Academy of Sciences USA* 112, no.35 (September 1): 10985–10988. [Some specimens found in Las Hoyas Lagerstätte, Spain; others in the Pyrenees]
- Graziano, Roberto, Arturo Raspini, and Antonello 2024."New Insights Bartiromo. into the Palaeoenvironmental-Palaeoclimatic Significance Sedimentary Dynamics of and Carbonate Lagerstätten: The Lower Albian of Pietraroja (Southern Italy)." Sedimentology 71, no.2 (February): 619–686.
- Han, Gang, Jordan C. Mallon, Aaron J. Lussier, Xiao-Chun Wu, Robert Mitchell, and Ling-Ji Li.

2023. "An Extraordinary Fossil Captures the Struggle for Existence During the Mesozoic." *Scientific Reports* 13: Article no. 11221. [Liaoning, Cretaceous; **McClay 2005**]

- Hu, Yaoming, Jin Meng, Yuanqing Wang, and Chuankui Li. 2005. "Large Mesozoic Mammals Fed on Young Dinosaurs." *Nature* 433, no. 7022 (13 January): 149–152. [Liaoning, China, Cretaceous; McClay 2005]
- Ibrahim, Nizar, Paul C. Sereno, David J. Varricchio, David M. Martill, Didier B. Dutheil, David M. Unwin, Lahssen Baidder, Hans C. E. Larsson, Samir Zouhri, and Abdelhadi Kaoukaya. 2020. "Geology and Paleontology of the Upper Cretaceous Kem Kem Group of Eastern Morocco." ZooKeys 928 (21 April): 1–216. [Anon. 2018a]
- Ji Qiang, Xiaochun Wu, Yennien Cheng, Fangfang Ten, Xuri Wang, and Yannan Ji. 2016. "Fish Hunting Ankylosaurs (Dinosauria, Ornithischia) from the Cretaceous of China." *Journal of Geology* 40, no.2: 183–190. [Yixian Lagerstätte]
- Juárez-Arriaga, Edgar, Ricardo Barragán, Fernando Núñez-Useche, and Josep A. Moreno-Bedmar. 2023. "Sedimentary Environments in the Prelude to Lagerstätten Conditions of the Tlayúa Formation (Albian) in Central Mexico: A Microfacies Approach." Journal of South American Earth Sciences 131 (November): Article no. 104650.
- Kaddumi, Hani Faig. 2009. Fossils of the Harrana Fauna and the Adjacent Areas. Amman, Jordan: Eternal River Museum of Natural History. [Maastrichian, Upper Cretaceous]
- Kashiyama, Y., D.E. Fastovsky, S. Rutherford, J. King, and M. Montellano. 2004. "Genesis of a Locality of Exceptional Fossil Preservation: Paleoenvironments of Tepexi de Rodríguez (Mid-Cretaceous, Puebla, Mexico)." Cretaceous Research 25, no.1 (February): 153–177. [Tepexi is actually part of the Tlayua Lagerstätten, which consist of several Platenkalk limestone quarries; Snelling 2009, 546-547]
- Kim, Kyung Soo, Martin G. Lockley, Jong Deock Lim, and Dong Hee Kim. 2019. "The Oldest Known Anuran (Frog) Trackways from the Jinju Formation, Lower Cretaceous, Korea." *Cretaceous Research* 96 (April): 142–148. [Anon. 2019]
- Kočí, Tomáš, Rok Gašparič, John Buckeridge, Martina Kočová Veselká, and Aleš Šoster. 2024. "The First Record of Konservat-Lagerstätten in which early Post-Settlement Stages of Fossil Archaeobalanids (Cirripedia: Balanomorpha) are Preserved." Integrative Zoology 19, no.2 (March): 1–24. [Dolnja Stara Lagerstätte]
- Kopylov, D.S., A.P. Rasnitsyn, D.S. Aristov, A.S. Bashkuev, N.V. Bazhenova, V. Yu. Dmitriev,

A.V. Gorochov, et al. 2023. "The Khasurty Fossil Insect Lagerstätte." *Journal of Sedimentology* 54 (8 February): 1221–1394. [Lower Cretaceous]

- Kosenko, Igor, E.B. Peshchevitskaya, Vsevolod Efremenko, E.K. Metelkin, P.A. Yan, A.P. Rodchenko, B.L. Nikitenko, and D.A. Mirzabaev. 2023. "Turga Lagerstätte (Middendorf's Outcrop, Eastern Transbaikalia, Barremian-Aptian): Stratigraphic Range and Palaeoenvironments." *Russian Geology and Geophysics* 64, no.11 (November): 1358–1381.
- Kundrat, Martin, Thomas H. Rich, Johan Lindgren, Peter Sjövall, Patricia Vickers-Rich, Luis M. Chiappe, and Benjamin P. Kear. 2020. "A Polar Dinosaur Feather Assemblage from Australia." Gondwana Research 80 (April): 1–11. [Koonwara Fossil Bed; Robinson 2019]
- Lindgren, Johan, Michael J. Everhart, and Michael W. Caldwell. 2011. "Three-Dimensionally Preserved Integument Reveals Hydrodynamic Adaptations in the Extinct Marine Lizard *Ectenosaurus* (Reptilia, Mosasauridae)." *PLoS One* 6, no. 11 (November 16): e27343. [Smoky Hill Chalk, Niobrara Formation]
- Lingham-Soliar, Theagarten. 1991. "A Unique Cross Section through the Skin of the Dinosaur *Psittacosaurus* from China Showing a Complex Fibre Architecture." *Proceedings of the Royal Society B* 275, no. 1636 (7 April): 775–780. [Jehol Biota; Miller 2022; Ham 2024a]
- Longrich, Nicholas R., David M. Martill, and Brian Andres. 2018. "Late Maastrichtian Pterosaurs from North Africa and Mass Extinction of Pterosauria at the Cretaceous-Neogene Boundary." *PLOS Biology* 16, no. 4 (March 13): e1002627. [Khouribga Plateau, Morocco. Most well-preserved pterosaurs are found in Lagerstätten, such as Solnhofen, Crato, Yixian, Smoky Hill Chalk, etc.]
- Lu, Junchang, and Stephen L. Brusatte. 2015. "A Large, Short-Armed, Winged Dromaeosaurid (Dinosauria: Theropoda) from the Early Cretaceous of China and its Implications for Feather Evolution." *Scientific Reports* 5, no. 11775 (16 July): Article no. 11775. [Yixian Lagerstätte; **Thomas 2016a**]
- Luque, Javier, and Sarah Gerken. 2019. "Exceptional Preservation of Comma Shrimp from a Mid-Cretaceous Lagerstätte of Colombia, and the Origins of Crown Cumacea." *Proceedings of the Royal Society B* 286, no. 1916 (December 4): Article no. 20191863. [Boyaca Lagerstätte]
- Manning, Philip L., Peter M Morris, Adam McMahon, Emrys Jones, Andy Gize, Joe H.S. Macquaker, George Wolff, et al. 2009. "Mineralized Soft-Tissue Structure and Chemistry in a Mummified Hadrosaur from the Hell Creek Formation, North Dakota (USA)." *Proceedings of the Royal Society B*

276, no.1672 (Ocober 7): 3429–3437. [Numerous creationist studies of the Hell Creek Formation; e.g. Mitchell 2014c; Clarey 2015; Miller 2022]

- Martill, David M. 2007. "The Age of the Cretaceous Santana Formation Fossil Konservat Lagerstätte of North-East Brazil: A Historical Review and an Appraisal of the Biochronostratigraphic Utility of its Palaeobiota." *Cretaceous Research* 28, no.6 (December): 895–920. [Haynes 2019; Snelling 2009 544-546]
- Martill, David M., Nizar Ibrahim, Paulo M. Brito, Lahssen Baider, Samir Zhouri, Robert Loveridge, Darren Naish, and Richard Hing. 2011. "A New Plattenkalk Konservat Lagerstätte in the Upper Cretaceous of Gara Sbaa, South-Eastern Morocco." *Cretaceous Research* 32, no. 4 (August): 433–446.
- Martill, David M., Robert F. Loveridge, Barbara A.R. Mohr, and Elizabeth Simmonds. 2012. "A Wildfire Origin for Terrestrial Organic Debris in the Cretaceous Santana Formation Fossil Lagerstätte (Araripe Basin) of North-East Brazil." *Cretaceous Research* 34 (April): 135–141. [Haynes 2019]
- Martill, David M., Helmut Tischlinger, and Nicholas R. Longrich. 2015. "A Four-Legged Snake from the Early Cretaceous of Gondwana." *Science* 349, no. 6246 (24 July): 416–419. [Crato Formation; Mitchell 2015c, 2016a; Bell 2015; for further discussion see Caldwell et al., 2021]
- Martill, David M., and Roy E. Smith. 2024. "Cretaceous Pterosaur History, Diversity, and Extinction." *Geological Society, London: Special Publications* 544 (March 5): 501–524. [Describes pterosaurs from a few Lagerstätten sites: Yixian and Jiufotang (China), Las Hoyas (Spain), Crato and Santana (Brazil), and Lagarcita (Argentina)] [Bergman 2021]
- Martin, Thomas, Jesús Marugán-Lobón, Romain Vullo, Hugo Martín-Abad, Zhe-Xi Luo, and Angela D. Buscalioni. 2015. "A Cretaceous Eutriconodont and Integument Evolution in Early Mammals." *Nature* 526, no. 7573 (14 October): 380–384. [Las Hoyas Lagerstätte; Anon. 2016]
- Meng, Qingjin, Jinyuan Liu, David J. Varricchio, Timothy D. Huang, and Chunling Gao. 2004.
  "Palaeontology: Parental Care in an Ornithischian Dinosaur." *Nature* 431, no.7005 (October): 145– 146. [Yixian Lagerstätte, China; Clarey 2015, 110-111, 143-144]
- Miyashita, Tetsuto, Michael I. Coates, Robert Farrar, Peter Larson, Phillip L. Manning, Roy A. Wogelius, Nicholas P. Edwards, et al. 2019. "Hagfish from the Cretaceous Tethys Sea and a Reconciliation of the Morphological-Molecular Conflict in Early Vertebrate Phylogeny." *Proceedings of the National Academy of Sciences* 116, no. 6 (January 22): 2146–2151. [Hakel or Hadjoula Lagerstätte; Bell 2019]

