

Jurassic ammonites from UK – a reference collection of specimens from type-localities, stored at the Geological Institute of Bulgarian Academy of Sciences

Юрски амонити от Великобритания – референтна колекция от образци от типови находища в Геологическия институт на БАН

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Introduction

Amazingly, or maybe not, both our first visits to England began in exactly the same way, irrespective of that they were separated by a too long time: “What is the purpose of your visit to the UK?”, “I’m a paleontologist...”, “Oh, paleontologist!” Instantly, the stern face of the immigration officer was replaced by a wide smile: “Enjoy many fossils in England!”. Even more striking were the many people staring at the ground at low-tide time in the Jurassic outcrops along the UK shoreline. What were these people looking for? Fossils! That is, interest and traditions! As being related equally professionally and emotionally to paleontology, we were impressed by the efforts of many professionals and amateurs to study and preserve this great heritage. We have experienced the excitement of every Jurassic worker to see some of the best known outcrops in UK and collect samples from them. In that way, and through small donations from our fellows, in the Geological Institute of the Bulgarian Academy of Sciences was organized a collection of characteristic Jurassic ammonites from UK. We believe that this material could be used, despite not being large, for reference and collation with coeval ammonites from Bulgaria and elsewhere. Because no matter how good the illustrations and descriptions in the literature are, there is no better way for identification and correlation than dealing with authentic specimens from underlying fields. Therefore, anyone interested in Jurassic ammonites is welcome to see and to use this material. Furthermore, we hope that it will keep enriching, as being based on the good cooperation with our colleagues from the UK, which continues.

The collection

The collection in our care includes 180 ammonites from 16 Jurassic localities in England and 2 fields in Hebrides (NW Scotland) (Fig. 1). According to

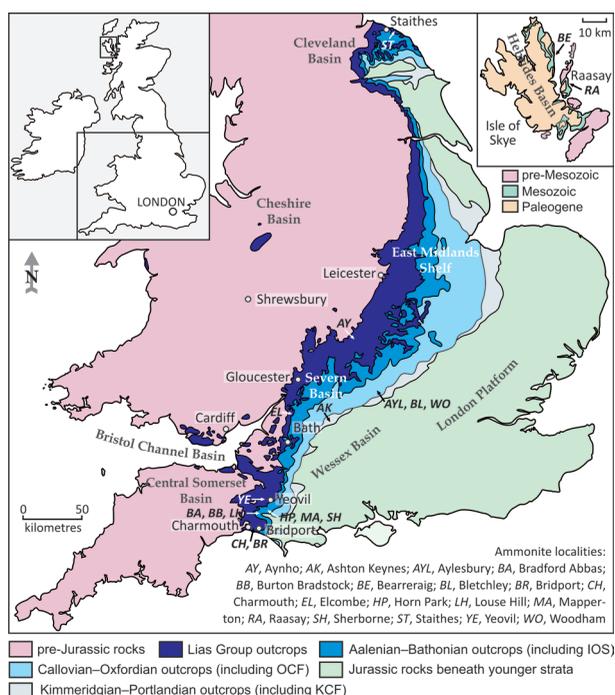


Fig. 1. Outcrop maps for the Jurassic in England and Wales (after Cope et al., 1980; Simms et al., 2004), and the Mesozoic in part of NW Scotland (upper right, after www.undiscoverScotland.co.uk), with the localities from which the stored ammonites have been obtained

the British lithostratigraphic scheme (see Cope et al., 1980; Simms et al., 2004), the ammonite localities associate with the Pliensbachian and the Toarcian rocks of the Lower Jurassic Lias Group (LG), the Raasay Ironstone Formation (RIF) and the Bearreraig Sandstone Formation (BSF), as well as with the Middle Jurassic strata of the Inferior Oolite Series (IOS) (Aalenian–Bajocian), the Oxford Clay Formation (OCF) (Upper Callovian), and also with the Upper Jurassic Kimmeridge Clay Formation (KCF) (Kimmeridgian).

The Lower Jurassic ammonites comprise 70 specimens from 6 localities, namely Charmouth (Dorset coast), Staithes (Yorkshire coast), Raasay (Hebrides), Yeovil (Somerset), Aynho (Oxfordshire) and Elcombe (Gloucestershire):

- Charmouth (Dorset), Charmouth Mudstone Formation (LG, Pliensbachian, Ibex Zone, Luridum Subzone). Our collection contains a few good liparoceratids from the sequence that was the basis for the introduction of the Luridum Subzone by Dean et al. (1961).

- Staithes (Yorkshire), Whitby Mudstone Formation (LG, Toarcian, Tenuicostatum/Falciferum Zones boundary). As stated by Howarth (1992), the bed-by-bed collections of ammonites of the families Dactylioceratidae and Hildoceratidae of the Yorkshire coast “plays a prominent part in the discovery of the species into which they were divided and in the biostratigraphy that is derived from them”. We have good matches of the Tenuicostatum/Falciferum Zones boundary interval, monographed by Howarth (1973, 1992).

- Raasay (Hebrides), (RIF, Toarcian, Falciferum Zone). A few ammonites of *Dactylioceras toxophorum* (Buckman), which is the most common dactylioceratid in this locality (Howarth, 1992), are stored.

- Yeovil (Somerset), Aynho (Oxfordshire) and Elcombe (Gloucestershire), Lias Group: Marlstone Rock Formation (Pliensbachian, Spinatum Zone–Toarcian, Tenuicostatum Zone), Beacon Limestone Formation (Toarcian, Falciferum to Thouarsense Zones), Bridport Sand Formation (Toarcian, Pseudoradiosa Zone). We hold various Yeovil ammonites that display many features of considerable interest in the Pliensbachian and Toarcian ammonite faunas, as being good examples of 10 genera, carefully studied by Howarth (1992, and references therein). Therefore they are a good basis for comparison. The remaining two fields contributed less to the collection with a few dactylioceratids and ammonites of the Toarcian genus *Dumortieria*.

The Middle Jurassic ammonites comprise 105 specimens, mainly from 7 localities of the Inferior Oolite Series (Dorset), 1 ammonite from the Bearreraig Sand-

stone Formation, near Bearreraig (Isle of Skye), as well as 3 ammonites from 2 localities of the Oxford Clay Formation (Buckinghamshire).

- The ammonites from Dorset and Bearreraig are superb examples of the Aalenian and the Bajocian Graphoceratidae and Garantianiinae (Opalinum Zone–Discites Zones, and Garantiana Zone), from exposures near Bridport, Mapperton, Burton Bradstock, Bradford Abbas, Horn Park, Louse Hill, Sherborne, and Bearreraig. The latter were adapted and checked against the ammonite successions, and the modern biostratigraphic scheme that evolved from them is given in several papers of Chandler (e.g. Chandler, Sole, 1995; Chandler, 1997).

- The ammonites from the Oxford Clay Formation came from the beds of the Upper Callovian Lamberti Zone near Woodham and Ashton Keynes (Buckinghamshire) (for details see Cope et al., 1980).

The Upper Jurassic ammonites are 5 perispinctaceans from the Kimmeridge Clay Formation at Bletchley and Aylesbury (Buckinghamshire) that represent good indications of the Kimmeridgian ammonite zonal set, from the Autissiodorensis to the Hudlestoni Zones (see Cope et al., 1980).

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