

Evidence for a sauropod-like metacarpal configuration in stegosaurian dinosaurs

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The stegosaurian forelimb is usually portrayed with the metacarpals slanted and distally spread. However, manual manipulation of stegosaurian metacarpals reveals that in that configuration they do not articulate with each other nor with the rest of the forelimb. Rather, they do articulate with each other and with the rest of the forelimb when posed vertically and arranged in a compact, semi-tubular configuration, as in sauropods. This configuration agrees with data from articulated specimens and trackways. As with sauropods, this metacarpal configuration makes retention of phalanges awkward for locomotion and may be functionally related to the vestigiality of the manual phalanges of the outer digits.

Key words: Dinosauria, Ornithischia, Stegosauria, forelimb, functional morphology.

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