
Shepherd's Gutter, near Brams Haw, Hampshire

[SU 261 154]–[SU 265 152]

Highlights

This Selsey Sand site is particularly valuable for its well-preserved fauna. It is the only locality where beds of this age can be examined in the New Forest and hence provides a unique insight into local palaeoenvironmental conditions.

Introduction

The site comprises a section in the east by south-flowing stream known as Shepherd's Gutter. It occurs west of Bramshaw and extends for almost half a kilometre on either side of the stream from grid reference [SU 261 154] downstream to [SU 265 152]. The small exposures present occur within the Selsey Sand (Bracklesham Group) of Edwards and Freshney (1987b), whilst a small distance upstream, the Nummulite Bed of Stinton (1970) containing *N. cf. prestwichianus* has been found in a trial boring. This bed may represent the base of the overlying Barton Clay (see account of Studley Wood).

Apart from King's Garn Gutter, it is perhaps the earliest New Forest site to become known for its fossils, which had been collected for many years prior to its first being described by Fisher (1862). Despite more or less continuous collecting from the early 19th century to the present day, Shepherd's Gutter remains a rich source of material, unlike King's Garn Gutter where extensive pits were excavated on both sides of the stream so that now only reworked material can be found.

Only brief modern accounts of the section have been published (Stinton, 1970a, pp. 273–4; Stinton, 1970b, pp. 43–4; Curry 1968, p. 23, in French). The present account also draws upon an unpublished site description by the late F. Stinton.

Description

The succession occurs in more or less glauconitic sands, sandy clays and clays of the Selsey Sand (Bracklesham Group). Stinton (1970) described a succession of five beds from this locality, totalling some 10 m (see also slightly expanded section after Stinton in Edwards and Freshney, 1987a, p. 57; (Figure 6.22)). The succession is intermittently exposed, the oldest strata being exposed further downstream. In Stinton's unpublished draft, he described a prolific fauna which is a prime factor in determining the importance of this site. In addition to 128 gastropod and 29 bivalve species, he listed the scaphopod *Entaliopsis striatum*, small cephalopods (*Belosepia sepioidea*, *B. oweni* and *Vasseuria occidentalis*), the echinoid *Echinus dixonianus*, the cirrepedes *Balanus unguiformis* and *Euscalpellum turneri*, and the anthozoan corals *Paracyathus crassus*, *Siderastrea websteri* and *Turbinolia sulcata*. Stinton also listed 12 species of fishes, apart from those represented by otoliths.

Stinton's bed 1 is the 'Brook Bed', a glauconitic muddy sand, very fossiliferous towards the base. *Corbicula pisum* var. *wemmelensis* is abundant. *Turricula attenuata* occurs frequently whilst *B. sepioidea* is not uncommon. Stinton's (1970) beds 2 to 5 comprise the Shepherd's Gutter Bed of Fisher (1862) for which this is the type locality. Bed 2, a grey mud, contains numerous *Lentipecten corneus*, whilst this and intermittent sandy lenses are packed with fossils, including otoliths, echinoid spines and well-preserved small gastropods. The coral *Paracyathus*, often attached to shell fragments, is frequently found.

Bed 4 is a sandy glauconitic bed packed with *N. variolarius* and contains abundant molluscan fossils, fish remains and other fossils. Edwards and Freshney (1987a, p. 57) referred to dinoflagellates from this bed indicative of the *Cyclonephelium intricatum* Zone (B-5) of Bujak *et al.* (1980). Bed 5 has finely preserved fossils including *Turritella carinifera* and *Sassia flandraca*.

Interpretation and evaluation

Shepherd's Gutter is predominantly important for its prolific and well-preserved fauna. It does, however, also provide an insight into the Eocene stratigraphy and hence palaeoenvironmental development in an area of the Hampshire Basin where exposures are very limited.

Invertebrate fauna

Faunas characteristic of the Brook Bed have been recognized in the New Forest in Kings Garn Gutter and the Ramnor Inclosure Borehole (see Edwards and Freshney, 1987a, fig. 29). Further afield, this fauna is represented in beds L and (in part) K in the Fawley Transmission Tunnel (Curry *et al.*, 1968), in Bed 13 of Fisher (1862) at Lee-on-the-Solent, and in Bed 19 of Fisher (1862) at Whitecliff Bay. Stinton's unpublished account of the section suggests that the absence of a Brook Bed fauna in Alum Bay reflects decalcification, but recent work has indicated that this responds to a change of facies (cf. Edwards and Freshney, 1986, p. 56 and fig. 2).

Stratigraphy and comparison with other localities

Stinton (unpublished) was of the opinion that Bed 2 was the Shepherd's Gutter Bed of Fisher, whilst both Curry (1968) and Edwards and Freshney (1987a) considered the latter to include Beds 2 to 5 of Stinton (1970).

As with the Brook Bed, a consideration of the lateral equivalents of the Shepherd's Gutter Bed helps to clarify the facies distribution and palaeogeography of the times. Edwards and Freshney (1987a, p. 55) included amongst its lateral representatives in the Hampshire Basin, Bed M of the Fawley Tunnel Section (Curry *et al.*, 1968), Bed 16 of Fisher (1862) at Lee-on-the-Solent and Bed 16 of Fisher (1862) at Bracklesham Bay. At a more detailed level, Stinton (unpublished) considered Bed 2 to equate to Fisher Bed XVII at Whitecliff Bay and the 'Clibs' bed in Bracklesham Bay. By contrast, Bed 5, according to Stinton (unpublished), is peculiar to this part of the New Forest, it being absent at Whitecliff and Bracklesham Bays and in the Fawley Tunnel sequence. None of Beds 2 to 5 are represented at Alum Bay where coeval strata are predominantly continental clays and lignites.

