

Geotourism and Geoconservation on the Isle of Wight, UK: Balancing Science with Commerce



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Abstract

The Isle of Wight has a rich and varied geological heritage which attracts scientists, tourists and fossil collectors, both private and commercial. Each party has a role to play in geoconservation and geotourism, but a policy on the long term curation of scientifically important specimens is essential to prevent future conflicts. A new code of conduct is recommended, based on the one adopted on the Jurassic Coast of Dorset. I have spent over 40 years living on the Island and working in the tourist industry running geology field-trips for both academics and tourists, and managing one of the longest running geological gift shops. I see the geological heritage and fossil sites as valuable geotourism assets, and envisage no problems with respect to the scientifically important material provided that a clear collecting policy is adopted, and the local museum generates funding to ensure that significant finds remain on the Island. A positive attitude is recommended in view of past experiences.

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Introduction

The Isle of Wight is a small, vaguely lozenge-shaped island situated just off the central south coast of England, about 113 km south west of London (Fig 1a, 1b), renowned for its balmy climate and golden, sandy beaches. Despite being a mere 42 km wide and 26 km long, it has a variety of downland (chalk hills) and coastal scenery, and an eclectic mix of individually styled seaside towns and rural villages complete with requisite picture-postcard thatched tearooms, medieval churches and a famous castle. For an area of only 381 square km, there is a wealth of tourist attractions, both man-made and natural, ranging from zoological parks, stately homes and museums, to chalk cliffs and gorges. All of these factors have made the place an ideal tourist destination since the early nineteenth century (see Freeman 2004, McInnes 2006). 'The Island', as it is known, has immense natural beauty and a slow pace of life. It is generally regarded as a microcosm of the archetypal English tourist landscape, 'England in a nutshell'.

This Island also comprises a continuous sequence of marine and freshwater strata of Early Cretaceous to Oligocene and Pleistocene age

with few formations absent, probably one of the best successions of this type in Europe (Fig 1c). Once a larger landmass joined to the mainland as recently as 9000 years ago, what remains as 'Wight Island' or 'Vecta Insula' is eroding away at a rate of one metre per year in places (Munt 2016), but this erosion has produced spectacular scenery and iconic landforms. The 'en echelon' antiforms produce gently inclined rocks visible along the south coast, whose dip increases dramatically to the west and east to form a classic textbook monocline, providing excellent and readily accessible exposures of some of the most important type sections of strata in Europe. Here for example are the stratotypes of the Early Cretaceous (Wealden) Vectis Formation at Atherfield Bay (Daly and Stewart 1979), the Atherfield Clay Formation in Chale Bay (Simpson 1985) and the Oligocene 'Hamstead Beds' near Whitecliff Bay, now renamed the Bouldnor Formation at the top of the Solent Group (Barton et al 2011, Hopson 2011).

With open sea between the Isle of Wight and Brazil to the south west, the Island is inevitably vulnerable from the prevailing south westerly gales. The exposed south coast, the 'Back of the Wight' as it is known, is constantly pounded each winter by destructive waves laden with beach sediment, a force which extracts a supply of fossils, especially dinosaur remains, ammonites and other shells. These mineralised relics are more resistant than their soft clay or sandstone matrix so they are easily weathered out. Such elemental factors make the Isle of Wight a Mecca for collectors of Mesozoic and Cenozoic fossils. In effect the sea does most of the geologists' work and the Island has been categorised as an exposure-type site (Bassett et al 2001).

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Figure 1. A. Location map, B. Map of the Isle of Wight showing main towns, C. Geological map of the Island in relief published by Brion in 1856.

