

## **Summary Write Up of the DGAG Talk Tuesday 17 October 2023**

### **Geoarchaeology of puddingstone in Hertfordshire and Dorset**

**Speaker: Mervyn Jones:** A talk mixing in archaeology with geology. The talk was based on a recent publication co-authored by the speaker in the Proceedings of the Geologists' Association in Feb 2023 and recent field work.

The talk was, as expected from the description previously circulated, thoroughly enjoyed by 17 attendees. There was much material to consider and questions carried on with study of the hand specimens provided by the speaker. There was even a hint of future work to include more of the Dorset examples – watch this space! Although we cannot reproduce entirely the talk here we have the slides as a PDF document on the DGAG website to assist both attendees and those who did not (Link: [https://dorsetgeologistsassociation.org/wp-content/uploads/2023/10/1.13-Geoarchaeology-of-puddingstone\\_17102023.pdf](https://dorsetgeologistsassociation.org/wp-content/uploads/2023/10/1.13-Geoarchaeology-of-puddingstone_17102023.pdf))

The speaker delivered a really fascinating talk with many excellent slide illustrations interspersed with comments to conjure the imagination; such as Romans with their querns made from good old British (Hertfordshire) puddingstone and grinding corn in their 8 man tents!

Firstly, we learnt a few basics; that puddingstones are siliceous cemented sands with rounded flint pebbles (at least in Hertfordshire), so most importantly not to be confused with concrete that reacts with a few acid drops, puddingstone does not! Sarsen stones do not have the pebbles.

The speaker showed how these natural deposits have a long geological history as well as multiple human excavation/mining phases. The Romans wanted them for their querns, the ancient British tribes more for monuments or tool sharpening. Post Romans people used them as for example foundation stones as in Dorset at Portesham. Geologically, the Hertfordshire puddingstones seem likely to have formed on an exposed shoreline (deposited in the Paleocene) containing rounded pebbles of flint and then lithified with a silcrete cement in the Early Eocene age (56mya). These were then reworked and concentrated into dolines associated with Cretaceous chalk dissolution/weathering and glacial processes in Pliocene - Pleistocene ages. The Dorset puddingstones formed apparently a bit later in the Eocene but require further study around the dolines known such as near Hardy Monument. Common to both areas is the hot humid land climate during the Eocene maximum that enables such early cementation of silica in land deposits. Modern analogues to such an environment of deposition could be duricrust in parts of Australia.

For those interested in further reading the publications below should help get you going:

Feb 2023

<https://www.sciencedirect.com/science/article/abs/pii/S0016787822000815>

2006

[https://www.researchgate.net/publication/283763995\\_Ancient\\_quarrying\\_of\\_rare\\_in\\_situ\\_Palaeogene\\_Hertfordshire\\_Puddingstone](https://www.researchgate.net/publication/283763995_Ancient_quarrying_of_rare_in_situ_Palaeogene_Hertfordshire_Puddingstone)

More links below:

[https://www.harpenden-history.org.uk/harpenden-history/topics-cms/archaeology-geology/hertfordshire\\_puddingstone](https://www.harpenden-history.org.uk/harpenden-history/topics-cms/archaeology-geology/hertfordshire_puddingstone)

[https://www.earthheritage.org.uk/wp/wp-content/uploads/2018/03/EH42\\_7-14f.pdf](https://www.earthheritage.org.uk/wp/wp-content/uploads/2018/03/EH42_7-14f.pdf)

The next DGAG talk will be Tuesday, 21 November as shown on the DGAG website and Facebook page. More speakers are required for 2024, so please ask your networks and let me know who may be interested.

**The next DGAG field trip is at Weymouth on Saturday 25<sup>th</sup> November contact Jeremy Cranmer for details and to register should you wish to attend.** Details as to how to register for this field trip are in the DGAG website and also all future events and also in the DGAG group Facebook and in the DGAG newsletter.

Chris Webb

*DGAG Events -Editor*