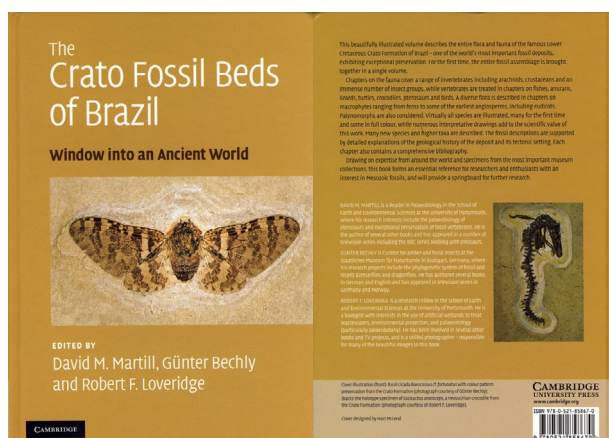




## BOOK REVIEWS

**Martill, D.M., G. Bechly & R.F. Loveridge. 2007. The Crato fossil beds. Window into an ancient world. – Cambridge, Cambridge University Press**

*H.J.M. Meijer*



This book comprises a very concise and complete work on one of the richest and most fascinating fossil sites in the world: the Crato Formation in north-eastern Brazil. The Lower Cretaceous Crato Formation is mined commercially, but its value may be higher in scientific terms. It has yielded exquisitely preserved fossils from a range of plants, invertebrates and vertebrates, through which the site has rightfully earned the status of fossil *Lagerstätten*.

Dave Martill, whom I had the pleasure to meet at the Wellnhofer pterosaur meeting in Munich last year, is mainly focused on pterosaur palaeobiology. For this book however, he has surrounded himself by a team of experts from various fields (See <http://www.cambridge.org/catalogue/catalogue.asp?isbn=9780521858670> for a list) to deliver a book that not just covers the wonderful pterosaurs from the Crato Formation, but also provides in depth knowl-

edge on other vertebrates, invertebrates and even plants. For this I applaud him. Too often, books on fossils focus on only one or a limited number of taxa. However, to fully understand the fossil ecosystem it is essential to cover the whole fauna as well as the flora, and for that this book sets an example. And what stands out immediately from this book is that it is beautifully illustrated with line drawings and photographs, even colour ones! On the other hand I think that the book would have benefitted if more than one drawing (p. 427) of the incredibly talented Mark Witton, a close co-worker of Dave Martill, would have been included.

The book is divided in to five parts. The first part introduces the reader to the geology, stratigraphy and sedimentology of the Crato Formation. Also it elaborates on the commercial value of the Crato deposits and the techniques used to prepare fossils from the sediments. In

In part II, the invertebrate fauna is treated and this part opens with a section on the taxonomy and preservation of arthropods. After that, fossil remains of Chilopoda (centipedes), Arachnidae (spiders and allies) and Crustacea (crabs, shrimps and allies) are described, followed by an extensive coverage of fossil insects from Crato. Part III provides an overview of the vertebrates, including fish, frogs, turtles, lizards, crocodiles, pterosaurs naturally and last but not least birds. This part is of greatest significance as it proposes a new genus for the two species of *Tapejara* from the Crato Formation, *Tapejara navigans* and *Tapejara imperator*. From now on, these two species are referred to by the authors as *Ingridia navigans* and *Ingridia imperator* in memory of Ingrid Wellnhofer, the wife of pterosaur authority Peter Wellnhofer, and are considered distinctly different from *Tapejara wellnhoferi* from the Santana Formation. In part four the flora is discussed by addressing the macrophyte flora and the pollen record. Part V is mysteriously titled 'Miscellanea' as if there were other objects from the Crato Formation that could not be classified as anything covered in the previous parts of the book. And it

appears that there are, and these problematica are discussed in the last part of the book. In addition, a complete species list for the Crato Formation is included.

It must be said that this book by Martill and co-workers can be added to the list of books on fossils on the Crato and Santana Formation in Brazil (e.g. Maisey, 1991; Martill, 1993). Nevertheless, this book provides the most up-to-date information and a comprehensive treatise on the Crato Formation.