The Business of Early Geotourism

From the earliest pioneers like Thomas Webster (1773-1844), an acknowledged draughtsman and field geologist, interest in the Island's stratigraphical palaeontology gained momentum in the forthcoming Victorian Era. Geotourism on the Island can therefore be regarded as a largely Victorian phenomenon, coinciding with a scientific Renaissance and a craze amongst gentlemen scientists for collecting and classifying all manner of natural history curiosities, including fossils. Webster was the first to map the geological formations of the Isle of Wight above and below the Chalk, and he did so in greater detail than William Smith. He provided the first topographical and geological survey of the Island's coast, often from a boat, and his later observations on key geological sites, especially the Lower Greensand and Tertiary exposures, were important (Webster 1814, 1825). The early work was commissioned by Henry Englefield and was published as a series of letters in Englefield's (1816) *Principal Picturesque Beauties of the Isle of Wight*, containing many engravings based upon the original drawings made by Webster. These manuscripts were discovered by the author in a bookshop in Petersfield and now belong to the library of University College, London. Inspired by Webster, many of Britain's most eminent geologists visited the Island during late Regency and early Victorian times. They included Adam Sedgwick, who collected from the Lower Greensand and Palaeogene (Sedgwick 1822), William Buckland, who purchased Wealden dinosaur bones from Yaverland (Simpson 2016), Charles Lyell, who examined the coast at Compton Bay to deduce the position of the Wealden beds (Blundell and Scott 1998) John Phillips, who made general field observations (Freeman 2004), and Edward Forbes, who carried out Geological Survey work (Forbes 1856). Other visitors included polymaths such as John Herschel, who used the Camera Lucida to draw cliff strata in Freshwater Bay, and Captain

Landon Levett Boscawen Ibbetson. The latter was a soldier and amateur geologist who experimented with early photography and devised a method of reproducing images of fossils from daguerreotypes (Goldberg 1981 p66). He also constructed and exhibited a three dimensional scale model of the Undercliff and its strata, based on his own trigonometrical survey. Sadly, the whereabouts of this 8-meter-long model, exhibited in 1838 and called the "Typorama" (Anon, 1838), are unknown.

Natural historians joined a growing list of writers, artists and poets who also gravitated to the Isle of Wight, rapidly becoming a popular refuge for scientists and artists alike. The naturalist Charles Darwin stayed in Sandown, on the east coast of the Island, whilst preparing the abstract for his theory of evolution, the 'Origin of Species by means of Natural Selection' (1859), and he had his famous portrait taken by the photographer Julia Margaret Cameron. Her Freshwater studio was a popular meeting place for intellectuals including Tennyson who were to become known as the 'Freshwater Circle'. The first detailed account of the local rock exposures was produced by Austen and Bristow (Bristow, 1862), later updated by Reid and Strahan (1889), all working for the recently formed Geological Survey of Great Britain (now the British Geological Survey). Palaeontographical monographs were issued to deal with the taxonomy of the newly discovered fossil fauna and flora, most notably by Richard Owen (1876, reptiles including dinosaurs), Sharpe (1856, ammonites from the Chalk), Wright (1864-1882, Cretaceous echinoids), Bell (1857-1863, crustaceans) and Gardner and Ettinghausen (1879, Eocene plants). Major discoveries were being made all over the Island, not just of dinosaurs but also of tropical plants at Alum Bay (Mitchell 1867), crustaceans at Atherfield (Gould, 1859, McCoy 1849) and mammals at Binstead (Owen 1846), finds to rival the French collections formerly studied by Baron Georges Cuvier in Paris.

This was a highly productive period which saw a proliferation of textbooks, scientific papers and tourist literature. The publisher George Brannon was quick to see the potential demand for illustrated guidebooks to the Island, and he produced many editions of the *Vectis Scenery* (Brannon 1825-1865), books for 'pleasure visitors' illustrated with his own copper plate engravings of popular local scenes, landmarks and notable residences. A geological map was included. Gideon Algernon Mantell (1790-1852), a surgeon and amateur fossil collector from nearby Sussex, popularised the geology of the Isle of Wight, bringing it to the attention of a much wider audience.

Public lectures on geological topics were commonplace and well-attended, notably those given by the curate and dinosaur hunter William Fox and Mantell himself (Anon 1847a). Soirees were hosted by well-connected collectors to discuss the latest palaeontological discoveries, while local scientific societies, philosophical societies or mechanics' institutes were established. These embraced geological sciences and often housed their own libraries and museums. Fieldtrips were led by experts such as Dr William Henry Fitton, and excursions around the Island by boat to view the geological strata were organised by experts such as Dr W Crook (Anon 1845) and G F Richardson (Anon 1842). Both used props including maps and models made by Isaiah Deck (Anon 1839a), or those supplied by Dobbs and Co (Anon 1843). Tourists could even buy an 'Arenean' soap (Anon 1837), whose geological properties were claimed to smooth the skin.

Mantell's classic prototype geotourist guidebook, his *Geological Excursions around the Isle of Wight and adjacent coast of Dorset*, proved to be a best seller, running to three editions (Mantell 1847, 1851 and 1854). Indeed, it has remained relevant and has seldom been surpassed in terms of its detail, writing style and general appeal.