- Pan, Yanhong, Jingeng Sha, Zhonghe Zhou, and Franz T. Fürsich. 2013. "The Jehol Biota: Definition and Distribution of Exceptionally-Preserved Relicts of a Continental Early Cretaceous Ecosystem." *Cretaceous Research* 44 (August): 30–38.
- Papazzoni, Cesare Andrea, Giorgio Carnevale, Eliana Fornaciari, Luca Giusberti, and Enrico Trevisani. 2014. "4. The Pesciara-Monte Postale Fossil Lagerstätte. 1. Biostratigraphy, Sedimentology, and Depositional Model." Rendicontini della Societa Paleontologica Italiana 4: 29–36 (The Excursion Guidebook, CBEP-2014) [Middle Eocene; Italy]
- Park, Tae-Yoon S., Kye-Soo Nam, and Paul A. Selden. 2019. "A Diverse New Spider (Araneae) Fauna from the Jinju Formation, Cretaceous (Albian) of Korea." Journal of Systematic Palaeontology 17, no. 15 :1–27. [O'Brien 2019; Anon. 2019a]
- Polcyn, Michael J., and Michael J. Everhart. 2008. "Description and Phylogenetic Analysis of a New Species of Selmasaurus (Mosasauridae; Plioplatecarpinae) from the Niobrara Chalk of Western Kansas." In Proceedings of the Second Mosasaur Meeting (2008). Edited by Michael J. Everhart, 13–28. Hays, Kansas: Sternberg Museum of Natural History.
- Polette, France, Alexis Licht, Aude Cincotta, David J. Batten, Pauline Depuydt, Didier Néraudeau, Géraldine Garcia, and Xavier Valentin. 2019.
  "Palynological Assemblage from the Lower Cenomanian Plant-Bearing Lagerstätte of Jaunay-Clan-Ormeau-Saint-Denis (Vienne, Western France): Stratigraphic and Paleoenvironmental Implications." *Review of Palaeobotany and Palynology* 271 (December): Article no. 104102.
- Qiang Ji, Shu-An Ji, Yen-Nien Cheng, Hai-Lu You, Jun-Chang Lü, Yong-Qing Liu, and Chong-Xi Yuan. 2004. "Pterosaur Egg With Leathery Shell." *Nature* 432, no.7017 (1 December). https://doi. org/10.1038/432572a. [Catchpoole 2005]
- Qin, Zuohuan, Dangpeng Xi, Zhongye Shi, Yankang Xu, Feng Wei, Zhiqiang Yu, Baoxu Wu, and Xiaoqiao Wan. 2019. "Lagerstätte Fossils from the Lower Cretaceous Yixian Formation of the Pingquan Basin, North China: Stratigraphical Correlation and Palaeoenvironmental Implications." *Lethaia* 52, no.3 (July): 335–349. [includes the Jianshangou Bed; **Sanders 2018**]
- Ribeiro, Alexandre Cunha, Guilherme Cunha Ribeiro, Filipe Giovanini Varejão, Leandro Dênis Battirola, Edlley Max Pessoa, Marcello Guimarães Simões, Lucas Veríssimo Warren, Claudio Riccomini, Francisco José Poyato-Ariza. 2021. "Towards an Actualistic View of the Crato Konservat-Lagerstätte Paleoenvironment: A New Hypothesis as an Early Cretaceous (Aptian) Equatorial and

Semi-Arid Wetland." *Earth-Science Reviews* 216 (May): Article no.103573.

- Riquelme, Francisco, Jesús Alvarado-Ortega, José Luis Ruvalcaba-Sil, Manuel Aguilar-Franco, and Héctor Porras-Múzquiz. 2013. "Chemical Fingerprints and Microbial Biomineralization of Fish Muscle Tissues from the Late Cretaceous Múzquiz Lagerstätte, Mexico." *Revista Mexicana de Ciencias Geológicas* 30, no.2 (August): 417–435.
- Rozada, Lee et al. (9 others). 2021. "A Lower Cretaceous Lagerstätte from France: a taphonomic overview of the Angeac-Charente vertebrate assemblage." *Lethaia* 54 (2): 141-165.
- Rozada, L., R. Allain, M. Qvarnström, K. Rey, R. Vullo, J. Goedert, D. Augier, and N. Robin. 2024. "A Rich Coprolite Assemblage from Angeac-Charente (France): A Glimpse into Trophic Interactions within an Early Cretaceous Freshwater Wwamp." *Cretaceous Research* 162 (October): Article no. 105939.
- Salamon, Mariusz A., Rafał Lach, Anna Wieczorek, Bruno Ferré, Tomasz Brachaniec, Dawid Trzęsiok, and Krzysztof R. Brom. 2022. "A Lower Maastrichtian (Upper Cretaceous) Concentration Lagerstätte of Bourgueticrinid Crinoids from the Miechów Trough (Southern Poland)." Neues Jahrbuch fur Geologie und Palaeontologie 279, no.3 (March 1): 239–249.
- Savarda, C. E, and D. T. King. 1993. "Log-Ground and *Teredolites* Lagerstätte in a Transgressive Sequence, Upper Cretaceous (Lower Campmanian) Mooreville Chalk, central Alabama." *Ichnos* 3, no. 1: 69–77.
- Shimada, Kenshu, and Christopher Fielitz. 2006. "Annotated Checklist of Fossil Fishes from the Smoky Hill Chalk of the Niobrara Chalk (Upper Cretaceous) in Kansas." In Late Cretaceous Vertebrates from the Western Interior. New Mexico Museum of Natural History and Science Bulletin 35. Edited by S.G. Lucas, and R.M. Sullivan, 193–213. [Smoky Hill Chalk Lagerstätte, site of the famed fossil fish, Xiphactinus [Thomas 2020]
- Smith, Roy E., David M. Martill, Nick Longrich, David M. Unwin, Nizar Ibrahim, and Samir Zouhri. 2023. "Comparative Taphonomy of Kem Kem Group (Cretaceous) Pterosaurs of Southeast Morocco." *Evolving Earth* 1 (1 December): Article no. 100006.
- Stinnesbeck, Wofgang, Eberhard Frey, Luis Rivas, Judith Pardo Pérez, Marcelo Leppe Cartes, Christian Salazar Soto, and Patricio Zambrano Lobos. 2014. "A Lower Cretaceous Ichthyosaur Graveyard in Deep Marine Slope Channel Deposits at Torres del Paine National Park, Southern Chile." GSA Bulletin 126, nos.9–10 (September 1): 1317–1339. [Tyndall area—has characteristics of both concentration and conservation Lagerstätten]

- Sun, Ge., David L. Dilcher, Shaoling Zheng, and Zhekun Zhou. "In search of the first flower: a Jurassic angiosperm Archaefructus from Northeast China." Science 282, no. 5394 (27 November): 1692– 1695. [A landmark paper opening the door for the quest for the oldest flowering plant in China, first thought to be Jurassic; Yixian Lagerstätte, redated as Cretaceous, part of Jehol Biota; Thomas 2016b]
- Trzęsiok, Dawid, Tomasz Krzykawski, Robert Niedźwiedzki, Krzysztof Brom, Przemysław Gorzelak, and Mariusz A. Salamon. 2014. "Paleoenvironment of the Upper Cretaceous (Coniacian) Concretion-Bearing Lagerstätten from Poland." *Palaeogeography, Palaeoclimatology, Palaeoecology* 401 (1 May): 154–165. [Stary Waliszów Lagerstätte]
- Varejäo, Filipe G., Lucas Verissimo Warren, Marcello Guimaraes Simoes, and Franz T. Fürisch. 2019, "Exceptional Preservation of Soft Tissues by Microbial Entombment: Insights into the Taphonomy of Crato Konservat-Lagerstätte." *Palaios* 34, no.7 (August): 331–348.
- Varicchio, David J., Paul C. Sereno, Zhao Xijin, Tan Lin, Jeffrey A. Wilson, and Gabrielle H. Lyon. 2008. "Mud-Trapped Herd Captures Evidence of Distinctive Dinosaur Sociality." Acta Palaeontologica Polonica 53, no. 4: 567–578. [Inner Mongolia mass kill site, although not technically a Lagerstätte; where "a catastrophic miring of a herd of Sinornithomimus" juveniles took place; Cretaceous; Walker 2009b; Clarey 2015b, 150]
- Vecchia, Fabio Marco Dalla, Paolo Arduini, and Alexander Wilhelm Armin Kellner. 2001. "The first pterosaur from the Cenomanian (Late Cretaceous) Lagerstätten of Lebanon." *Cretaceous Research* 22, no.2 (April): 219–225. [Hakel or Haqel Lagerstätte]
- Vecchia, Fabio M. Dalla, Sandro Venturini, and M. Tenor. 2002. "The Cenomanian (Late Cretaceous) Konservat-Lagerstätte of en Nammoûra (Kesrouâne Province), northern Lebanon." *Bollettino della Societa Paleontologica Italiana* 40, no.1 (March): 51–68. [also known as Ain el-Garbour Lagerstätte]
- Vinther, Jakob, Robert Nicholls, Stephan Lautenschlager, Michael Pittman, Thomas G. Kaye, Emily Rayfield, Gerald Mayr, and Innes C. Cuthill. 2016. "3D Camouflage in an Ornithischian Dinosaur." *Current Biology* 26, no. 18 (September 26): 2456–2462. [Jehol Biota, Cretaceous; this article discussed by **Thomas 2016**]
- Vrazo, M. B., A. F. Diefendorf, B. E. Crowley, and A. D.Czaja. 2018. "Late Cretaceous Marine Arthropods Relied on Terrestrial Organic Matter as a Food Source: Geochemical Evidence from the Coon

Creek Lagerstätte in the Mississippi Embayment." *Geobiology* 16, no.2 (March): 160–178. [Tennessee and Mississippi]

- Wang, Xin, Chungkun Shih, Zhong-Jian Liu, Longbiao Lin, and Kamal Jeet Singh. 2021.
  "Reconstructing the *Callianthus* Plant: An Early Aquatic Angiosperm from the Lower Cretaceous of China." *Cretaceous Research* 128 (December): Article no. 104983. [Jehol Biota].
- Wang, Xiaolin, and Zhonghe Zhou. 2004. "Pterosaur Embryo from the Early Cretaceous." *Nature* 429, no. 6992 (10 June): 621. [Liaoning Lagerstätte; **Catchpoole 2005**]
- Wang, Xiaoli, Jingmai K O'Connor, John N Maina, Yanhong Pan, Min Wang, Yan Wang a,b, Xiaoting Zheng a,b, Zhonghe Zhou c. 2018.
  "Archaeorhynchus Preserving Significant Soft Tissue Including Probable Fossilized Lungs." Proceedings of the National Academy of Sciences USA 115, no. 45 (October 22): 11555–11560. [Jehol Biota; Anon. 2019c; Anon. 2019d]
- Woolley, C. Henrik, David J. Bottjer, Frank A. Corsetti, and Nathan D. Smith. 2024. "Quantifying the Effects of Exceptional Fossil Preservation on the Global Availability of Phylogenetic Data in Deep Time." *PLoS One* 19, no.2 (February 14): e0297637. [Mentions several Lagerstätte sites, but especially focuses on Djadokhta Formation; Snelling 2009, 547–548]
- Xing, Lida, Phil R. Bell, W. Scott Persons IV, Shuan Ji, Tetsuto Miyashita, Michael E. Burns, Qiang Ji, and Philip J. Currie. 2012. "Abdominal Contents from Two Large Early Cretaceous Compsognathids (Dinosauria: Theropoda) Demonstrate Feeding Confuciusornithids and Dromaeosaurids." *PLoS One* 7, no. 8 (August 29): e44012. [Yixian Formation, incl. the Jianshangou Bed; Catchpoole 2013; Sanders 2018, esp. note 3]
- Xu, Xing, Xiao-Lin Wang, and Xiao-Chun Wu. 1999.
  "A Dromaeosaurid Dinosaur with a Filamentous Integument from the Yixian Formation of China." *Nature* 401, no.6750 (16 September): 262–266.
  [Anon. 1999]
- Xu, Xing, Mark A. Norell, Xuewen Kuang, Xiaolin Wang, Qi Zhao, and Chengkai Jia. 2004. "Basal Tyrannosauroids from China and Evidence for Protofeathers in Tyrannosauroids." *Nature* 431, no.7009 (November): 680–684. [Yixian Lagerstätte; **Oard 2011**]
- Xu, Xing, Kebai Wang, Ke Zhang, Qingyu Ma, Lida Xing, Corwin Sullivan, Dongyu Hu, Shuqing Cheng, and Shuo Wang. 2012. "A Gigantic Feathered Dinosaur from the Lower Cretaceous of China." *Nature* 484 (5 April): 92–95. [Yixian Lagerstätte; **Sherwin and Thomas 2012**]