**Martill, D.M., G. Bechly & R.F. Loveridge. 2007.** The Crato fossil beds. Window into an ancient world. – Cambridge, Cambridge University Press. 624 pp. ISBN-13: 9780521858670. Price £ 80.00 (hardback).

#### *Cited literature*

- Maisey, J.G. 1991.** Santana fossils. An illustrated atlas. – New Jersey, T.F.H. Publications.
- Martill, D.M. 1993.** Fossils of the Santana and Crato Formations, Brazil. – The Palaeontological Association, Field Guides to Fossils No. 5.

**Mol, D., W. van Logchem, K. van Hooijdonk & R. Bakker. 2007.** De sabeltandtijger uit de Noordzee. – Norg, Drukkware

*A.J. Veldmeijer*

In 2003, a team of vertebrate palaeontologists announced the find of the lower jaw of a saber-toothed cat in the 'Journal of Vertebrate Paleontology'. In it they explained that the fossil, fished up from southeast of the Brown Bank in the North Sea, was about 28,000 years old. The scientific community was shocked and in disbelief of the correctness: surely, they must have been wrong, as it was generally believed this fierce beast had gone extinct over 270,000 years before! However, fossilization characteristics were in agreement with fossils of the same age, viz. about 28,000 years, but obviously nothing was left to coincidence and the bone was C14 dated: and it confirmed the date.

I am not a specialist on fossil mammals, let alone on Pleistocene fauna, but when I saw the announcement of the book, I could not resist obtaining it immediately. Not, to be honest, in the first place because I have a deep interest in fossil mammals, but the cover of the book made me remind of my young days (!) when my interest in prehistory started to develop. Of the mammals, these cats were among my favourite carnivores and Remie Bakker's life, 3D reconstruction, shown on the cover and several times in the book itself, is about the best reconstruction of any prehistoric animal I have ever seen, including mammoths!



The book is truly beautiful. The paper is of high quality and the printing is excellent. It is elaborately decorated with excellent photographs and drawings, some of which reminds me of the work of an excellent artist of nature, Rien Poortvliet (which should be interpreted as a big compliment). What is a great asset to the book are the numerous artist impressions of the many different species of cats and contemporary fauna, as well as photographs of 3D reconstructions. It is clear from the layout that the book is aimed at the interested layman. For example, the 'Contents' (in Dutch *Inhoudsopgave*) is printed on pieces of torn out notebook paper, and sometimes notes and figure texts have been printed on scraps of notebook paper too. Another indication is the text itself, lacking extensive references to consulted literature, as is required in scientific work (but nevertheless, the authors refers to other work occasionally). And I am one of these layman...Fortunately, the authors chose to introduce the geological timescale very briefly but in such a way that the reader gets a good idea of it. The find of the fossil jaw itself is introduced in the next chapter, followed by a short account of 'the first shock' of the find: the determination. After the reader is familiar with it, it is explained what saber-tooth cats are and the evolution is discussed. Here, the authors decided to pay attention to all related cats. Having no knowledge of this group of animals, it proved rather difficult to keep track on the variety, even though the texts is clearly understandable and well written. Chapter nine presents other *Homotherium* finds in The Neth-

erlands and the next chapter discusses finds, younger than 500,000 years from the vicinity of our country. *Homotherium's* fellow fauna is presented in the next chapter after which, and that is a particularly interesting chapter, the life style is discussed, focussing on the question whether it was a solitary living animal or not. The final chapter deals with 'the making of' the reconstruction by Remie Bakker.

There are a few, albeit minor, problems. Not being bothered with knowledge about the contents, I can only assume that this is okay, not in the least because of the great expertise in The Netherlands of Pleistocene fauna: I am sure the reader will forgive me this ignorance. The title of the book is slightly odd, as the authors explain (p. 15) that 'tiger' is not the proper name. And since it is not used in the book itself, it is weird they did so for the title. I cannot but assume the decision to do so, is because the animal is known to the world at large as 'tiger'. At some point, the text is repetitive. For example, the uniqueness of the find has been stressed rather often and the story of the Isturitz statuette has been related twice (p. 89 and 147). Moreover, there are inconsistencies with regard to references to scholars: sometimes they are mentioned by their full name and titles; the other time only the family name is used. Another point is that scientific names, in normal texts, should be written in italic (all, alternatively, underlined). When a *text* is italicized, as are the figure texts, the scientific name should *not*. This is perhaps understandable, but in the text itself, several times the scientific name is not italicized either.