To meet the scientific and hobbyist demand for knowledge and specimens, local geological guides offered their professional services, men like Charles Wheeler, a mackerel fisherman and longshoreman from Chale, who worked for clients including Mantell and Fitton. His contribution to the works of both men, in Fitton's case a detailed study of the Lower Greensand from Atherfield Point to Rocken End (Fitton 1847), was substantial. Many of the specimens figured by Mantell (1854) were well localised species new to science, collected and prepared by Wheeler himself. William Wheeler, a relative of Charles, maintained the paths at Blackgang Chine and sold local fossils to tourists, as did his wife after William's death (Anon 1887).

When Queen Victoria bought and rebuilt Osborne House on the shore of the Solent in 1846 (now a tourist attraction owned by English Heritage and renamed Osborne), her frequent and well publicised visits effectively shone a spotlight on a previously sleepy and tranquil island, which subsequently enjoyed a tourist heyday. Prince Albert took a keen interest in supporting the earth sciences and even planned a geological exhibition in one of the towers of his newly constructed Italianate residence (Anon 1847 b). This never materialised, but the royal couple did construct a museum for their own children at the Swiss Cottage, a chalet still preserved in the grounds of Osborne. It was well stocked with fossils, minerals, shells and artefacts donated by ardent royalists such as Mantell, trophies not just from the Isle of Wight but from all over the growing empire (Freeman, 2004). This historical material survives at Osborne and forms a valuable resource as the oldest intact fossil collection on the Island. Poignantly, it includes an *Iguanodon* dinosaur tooth found by Prince Waldemar, Queen Victoria's grandson, who died prematurely of diphtheria aged just 11.

In the mid-nineteenth century, specialist lapidary shops appeared in most of the Island's tourist towns (eg. William Tolan's and Fowlestone's, both in Ryde) to meet a demand for semi-precious and petrified souvenirs of all kinds: flint echinoids, cut and polished sponges (known as 'Choanites', Fig 2) and even the so called 'Ventnor diamonds' (tiny pebbles of quartz), for which tourists would search eagerly amongst the beach shingle. One of the most

respected of these lapidaries was a Mr Billings of Ventnor who could be relied upon to provide the choicest of specimens (Venables 1860), some of which were sold for substantial sums of money. There is one record (Anon 1881) of a particularly fine and large flint sponge being valued at 100 guineas (a staggering £5000 in 2018 money). The exact location of these natural treasures was well known to certain local residents. One such person was Matthew Hale of Bonchurch, who offered 'keep what you find' guided collecting trips for tourists. Other commercial collectors specialised in supplying rare scientific material to academics or serious collectors, fanatics like James Bowerbank or Samuel Beckles who formed large private fossil collections. Bowerbank was best known for his research on fossil sponges from the Chalk and plants from the London Clay of Sheppey, while Beckles discovered the dinosaur *Echinodon becklesii* and the mammal *Plagiaulax becklesii*.

The most prominent of these suppliers was Mark William Norman, a fishmonger by trade and not a mason as erroneously stated by Munt (2016). Norman sold fossils from the Lower and Upper Greensand beds of his local area, the Undercliff between St Lawrence and Bonchurch. He advertised his stock widely in geological journals and supplied institutions like the British Museum in London (now the Natural History Museum of London), as well as private collectors such as John Leckenby of Yorkshire and Professor Thomas Wiltshire. It is likely that Norman sold a large heteromorph ammonite from the Lower Greensand to Bowerbank, later named *Tropaeum bowerbanki*. Norman also produced a *Popular Guide to the Geology of the Isle of Wight* (1887), not only synthesising the works of Mantell and Fitton but also adding further illustrations of characteristic fossils and giving useful tidbits of information based upon many years of experience. Other professional collectors, such as Joseph and William Cotton, Richard Gibbs and Henry Keeping (also a curator) supplied more affluent customers including the celebrated poet Alfred Lord Tennyson and the aristocrat Barbara Rawdon-Hastings, Marchioness of Hastings, as well as museums and the Geological Survey (Reid and Strahan, 1889).