- Yang, Saihong, Huaiyu He, Fan Jin , and Zhonghe Zhou. 2020. "The Appearance and Duration of the Jehol Biota: Constraint from the SIMS U-Pb Zircon Dating for the Huajiying Formation in Northern China." *Proceedings of the National* Academy of Sciences USA 117, no.25 (March 29): 14299–14305. [Sibley 2007]
- Yang, Zixiao, Baoyu Jiang, Jiaxin Xu, and Maria E. McNamara. 2024. "Cellular Structure of Dinosaur Scales Reveals Retention of Reptile-Type Skin During the Evolutionary Transition to Feathers." *Nature Communications* 15, no. 1 (21 May): Article no. 4063. [Jehol Biota; Ham 2024a]
- Yu, Zhiqiang, Min Wang, Youjuan Li, Chenglong Deng, and Huaiyu He. 2021. "New Geochronological Constraints for the Lower Cretaceous Jiufotang Formation in Jianchang Basin, NE China, and Their Implications for the Late Jehol Biota." Palaeogeography, Palaeoclimatology, Palaeoecology 583, no. 10 (1 December): Article no. 110657. [Currently this is the definitive study on redating of the Jehol Biota taking it from the Jurassic into the Lower Cretaceous with implications for dating the earliest flower.]
- Zheng, Xiaoting, Jingmai O'Connor, Fritz Huchzermeyer, Xiaoli Wang, Yan Wang, Min Wang, and Zhonghe Zhou. 2013. "Preservation of Ovarian Follicles Reveals Early Evolution of Avian Reproductive Behaviour." *Nature* 495, no.7442 (March 28): 507–511. [Jehol Biota; Thomas 2013b]
- Zhiheng Li, Min Wang, Thomas A. Stidham, and Zhonghe Zhou. 2023. "Decoupling the Skull and Skeleton in a Cretaceous Bird with Unique Appendicular Morphologies." *Nature Ecology and Evolution* 7, no.1 (2 January): 20–31. [Liaoning Province, China; Article discussed by Haynes and Lacey 2023].
- Zheng, Xiaoteng, Alida M. Bailleul, Zhiheng Li, Xiaoli Wang, and Zhonghe Zhou. 2021. "Nuclear Preservation in the Cartilage of the Jehol dinosaur *Caudipteryx.*" *Communications Biology* 4 (24 September): Article no. 1125. [Only the second time chromatin material has been found in a fossil vertebrate; **Thomas 2021**]
- Zhou, Zhonghe. 2014. "The Jehol Biota, an Early Cretaceous Terrestrial Lagerstätte: New Discoveries and Implications." *National Science Review* 1, no. 4 (December): 543–559. [One of the most significant Lagerstätten in China]
- Zhou, Zhonghe, Paul M. Barrett, and Jason Hilton.
  2003. "An Exceptionally Preserved Lower Cretaceous Ecosystem." *Nature* 421, no.6925 (20 February): 807–814. [Jehol Biota; Sibley 2007, note 4]

- Zhou, Zhonghe, and Yuan Wang. 2010. "Vertebrate Diversity of the Jehol Biota as Compared with other Lagerstätten." Science China Earth Sciences 53 (1 December): 1894–1907.
- Zinsmeister, William J. 1998. "Discovery of Fish Mortality Horizon at the K-T Boundary on Seymour Island: Re-evaluation of Events at the End of the Cretaceous." *Journal of Paleontology* 72, no.3 (May): 556–571. [Described as a fish "bone-bed" just above the K-T iridium layer, Antarctic Peninsula.]

# Paleogene

- Allen, Sarah E., Alexander J. Lowe, Daniel J. Peppe, and Herbert W. Meyer. 2020. "Paleoclimate and Paleoecology of the Latest Eocene Florissant Flora of Central Colorado, USA." *Palaeogeography*, *Palaeoclimatology*, *Palaeoecology* 551 (1 August): Article no. 109678. [Oard 2019]
- Archibald, S. Bruce, David R. Greenwood, Robin Y. Smith, Rolf W. Mathewes, and James F. Bassinger. 2011. "Great Canadian Lagerstätten 1. Early Eocene Lagerstätten of the Okanagan Highlands (British Columbia and Washington State)." Geoscience Canada 38, no.4 (December): 155–164. [Several Lagerstätten, incl. McAbee and Horsefly]
- Beard, Chris. 2009. "Why Ida Fossil is not the Missing Link." *New Scientist* (21 May). https://www. newscientist.com/article/dn17173-why-ida-fossilis-not-the-missing-link/. [Messel Lagerstätte, Germany; Beard does not put "Ida" on direct line with anthropoids; supported by ICR's **Thomas 2010a**]
- Brown, P.R., T. Dunkley Jones, J.A. Lees, R.D. Randell, J.A. Mizzi, P.N. Pearson, H.K. Coxall, J.R. Young, C.J. Nicholas, A. Karega, J. Singano, and B.S. Wade. 2008. "A Paleogene Calcareous Microfossil Konservat-Lagerstätte from the Kilwa Group of Coastal Tanzania." *GSA Bulletin* 120, nos. 1–2 (January 1): 3–12.
- CoBabe, Emily A., Kevin R. Chamberlain, Michael A. Ivie, and J. Joseph Giersch. 2002. "A New Insect and Plant Lagerstätte from a Tertiary Lake Deposit Along the Canyon Ferry Reservoir, Southwestern Montana." *Rocky Mountain Geology* 37, no.1 (Spring): 13–30. [Oligocene]
- Collinson, Margaret E., Steven R. Manchester, and Volker Wilde. 2012. Fossil Fruits and Seeds of the Messel Biota, Germany. Stuttgart, Germany: Schweizerbart. [Snelling 2009, 572–573; Mitchell 2014e]
- Coster, Pauline, and Stephane Legal. 2021. "An Early Oligocene fossil Lagerstätten from the Lacustrine Deposits of the Luberon UNESCO Global Geopark." *Geoconservation Research* 4, no.2: 604–612. [Southeast France]

- Edwards, N.P., P.L. Manning, U. Bergmann, P.L. Larson, B.E. van Dongen, W.I. Sellers, S.M. Webb, et al. 2014. "Leaf Metallome Preserved Over 50 Million Years." *Metallomics* 6, no.4: 774–782. [Green River Formation; Anon. 2014]
- Falk, Daniel, Oliver Wings, Richard Unitt, Jon Wade, and Maria E. McNamara. 2024. "Fossilized Anuran Soft Tissues Reveal a New Taphonomic Model for the Eocene Geiseltal Konservad-Lagerstässe, Germany." Scientific Reports 14 (April 23): Article no. 7876.
- Friedman, Matt, Hermione T. Beckett, Roger A. Close, and Zerina Johanson. 2015. "The English Chalk and London Clay: Two Remarkable British Bony Fish Lagerstätten." Geological Society of London, Special Publications 430 (23 November): 165–200. [Paleogene, south part of England]
- Friedman, Matt, and Giorgio Carnevale. 2018. "The Bolca Lagerstätten: Shallow Marine Life in the Eocene." *Journal of the Geological Society* 175, no. 4 (May 8): 569–579. [Italy]
- Gaudant, Jean, André Nei, Denise Nury, Monette Véran, and Giorgio Carnevale. 2018. "The uppermost Oligocene of Aix-en-Provence (Bouchesdu-Rhône, Southern France): A Cenozoic Brackish Subtropical Konservat-Lagerstätte, with Fishes, Insects and Plants." *Comptes Rendus Paleovol* 17, no.7 (August–September): 460–478. [Described as "one of the most famous for Cenozoic fossils in Europe," known since the late eighteenth century]
- Gingerich, Philip D. 2024. "Wadi Al-Hitan, or 'Valley of the Whales'—An Eocene World Heritage Site in the Western Desert of Egypt." *Geological Society, London, Special Publications* 543: 421–430.
  [Discussed in detail by Bates 2022]
- Giusberti, Luis, Alexander Bannikov, Flavia Boscolo Galazzo, Eliana Fornaciari, Joost Frieling, Valeria Luciani, Cesare Andrea Papazzoni, Guido Roghi, Stefan Schouten, Appy Sluijs, Francesca R. Bosellini, and Roberto Zorzin. 2014. "A New Fossil-Lagerstätte from the Lower Eocene of the Lessini Mountains (Northern Italy): A Multi-Disciplinary Approach." Palaeogeography, Palaeoclimatology, Palaeoecology 403 (1 June): 1–15.
- Greenwalt, Dale E., Yulia S. Goreva, Sandra M. Siljeström, Tim Rose, and Ralph E. Harbach. 2013. "Hemoglobin-Derived Porphyrins Preserved in a Middle Eocene Blood-Engorged Mosquito." *Proceedings of the National Academy of Sciences USA* 110, no.46 (October 14): 18496–18500. [Kishenehn Lagerstotte; Mitchell 2013; Thomas 2013a; Thomas and Clarey 2014.]
- Greenwood, David R., and James F. Basinger. 1994. "The Paleoecology of High Latitude Eocene Swamp Forests from Axel Heiberg Island, Canadian High Arctic." *Review of Palaeobotany and Palynology* 81, no.1 (March): 83–97. [Oard 1995a,b]

- Harding, Ian C. 2019. "Unique Preservation of Siliceous Dinoflagellate Motile Cells from the Oligocene Lagerstätte of Sieblos, Germany." *Paleontology* 63, no.2 (March): 331–348.
- Heingård, Miriam, Peter Sjövall, Bo P. Schultz, René L. Sylvestersen, and Johan Lindgren.
  2022. "Preservation and Taphonomy of Fossil Insects from the Earliest Eocene of Denmark." *Biology* 11, no.3 (March). https://doi.org/10.3390/ biology11030395. [Fur Formation and Stolleklint Clay; see Lindren, 2017 and 2019 below]
- Jahren, A. Hope, and Leonel Sternberg. 2008. "Annual Patterns Within Tree Rings of the Arctic Middle Eocene (ca. 45Ma): Isotopic Signatures of Precipitation, Relative Humidity, and Deciduousness." *Geology* 36, no. 2 (February): 99– 102. [Axel Heiberg Lagerstätten; **Gibson 2008**]
- Joyce, Walter G., Norbert Micklich, Stephan F.K. Schaal, and Torsten M. Scheyer. 2012. "Caught in the Act: The First Record of Copulating Fossil Vertebrates." *Biology Letters* 8, no.5 (June): 846– 848. [Messel Pit; Catchpoole 2012]
- Lauridsen, Bodil W., and Morten Bjerager. 2021. "The Fauna of a Danian Conservation Lagerstätten from the Cold-Water Coral Mound Complex at Faxe, Denmark." *Paleogeography, Paleoclimatology, Paleoecology* 584 (15 December): Article no. 110700. [Baunekule Facies, lowest Paleocene]
- Leopold, Estella B., Steven R. Manchester, and Herbert W. Meyer. 2008. "Phytogeography of the Late Eocene Flora Reconsidered." In *Paleontology* of the Upper Eocene Florissant Formation, Colorado. GSA Special Paper 435. Edited by Herbert W. Meyer, and Dena M. Smith, 53–70. [Reinterpreted by Oard 2019, 2024a]
- Lindgren, Johan, Takeo Kuriyama, Henrik Madsen, Peter Sjövall, Wenxia Zheng, Per Uvdal, Anders Engdahl, Alison E. Moyer, Johan A. Gren, Naoki Kamezaki, Shintaro Ueno, and Mary H. Schweitzer. 2017. "Biochemistry and Adaptive Colouration of an Exceptionally Preserved Juvenile Fossil Sea Turtle." *Scientific Reports* 7 (October 17): Article no. 13324. [Fur Formation; **Thomas 2017; Anon. 2018**]
- Lindgren, Johann, Dan-Eric Nilsson, Peter Sjövall, Martin Jarenmark, Shosuke Ito, Kazumasa Wakamatsu, Benjamin P. Kear, et al. 2019. "Fossil Insect Eyes Shed Light on Trilobite Optics and the Arthropod Optic Screen." *Nature* 573, no. 7772 (5 September): 122–125. [Fur Formation, Denmark; Anon. 2019e; Anon. 2020d]
- Malekhosseini, Mahdieh, Hans-Jürgen Ensikat, Victoria E. McCoy, Torsten Wappler, Maximilian Weigend, Lutz Kunzmann, and Jes Rust. 2022. "Traces of Calcium Oxalate Biomineralization in Fossil Leaves from Late Oligocene Maar

Deposits from Germany." *Scientific Reports* 12 (24 September): Article no. 15959, [Rott Fossil Lagerstätte].

