

EXCAVATIONS IN THE YEovil SANDS AT YEW TREE CLOSE, YEovil.

By H. C. PRUDDEN

Exposures in the Bridport and Yeovil Sands are common from West Bay past Beaminster to Yeovil, but good fossil localities are rare. However, building operations at Yew Tree Close, Yeovil (Grid reference 546149), overlooking Westlands Aerodrome, have recently exposed layers of doggers which were, in some cases, packed with ammonites and other fossils.

The section, of which fuller details are given below, mainly consisted of yellow sands alternating with layers of doggers; these latter tended to be either round-topped, slightly oval or pear-shaped in plan and irregular, or, flat-topped and more continuous. Apart from a clayey layer between Beds 3 and 4, practically all fossils were found in the doggers. In many instances the ammonites were broken and jumbled at all angles but were little worn, if at all. This perhaps suggests transport by fast-moving water and rapid burial. The height of the top of the section at Yew Tree Close was about 250ft. O.D. Beds 0 to 9 were measured from the top of one dogger to the top of the next dogger above.

Section at Yew Tree Close	ft. in.
10. Yellow sand with soil above	7 0
9. Yellow sand below thin doggers yielding <i>Dumortieria</i> sp. indet., <i>D. moorei</i> (Lycett) and <i>Amphitrochus</i> aff. <i>duplicatus</i> (Sowerby) (a tuberculate form)	3 2
8. Irregular grey fissile doggers with yellow sand below. With <i>D. moorei</i> , <i>D. pseudoradiosa</i> (Branco), <i>Astarte</i> sp. and <i>Grammatodon</i> sp.	4 2
7. Mottled pale grey/orange sand below irregular doggers containing beautifully preserved <i>D. moorei</i> in white calcite on the top surface. Also <i>D. pseudoradiosa</i> and either <i>Orthotrigonia</i> or <i>Scaphotrigonia</i> sp.	1 9
6. Orange sand below doggers. Yielding <i>D. cf. moorei</i> , <i>D. pseudoradiosa</i> , <i>Hudlestonia affinis</i> (Seebach), <i>Liostrea</i> sp. and <i>Pseudolimea</i> sp.	3 9
5. Marked line of soak. Very irregular dogger layer. With <i>D. moorei</i> , <i>D. pseudoradiosa</i> , <i>D. costula</i> (Reinecke), <i>D. prisca</i> (Buckman), <i>Catulloceras dumortieri</i> (Thiollière), <i>Amphitrochus</i> aff. <i>duplicatus</i> (Sowerby) (tuberculate form), <i>Nucula</i> aff. <i>hameri</i> DeFrance, <i>Liostrea</i> sp. and possibly a crustacean burrow	3 9
4. Dark clayey silt (1ft.) with many fossils below grey-hearted doggers: <i>D. pseudoradiosa</i> , <i>D. costula</i> , <i>D. prisca</i> , <i>A. aff. duplicatus</i> (tuberculate form), <i>Grammatodon</i> , sp. and <i>Pholadomya? ambigua</i> (Sowerby)	1 9
3. Continuous dogger layer with many fossils: <i>D. cf. moorei</i> , <i>D. pseudoradiosa</i> , <i>D. costula</i> , <i>D. prisca</i> , <i>Pachylitoceras jurense</i> (Zeiten), <i>A. aff. duplicatus</i> (tuberculate form), <i>Nucula</i> aff. <i>hameri</i> , <i>Grammatodon</i> sp., ? <i>Chlamys</i> aff. <i>substriata</i> Roemer, <i>Liostrea</i> sp., <i>Pseudolimea</i> sp., <i>P. cf. duplicata</i> (Sowerby)	3 2
2. Flat-topped continuous doggers with <i>D. cf. pseudoradiosa</i> , <i>D. costula</i> , <i>A. aff. duplicatus</i> (tuberculate form), <i>Grammatodon</i> sp., ? <i>Chlamys</i> aff. <i>substriata</i>	2 0
1. Rounded intermittent doggers with unfossiliferous doggers below	3 6
TOTAL	33 10

In addition to the fossils listed above the following were found loose: *Nuculana* sp., *Pinna* sp., *Pseudotrapezium* sp., and *Pseudogibbithyris jurense* (Quenstedt), also some small fish teeth and *Cenoceras* sp. indet.