Figure 2. 'Choanite', a polished silicified sponge in flint, (author's collection)

Early Geotourist Sites

One of the natural attractions on the Island is the Needles, a series of jagged Chalk stacks extending out to sea at its most westerly extremity. Once part of a continuous wall of chalk joining the Island to Dorset, the Needles rocks with their famous trademark lighthouse are flanked to their immediate north by a series of vertically inclined layers of variegated arenaceous deposits (21 according to Booth and Brayson 2011) unique in the UK, the so called Coloured Sands of Alum Bay. Best seen from the sea and after heavy rainfall, boat trips provided perfect vantage points for onlookers keen to marvel at this natural, multicoloured phenomenon (Anon 1839 b).

A thriving local cottage industry was developed at this site specialising in marmortinto, an art form whereby the different hues of sand were applied with glues to card or boards to produce pictures of well-known local scenes. Alternatively, the sand was poured into variously shaped glass vessels (usually bells or lighthouses: Fig 3) and then sealed, a practice still carried out today by employees of the current landowners, Heritage Great Britain Ltd, using land-slipped sand collected in the winter. These souvenirs proved so popular that a rival enterprise was set up at Blackgang Chine using fewer, but more vivid colours of sand, collected from the nearby cliffs of the Ferruginous Sands and Sandrock Formations. Along with Shanklin Chine, with its waterfalls and shady, fern-lined pathways, Blackgang Chine was also a large and famous natural landmark, the most impressive of a suite of deeply incised valleys dissecting the southern coast and Undercliff. The name chine is derived from an old english word meaning cleft or gorge, and the term is uniquely applied on the Island and its adjacent mainland coast in Hampshire or Dorset (Buck and Gibson 2011). Wild and undeveloped, Blackgang Chine caught the attention of a Nottingham lace maker and entrepreneur called Alexander Dabell, who bought the gorge with its adjacent land and dramatic viewpoints. Adding some themed gardens, a model village, a bazaar and even the bleached skeleton of a fin whale nearly seventy feet in length, Dabell transformed the site into a major tourist attraction in 1843, just one year after dinosaurs had been 'invented' by Richard Owen. Despite periodic landslips, this family-owned attraction is still operating nearly 200 years later, and now features a themed area called Dinosaur Land, full of life sized animatronic models of popular primeval monsters. Blackgang continues the craze of 'dinomania' started by Owen with his 'Fearfully Great Lizards'.

The natural tourist attractions of the Isle of Wight include the Needles Landmark Attraction, the chines, the scenery of the Undercliff and its landslips, the various chalybeate or iron-rich springs (Fig. 4) and a large variety of fossils, especially dinosaur remains. The Island also has a 'Fossilised Forest' at Brook Point, the site of a prehistoric log jam where now petrified sections of trees were strewn in Cretaceous times across a large delta. Most of the wood belongs to *Protopodocarpoxylon*, representing an extinct family of conifers (Alvin et al 1981), but other silicified fragments of palm wood and monkey puzzle occur. The logs are visible at low spring tides (Fig 5) and were first recorded by Webster in his letters to Englefield (1816). The site subsequently became known as the 'Pine Raft'. Webster also recorded a bed higher in the cliff at Compton full of hazel nuts and branches, in this case not petrified but softer and more fragile (Webster in Englefield, 1816). However, these particular hazel nuts, nick-named 'Noahs Nuts' by the local inhabitants, were noticed as early as 1662 by the Dutch poet William Shellinks (Exwood and Lehmann 1993). Shellinks

also described the discovery of a deer antler in the same bed, now known to be a Mesolithic deposit.

A long established network of professional collectors, dealers and academics ensured a constant supply of services and specimens for tourists and scientists alike. However, the Island struggled to assemble and present all of its geological heritage in one permanent repository to satisfy the growing public interest. Numerous private collections were exhibited for limited periods at Appuldurcombe (the Museum Worsleyanum), Ryde, Alum Bay, Ventnor and Newport, the last two thanks to the personal efforts of Mark Norman and Dr Ernest P Wilkins respectively. These museums were short-lived, but some of their residual contents merged in the early twentieth century to form one small, public museum above the library in Sandown high street.



Figure 3. Alum Bay souvenir sandbells produced by William Carpenter c 1845 (author's collection)



Figure 4. Unpublished drawing of the Sandrock Spring near Blackgang in 1816 (author's collection)



Figure 5. The Fossil Forest at low tide at Hanover Point, Brook Bay.