- McNamara, Maria E., Derek E.G. Briggs, Patrick J. Orr, Sonja Wedman, Heeso Noh, and Hui Cao. 2011. "Fossilized Biophotonic Nanostructures Reveal the Original Colors of 47-Million-Year-Old Moths." *PLOS Biology* (15 November). https://doi. org/10.1371/journal.pbio.1001200. [A landmark paper on the reconstruction of original moth colors. Discovered at Messel, Germany; cited at **ICR, Jan. 5, 2012**].
- Mizomoto, Nobuaki, Shinya Miyata, and Stephen C. Pratt. 2019. "Inferring Collective Behaviour from a Fossilized Fish Shoal." *Proceedings of the Royal Society B* 286, no. 1903 (29 May): Article no. 20190891. [Green River Formation Lagerstätte; summarized in *The Atlantic*, May 31, 2019; Morris 2007, 105; Whitmore 2009, 234; Ham 2019a]
- O'Reilly, Shane, Roger Summons, Gerald Mayr, and Jakob Vinther. 2017. "Preservation of Uropygial Gland Lipids in a 48-Million-Year-Old Bird." *Proceedings of the Royal Society B* 284, no. 1865 (25 October): Article no. 20171050. [Lipids are easier to detect than other fossil biomolecules; Messel Pit, Paleogene; **Anon. 2017a**]
- Poschmann, Markus, Thomas Schindler, and Dieter Uhl. 2010. "Fossil-Lagerstätte Enspel: A Short Review of Current Knowledge, the Fossil Association, and a Bibliography." *Palaeobiodiversity and Palaeoenvironments* 90 (17 February): 3–20.
- Ross, Andrew J., and Angela Self. 2014. "The Fauna and Flora of the Insect Limestone (Late Eocene), Isle of Wight, UK: Introduction, History and Geology." *Earth and Environmental Science Transactions of the Royal Society of Edinburgh* 104, nos. 3–4 (September): 233–244. [Isle of Wight Insect Fauna]
- Wedmann, S. D. Uhl, T. Lehmann, R. Garrouste, A. Nel, B. Gomez, K. Smith, and S. F. K. Schaal. 2018.
  "The Konservat-Lagerstätte Menat (Paleocene; France): An Overview and New Insights." Geologica Acta 16, no.2: 189–213.
- Wilson, Mark V.H. 1996. "Taphonomy of a Mass-Death Layer of Fishes in the Paleocene Paskapoo Formation at Joffre Bridge, Alberta, Canada." *Canadian Journal of Earth Sciences* 33, no.11 (November): 1487–1498. [Described as caused by "a flood;" Paskapoo Mass-kill Site; Snelling 2009, 572]

# Neogene

Álvarez-Parra, Sergio, Joaquín Albesa, Soledad Gouiric-Cavalli, Plini Montoya, Enrique Peñalver, Josp Sanjuan, and Vicente D. Crespo. 2021. "The Early Miocene Lake of Foieta La Sarra-A in Eastern Iberian Peninsula and its Relevance for the Reconstruction of the Ribesalbes-Alcora Basin Palaeoecology." *Acta Palaeontological Polonika* 66, no.3 (August): S13–S30.

- Archer, Michael, Derrick A. Arena, Mina Bassarova, Robin M.D. Beck, Karen Black, Walter E. Boles, Phillipa Brewer, et al. 2006. "Current Status of Species-Level Representation in Faunas from Selected Fossil Localities in the Riversleigh World Heritage Area, Northwestern Queensland." *Alcheringa* 30, issue supplement 1: (February) 1–17. [Cited in Oard 2022b; Riversleigh mentioned by Wise 1996b; cited in Arment 2020]
- Belaústegui, Zain, Rosa Domènech, and Jordi Martinell. 2018. "An Ichnofossil-Lagerstätte from the Miocene Vilanova Basin (NE Spain): Taphonomic and Paleoecologic Insights Related to Bioerosion Structures." *Palaios* 33, no. 1 (January 16): 16–28.
- Blackburn, D.T., and I.R.K. Sluiter. 1994. "The Oligocene-Miocene Coal Floras of Southeastern Australia." In *History of the Australian Vegetation Cretaceous to Recent*. Edited by Robert S. Hill, 328–368. Adelaide, Australia: Adelaide University Press. [Includes a discussion of the Gippsland paleoflora, especially the Latrobe Valley, which is a Lagerstätte. See Korasidis et al. (2020) below].
- Boscovic, Danilo S., Uriel L. Vidal, Kevin E. Nick, Raul Esperante, Leonard H. Brand, Kenneth R. Wright, Lawrence B. Sandberg, and Bethania C.T. Siviero. 2021. "Structural and Protein Preservation in Fossil Whale Bones from the Pisco Formation (Middle-Upper Miocene), Peru." *Palaios* 36, no.4 (5 May): 155–164. [Esperante 2025]
- Bosio, Giulia, Alberto Collareta, Claudio Di Celma, Olivier Lambert, Felix G. Marx, Christian de Muizon, Anna Gioncada, Karen Gariboldi, Elisa Malinverno, Rafael Varas Malca, Mario Urbina, and Giovanni Bianucci. 2021. "Taphonomy of Marine Vertebrates of the Pisco Formation (Miocene, Peru): Insights into the Origin of an Outstanding Fossil-Lagerstätte." *PLOS One* 16, no.7 (July 15): e0254395.
- Brand, Leonard H., Raúl Esperante, Arthur V. Chadwick, Orlando Poma Porras, and Merling Alomía. 2004. "Fossil Whale Preservation Implies High Diatom Accumulation Rate in the Miocene-Pliocene Pisco Formation of Peru." *Geology* 32, no.2 (February 1): 165–168. [Discussed and summarized by **Oard 2004a**; and by **Tyler 2005**]
- Bustillo, María Ángeles, Margarita Díaz-Molina, María José López-García, Xavier Delclòs, Pablo Peláez-Campomanes, Enrique Peñalver,

Rosario Rodríguez-Talavera, and Borja Sanchiz. 2017. "Geology and Paleontology of Tresjuncos (Cuenca, Spain), a New Diatomaceous Deposit with Konservat-Lagerstätte Characteristics from the European Late Miocene." *Journal of Iberian Geology* 43 (3 August): 395–411.

- Collareta, Alberto, Walter Landini, César Chacaltana, Waldir Valdivia, Ali Altamirano Sierra, Mario Urbina-Schmitt, and Giovanni Bianucci. 2017. "A Well Preserved Skeleton of the Fossil Shark Cosmopolitodus hastalis from the Late Miocene of Peru, Featuring Fish Remains as Fossilized Stomach Contents." Revista Italiana di Paleontologia e Stratigrafia 123, no. 1 (March): 11–22. [Pisco Formation]
- Crespo, Vicente D., Rafael Marquina-Blasco, Francisco Javier Ruiz-Sánchez, and Plini Montoya. 2019. "An Unusual Insectivore Assemblage from the Early Miocene of Southwestern Europe: The Talpids and Dimylids from the Ribesalbes/Alcora Basin (Spain)." *Comptes Rendus Palevol* 18, no.4 (June): 407–416. [The Lagerstätte of Rinconada Mine]
- DeKoster, Rebecca N., William C. Rember, and Victoria E. McCoy. 2023. "Characterization of a Pyritized Fossil Pollen Cone from Clarkia, Idaho." *Review of Palaeobotany and Palynology* 318 (November): Article no. 104988. [Clarkia Lagerstätte; this study cited by **Oard 2002**]
- Edwards, Nichalas, P.H.E. Barden, B.E. van Dongen, P.L. Manning, P.L. Larson, U. Bergmann, W.I. Sellers, and R.A. Wogelius. 2011. "Infrared Mapping Resolves Soft Tissue Preservation in 50-Million Year-Old Reptile Skin." *Proceedings of the Royal Society B* 278, no.1722 (7 November): 3209–3218. [Green River Formation; Mitchell 2011]
- Fiorillo, Anthony R., Stephen T. Hasiotis, and Yoshitsugu Kobayashi. 2014. "Herd Structure in Late Cretaceous Polar Dinosaurs: A Remarkable New Dinosaur Tracksite, Denali National Park, Alaska, USA." *Geology* 42, no.8 (August 1): 719– 722. [Not officially a Lagerstätten; Oard 2022]
- Höfig, Daianne, Yi Ge Zhang, Liviu Giosan, Qin Leng, Jiaqi Liang, Mengxiao Wu, Brent Miller, and Hong Yang. 2021. "Annually Resolved Sediments in the Classic Clarkia Lacustrine Deposits (Idaho, USA) During the Middle Miocene Climate Optimum." *Geology* 49, no.8 (April 15): 916–920.
- Kaulfuss, Uwe, Daphne E. Lee, Barbara I. P. Barratt, Richard A. B. Leschen, Marie-Claude Larivière, Gennady M. Dlussky, Ian M. Henderson, and Anthony C. Harris. 2014. "A Diverse Terrestrial Fossil Arthropod Fauna from New Zealand: Evidence from the Early Miocene Foulden Maar Fossil Lagerstätte." *Lethaia* 48, no.3 (July): 299– 308.

- Kaulfuss, Uwe, Daphne E. Lee, Jo-Anne Wartho, Elliot Bowie, Jon K. Lindqvist, John G. Conran, Jennifer M. Bannister, Dallas C. Mildenhall, Elizabeth M. Kennedy, and Andrew R. Gorman. 2018.
  "Geology and Palaeontology of the Hindon Maar Complex: A Miocene Terrestrial Fossil Lagerstätte in Southern New Zealand." *Palaeogeography, Palaeoclimatology, Palaeoecology* 500 (1 July): 52– 68. [The second maar Lagerstätte found in New Zealand, the first being the Folden Maar]
- Korasidis, Vera A., Malcolm W. Wallace, Anne-Marie P. Tosolini, and Robert S. Hill. 2020. "The Origin of Floral Lagerstätten in Coals." *Palaios* 35, no. 1 (January 13): 22–36. [Latrobe Lagerstätte, in Gippsland Basin, Australia; known for its thick deposits of brown coal; **Snelling 1982; Walker,** 2001]
- Maguire, Evin P., Rodney M. Feldman, Silvio Casadío, and Carrie E. Schweitzer. 2016. "Distal Volcanic Ash Deposition as a Cause for Mass Kills of Marine Invertebrates During the Miocene in Northern Patagonia, Argentina." *Palaios* 31, no. 12 (December 1): 577–591. [Technically not a Lagerstätte but described as a "mass kill" deposit]
- McCurry, Matthew R., David J. Cantrill, Patrick M. Smith, Robert Beattie, Mary Dettmann, Viktor Baranov, Charles Magee, et al. 2022. "A Lagerstätte from Australia Provides Insight into the Nature of Miocene Mesic Ecosystems." Science Advances 8, no.1 (January 7). DOI: 10.1126/ sciadv.abm1406 [named McGraths Flat; also called Gippsland Basin Lagerstätte, known for its McGraths spider; Sherwin 2023d]
- McNamara, Maria, Patrick J Orr, Stuart L Kearns, Luis Alcalá, Pere Anadón, and Enrique Peñalver-Mollá. 2009. "Organic Preservation of Fossil Musculature with Ultracellular Detail." *Proceedings of the Royal Society B* 277, no.1680 (October 14): 423–427. [Ribes/Algora Basin, Spain; this article cited by **Thomas 2009a**; also by AiG in **Anon. 2009**]
- McNamara, Maria, Patrick J. Orr, Stuart L. Kearns, Luis Alcalá, Pere Anadón, and Enrique Peñalver Mollá. 2009. "Soft-Tissue Preservation in Miocene Frogs from Libros, Spain: Insights into the Genesis of Decay Environments." *Palaios* 24, no.2 (February): 104–117.
- Métais, Grégoire, and Sevket Sen. 2018. "The Late Miocene Mammals from the Konservat-Lagerstätte of Saint Bauzile (Ardèche, France)." *Comptes Rendus Palevol* 17, no.7 (June): 479–493.
- Monaco, Paolo, and Alessio Checconi. 2010. "Taphonomic Aspects of the Miocene Ichnofossil-Lagerstätte from Calcarenite Turbiditic Beds in the Verghereto Marls Formation (Northern

Appenines, Italy)." *Revista Italiana di Paleontologia e Stratigrafia* 116, no.2 (July): 237–252.

