**APPENDIX 1.**

Global Jurassic–Cretaceous body fossil records of Isoptera. Appendices are available for download at

https://palaeo-electronica.org/content/2024/5339-opalized-termite-coprolites.

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| --- | --- | --- | --- | --- | --- | --- |
| **TAXA** | **PERIOD/ EPOCH** | **AGE** | **COUNTRY** | **LOCATION/BASIN** | **FORMATION/ SECTION** | **REFERENCES** |
| *Santonitermes transbaikalicus* | latest Jurassic or Early Cretaceous | latest Jurassic or Early Cretaceous | Russia | Chernovskie Kopi in Transbaikalian Siberia | Doronino Formation | Vršanský, P., and Aristov, D. 2014. Termites (Isoptera) from the Jurassic/Cretaceous boundary: evidence for the longevity of their earliest genera. European Journal of Entomology, 111:137–141. |
| *Mastotermes nepropadyom* | latest Jurassic or Early Cretaceous | latest Jurassic or Early Cretaceous | Russia | Chernovskie Kopi in Transbaikalian Siberia | Doronino Formation | Vršanský, P., and Aristov, D. 2014. Termites (Isoptera) from the Jurassic/Cretaceous boundary: evidence for the longevity of their earliest genera. European Journal of Entomology, 111:137–141. |
| *Baissatermes lapideus* | Early Cretaceous | Berriasian | Russia | Saissa | Zaza Formation | Engel, M.S., Grimaldi, D., Krishna, K. 2007. Primitive termites from the Early Cretaceous of Asia (Isoptera). Staatl. Museum für Naturkd., 371, 1–32. |
| *Valditermes brenanae* | Early Cretaceous | Hauterivian | U.K. | Wealden, England | Weald Clay Formation | Jarzembowski, E.A. 1981. An Early Cretaceous termite from southern england (Isoptera: Hodotermitidae). Systematic Entomology, 6:91–96. |
| *Meiatermes bertrani* | Early Cretaceous | Barremian | Spain | Lleida | Montsec | Lacasa-Ruiz, A., and Martínez-Delclòs, X. 1986. Meiatermes: Nuevo género fosil de insecto isóptero, Hodotermitidae, de las calizas Neocomienses del Monsec, Provincía de Lérida, España. 1986, 65 pp. |
| *Huaxitermes huangi* | Early Cretaceous | Barremian | China | Beijing | Lushangfen | Ren, D. 1995. Isoptera Comstock, 1895. In Ren, D., Lu, L., Guo, Z., and Ji, S. (eds): Faunae and Stratigraphy of Jurassic-Cretaceous in Beijing and the Adjacent Areas. Seismic Publishing House, Beijing, pp. 56-61 |
| *Yanjingtermes giganteus* | Early Cretaceous | Barremian | China | Beijing | Lushangfen | Ren, D. 1995. Isoptera Comstock, 1895. In Ren, D., Lu, L., Guo, Z., and Ji, S. (eds): Faunae and Stratigraphy of Jurassic-Cretaceous in Beijing and the Adjacent Areas. Seismic Publishing House, Beijing, pp. 56-62 |
| *Yongdingia opipara* | Early Cretaceous | Barremian | China | Beijing | Lushangfen | Ren, D. 1995. Isoptera Comstock, 1895. In Ren, D., Lu, L., Guo, Z., and Ji, S. (eds): Faunae and Stratigraphy of Jurassic-Cretaceous in Beijing and the Adjacent Areas. Seismic Publishing House, Beijing, pp. 56-63 |
| *Asiatermes reticulatus* | Early Cretaceous | Barremian | China | Beijing | Lushangfen | Ren, D. 1995. Isoptera Comstock, 1895. In Ren, D., Lu, L., Guo, Z., and Ji, S. (eds): Faunae and Stratigraphy of Jurassic-Cretaceous in Beijing and the Adjacent Areas. Seismic Publishing House, Beijing, pp. 56-64 |