Clearly, this has escaped the attention of the authors. Finally, there are, unfortunately, rather many spelling mistakes, among which those on p. 70 (“Sinds het [...] opGEgravingen verricht”) and p. 87 (“Op grond [...] hebben geleefd [...]”, the word ‘dat’ lacks).

When I reviewed the book, it was only available in Dutch and thus I wrote: “It is a pity that the book is not (also) in English, as I think there would be much interest in it and it should!” Fortunately, some weeks ago I received the flyer of the English translation (see the Newsletter of July 2008). The book is a must for everybody interested in fossils as layman but also as professional palaeontologist, and not only restricted

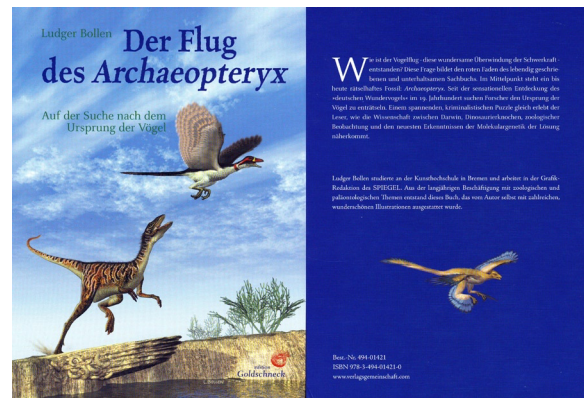
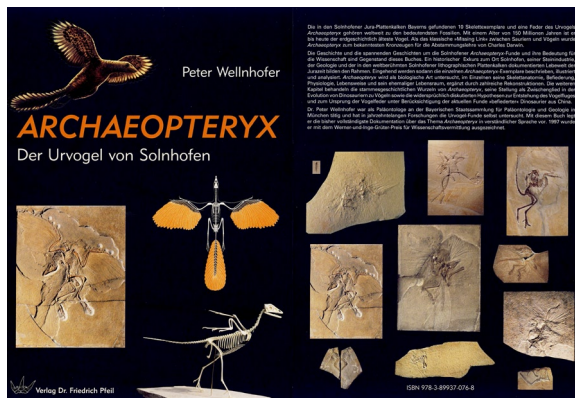
to those interested in other animals, like I can state with confidence. I can imagine that the great many illustrations makes the book a nice reference book too, as all the images of various cats and their contemporary creatures are gathered in it. So, I would say: “Go to the bookshops and buy it: it will give you much reading pleasure and a nice book for your library.”

**Mol, D., W. van Logchem, K. van Hooijdonk & R. Bakker. 2007.** De sabeltandtiger uit de Noordzee. – Norg, Drukware (www.drukware.nl/www.sabeltandtiger.eu). 159 pp. ISBN 978-90-78707-03-5. Price € 39,45.

**Wellnhofer, P. 2008.** *Archaeopteryx*. Der Urvogel von Solnhofen - München, Friedrich Pfeil.

**Bollen, L. 2008.** Der Flug des *Archaeopteryx*. Auf der Suche nach dem Ursprung der Vögel - Wiebelsheim, Quelle und Meyer.

I.J.J. Nieuwland



The ‘Urvogel’ *Archaeopteryx* has had little reason to complain about lack of attention in recent years. Quite apart from the excitement generated by the discovery (or rather, revelation) of a tenth specimen in 2005, there has been a steady stream of publication dedicated to this most famous fossil, varying from children’s books to scientific efforts. From the general reader’s viewpoint, Pat Shipman’s ‘Taking wing’ (1997) provides a good if somewhat over-romanticised account of the study of bird origins pre- and post-*Archaeopteryx*. Unfortunately, the rate of fossil bird discoveries - particularly in China - being what it is, it has also unavoidably passed

its sell-by date by now. More recently, Paul Chambers’ not entirely successful ‘Bones of contention’ (2002) has attempted to summarise the debate from a journalistic angle.

