

Dr. Lucas' rebuttal to our allegations that Spielmann et al. (2006) plagiarized Martz's (2002) master's thesis is filled with inaccuracies and illogical reasoning. To briefly recap, it is now agreed by all workers on Triassic vertebrates who have dealt with the material (e.g. Martz, Lucas, Spielmann, Hunt, and Heckert) that the holotype of *Redondasuchus* is an osteoderm from the right side of the body, which puts the "flexing" or "arching" (the place where the osteoderm is "bent") closer to the medial edge. This is the interpretation Martz gave in his 2002 master's thesis, as this morphology is typical for the posterior dorsal and caudal osteoderms of many aetosaurs. This is the same interpretation which Spielmann et al. (2006) presented without giving credit to Martz (2002), which Dr. Lucas claims they came up with "independently." Oddly, Spielmann et al. did not give an explanation for their interpretation. The previous interpretation of the holotype osteoderm of *Redondasuchus* given by Hunt and Lucas (1991), Heckert et al. (1996), and Heckert and Lucas (2000) is that it is from the left side of the body, with the flexing being closer to the lateral edge. This would give the osteoderm a unique "downturned" lateral edge, which they interpreted as being characteristic of the taxon.

In spite of the fact that Martz's (2002) thesis was published four years before the Spielmann et al.'s (2006) paper, Dr. Lucas' rebuttal tries to claim credit for the correct reinterpretation of the *Redondasuchus* holotype in two ways:

- 1) Dr. Lucas claims that Justin Spielmann made the new interpretation "independently" in 2006, and told Hunt, Heckert, and Lucas, who were "easily convinced." This latter claim is easy to believe, since Martz had sent all three of the junior authors copies of his thesis early in 2003. As with the case of Parker informing Lucas that "*Desmatosuchus chamaensis* was a new genus, Lucas seems to have an unusual understanding of the term "independent," and it is hard to see how they can even claim partial credit for an interpretation Martz had *given* them years earlier. In a paper describing a new species of *Typhothorax* in their "2002" NMMNHS bulletin (actually published in 2003), Lucas, Heckert, and Hunt cited section of Martz's thesis, and Spielmann et al. (2006) also cited the thesis extensively (though only on matters they disagreed with). This clearly establishes that the authors were familiar with the contents of Martz's thesis before and during publication of their 2006 paper.
- 2) Dr. Lucas also claimed that Heckert et al. (1996) had in fact made the correct interpretation of the *Redondasuchus* holotype osteoderm before Martz. However, the 1996 paper explicitly says that the holotype osteoderm is a left repeatedly, and never identifies it as a right. Moreover, it bases its diagnosis and discussion of the taxon entirely on the incorrect interpretation, which places the flexing closer to the lateral edge. Lucas suggests that reading between the lines shows the paper actually means the exact opposite of what it claims explicitly. This is not a compelling argument.

In particular, Dr. Lucas does not seem to understand the significance of the anterior bar (a smooth surfaced raised bar which lies along the anterior edge of nearly all aetosaurs osteoderms) to the interpretation. Lucas claims that as Heckert et al. (1996) correctly identified the anterior bar, they must have known which end of the osteoderm was medial and which was lateral. This is false. Interpreted incorrectly as a left and oriented with the flexing incorrectly placed closer to the lateral edge (as all the pre-2000 papers explicitly did), the anterior bar of the holotype scute still faces anteriorly.

Finally, all authors of the 1991, 1996, and 2000 papers making the erroneous interpretation (Hunt, Heckert, and Lucas) were co-authors on the Spielmann et al. (2006) paper, which says *explicitly* that the older papers used the *incorrect* interpretation, before taking full credit for the correction of this interpretation:

"The interpretation of the orientation of flexure in the diagnosis of the genus *Redondasuchus* presented here (Fig. 1) differs from that of previous studies (Hunt and Lucas, 1991; Heckert et al., 1996). These studies suggested that, for the mid-dorsal paramedian scutes, the point of flexure was "two-thirds of the lateral distance from the medial to lateral edge of the scute" (Heckert et al., 1996, p. 620). However, *we believe* that this is incorrect and that the point of flexure instead lies one-third of the lateral distance from the medial to lateral edge of the scute (Fig. 1). This changes the conception of how the scutes are flexed; previous interpretations had the point of flexure between the medial two-thirds of the scute and the lateral third, while *our interpretation* has the point of flexure between the medial third of the scute and the lateral two-thirds." (Spielmann et al., 2006, p. 583; italics ours)

In addition to his attempt to demonstrate that Heckert and Spielmann came up with the re-interpretation of *Redondasuchus* independently of Martz, Dr. Lucas also attempts to downplay Spielmann et al.'s (2006) failure to credit Martz (2002). This is equally unconvincing:

- 1) Dr. Lucas claims that as Spielmann et al. (2006) cites Martz's (2002) thesis extensively, they clearly intended to give him credit. As we have repeatedly pointed out, Spielmann et al. only cited Martz where they disagree with him (on only indirectly related matters) and explicitly take full credit for the re-interpretation (see above quote). The length to which they cite Martz on other matters makes this omission all the more glaring.

Moreover, Lucas and his colleagues further downplayed Martz's contribution in a later 2007 publication reviewing the Late Triassic land vertebrate faunachrons. In this paper (p. 233, right column, fourth paragraph) they state (falsely) that Martz claimed the flexing in the scutes of *Redondasuchus* was due to *post-mortem distortion*, and again credited Spielmann et al. (2006) with the correct interpretation. Not only is Martz not given credit for the correct interpretation, but he is falsely claimed to have given an *erroneous* interpretation, further cementing Spielmann et al.'s claim to have made the correct interpretation themselves.

- 2) Finally, Lucas claims that Spielmann et al.'s (2006) Fig. 1 was based on Heckert et al.'s (1996) Fig. 5 and not on Martz's (2002) Fig. 3.1c. This is partially true. Spielmann et al.'s figure is intended to show both the original and revised interpretations of *Redondasuchus*. The left side of the Spielmann et al. (2006) figure, showing the incorrect original interpretation in cross section, is from Heckert et al.'s (1996) figure. The modified version of this figure on the right side is clearly showing the same interpretation as in Martz's (2002) figure. We never claimed that the Spielmann et al. figure was reproduced directly from Martz's thesis, only that it is clearly showing the same interpretation. This is important because Spielmann et al. (2006) cited a different part of Martz's (2002) Fig. 3.1, so there is no plausible way this could have eluded them.