| *Mesotermopsis incompleta* | Early Cretaceous | Barremian | China | Beijing | Lushangfen | Ren, D. 1995. Isoptera Comstock, 1895. In Ren, D., Lu, L., Guo, Z., and Ji, S. (eds): Faunae and Stratigraphy of Jurassic-Cretaceous in Beijing and the Adjacent Areas. Seismic Publishing House, Beijing, pp. 56-65 |
| *Mesotermopsis lata* | Early Cretaceous | Barremian | China | Beijing | Lushangfen | Ren, D. 1995. Isoptera Comstock, 1895. In Ren, D., Lu, L., Guo, Z., and Ji, S. (eds): Faunae and Stratigraphy of Jurassic-Cretaceous in Beijing and the Adjacent Areas. Seismic Publishing House, Beijing, pp. 56-66 |
| *Melqartitermes myrrheus* | Early Cretaceous | Late Barremian– Early Aptian | Lebanon | Mdeyrij-Hammana, Mount Lebanon district | Lebanese amber | Engel, M.S., Grimaldi, D., and Krishna, K. 2007. Primitive termites from the Early Cretaceous of Asia (Isoptera). Staatl. Museum für Naturkd., 371, 1–32. |
| *Lebanotermes veltzae* | Early Cretaceous | Late Barremian– Early Aptian | Lebanon | Mdeyrij-Hammana, Mount Lebanon district | Lebanese amber | Engel, M.S., Nel, A., Azar, D., Soriano, C., Tafforeau, P., Néraudeau, D., Colin, J.-P., and Perrichot, V. 2011. New, primitive termites (Isoptera) from Early Cretaceous ambers of France and Lebanon. Palaeodiversity 4:39–49 |
| Isoptera indet | Early Cretaceous | Late Barremian– Early Aptian | Lebanon | Mdeyrij-Hammana, Mount Lebanon district | Lebanese amber | Engel, M.S., Nel, A., Azar, D., Soriano, C., Tafforeau, P., Néraudeau, D., Colin, J.-P., and Perrichot, V. 2011. New, primitive termites (Isoptera) from Early Cretaceous ambers of France and Lebanon. Palaeodiversity 4:39–49. |
| Isoptera indet | Early Cretaceous | Late Barremian– Early Aptian | Lebanon | Mdeyrij-Hammana, Mount Lebanon district | Lebanese amber | Engel, M.S., Nel, A., Azar, D., Soriano, C., Tafforeau, P., Néraudeau, D., Colin, J.-P., and Perrichot, V. 2011. New, primitive termites (Isoptera) from Early Cretaceous ambers of France and Lebanon. Palaeodiversity 4:39–49. |
| *Cratokalotermes santanensis* | Early Cretaceous | Aptian | Brazil | Araripe Basin | Crato Formation | Bechly, G. 2007. Isoptera, termites. In Martill, D.M., Bechly, G., and Loveridge, R.F. (eds), The Crato fossil beds of Brazil: Chap. 11.9: 249–262. New York: Cambridge University Press, 624 pp. |
| *Khanitermes acutipennis* | Early Cretaceous | Aptian | Mongolia | Shar-Tologoy | Shar-Tologoy Formation | Engel, M.S., Grimaldi, D., Krishna, K. 2007. Primitive termites from the Early Cretaceous of Asia (Isoptera). Staatl. Museum für Naturkd., 371:1–32. |
| *Meiatermes araripena* | Early Cretaceous | Aptian | Brazil | Santana, Brazil | Crato Formation | Krishna, K. 1990. Isoptera. In Grimaldi, D. (ed.), Insects from the Santana Formation, Lower Cretaceous, of Brazil. Bulletin of the American Museum of Natural History 195: chap. 5: 76–81. |
| *Cretatermes pereirai* | Early Cretaceous | Aptian | Brazil | Santana, Brazil | Crato Formation | Fontes, L.R., and Vulcano, M.A. 1998. Cupins fosseis do Novo Mundo. In Fontes, L.R. and Filho, E.B. (eds.), Cupins: o desafio do conhecimento: 243–295. Piracicaba, Brazil: FEALZ, 512 pp |