There is good and bad news with these titles, that appeared more or less simultaneously in early 2008. The bad news is that they are only available in German for the time being, and therefore unlikely to provoke much attention among specialists not in command of that language (which, it seems to me, is the vast majority). The good news is that both these books are very good indeed, and will both hopefully be translated into English. The best news is that

one of them gathers all the knowledge and insight of the *doyen* of *Archaeopteryx* research, Peter Wellnhofer from Munich.

However, having said that, it should be pointed out that despite similar-sounding titles, these are also two very different books. First of all, Bollen's is aimed outright at the popular science market, always keeping an eye open for the younger generations (although I wouldn't want to imply that he is being simplistic). Wellnhofer's, on the other hand, is a more scientific account, sometimes resting uneasily between scientific accuracy and completeness and the necessity not to detain a lay audience for longer than necessary. But apart from that, there are several points to be made in favour of either publication.

First, there is little doubt that Bollen is a more exciting and enticing writer than Wellnhofer. Bollen's narrative is very well structured and only interrupted by the chapter titles. Wellnhofer, on the other hand, is not as gifted stylistically but his use of thematic subtitles makes his work far more suited as a work of reference.

On the downside, Bollen is given to superficialisms and one or two instances of near-plagiarism. To name an example, the story of Carl (not Karl) Vogt's tirade against the German Emperor for his lack of interest in acquiring the Berlin *Archaeopteryx* is taken almost verbatim from Adrian Desmond's 'The hot-blooded dinosaurs' (1978), a title that might have served as an inspiration to his book in many other ways. Also, something remains to be desired regarding Bollen's fact-checking (*e.g.* Manfred Reichel, not Rietschel, p. 104 - no doubt a confusion with the scientist Siegfried Rietschel).

A final important distinction between both titles is the way in which they are illustrated. Wellnhofer mostly uses photographs, Bollen mainly (his own) reconstructions. It is these drawings (a combination of digital and traditional techniques) that help in making his book such a pleasure to leaf through.

But whereas Bollen's book is the result of a fascination, Wellnhofer's is in the apotheosis of a life-long devotion – and it shows. It is as complete a history of the fossil as one could wish for, and its shortcomings, few though they are, are more than compensated by the author's knowledge of and love for his subject. Moreover, Wellnhofer really does treat just about every aspect of *Archaeopteryx*, its history, and its place in the debates around the origin of birds and the origin of flight (two all-too-often confused themes).

The book is also exceedingly well produced by publisher Friedrich Pfeil, and rife with high-quality photographs of all *Archaeopteryx* specimens (or in the case of the sadly-stolen Maxberg specimen, a cast), renditions of reconstructions and photographs of the main protagonists in its history. In short, Wellnhofer's book leaves very little to be desired in terms of production values, depth of knowledge or completeness of information.

For anyone seriously interested in *Archaeopteryx*, the bird origins debate or maniraptorid evolution, the purchase of this book is a must - to a degree that it warrants learning German in order to read it. Seriously, I would be surprised NOT to find one in every avian palaeontologist's bookcase soon. Bollen's not quite on the same level in many ways. However, it is a worthy effort and generally a better read than Wellnhofer's if you wish to curl up on the sofa with a good romp about your favourite Kimmeridgian.

**Wellnhofer, P. 2008.** *Archaeopteryx*. Der Urvogel von Solnhofen. – Munich, Verlag Dr. Friedrich Pfeil. 256 pp. ISBN 978-3-89937-076-8. Price € 78.00 (hardback).

**Bollen, L. 2007.** *Der Flug des Archaeopteryx*. Auf der Suche nach dem Ursprung der Vögel. – Wiebelsheim, Quelle & Meyer. 272 pp. ISBN 978-3-494-01421-0. Price € 24.95 (hardback).