Geotourism Today

Queen Victoria died on the Isle of Wight in 1901 and it was literally the end of an era. Although tourism boomed again after the Second World War, and especially in the 1970's and 80's, the Isle of Wight did not actively market its geological heritage for the benefit of tourism. Less accessible and more laid back than the mainland, the Island, through its successive tourist boards, continued to promote traditional seaside holidays, while Dorset achieved UNESCO world heritage status in 2001 on account of its geological heritage. The Jurassic Coast, as it is now known worldwide, has taken full advantage of the impact of the Jurassic Park film franchise and the constant media attention thereafter.

Despite having no Jurassic strata or not sharing in its close neighbour's world heritage status, the Island's biggest geological asset is undoubtedly the presence of its numerous indigenous dinosaurs, which other tourist areas do not possess. With no less than 29 species discovered so far, the Island is regarded as the best place in Europe to search for dinosaur remains, and is hailed as the birthplace of dinosaurs (Torrens 2014). There have been many discoveries of partial skeletons and also trace fossils in the form of three toed footprints (Figs 6,7,8). The significance of these so-called 'trifids' was pointed out in 1862 by Beckles (Anon 1862). In due course the intimate connection between the Isle of Wight and its dinosaurs was being emphasised, and a place hitherto famous for other attractions such as the pop festival or boat races even acquired its own nickname, Dinosaur Island. This moniker was first coined officially by Sandown Museum (Anon 1990), but it soon began to feature regularly in various TV programmes including Live from Dinosaur Island in 2001, the Big Dig in 2003 and the Fossil Detectives in 2008. Finally, after years of planning, a new dinosaur museum was constructed in 2001 on Sandown seafront, partly funded by a heritage lottery grant. This purpose built museum and visitor centre replaced the former, cramped museum above the library, and it displayed the best fossil material from the collection held in trust by the Isle of Wight Council, a stock of some 35k specimens. The collection includes about 200 holotype specimens and some highly significant vertebrate material collected in recent years. Important highlights are the only known specimen of the large carnivorous dinosaur *Neovenator salerii* (Hutt et al 1996), a smaller ancestral relative of T rex called *Eotyrannus lengi* (Hutt et al 2001), a partial sauropod skeleton yet to be formally described (Lomax and Tamura 2014, fig 34) and the pterosaur *Caulkicephalus trimicrodon* (Steel et al 2005).

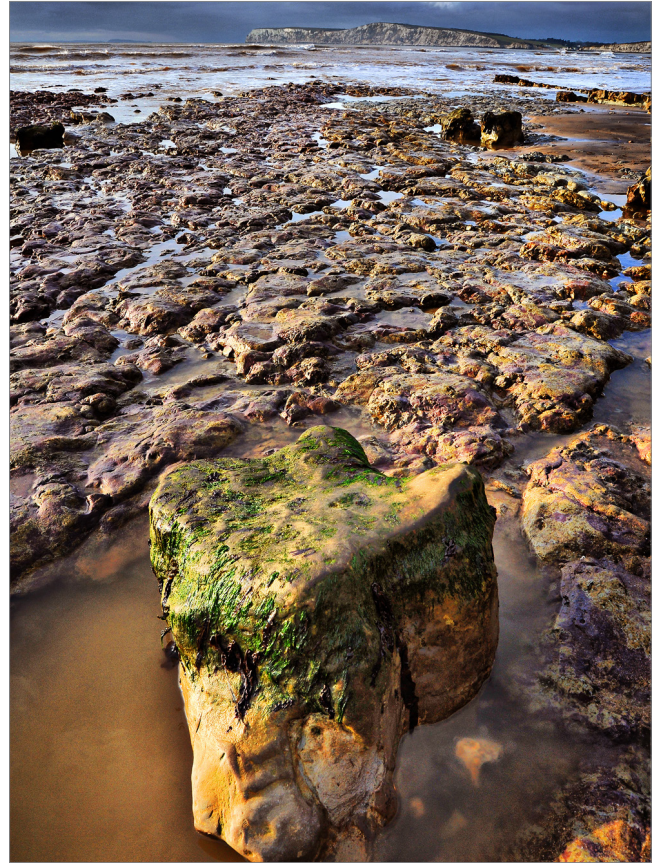


Figure 6. *Iguanodon* dinosaur footcast (positive) at Hanover Point, Brook Bay.