| *Mariconitermes talicei* | Early Cretaceous | Aptian | Brazil | Santana, Brazil | Crato Formation | Fontes, L.R., and Vulcano, M.A. 1998. Cupins fosseis do Novo Mundo. In Fontes, L.R. and Filho, E.B. (eds.), Cupins: o desafio do conhecimento: 243–295. Piracicaba, Brazil: FEALZ, 512 pp |
| *Caatingatermes megacephalus* | Early Cretaceous | Aptian | Brazil | Santana, Brazil | Crato Formation | Martins-Neto, R.G., Ribeiro-Júnior, C., and Prezoto, F. 2006. New fossils (Isoptera: Hodotermitidae), from the Santana Formation (Lower Cretaceous, Araripe Basin, Northeast Brazil), with descriptions of new taxa including a new subfamily. Sociobiology, 47:125–134. |
| *Araripetermes nativa* | Early Cretaceous | Aptian | Brazil | Santana, Brazil | Crato Formation | Martins-Neto, R.G., Ribeiro-Júnior, C., and Prezoto, F. 2006. New fossils (Isoptera: Hodotermitidae), from the Santana Formation (Lower Cretaceous, Araripe Basin, Northeast Brazil), with descriptions of new taxa including a new subfamily. Sociobiology, 47:125–134. |
| *Nordestinatermes obesa* | Early Cretaceous | Aptian | Brazil | Santana, Brazil | Crato Formation | Martins-Neto, R.G., Ribeiro-Júnior, C., and Prezoto, F. 2006. New fossils (Isoptera: Hodotermitidae), from the Santana Formation (Lower Cretaceous, Araripe Basin, Northeast Brazil), with descriptions of new taxa including a new subfamily. Sociobiology, 47:125–134. |
| *Meiatermes hariolus* | Early Cretaceous | Aptian | Brazil | Santana, Brazil | Crato Formation | Grimaldi, D.A., Engel, M.S., & Krishna, K. 2008. The species of Isoptera (Insecta) from the early Cretaceous Crato Formation: a revision. American Museum Novitates, 2008(3626):1–30. |
| *Cratomastotermes wolfschwenningeri* | Early Cretaceous | Aptian | Brazil | Santana, Brazil | Crato Formation | Bechly, G. 2007. Isoptera, termites. In Martill, D.M., Bechly, G., and Loveridge, R.F. (eds), The Crato fossil beds of Brazil: Chap. 11.9:249–262. New York: Cambridge University Press, 624 pp. |
| *Ithytermes montoyai* | Early Cretaceous | Albian | Spain | El Soplao amber | Peñacerrada I | Sánchez-García, A., Peñalver, E., Delclòs, X., and Engel, M.S. 2020. Early Cretaceous termites in amber from northern Spain (Isoptera). Cretaceous Research, 110:104385. |
| *Sclerotermes samsiki* | Early Cretaceous | early Albian | South Korea | Jinju city | Jinju Formation at the Jeongchon section | Jouault, C., and Nam, G.S. 2023. A new primitive termite from the lower cretaceous (Albian) Jinju Formation of Korea. Historical Biology, 35:1522–1527. |
| *Morazatermes krishnai* | Early Cretaceous | Albian | Spain | Burgos | Peñacerrada | Engel, M.S. and Delclòs, X. 2010. Primitive termites in Cretaceous amber from Spain and Canada (Isoptera). Journal of the Kansas Entomological Society, 83:111–128. |
| *Aragonitermes teruelensis* | Early Cretaceous | Albian | Spain | Teruel | San Just outcrop | Engel, M.S. and Delclòs, X. 2010. Primitive termites in Cretaceous amber from Spain and Canada (Isoptera). Journal of the Kansas Entomological Society, 83:111–128. |
| *Cantabritermes simplex* | Early Cretaceous | Albian | Spain | Burgos | Peñacerrada | Engel, M.S. and Delclòs, X. 2010. Primitive termites in Cretaceous amber from Spain and Canada (Isoptera). Journal of the Kansas Entomological Society, 83:111–128. |