The author is greatly indebted to Dr. M. K. Howarth for identifying the ammonites, to Mr. N. Morris for identifying the remaining mollusca and to Mr. E. F. Owen for determining the single brachiopod.

Dr. Howarth wrote on the collection as follows: "The determination of your

collection of ammonites from the Yeovil Sands at Yew Tree Close, Yeovil, is difficult because of the excessive splitting of the genus *Dumortieria* by Buckman. He created about 40 specific names for *Dumortieria*, and there are over 50 specific names available altogether, of which probably less than 10 represent valid species

... For your Yew Tree Close specimens I do not think there are more than a maximum of four morphological species in each layer of doggers. I have chosen the earliest four specific names for these forms, and it is probable that most of Buckman's specific names are synonyms of these. The very fine ribbed specimens are *Dumortieria moorei* (Lycett). A larger, somewhat coarser ribbed species is the commonest form, occurring in every layer of doggers, and this I have called *D. pseudoradiosa* (Branco). The really coarse ribbed forms (i.e. ribs widely spaced) are divided into a compressed species, *D. costula* (Reinecke), and a species with much thicker whorls, *D. prisca* (Buckman) ... The whole of the section ... seems to belong to the Moorei Subzone of the Levesqui Zone. Although *D. moorei* does not occur in the lowest doggers, the other ammonites are the same, and I see no reason to split off any part of the section as a different subzone".

SOME NOTES ON THE PURBECK BEDS.

By R. G. CLEMENTS

Recent work by the writer on the Gastropoda of the Purbeck Beds of this country, has revealed a number of points of more general interest about the Purbeck Beds of Dorset, some of which are included below.

1. In the quarry to the east of the main Weymouth road, some 500 yards south of Poxwell Church (G.R. SY 744 836), the Purbeck succession begins with a one-foot bed of limestone full of the internal and external moulds of minute gastropods, small lamellibranchs, and ostracods. This is the basal cast bed (Arkell 1941, *Quart. J. Geol. Soc.* Vol. 97, p.79-128), which has also been recorded at Osmington, Ringstead and Chalbury Camp.

A bakelite vacuum impregnation technique produced very good casts of the gastropods, etc., and also revealed the presence of moulds of sponge spicules in the bed. These are clearly distinct from those originally figured and described by Young (*Geol. Mag.*, Vol. 15, p.220-1, fig. b.) as *Spongilla purbeckensis*, and recorded by Arkell (1947, *Geology of the country around Weymouth, Swanage, Corfe and Lulworth* p.133) as being abundant in certain Purbeck cherts. These are now regarded as being silicified pseudomorphs after lenticular gypsum crystals described by West (1964, *Proc. Yorks. Geol. Soc.*, Vol. 34, p.315-330). The present specimens are mainly rod-like structures with irregular, finer branches, but one tetraaxon was found, with one of the rays broken. As they occur as moulds, it seems likely that the spicules were originally calcareous.

The associated faunas show little sign of having been transported any great distance. The ostracods occur mainly as carapaces, and the gastropods very frequently have complete apertures. These faunas together with the associated sediments suggest a depositional environment for the bed of relatively quiet non-marine lagoonal conditions with salinities in the range of strongly brackish to possibly supersaline.

2. In the spring of 1965, the writer was able to examine briefly the collections of Purbeck gastropods housed in the Dorset County Museum, Dorchester. On a piece of rock labelled as coming from Ridgeway, and of Cherty Freshwater Bed type lithology, a specimen of *Planorbis fisheri* Arkell was found showing remnants of colour patterning. This consisted of three spirally-arranged dark bands on the upper (adapical) surface of the last quarter of the last whorl. (The shell is regarded as sinistral by analogy to present day Planorbidae). A very broad band was seen running around the middle of the adapical surface of the whorl, with a very fine band just abaxial to this, and a third of medium breadth running just above the peripheral keel.

Traces of colour patterning are not uncommon on fossil gastropods. However, it is much more common for members of the Neritacea (as for example the quite frequent colour patterning in *Theodoxus fisheri* Arkell from many localities in the Purbeck beds), so this particular example is quite noteworthy.

3. The residue obtained by normal micropalaeontological preparation of a sample taken from the lower Middle Purbeck of Durlston Bay was found to consist pre-