Figure 7. *Iguanodon* footprint (negative), Brook Bay.

With a new fossil museum and renewed media interest in dinosaurs, one would expect that the Island's tourist economy would be booming once again. It has, conversely, been in steady decline since 1987, and most dramatically since 2007. A rise in the popularity of package holidays, combined with expensive ferry crossings, a global recession, and a change in patterns of consumer spending have undoubtedly had a dramatic effect on Isle of Wight tourism. Visitor numbers have declined from historical highs of around 2.7 million in the 1980's to current levels of around 1.2 million. Recent claims that the Isle of Wight attracts 2.3 m tourists (Munt 2016) are somewhat exaggerated. 2.3m trips to and from the Isle of Wight include repeat journeys by commuters, locals and business people, as well as those made by actual tourists (*in litt.* David Shirley, former chairman of the IOW Visitor Attractions Association).



Figure 8. Theropod footcast at Brook Bay, subsequently eroded.

Fewer tourists are spending less time on the Island, with a trend for shorter breaks. This decline has resulted in a corresponding decrease in the number of tourist attractions, fewer ferry crossings, fewer bed spaces and a radical change in consumer spending. Retail businesses have suffered, as have traditional pay-to-enter attractions, but another, positive trend is evident; there has been a notable increase in activities such as walking, cycling and guided tours, including fossil hunting trips. Similarly, visits to pubs, coffee houses and cinemas are also on the increase. Despite falling visitor numbers, the last 15 years or so have seen several additional fossil shops being set up on the Island. Apart from the two longest running fossil businesses at Godshell and Yarmouth, there are new fossil shops at Ryde, Brighthstone, Newport and Shanklin. Shanklin old village is the base for two gift shops, one of which is run by the self-styled 'Jurassic Jim', who describes himself as both fossil hunter and legend (Isted 2016). Other, general gift shops also sell fossils, mostly imported from Morocco or Madagascar. However, the contrast between customer spending in retail outlets and on activities is a stark one. Whether these shops will all survive in the current financial climate remains to be seen.

Some of Island's problems are also national ones: a global recession and a decline in high street trading meaning less souvenir buying and more internet shopping. Others seem to have been self-inflicted, the result of poor business models or miscalculations. In the case of Dinosaur Isle, the attraction was smaller than originally planned (Martill in Anon 1999) with no cafeteria, no free parking and no acquisitions budget. It opened in 2001 with a forecast of attracting 120k visitors annually, rising to 250k within five years. In reality the annual visitor numbers have averaged

60k and were described as 'disappointing' by the Council (Anon 2004). Another problem is that the museum was built on a flood plain below sea level, fully exposed to the prevailing south westerly winds. The cost of repairing the damage caused by corrosion of the metal shell of the building will run hundreds of thousands of pounds, and the Council is currently reviewing its options for the future running of their showcase attraction. It is far from secure as claimed by Munt (2016).

The council run museum, with a history dating back to the 1920's, has acquired significant material in the last thirty years, largely via donations from local collectors, fulfilling Mantell's (1847) desire to see a well-stocked local museum to attract visitors and tourists. Munt (2016) suggested that the collecting situation in recent years harked back to Victorian times, when local museum curators such as Dr Wilkins were, in his opinion, trying to keep fossils on the Island, whereas dealers and collectors were selling them off. Munt complained of modern, council employed curators having to compete with dealers for important specimens, particularly vertebrate material which can have high commercial values. He regarded a new 'dinosaur rush' as the cause of a colossal fossil "battle" (Munt 2001), a clash which spilled over into the press, resulting in a "model of the worst kind" underpinned by "conflicting, rival ideologies" (Munt 2001). Hutt (in Sharpe 1996) also described the situation as a 'dinosaur war', but regarded only one collector as the problem. However, despite many allegations no evidence to support this view has ever been put forward. It is true that a series of sensational stories appeared in both local and national press, with criticisms of un-named foreign collectors and so-called dealers, but the allegations appeared to have been based on hearsay and rumours (Anon 1991). An alternative view of the Island's 'bone wars', a reference to the American dinosaur feud between Othniel Charles Marsh and Edward Drinker Cope in the 1870's, was presented by Simpson (2001).