| Isoptera indet | Early Cretaceous | Albian | Spain | El Soplao amber | Peñacerrada I | Sánchez-García, A., Peñalver, E., Delclòs, X., and Engel, M.S. 2020. Early Cretaceous termites in amber from northern Spain (Isoptera). Cretaceous Research, 110:104385. |
| Isoptera indet | Early Cretaceous | Albian | Spain | El Soplao amber | Peñacerrada I | Sánchez-García, A., Peñalver, E., Delclòs, X., and Engel, M.S. 2020. Early Cretaceous termites in amber from northern Spain (Isoptera). Cretaceous Research, 110:104385. |
| *Mylacrotermes cordatus* | Early Cretaceous | latest Albian | Myanmar | Burmese amber | Tanai Village | Engel, M.S., Grimaldi, D., and Krishna, K. 2007. Primitive termites from the early Cretaceous of Asia (Isoptera). Staatl. Museum für Naturkd., 371, 1–32. |
| *Dharmatermes avernalis* | Early Cretaceous | latest Albian | Myanmar | Burmese amber | Tanai Village | Engel, M.S., Grimaldi, D., and Krishna, K. 2007. Primitive termites from the early Cretaceous of Asia (Isoptera). Staatl. Museum für Naturkd., 371, 1–32. |
| *Proelectrotermes swinhoei* | Early Cretaceous | latest Albian | Myanmar | Burmese amber | Tanai Village | Engel, M.S., Grimaldi, D., and Krishna, K. 2007. Primitive termites from the early Cretaceous of Asia (Isoptera). Staatl. Museum für Naturkd., 371, 1–32. |
| *Proelectrotermes holmgreni* | Early Cretaceous | latest Albian | Myanmar | Burmese amber | Tanai Village | Engel, M.S., Grimaldi, D., and Krishna, K. 2007. Primitive termites from the early Cretaceous of Asia (Isoptera). Staatl. Museum für Naturkd., 371, 1–32. |
| *Kachinitermes tristis* | Early Cretaceous | latest Albian | Myanmar | Burmese amber | Tanai Village | Engel, M.S., Grimaldi, D., and Krishna, K. 2007. Primitive termites from the early Cretaceous of Asia (Isoptera). Staatl. Museum für Naturkd., 371, 1–32. |
| *Tanytermes anawrahtai* | Early Cretaceous | latest Albian | Myanmar | Burmese amber | Tanai Village | Engel, M.S., Grimaldi, D., and Krishna, K. 2007. Primitive termites from the early Cretaceous of Asia (Isoptera). Staatl. Museum für Naturkd., 371, 1–32. |
| *Archeorhinotermes rossi* | Early Cretaceous | latest Albian | Myanmar | Burmese amber | Tanai Village | Krishna, K., and Grimaldi, D.A. 2003. The first Cretaceous Rhinotermitidae (Isoptera): a new species, genus, and subfamily in Burmese amber. American Museum Novitates, 2003(3390):1–10. |
| *Santonitermes chloeae* | mid-Cretaceous | Albian– Cenomanian | France | Charentese amber | Charentese amber | Engel, M.S., Nel, A., Azar, D., Soriano, C., Tafforeau, P., Néraudeau, D., Colin, J.-P., and Perrichot, V. 2011. New, primitive termites (Isoptera) from Early Cretaceous ambers of France and Lebanon. Palaeodiversity 4:39–49. |
| *Syagriotermes salomeae* | mid-Cretaceous | Albian– Cenomanian | France | Charentese amber | Charentese amber | Engel, M.S., Nel, A., Azar, D., Soriano, C., Tafforeau, P., Néraudeau, D., Colin, J.-P., and Perrichot, V. 2011. New, primitive termites (Isoptera) from Early Cretaceous ambers of France and Lebanon. Palaeodiversity 4:39–49. |
| *Anisotermes bourguignoni* | mid-Cretaceous | Albian– Cenomanian | Myanmar | Burmese amber | Hukawng Valley | Jouault, C., Engel, M.S., Legendre, F., Huang, D., Grandcolas, P., and Nel, A. 2022. Incrementing and clarifying the diversity and early evolution of termites (Blattodea: Isoptera). Zoological Journal of the Linnean Society, 196:608–629. |