- Mora-Rojas, Laura, Andrés Cárdenas, Carlos Jaramillo, Daniele Silvestro, Germán Bayona, Sebastián Zapata, Federico Moreno, César Silva, Jorge W. Moreno-Bernal, Juan Sebastián Victor Jaramillo, Valencia, and Mauricio Ibañez. 2023. "Stratigraphy of a Middle Miocene Neotropical Lagerstätte (La Venta Site, Colombia)." Geodiversitas 45, no.6 (13 April): 199-221.
- Peñalver, Enrique, and Jean Gaudant. 2010. "Limnic Food Web and Aalinity of the Upper Miocene Bicorb Palaeolake (Eastern Spain)." *Palaeogeography, Palaeoclimatology, Palaeoecology* 297, nos. 3–4 (20 November): 683–696. [Bicorb Basin]
- Pyenson, Nicholas D. Carolina S. Gutstein, James F. Parham, Jacobus P. Le Roux, Catalina Carreño Chavarría, Holly Little, Adam Metallo, et al. 2014.
  "Repeated Mass Strandings of Miocene Marine Animals from Atacama Region of Chile Point to Sudden Death at Sea." *Proceedings of the Royal Society B* 281, no.1781 (22 April): Article no. 20133316. [Site should be classed as a Konzentrat-Lagerstätte; Walker 2011]
- Salvador, Rodrigo B., Olaf Höltke, Bárbara Romera, and Michael W. Rasser. 2022. "Fossil Molluscs from the Middle Miocene of Öhningen, Southwestern Germany." *Folia Malacologica* 30, no.2 (April): 80–92. [Oeningen Lagerstätte]
- Sendra, Joaquín, Matías Reolid, and Jesús Reolid. 2020. "Palaeoenvironmental Interpretation of the Pliocene Fan-Delta System of the Vera Basin (SE Spain): Fossil Assemblages, Ichnology, and Taphonomy." *Palaeoworld* 29, no.4 (December): 769–788.
- Wilkinson, I.P., P.R. Wilby, M. Williams, D.J. Siveter, A.A. Page, L. Leggitt, and D.A. Riley. 2010. "Exceptionally Preserved Ostracodes from a Middle Miocene Palaeolake, California, USA." *Journal of the Geological Society* 167, no.4 (21 June): 817–825. [Barstow Formation, California]
- Williams, Mark, David J Siveter, Allan C Ashworth, Philip R Wilby, David J Horne, Adam R Lewis and David R Marchant. 2008. "Exceptionally Preserved Lacustrine Ostracods from the Middle Miocene of Antarctica: Implications for High-Latitude Palaeoenvironment at 77° South." *Proceedings of the Royal Society B* 275, no. 1650 (July 22): 2449– 2454. [Western Olympus Range, Dry Valley]
- Wolkenstein, Klaus, and Gernot Arp. 2021. "Taxon- and Senescence-Specific Fluorescence of Colored Leaves from the Pliocene Willershausen Lagerstätte, Germany." *PalZ* 95 (10 February): 747–756.

Yang, Hong, and Shipu Yang. 2007. "The Shanwang Fossil Biota in Eastern China: A Miocene Konservat-Lagerstätte in Lacustrine Deposits." *Lethaia* 27, no. 4 (October): 345–354.

# Lagerstätten References of General Interest Relative to Creationism

- Allison, Peter A. 1988. "Konservat-Lagerstätten: Cause and Classification." *Paleobiology* 14, no.4 (Autumn): 331–344.
- Allison, Peter A., and Derek E.G. Briggs, eds. 1991. *Taphonomy: Releasing the Data Locked in the Fossil Record*. New York, New York: Plenum Press.
- Allison, Peter A., and Derek E.G. Briggs. 1993. "Exceptional Fossil Record: Distribution of Soft-Tissue Preservation Through the Phanerozoic." *Geology* 21, no.6 (June 1): 527–530.
- Barthel, K.W., N.H.M. Swinburne, and S. Conway Morris. 1990. Solnhofen: A Study in Mesozoic Palaeontology. Cambridge, England: Cambridge University Press. [Ching 2002; Walker 2003; Robinson, 2015; Anon. 2019f; Ham 2022]
- Behrensmeyer, Anna K. 2020. "Lagerstätten." In *Encyclopedia of Geology*. 2nd ed. Edited by David Alderton, and Scott A. Elias. Cambridge, Massachusetts: Academic Press.
- Brett, Carleton E., Gordon C. Baird, and Stephen E. Speyer. 1997. "Fossil Lagerstätten: Stratigraphic Record of Paleontological and Taphonomic Events." In: Paleontological Events: Stratigraphic, Ecological, and Evolutionary Implications. Edited by Carleton E. Brett, and Gordon C. Baird, 3–40. New York, New York: Columbia University Press.
- Brett, C.E., and A. Seilacher. 1991. "Fossil Lagerstätten: A Taphonomic Consequence of Event Stratification." In *Cycles and Events in Stratigraphy*. Edited by Gerhard Einsele, Werner Ricken, and Adolf Seilacher, 283–297. Berlin, Germany: Springer-Verlag.
- Briggs, Derek E. G. 2014. "Konservat-Lagerstätten 40 Years on: The Exceptional Becomes Mainstream." *The Paleontological Society Papers* 20 (October): 1–14.
- Christie, R.L., and N.J. McMillan. eds. 1991. Tertiary Fossil Forests of the Geodetic Hills, Axel Heiberg Island, Arctic Archipelago. Ottawa, Canada: Energy, Mines, and Resources. [A fossil Lagerstätte]
- Colbert, Edwin H. 1995. The Little Dinosaurs of Ghost Ranch. New York, New York: Columbia University Press. [This Upper Triassic Lagerstätte of New Mexico is famous for thousands of bones of the small dinosaur Coelophysis; pictured and described in Clarey 2015a, 144; also in Thomas and Clarey 2021] For a popular description of the

site see: https://roseannechambers.com/dinosaursof-ghost-ranch/.

- Collinson, Margaret E., Steven R. Manchester, Volker Welde, and Peta Hayes. 2010. "Fruit and Seed Floras from Exceptionally Preserved Biotas in the European Paleogene." *Bulletin of Geosciences* 85, no.1: 155–162. [One flora is the Isle of Wight Insect Lagerstätte, England.]
- Davis, Paul G., and Derek E.G. Briggs. 1998. "The Impact of Decay and Disarticulation on the Preservation of Fossil Birds." *Palaios* 13, no.1 (February 1): 3–13. [Discusses three Eocene sites—Messel, Green River, La Meseta—and one Jurassic site—Solnhofen; Oard and Klevberg 2008; Robinson 2015]
- Eliason, Chad M., Leah Hudson, Taylor Watts, Hector Garza, and Julia A. Clarke. 2017. "Exceptional Preservation and the Fossil Record of Tetrapod Integument." *Proceedings of the Royal Society B* 284, no. 1862 (13 September): Article no. 2017055. [A general survey of 143 tetrapod Konservat-Lagerstätten]
- Fraser, Nicholas C., and Hans-Dieter Sues. eds. 2017. *Terrestrial Conservation Lagerstätten: Windows into the Evolution of Life on Land.* Edinburgh, United Kingdom: Dunedin Academic Press. [Covers the entire Phanerozoic]
- Gabbott, Sarah E., Robert S. Sansom, and Mark
  A. Purnell. 2021. "Systematic Analysis of Exceptionally Preserved Fossils: Correlated Patterns of Decay and Preservation." *Palaeontology* 64, no. 6 (November): 789–803.
- Goldring, R. 1985. "Fossil Lagerstätten." *Philosophical Transactions of the Royal Society B* 311, no. 1148 (October 17): 25–26.
- Grande, Lance. 2013. The Lost World of Fossil Lake: Snapshots from Deep Time. Chicago, Illinois: University of Chicago Press. [Green River Formation Lagerstätte, Eocene; Thomas, 2013; Sherwin 2023; a general overview of Green River Formation, Anon. 2025]
- Grimaldi, David A. 2003. *Amber: Window to the Past.* New York, New York: Abrams. [Not considered Lagerstätten in this study and in at least one other]
- Hernick, Linda VanAller. 2003. *The Gilboa Fossils*. *New York State Museum Circular* 65. New York, New York: New York State Museum. [A fossil forest Lagerstätte].
- Hou Xian-Guang, David J. Siveter, Derek J. Siveter, Richard J. Aldridge, Cong Pei-Yun, Sarah E. Gabbott, Ma Xiao-Ya, Mark E. Purnell, and Mark Williams. 2017. The Cambrian Fossils of Chengjiang: The Flowering of Early Animal Life. Chichester, United Kingdom: John Wiley and Sons. [A fossil Lagerstätte site; Mitchell 2015a]

- Kluessendorf, Joanne. 1994. "Predictability of Silurian Fossil-Konservat-Lagerstätten in North America." *Lethaia* 27, no.4 (October): 337–344. (Eight Lagerstätten sites mentioned around the Michigan Basin).
- Lee, Daphne, Uwe Kaulfuss, and John Conran. 2022. Fossil Treasures of Foulden Maar: A Window into Miocene Zealandia. Dunedin, New Zealand: Otago University Press. [A Lagerstätte site]
- Lindgren, Johan, Hani F. Kaddumi, and Michael J. Polcyn. 2013. "Soft Tissue Preservation in a Fossil Marine Lizard with a Bilobed Tail Fin." *Nature Communications* 4 (10 September): Article no. 243. [Harrana Lagerstätten, Jordan—mosasaur site described in creationist Marcus Ross's dissertation]
- Lindgren, Johan, Takeo Kuriyama, Henrik Madsen, Peter Sjövall, Wenxia Zheng, Per Uvdal, Anders Engdahl, et al. 2017. "Biochemistry and Adaptive Colouration of an Exceptionally Preserved Juvenile Fossil Sea Turtle." *Scientific Reports* 7 (17 October): Article no.13324. [Fur Formation Lagerstätte; Anon. 2018b]
- Locatelli, Emma R. 2017. "The Exceptional Preservation of Plant Fossils: A Review of Taphonomic Pathways and Biases in the Fossil Record." Virtual Paleontology: The Paleontological Society Papers (July 21).
- Lyons, Timothy W. 2012. "A Perfect (Geochemical) Storm Yielded Exceptional Fossils in the Early Ocean." Proceedings of the National Academy of Sciences USA 109, no. 14 (March 23): 5138–5139.
- Maeda, Haruyoshi, Royal H. Mapes, and Gene Mapes. 2003. "Taphonomic Features of a Lower Permian Beached Cephalopod Assemblage from Central Texas." *Palaios* 18, nos.4–5 (October): 421–434. [A "mass kill site" composed exclusively of cephalopods that were probably washed ashore from near and far; location is near Coleman, Texas; compare with beached whales in mass kill site considered to be Lagerstätten in the Pisco Formation, Peru]
- Martill, David M. 1993. Fossils of the Santana and Crato Formations, Brazil. London, United Kingdom: The Palaeontological Association. [Cretaceous]
- Martill, David M., Günter Bechly, and Robert F. Loveridge. eds. 2007. *The Crato Fossil Beds of Brazil: Window into an Ancient World*. Cambridge, United Kingdom: Cambridge University Press.
- Morris, S. Conway. 1985. "Cambrian Lagerstätten: their Distribution and Significance." *Philosophical Transactions of the Royal Society of London B* 311, no. 1148 (17 October): 49–65. [Kinzers Formation]
- Nudds, John, and Paul Selden. 2008. "Fossil-Lagerstätten." *Geology Today* 24, no.4 (July/ August): 153–158.