Palaeogeography

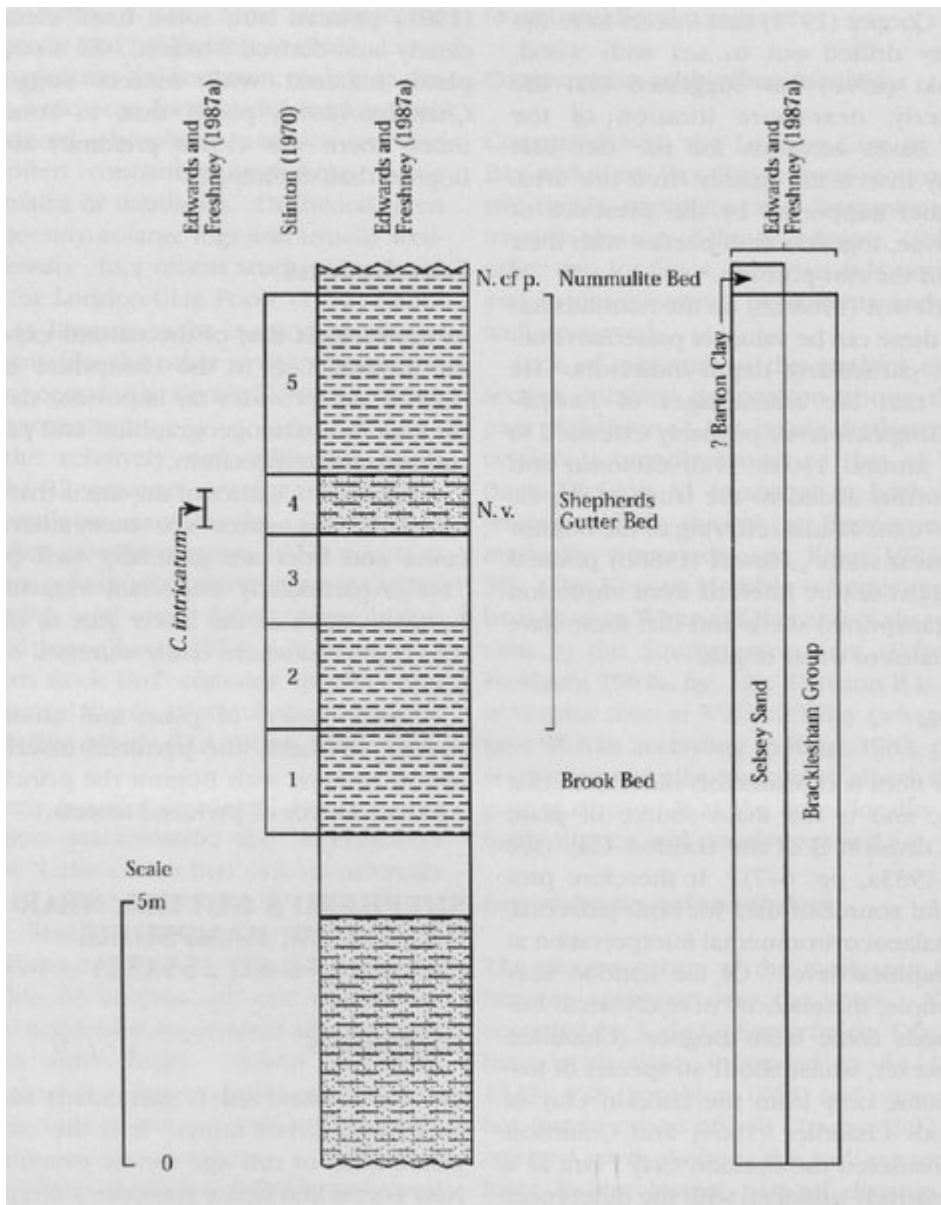
Overall, such New Forest localities as Shepherd's Gutter confirm the existence of a NW–SE arm of the 'Bracklesham Sea' with unrestricted access to open marine conditions to the south-east. In contrast, to the west and south (e.g. at Alum Bay) lay an area of beach and continental sedimentation (cf. Costa *et al.*, 1976, fig. 3; Plint, 1983a; Edwards and Freshney, 1987a, p. 56).

Conclusions

Shepherd's Gutter remains a rich in-situ source of fossils, in contrast with the Kings Garn Gutter, where only reworked material is available following extensive collection since the early 19th century. The fauna is prolific and well-preserved; as well as numerous molluscan species, cephalopods, echinoids and corals are present. Shepherd's Gutter provides the only locality where strata of this age may be examined in the New Forest. Supplemented by local borehole material, the locality proves the former existence of a fully marine north-westerly extension of the 'Bracklesham Sea', in contrast with the beach barrier and continental conditions which occurred further towards the south and west.

References

2024 note: A book has recently been published on Shepherd's Gutter: Taylor, D.C. 2023. The palaeontology and geology of Shepherd's Gutter near Bramshaw in the New Forest. Publ. by David C. Taylor. The book is available to read online at <https://www.shepherds gutter.co.uk/>



(Figure 6.22) Selsey Sand succession at Shepherd's Gutter, Bramshaw, Hampshire (mainly after Edwards and Freshney, 1987a, fig. 30). *N. cf. p.* and *N. v.* refer to *Nummulites cf. prestwichianus* and *N. variolarius* respectively.