| *Longitermes pulcher* | mid-Cretaceous | Albian– Cenomanian | Myanmar | Burmese amber | Hukawng Valley | Jouault, C., Engel, M.S., Legendre, F., Huang, D., Grandcolas, P., and Nel, A. 2022. Incrementing and clarifying the diversity and early evolution of termites (Blattodea: Isoptera). Zoological Journal of the Linnean Society, 196:608–629. |
| *Mastotermes myanmarensis* | mid-Cretaceous | Albian– Cenomanian | Myanmar | Burmese amber | Hukawng Valley | Jouault, C., Engel, M.S., Legendre, F., Huang, D., Grandcolas, P., and Nel, A. 2022. Incrementing and clarifying the diversity and early evolution of termites (Blattodea: Isoptera). Zoological Journal of the Linnean Society, 196:608–629. |
| *Magnifitermes krishnai* | mid-Cretaceous | Albian– Cenomanian | Myanmar | Burmese amber | Hukawng Valley | Jouault, C., Engel, M.S., Legendre, F., Huang, D., Grandcolas, P., and Nel, A. 2022. Incrementing and clarifying the diversity and early evolution of termites (Blattodea: Isoptera). Zoological Journal of the Linnean Society, 196:608–629. |
| *Kachinitermopsis burmensis (syn=Kalotermes burmensis)* | Late Cretaceous | early Cenomanian | Myanmar | Burmese amber | Hukawng Valley | Poinar, G.O. 2009. Description of an early Cretaceous termite (Isoptera: Kalotermitidae) and its associated intestinal protozoa, with comments on their co-evolution. Parasites & Vectors, 2:1–17. |
| *Gigantotermes rex* | Late Cretaceous | early Cenomanian | Myanmar | Burmese amber | Hukawng Valley | Engel, M.S., Barden, P., Riccio, M.L., and Grimaldi, D.A. 2016. Morphologically specialized termite castes and advanced sociality in the Early Cretaceous. Current Biology, 26:522–530. |
| *Krishnatermes yoddha* | Late Cretaceous | early Cenomanian | Myanmar | Burmese amber | Hukawng Valley | Engel, M.S., Barden, P., Riccio, M.L., and Grimaldi, D.A. 2016. Morphologically specialized termite castes and advanced sociality in the Early Cretaceous. Current Biology, 26:522–530. |
| *Valkyritermes inopinatus* | Late Cretaceous | early Cenomanian | Myanmar | Burmese amber | Hukawng Valley | Jouault, C., Engel, M.S., Huang, D., Berger, J., Grandcolas, P., Perkovsky, E.E., Legendre, F., and Nel, A. 2022a. Termite Valkyries: soldier-like alate termites from the Cretaceous and task specialization in the Early evolution of Isoptera. Frontiers in Ecology and Evolution, 10:737367. |
| *Milesitermes engeli* | Late Cretaceous | early Cenomanian | Myanmar | Burmese amber | Hukawng Valley | Jouault, C., Legendre, F., Grandcolas, P., and Nel, A. 2021. Revising dating estimates and the antiquity of eusociality in termites using the fossilized birth–death process. Systematic Entomology, 46:592–610. |
| *Angustitermes reflexus* | Late Cretaceous | Cenomanian | Myanmar | Burmese amber | Hukawng Valley | Jiang, Y., Deng, X., Shih, C., Zhao, Y., Ren, D., and Zhao, Z. 2024. Primitive new termites (Blattodea, Termitoidae) in Cretaceous amber from Myanmar. ZooKeys, 1197:115. |