- Nudds, John R., and Paul A. Selden. 2008. Fossil Ecosystems of North America: A Guide to the Sites and Their Extraordinary Biota. Chicago, Illinois: University of Chicago Press. [Book based on their best-selling first edition (2005), from which four sites in North America are reprinted along with ten new sites]
- Orr, Patrick J., Michael J. Benton, and Derek E.G. Briggs. 2003. "Post-Cambrian Closure of the Deep-Water Slope-Basin Taphonomic Window." *Geology* 31, no.9 (September): 769–772.
- Orr, Patrick, and Wayne Powell. eds. 2009. *Paleoenvironments and Taphonomy of Cambrian Lagerstätten*. Amsterdam: Elsevier. [Papers presented at the 2005 annual GSA meeting]
- Papazzoni, Cesare Andrea, Luca Giusberti, Giorgio Carnevale, Guido Roghi, Davide Bassi, and Zorzin Roberto. 2014. The Bolca Fossil-Lagerstätten: A Window into the Eocene World. Modena, Italy: Societa Paleontological Italiana.
- Poyato-Ariza, F.J., and A.D. Buscalioni, eds. 2016. Las Hoyas: A Cretaceous Wetland: A Multidisciplinary Synthesis After 25 Years of Research on an Exceptional Fossil Lagerstätte from Spain. Munchen, Germany: Verlag.
- Robison, Richard A., and Loren E. Babcock. 2011. Systematics, Paleobiology, and Taphonomy of Some Exceptionally Preserved Trilobites from Cambrian Lagerstätten of Utah. Lawrence, Kansas: University of Kansas, Paleontological Institute.
- Ross, Herbert H. 1953. "On the Origin and Composition of the Nearctic Insect Fauna." *Evolution* 7, no.2 (June): 145–158. [The best sites for fossil insects in North America: Mazon Creek, Illinois; Elmo, Kansas; and Florissant, Colorado all of them known today as Lagerstätten]
- Rossler, Ronny. 2021. "The Most Entirely Known Permian Terrestrial Ecosystem on Earth—Kept by Explosive Volcanism." *Palaeontographica Abeilung B* 303, nos.1–3 (August 6): 1–75.
  [Probably the most definitive report on one of the most comprehensive, well-preserved Permian terrestrial Lagerstätte, which is at Chemnitz. Another is at the Wuda Tuff; see Pfefferkorn]
- Schaal, Stephan, and Willi Ziegler. eds. 1992. Messel: An Insight into the History of Life and of the Earth. Oxford, United Kingdom: Clarendon Press. [Reviewed by Coffin, 1995]
- Schweitzer, Mary H., Jennifer L. Wittmeyer, John R. Horner, and Jan K. Toporski. 2005. "Soft-Tissue Vessels and Cellular Preservation in *Tyrannosaurus rex.*" *Science* 307, no.5717 (March 25): 1952–1955. [The bombshell report on the discovery of blood vessels and osteocytes in dinosaur bone; too many creationist studies referring to Schweitzer to acknowledge here]

- Seilacher, A, W.-E. Reif and F. Westphal. 1985. "Sedimentological, Ecological and Temporal Patterns of Fossil Lagerstätten." *Philosophical Transactions of the Royal Society B* 311, no.1148 (October 17): 5–24.
- Seldon, Paul, and John Nudds. 2012. *The Evolution* of Fossil Ecosystems. 2nd ed. London, United Kingdom: Manson Publishing. [Contents: "The authors have brought together succinct summaries of 14 of the better-known fossil Lagerstätten"]
- Shcherbakov, Dmitry. 2008. "Madygen, Triassic Lagerstätte Number One, Before and After Sharov." *Alavesia* 2 (January): 113–124.
- Steadman, David W., Richard Franz, Gary S. Morgan, Nancy A. Albury, Brian Kakuk, Kenneth Broad, Shelley E. Franz, Keither Tinker, Michael P. Pateman, Terry A. Lott, David M. Jarzen, and David L. Dilcher. 2007. "Exceptionally Well-Preserved Late Quaternary Plant and Vertebrate Fossils from a Blue Hole on Abaco, the Bahamas." *Proceedings of the National Academy of Sciences* USA 104, no.50 (December 11): 19897–19902. [Not counted as a Lagerstätte in the present study because it is Pleistocene]
- Università di Bologna. 2021. "A Dinosaur Trove in Italy Rewrites the History, Geography and Evolution of the Ancient Mediterranean Area." *Phys. Org.* (December 2). https://phys.org/ news/2021-12-dinosaur-trove-italy-rewriteshistory.html. [Highlights perhaps the most important Lagerstätten find in Italy—the Cretaceous Villaggio del Pescatore Lagerstätte at Trieste; **Oard 2024b**]
- Voigt, Sebastian, Michael Buchwitz, Jan Fischer, Ilja Kogan, Philippe Moisan, Jörg W. Schneider, Frederik Spindler, Andreas Brosig, Marvin Preusse, Frank Scholze, and Ulf Linnemann. 2017. "Triassic Life in an Inland Lake Basin of the Warm-Temperate Biome—the Madygen Lagertstätte (Kyrgyzstan, Central Asia)." In Terrestrial Conservation Lagerstätten: Windows into the Evolution of Life on Land. Edited by Nicholas C. Fraser and Hans-Dieter Sues, 65–104. Dunedin, United Kingdom: Academic Press.
- Witkowski, Caitlyn, Neal S. Gupta, Hong Yang, Qin Leng, Christopher J. Williams, Derek E.G. Briggs, and Roger E. Summons. 2012.
  "Molecular Preservation of Cenozoic Conifer Fossil Lagerstätten from Banks Island, the Canadian Arctic." *Palaios* 27, no.5 (May–June): 279–287.
  [Miocene and Pliocene, comparisons made with other conifer Lagerstätten at Axel Heiberg, Ellesmere, and Clarkia, which are preserved earlier in the Cenozoic]
- Wuttke, Michael, Thomas Schindler, and Krister T. Smith. eds. 2015. *The Fossil-Lagerstätten Enspel:*

Reconstructing the Palaeoenvironment with New Data on Fossils and Geology. Palaeobiodiversity and Palaeoenvironments 95, no. 1.

- Young, Graham, and James W. Hagadorn. 2020. "Evolving Preservation and Facies Distribution of Fossil Jellyfish: A Slowly Closing Taphonomic Window." *Bolletino della Societa Paleotologica Italiana* 59, no.3 (November): 185–203. [Fifty times Lagerstätten mentioned in the text]
- Žalohar, Jure, and Tomaž Hitij. 2014. Fossil Seahorses and Other Biota from the Tunjice Konservat-Lagerstätte, Slovenia. Manchester, United Kingdom: Siri Scientific Press. [Oligocene/ Miocene, Tunjice Hills]

# Part 2 Creationist Citations

The following are bibliographic references to all the creationist citations in the above bibliographic articles on Lagerstätten, which correlate with the 374 sites listed in Appendix A. The geologic era is given in brackets for each. The abbreviations used are as follows:

- AiG—Answers in Genesis. See: www. answersingenesis.org.
- CMI—Creation Ministries International. See: www. creation.com.
- ICR—Institute for Creation Research. See: www.icr. org.
- GRI—Geoscience Research Institute. See: www. grisda.org.
- Anonymous. 1999. "Yet Another New 'Feathered' Dinosaur?" CMI, October. [Cretaceous] https:// creation.com/yet-another-new-feathered-dinosaur
- Anonymous. 2009. "18-Million-Year-Old Muscle." AIG, News to Know, November 14. [Miocene]
- Anonymous. 2014. "Fossil Plant Tissue Didn't Evolve." Creation Matters 19, no. 3: 8–9. [Eocene]
- Anonymous. 2016. "Utah Fossil Hoard Gives Up Secrets." *Creation* 38, no.2 (April): 8. [Cretaceous]
- Anonymous. 2017a. "Fossil Bird Oil Stuns Scientists." Creation Matters 22, no.6: 5. [Messel Pit, Eocene]
- Anonymous. 2017b. "Trilobite Overturns Gut Evolution Theory." *Creation* 40, no.2 (April): 9. [Cambrian]
- Anonymous. 2018a. "Smallest *Spinosaurus* Fossil Identified." *Creation* 40, no.4 (October): 10. [Cretaceous]
- Anonymous. 2018b. "Turtle Soft Tissue Find." *Creation* 40, no.2 (April): 7. [Paleogene]
- Anonymous. 2019a. "Glowing Spider Eyes". Creation Matters 24, no.2: 5–6. [Cretaceous]
- Anonymous. 2019b. "Oldest' Frog Hopping Tracks." *Creation* 41, no. 4 (October): 11. [Cretaceous]
- Anonymous. 2019c. "Fossil Bird Lungs". *GRI Newsletter* 56 (January). [Cretaceous]

- Anonymous. 2019d. "Fossil Evidence of Bird Lungs Raises Eyebrows." *Creation* 41, no.2 (April): 7. [Cretaceous]
- Anonymous. 2019e. "Fossil Crane Fly Eyes." GRI Newsletter 59 (November). [Eocene]
- Anonymous. 2019f. "The End of the Trail: Horseshoe Crabs." *Answers* 14, no.6 (November 1): 25–26 [Jurassic]
- Anonymous. 2020a. "Oldest known' scorpion: 100% scorpion." Creation 42 (4): 9 [Silurian]
- Anonymous. 2020b. "Central Nervous System Stunningly Preserved." *Creation* 42, no.4 (October): 11. [Cambrian]
- Anonymous. 2020c. "Earliest' Fossilized Trees Preserved." *Creation* 42, no.4 (October): 11. [Devonian]
- Anonymous. 2020d. "Fossil Fly Eyes Still Contain Pigment." Creation 42, no. 1 (January): 10. [Eocene]
- Anonymous. 2022. "Fossil Horseshoe Crab's Brain." *Creation* 44, no.2 (April): 10. [Carboniferous]
- Anonymous. 2025a. "Green River Formation." GRI https://www.collections.grisda.org/green-river. [Eocene]
- Anonymous. 2025b. "Icaronycteris index." GRI https://www.grisda.org/paleontology. [Cambrian]
- Anonymous. 2025c. "Solnhofen Limestone." GRI https://www.collections.grisda.org/solnhofenlagersatte. [Jurassic]
- Akridge, A. Jerry, and Carl R. Froede, Jr. 2005. "Ashfall Fossil Beds State Park, Nebraska: A Post-Flood/Ice-Age Paleoenvironment." *Creation Research Society Quarterly* 42, no.3 (December): 183–192. [Miocene]
- Arment, Chad. 2020. "To the Ark, and Back Again? Using the Marsupial Fossil Record to Investigate the Post-Flood Boundary." *Answers Research Journal* 13 (April 8):1–22. https:// answersresearchjournal.org/marsupial-fossilpost-flood-boundary/.
- Bates, Gary. 2022. "The Valley of the Whales: A Famour Desert—Full of Marine Fossils!" *Creation* 44, no.3 (July): 12–15. [Eocene]
- Bell, Philip. 2015. "A Four-Legged Snake." CMI, April (updated 2016 and December 2, 2021). [Cretaceous] https://creation.com/4-legged-snake
- Bell, Philip. 2019. "Hagfish Slimy Superpower— 'Ancient' Protective Design." *Creation* 41, no.3 (July): 52–54. [Cretaceous]
- Bergman, Jerry. 2021. "Pterosaurs—Among the Strangest Animals Ever Created." *Creation* 43, no.4 (October): 24–27.
- Brown, Robert H., and Harold G. Coffin. 1990. "Burgess Shale Re-Examined." 1990. Origins 17, no. 1: 33–37. [Book review]
- Catchpoole, David. 2005a. "Moulting Arthropod Fossilized in a Flash!" *Creation* 27, no.2 (March): 45. [Cambrian]