In my view there were no major issues in Victorian times as Munt has implied. There existed private museums, for example the Newport Young Men's Literary Society in 1882, as well as private and professional collectors, and of course academics. There was no simplistic 'them and us' scenario. Dealers were in evidence, particularly Bryce Wright who purchased important Island material, including the Lower Greensand collection sold by Stephen Saxby of Bonchurch. While it is true, therefore, that important material left the Island, with the Rev William Fox's vertebrate collection being sold to the British Museum for example, in many cases the material was not necessarily lost to science. It seems that whereas museums in Victorian times were buying fossil material on the open market, today they are not. Nor is there a clash today between dealers and the museum along the lines described by Munt. Just as in Victorian times, there are now several independent museums, shops, trip organisers and collectors. Many vertebrate fossils continue to leave the Isle of Wight, including the following important specimens:

Dinosaurs: a skull and partial skeleton of *Iguanodon* (in 1982), a right leg of *Valdosaurus* (in 1990), a partial *Polacanthus* (in 1985) and several *Hypsilophodon* skulls with associated limb bones (in 2016).

Pterosaurs: the type specimen of the pterosaur *Vectidraco daisymorrisae* (in 2013.)

Crocodiles: the holotype skull of *Vectisuchus* (in 1977).

However, not one of these six examples was bought or sold by dealers; four were in fact sold by private collectors and two were donated; five of the specimens ended up in museums, four in the UK and one in Germany. The *Hypsilophodon* skulls were sold by one private collector to another.

Dinosaur Isle Museum has little or no money to buy specimens, nor

do the staff actively collect fossils. It is inevitable, therefore, that local collectors or visiting geologists and hobbyists will acquire the majority of the material (see Wulf, 2013), and that some specimens will be sold. Hose (2008) describes the 'pressure' from growing numbers of collectors. In any group of competing collectors there will inevitably be clashes of personality and a minority of academics take the moral standpoint that fossils should not be sold at all. Paradoxically, the fear that important specimens will leave the Island, or the view that every fossil ought to belong to the local museum, is more likely to result in bad feelings, with wider implications for geoconservation. Accusations of theft, trespass, damage or profiteering have meant that fewer fossils are donated to the museum and collectors have become alienated, with no obvious signs that the situation can be resolved. A code of conduct issued by the museum (Radley 1995) was a positive first step, but it has been largely ineffective as admitted by Munt (2001, 2008). For many fossil collectors, the choice of a suitable repository for their material is a genuine concern. Some regard national museums as better long term options than provincial ones to conserve their finds, while others object in principle to their material being permanently housed in storage.

Conclusion

So what are the solutions to these problems? Whatever happens, it is essential to foster good relations between collectors, dealers, curators and academics. Rauhut et al (2014) made a similar plea for closer collaboration between private collectors and palaeontologists globally. All parties on the Isle of Wight have an important role to play in preserving its geological heritage in a positive way, as they have done in

the past, and in being part of the Geotourism phenomenon. To facilitate this, a much more comprehensive code of conduct could be drawn up, along the same lines as the one adopted for the Jurassic Coast of Dorset (Edmonds 2001), which is largely self-regulating. An important element of the Dorset code is that scientifically important specimens which might be offered for sale 'under the radar' are posted on a website, enabling museums to have a fair opportunity of acquiring them within a specified time period. Collecting guidelines clearly identify which beds or sites ought to be protected.

The Isle of Wight's geological heritage is unique, and the Dinosaur Island moniker is a good marketing slogan. The Island's proximity to the Jurassic Coast and the universities of both Portsmouth and Southampton provides good research opportunities. In specific terms, a feasibility study could be undertaken into the viability of a field studies centre to complement, rather than compete with, Dinosaur Isle. This might take advantage of the growing number of visiting primary schools, family based fossil trips and educational groups. Such a centre might provide not just accommodation for this market, but also an exhibition space to display finds made by local collectors, most of whom would prefer their material to stay on the Isle of Wight. Other suggestions dealing with issues of ownership were discussed by Simpson (2001). Recent collaborations between collectors and Visit Wight, the Island's new tourist organisation, have been successful, for example the 'Year of the Dinosaur' campaign and the 'Big Dinosaur Event', both taking place in 2013 (Fig 9). Above all, a spirit of cooperation and respect should be encouraged between all professional and amateur palaeontologists who collect on this Island, a place often described as a geological paradise.



Figure 9. Aerial view of The Big Dinosaur event 2013, a human dinosaur shape, at Appley beach in Ryde.

Conflict of Interest

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