| *Mastotermes reticulatus* | Late Cretaceous | Cenomanian | Myanmar | Burmese amber | Hukawng Valley | Jiang, Y., Deng, X., Shih, C., Zhao, Y., Ren, D., and Zhao, Z. 2024. Primitive new termites (Blattodea, Termitoidae) in Cretaceous amber from Myanmar. ZooKeys, 1197:115. |
| *Tyrannotermes spinifer* | Late Cretaceous | Cenomanian | Myanmar | Burmese amber | Hukawng Valley | Engel, M.S. and Joault, C. 2024. Hodotermopsid termites from the mid-Cretaceous Hkamti and Kachin ambers (Isoptera: Hodotermopsidae). Palaeoentomology, 7:80–91. |
| *Hodotermopsella novella* | Late Cretaceous | Cenomanian | Myanmar | Burmese amber | Hukawng Valley | Engel, M.S. and Joault, C. 2024. Hodotermopsid termites from the mid-Cretaceous Hkamti and Kachin ambers (Isoptera: Hodotermopsidae). Palaeoentomology, 7:80–91. |
| *Mastotermes sarthensis* | Late Cretaceous | Cenomanian | France | French amber | NW France | Schlüter, T. 1989. Neue Daten über harzkonservierte Arthropoden aus dem Cenomanium NW-Frankreichs. Documenta naturae, 56:59–70. |
| *Lutetiatermes priscus* | Late Cretaceous | Cenomanian | France | French amber | NW France | Schlüter, T. 1989. Neue Daten über harzkonservierte Arthropoden aus dem Cenomanium NW-Frankreichs. Documenta naturae, 56:59–70. |
| *Cretatermes carpenteri* | Late Cretaceous | Cenomanian | Canada | Canadian amber | Labrador | Emerson, A.E. 1965. A review of the Mastotermitidae (Isoptera), including a new fossil genus from Brazil. American Museum Novitates, 2236:1–46 |
| *Anisotermes xiai* | Late Cretaceous | Cenomanian | Myanmar | Burmese amber | Kachin | Zhao, Z., Eggleton, P., Yin, X., Gao, T., Shih, C., and Ren, D. 2019. The oldest known mastotermitids (Blattodea: Termitoidae) and phylogeny of basal termites. Systematic Entomology, 44:612–623. |
| *Cosmotermes multus* | Late Cretaceous | Cenomanian | Myanmar | Burmese amber | Kachin | Zhao, Z., Yin, X., Shih, C., Gao, T., and Ren, D. 2020. Termite colonies from mid-Cretaceous Myanmar demonstrate their early eusocial lifestyle in damp wood. National Science Review, 7:381–390. |
| *Cosmotermes opacus* | Late Cretaceous | Cenomanian | Myanmar | Burmese amber | Kachin | Zhao, Z., Yin, X., Shih, C., Gao, T., and Ren, D. 2020. Termite colonies from mid-Cretaceous Myanmar demonstrate their early eusocial lifestyle in damp wood. National Science Review, 7:381–390. |
| *Mastotermes monostichus* | Late Cretaceous | Cenomanian | Myanmar | Burmese amber | Kachin | Zhao, Z., Eggleton, P., Yin, X., Gao, T., Shih, C., and Ren, D. 2019. The oldest known mastotermitids (Blattodea: Termitoidae) and phylogeny of basal termites. Systematic Entomology, 44:612–623. |
| *Termitotron vendeense* | Late Cretaceous | middle Cenomanian– early Santonian | France | Vendean amber | La Garnache, Vendée | Engel, M.S. 2014. A termite (Isoptera) in Late Cretaceous amber from Vendée, northwestern France. Paleontological Contributions, 2014(10E):21–24. |
| *Carinatermes nascimbenei* | Late Cretaceous | Turonian | U.S.A. | New Jersey | New Jersey amber | Krishna, K. and Grimaldi, D. 2000. A new subfamily, genus, and species of termite (Isoptera) from New Jersey Cretaceous amber. Studies on Fossils in Amber, with Particular Reference to the Cretaceous of New Jersey. Backhuys Publishers, Leiden, The Netherlands, 133–140. |