- Catchpoole, David. 2005b. "Tiny Pterosaur's Untimely End." *Creation* 27, no.2 (March): 35. [Cretaceous]
- Catchpoole, David. 2012. "Turtles Fossilized While Mating!" CMI, June 21, 2012; December 8, 2022. https://creation.com/fossilized-mating-turtles
- Catchpoole, David, and Jonathan Sarfati. 2008. "The Oldest Pregnant Mum'—Not." CMI, May 30. [Devonian] https://creation.com/the-oldestpregnant-mum-not-materpiscis-attenboroughi
- Catchpoole, David. 2013. "Amazing Preservation: Three Birds in a Dinosaur." *Creation* 35, no.2 (April): 32–33. [Cretaceous]
- Ching, Kathy. 2002. "The Jurassic Solnhofen Limestone." *Geoscience Reports* 33: 6–7.
- Clarey, Tim. 2015a. Dinosaurs: Marvels of God's Design: The Science of the Biblical. Green Forest, Arkansas: Master Books.
- Clarey, Tim. 2016. "Dinosaurs Designed Without Feathers." ICR, Acts and Facts 45, no.3, March. https://www.icr.org/article/dinosaurs-designedwithout-feathers [Cretaceous]
- Clarey, Timothy L. 2015b. "Hell Creek Formation: the Last Gasp of the Pre-Flood Dinosaurs." Creation Research Society Quarterly 51, no. 4 (Spring): 286– 298. [Cretaceous]
- Coffin, Harold G. 1974. "Unusual Fossils at a Mountaintop." Origins 1, no. 1: 45–47. [Cambrian]
- Coffin, Harold G. 1995. "A Picture Window on the Eocene." Origins 22, no. 1: 38–42.
- D'Armond, David B. 1980. "Thornton Quarry Deposits: A Fossil Coral Reef of a Catastrophic Flood Deposit?" A preliminary study. *Creation Research Society Quarterly* 17, no.2 (September): 88–105. [Silurian]
- Doran, Neal. 2017. "How to Solve a Monster Mystery: What do we Know about the Tully Monster?" AIG, June 25. https://answersingenesis.org/ aquatic-animals/how-solve-monster-mystery/ [Carboniferous]
- Duff, Joel. 2017. "An Ancient and Alien Forest Reconstructed: A Fossil Challenge for Young-Earth Creationists." *Naturalis Historia*, December 20. [Permian]
- Duff, Joel. 2018. "Permian Pompeii Challenge Taken Up? ICR's Brian Thomas Comments on Fossil Forests." Naturalis Historia, January 5.
- Esperante, Raoul. n.d. "Fossil Whales in the Desert." GRI. https://www.grisda.org/desert-fossil-whales [Miocene]
- Garner, Paul. 1997. "Green River Blues." CMI, *Creation Ex Nihilo* 19, no.3 (June): 18–19. [GRF, Eocene]
- Gibson, L. James. 1992. "The Search for Relatives." Origins 19, no.2: 91–92. [Cambrian]

- Gibson, L. James. 2008. "Paleoecology: Arctic Tree Rings." Origins no. 63: 38–39. [Eocene]
- Gibson, L. James. 2019a. "The Cambrian Explosion at Qingjiang." GRI, April 30. https://www.grisda.org/ the-cambrian-explosion-at-qingjiang [Cambrian]
- Gibson, L. James. 2019b. "Design in Crane Fly Eyes." GRI, News, December 2. https://www.grisda.org/ design-in-crane-fly-eyes [Cambrian]
- Gibson, L. James. 2020. "Cambrian complexity." GRI, January 27. [Cambrian]. https://www.grisda. org/cambrian-complexity.
- Graham, Garry. 2009. "Fast Octopus Fossils Reveal No Evolution." *Creation* 31, no.4 (September): 40–41.
- Ham, Ken. 2019a. "Ken Ham Solves Great Paleontological Mystery." *Ken Ham Blog*, June 13. [Eocene]
- Ham, Ken. 2019b. "Trilobites Fossilized While Playing 'Follow the Leader". *Ken Ham Blog*, November 4.
- Ham, Ken. 2021. "The Cambrian Explosion: An 'Illusion of Animal Communities Which Never Existed?" Ken Ham Blog, June 14.
- Ham, Ken. 2022. 'Scientists Discover Fish-Like Marine Reptile Buried in Its Own Blubber '150 Million' Years Ago." *Ken Ham Blog*, April 25.
- Ham, Ken. 2024a. "Did Some 'Feathered Dinosaurs' Have 'Bird-Like Skin?" *Ken Ham Blog*, May 29. [Cretaceous]
- Ham, Ken. 2024b. "Incredibly Rare' Fossil Find Reminds Us of the Global Flood." Ken Ham Blog, May 23. [Jurassic]
- Haynes, Gabriela. 2019. "Santana fossils—delighting in the details." *Answers Magazine* 14, no. 2: 24–27. [Cretaceous]
- Haynes, Gabriela, and Troy Lacey. 2023. "Cratonavis zhui: A Dinosaur-Like Bird?" Answers in Depth, April 29. https://answersingenesis.org/dinosaurs/ cratonavis-zhui-dinosaur-bird/ [Cretaceous]
- Johns, Warren H. 2019. "The Challenge of Fossil Forests for Creationist Research." Answers Research Journal 12 (August 7): 179–209. https:// assets.answersresearchjournal.org/doc/v12/ challenge\_fossil\_forests.pdf.
- Lacey, Troy, and Gabriela Haynes. 2021. "Vampire Squid Can't Escape This Coffin." AIG, May 26. https://answersingenesis.org/fossils/vampiresquid-cant-escape-coffin/ [Carboniferous].
- McClay, Ryan. 2005. "Dino Dinner Hard to Swallow?" AIG, Jan. 21.
- Miller, Jeff. 2022. "More Unfossilized Evidence of 'Dinosaurs' Living in the Recent Past." *Reason and Revelation* 42, no.1 (January): 9–11. [Jurassic, Cretaceous]
- Mitchell, Elizabeth. 2012. "Turtles Found in Chinese Jurassic Rock Layer." AiG News to Know,

November 3. https://answersingenesis.org/fossils/ types-of-fossils/turtles-found-chinese-jurassicrock-layer/

- Mitchell, Elizabeth. 2013. "First Fossil Mosquito Found Filled with Blood." AiG *News to Know*, October 19.
- Mitchell, Elizabeth. 2014a. "Canada's New Cambrian Explosion: Burgess Shale Chapter Two." AiG Answers in Depth 9, March 1. https:// answersingenesis.org/fossils/fossil-record/ canadas-new-cambrian-explosion-burgess-shalechapter-two/.
- Mitchell, Elizabeth. 2014b. "Jaw-Dropping Discovery in the Burgess Shale." AiG *Answers in Depth* 9, June 21. https://answersingenesis.org/fossils/ transitional-fossils/jaw-dropping-discoveryburgess-shale/.
- Mitchell, Elizabeth. 2014c. "Hell Creek Formation Tells a Tale of *Triceratops*." AiG *Answers in Depth*, July 17. [Cretaceous]
- Mitchell, Elizabeth. 2014d. "Wormlike Evolutionary Misfit from the Burgess Shale finds a Home." AiG Answers in Depth, September 4. [Cambrian]
- Mitchell, Elizabeth. 2014e. "Secrets of the Messel Pit, a Fossil Graveyard." AiG Answers in Depth, January 4. https://answersingenesis.org/fossils/ types-of-fossils/secrets-of-the-messel-pit-a-fossilgraveyard/ [Eocene]
- Mitchell, Elizabeth 2014f. "Thirty Million Years Didn't Really Change China's Jurassic Park." AiG Answers in Depth, March 8. [Jehol Biota; Daohugou Biota]
- Mitchell, Elizabeth. 2014g. "Muscles Appear Deep in the Fossil Record." AiG Answers in Depth, September 23. [Ediacaran]
- Mitchell, Elizabeth. 2014h. "Triassic Fossil Said to be a Transitional Ichthyosaur." *Answers in Depth*, November 8.
- Mitchell, Elizabeth. 2015a. "Cambrian Explosion or Creation Week?—Key to Vertebrate Success." AiG Answers in Depth, March 12. https:// answersingenesis.org/theory-of-evolution/ evolution-timeline/cambrian-explosion-orcreation-week-key-to-vertebrate-success/ [Cambrian]
- Mitchell, Elizabeth. 2015b. "Hallucigenia Really Does Have a Head." AiG Answers in Depth, July 30. [Cambrian]
- Mitchell, Elizabeth. 2015c. "Four-Legged Snake Fossil Found in Museum." AiG *Answers in Depth*, August 13. https://answersingenesis.org/reptiles/ four-legged-snake-fossil-found/
- Mitchell, Elizabeth. 2016a. "Discovery of Hagfish Eyes Debunks Claim About Eye Evolution." AiG Answers in Depth, Octobert 17. https://

answersingenesis.org/aquatic-animals/fish/ discovery-hagfish-eyes-debunks-claim-about-eyeevolution/ [Carboniferous]

- Mitchell, Elizabeth. 2016b. "Four-Legged Snake Fails as a Transitional Form and Perhaps Even as a Snake." AiG *Answers in Depth*, November 22. https://answersingenesis.org/reptiles/four-leggedsnake-fails-transitional-form-and-perhaps-evensnake/ [Cretaceous]
- Mitchell, Tommy. 2011. "More Soft Tissue in 'Old' Fossils." *Answers* 6, no.3: 34. https:// answersingenesis.org/dinosaurs/bones/more-softtissue-in-old-fossils/ [Eocene]
- Morris, John. 2007. The Young Earth: The Real History of the Earth—Part, Present, and Future. Green Forest, Arkansas: Master Books.
- Oard, Michael J. 1990. "Wonderful Life: The Burgess Shale and the Nature of History." *Creation Research Society Quarterly* 27, no.2 (September): 74–76.
- Oard, Michael J. 1995a. "Mid and High Latitude Flora Deposited in the Genesis Flood. Part 1: Uniformitarian Paradox." *Creation Research Society Quarterly* 32, no.2 (September): 104–115. [Neogene]
- Oard, Michael J. 1995b. "Mid and high latitude flora deposited in the Genesis Flood. Part 2: A creationist hypothesis". *Creation Research Society Quarterly* 32, no.3 (December): 138–141.
- Oard, Michael J. 2002. "A Uniformitarian Paleo-Environmental Dilemma at Clarkia, Idaho, USA." *TJ* 16, no. 1 (April): 3–4. [Miocene]
- Oard, Michael J. 2004a. "Dead Whales: Telling Tales?" *Creation* 26, no.4 (September): 10–14. [Miocene]
- Oard, Michael J. 2004b. "Remarkable Stasis of a Fossil Ostracode with Soft Parts." *TJ* 18, no.3 (December): 16. [Silurian]
- Oard, Michael J. 2009. "Are the Ashfall Site Sediments and Fossils Post-Flood?" *Creation Research Society Quarterly* 46, no.2 (Summer): 81–91. [Miocene]
- Oard, Michael J. 2010. "Is the K/T the Post-Flood boundary? Part 2: Paleoclimates and Fossils." *Journal of Creation* 24, no.3 (December): 887–893 [Miocene]
- Oard, Michael J. 2011. "Did birds evolve from dinosaurs?" *Journal of Creation* 25 (2): 22-31.
- Oard, Michael J. 2014. "Earliest' Fossil 'Forest' Surprisingly Complex." *Journal of Creation* 28, no.2 (August): 15–16. [Devonian]
- Oard, Michael J. 2016. "Argentine Egg Site Supports BEDS Model." *Journal of Creation* 30, no. 1 (April): 6–8 [Cretaceous]
- Oard, Michael J. 2019. "The Florissant Redwood Trees Deposited from a Flood Log Mat." *Journal* of Creation 33, no.3 (December): 85–93. [Eocene]

- Oard, Michael J. 2022a. "Italian Dinosaur Graveyard." *Creation* 44, no.3 (July): 56. [Cretaceous]
- Oard, Michael J. 2022b Australian Marsupials: There and Back Again?" *Journal of Creation* 36, no.1 (April): 99–106.
- Oard, Michael J. 2022c." Polar Dinosaurs: Evolutionary Conundrums and Biblical Solutions." *Journal of Creation* 36, no.2 (August): 3–4. [Cretaceous]
- Oard, Michael J. 2024a. "Polystrate Trees and 'Fossil Forests' Explained by Flood Log Mats." *Creation* 46, no.2 (April): 42–45.
- Oard, Michael J. 2024b. "Unusual Accumulation of Dinosaurs in Italy Better Explained by Noah's Flood." *Journal of Creation* 38, no.2 (August): 11– 13. [Cretaceous]
- Oard, Michael J., and Peter Klevberg. 2008. "Green River Formation Very Likely Did Not Form in a Postdiluvial Lake." Answers Research Journal 1 (September 22): 99–108. https:// answersresearchjournal.org/green-river-notpostdiluvial-lake/ [Eocene]
- O'Brien, Jonathan. 2019. "Shiny Eyes in the Rocks." *Creation* 41, no.4 (October): 36–37. [Cretaceous]
- Robinson, Philip. 2015. "Three Become One: Two Fish and a Pterosaur Locked in a Fatal Struggle." *Creation* 37, no.4 (October): 38–39. [Jurassic]
- Robinson, Philip. 2017. "Longest Recorded Fossil Drag Mark." *Creation* 39, no.4 (October): 32–33, October. [Cambrian]
- Robinson, Philip. 2019. "Separating Fact from Fiction in a Farcical Story! Were Fossil Dinosaur Feathers Really Found Near the South Pole?" CMI, December 3.
- Robinson, Philip. 2020a. "Soft Tissue Preservation in a 'Jurassic' Ichthyosaur." Creation 42, no.1 (January): 36–37.
- Robinson, Philip. 2020b. "Trilobite Conga Line vs Evolutionary Timeline." *Creation* 42, no.3 (July): 52–53. [Ordovician]
- Robinson, Philip. 2021a. "Inside the Belly of a Monster." Creation 43, no.1 (January): 56. [Triassic]
- Robinson, Philip. 2021b. "The Mystery of the Inside-Out Ammonite." Creation 43, no.3 (July): 42–43. [Jurassic]
- Sanders, Harry F. 2018. "Disharmonious Fossils." AiG Answers in Depth, October 5. [Cretaceous]
- Sarfati, Jonathan. 2014. "Ichthyosaurs: Evidence for a Recent Global Flood." *Creation* 37, no.1 (January): 38–39.
- Sherwin, Frank. 2022. "Alleged 380-Million-Year-Old Fish Heart." *ICR News*, October 24. https:// www.icr.org/article/Old-Fish-Heart
- Sherwin, Frank. 2023a. "Sea Anemone Fossils." ICR News, April 17. https://www.icr.org/article/seaanemone-fossils [Pennsylvanian]

- Sherwin, Frank. 2023b. "The Oldest Known Jellyfish." *ICR News*, August 17. https://www.icr. org/article/oldest-known-jellyfish [Cambrian]
- Sherwin, Frank. 2023c. "Ancient' Katydid Fossil is...a Katydid." *ICR News*, July 10. https:// www.icr.org/article/katydid-fossil/ [Green River Formation, Eocene]
- Sherwin, Frank. 2023d. "Dinosaur Spider is Still a Spider." *ICR News*, October 5. https://www.icr.org/ article/dinosaur-spider-still-spider [Miocene]
- Sherwin, Frank. 2024. "Recent Paleontological Discoveries are just what Creationists Predict." *ICR News*, July 11. https://www.icr.org/article/ recent-paleontological-discoveries [Carboniferous]
- Sherwin, Frank, and Brian Thomas. 2012. "Did Some Dinosaurs Really have Feathers?" ICR Acts and Facts 41, no.6 (June): 16–17.
- Sibley, Andrew. 2007. "Chinese Fossil Layers and the Uniformitarian Re-dating of the Jehol Group." *Journal of Creation* 21, no.1 (April): 123–127. [Cretaceous]
- Snelling, Andrew A. 1982. "The Recent Origin of Bass Strait Oil and Gas." *Creation* 5, no. 2 (October): 43– 46. [Miocene]
- Snelling, Andrew A. 1998. "Exceptional Soft-Tissue Preservation in a Fossilized Dinosaur." *Creation Ex Nihilo Technical Journal* 12, no.2 (August): 130–131. [Cretaceous]
- Snelling, Andrew A. 2008. "The World's a Graveyard: Flood Evidence No. 2." Answers Magazine 3, no.2 (March): 76–79,
- Snelling, Andrew A. 2009. *Earth's Catastrophic Past: Geology, Creation and the Flood.* Vol. 2. Dallas, Texas: Institute for Creation Research.
- Thomas, Brian. 2009a. "Fresh Salamander Tissue Found in Solid Rock." *ICR News*, December 11. [Miocene]
- Thomas, Brian. 2009b. "The 'Mystery' of Octopus Fossils." *ICR News*, April 1. https://www.icr.org/ article/mystery-octopus-fossils.
- Thomas, Brian. 2010a. "More Evolutionists Say 'Ida' is not a Missing Link." ICR, *Acts and Facts*, March 19. [Eocene]
- Thomas, Brian. 2010b. "Spectacular Spider is a Long-Living Fossil." *ICR News*, February 24. [Jurassic]
- Thomas, Brian. 2011a. "Cambrian shrimp eyes are 'surprisingly advanced." *ICR News*, July 20.
- Thomas, Brian. 2011b. "Out of Place Marine Fossil Disrupts Evolutionary Index." *ICR News*, June 14. [Cambrian]
- Thomas, Brian. 2011c. "Green River Formation Fossil has Original Soft Tissue." *ICR News*, May 12. https://www.icr.org/article/green-river-formationfossil-has-original. [Eocene]
- Thomas, Brian. 2013a. "Bloody Mosquito Fossil Supports Recent Creation." *ICR News*, October 25.

https://www.icr.org/article/bloody-mosquito-fossilsupports-recent

- Thomas, Brian. 2013b. "Evolutionists Scramble 'Fossil-Egg Evidence." *ICR News*, April 19. [Cretaceous]
- Thomas, Brian. 2013c. "New Fossil Book Won't Showcase Obvious Catastrophe." *ICR News*, June 17.
- Thomas, Brian. 2017. "Actual Feathers on Mystery Fossil Indicate 'Bird'." ICR Acts and Facts, April 28. https://www.icr.org/article/actual-feathersmystery-fossil-indicate [Jurassic]
- Thomas, Brian. 2012a. "Ancient Forest Frozen in Time by Volcano." *ICR News*, April 9. https:// www.icr.org/article/ancient-forest-frozen-time-byvolcano [Permian]
- Thomas, Brian. 2012b. "Researchers Find Fossil Salamanders' Last Meals." *ICR News*, March 12. https://www.icr.org/article/researchers-find-fossilsalamanders
- Thomas, Brian. 2013. "New Fossil Book Won't Showcase Obvious Catastrophe." *ICR News*, June 17. https://www.icr.org/article/new-fossil-bookwont-showcase-obvious [Green River Formation, Eocene]
- Thomas, Brian. 2016a. "Two Recent Fossils Confront Gradual Evolution." *ICR Acts and Facts* 45, no.8 (July 29): 15. https://www.icr.org/article/9455 [Triassic]
- Thomas, Brian. 2016b. "Scales, Colors, Proteins in Dinosaur Skin." *ICR News*, October 3. https://www. icr.org/article/scales-colors-proteins-dinosaur-skin
- Thomas, Brian. 2017. "Ancient Animal Biochemicals Again." *ICR News*, December 7. https://www.icr. org/article/ancient-animal-biochemicals-again
- Thomas, Brian. 2020. "A *Xiphactinus* Dig: Excavating Clues to Noah's Flood." ICR *Acts and Facts* 49, no.9, August 31. https://www.icr.org/article/ xiphactinus-dig-excavating-clues-to-noahs-flood
- Thomas, Brian. 2021. "Fossil Chromatin Looks Young." *ICR News*, October 11. https://www.icr. org/article/fossil-chromatin-looks-young
- Thomas, Brian, and Timothy Clarey. 2021. "The Painted Desert: Fossils in Flooded Mud Flats." Acts and Facts 50, no.4: 16–19.
- Thomas, Brian, and Timothy Clarey. 2014. "Bloody Mosquito Pierces Standard Fossil Dating Procedure." ICR Acts and Facts 43, no. 1 (December 30): 13–15.

- Tuinstra, Lucien. 2023. "Eye-Catching 'Giant' New Burgess Shale Species." Creation 45, no.1 (January): 12–13. [Cambrian]
- Tyler, David J. 2005. "A whale of a tale." Origins 39 (December): 11. [Miocene]
- Walker, Tas. 2003. "Death March." Creation 25: (2 (March): 54–55. [Jurassic]
- Walker, Tas. 2001. "Coal: Memorial to the Flood." *Creation* 23, no.2 (March): 22–27. [Miocene]
- Walker, Tas. 2009a. "Dinosaur Stumble Preserved in Trackways, Utah, USA." *Journal of Creation* 23, no.2 (July): 4–5. [Jurassic]
- Walker, Tas. 2009b."Dinosaur Herd Buried in Noah's Flood in Inner Mongolia, China." *Journal of Creation* 23, no.2 (July): 14–16. [Cretaceous]
- Walker, Tas. 2011. "80 Whales Buried Mysteriously in Chilean Desert." CMI, December 1, 2011; April 28, 2021. https://creation.com/chile-desert-whalefossils [Miocene]
- Whitmore, John. 2006a. "The Green River Formation: A Large Post-Flood Lake System." Journal of Creation 20, no. 1 (April) 55–63. [Eocene]
- Whitmore, John. 2006b. "Exploding Fish. Evidence for Rapid Burial." *Answers* 1, no.2: 27–31. [Green River Formation, Eocene]
- Whitmore, John H. 2009. "Fossil Preservation." In Rock Solid Answers. The Biblical Truth Behind 14 Geologic Questions. Edited by Mike Oard and John K. Reed, 231–244. Green Forest, Arkansas: Master Books. [Cambrian]
- Wieland, Carl. 1989. "Fascinating French Find." *Creation* 11, no.2 (March): 44–47. [Carboniferous]
- Wise, Kurt. 1996. "North American Paleontology Convention 96." Creation Ex Nihilo Technical Journal 10, no.3 (December): 315–321.
- Wise, Kurt. 2016. "Amazingly Preserved Leaves." Answers 11, no.4 (October–December): 37. [Carboniferous]
- Woodmorappe, John. 2000. "The Karoo Vertebrate Non-Problem." Creation Ex Nihilo Technical Journal 14, no.2 (August): 47–49. [Permian]
- Wooley, Daniel A. 2001. "Fish Preservation, Fish Coprolites and the Green River Formation." *Journal of Creation* 15, no.1 (April): 105–111. [Eocene]