**Supporting information S1**

Phylogenetic relationships of *Allodaposuchus hulki* were explored using the dataset of Brochu (2011). However modifications in some operational taxonomic units (OTUs) and characters were carried out.

According to Delfino *et al.* (2008), we added a new state to the characters 148 and 149 (102 and 132 in Delfino *et al.* [2008]). In both cases, the state 0 is assigned to *Hylaeochampsa*, *Allodaposuchus* and *Arenysuchus*. In the rest of taxa from the original matrix of Brochu (2011) the state 0 passes to be 1 and the state 1 becomes 2 (for the description of the new state of character see Delfino *et al.* [2008]).

In the present study, *Allodaposuchus precedens* from the original matrix of Brochu (2011) was replaced by the codification of the specimen (PSMUBB V 438) from Oarda de Jos (Romania) (see Delfino *et al.*, (2008) for details). Our coding for *A*. *precedens* is the same as in Delfino *et al.* (2008) but the characters were reordered according to Brochu (2011). Seventeen new characters were coded to *A*. *precedens* according to the figures and the description of Delfino *et al.* (2008): 19 (?), 20 (?), 80 (0), 84 (?), 85 (0), 105 (?), 106 (0), 107 (0), 131 (0), 141 (0), 142 (0), 148 (0), 149 (0), 157 (0), 178 (0), 179 (0), 180 (0). In addition, the taxa *Arenysuchus gascabadiolorum* and *Allodaposuchus subjuniperus* and *Allodaposuchus palustris* were added to the matrix (Puértolas-Pascual et al., 2011; 2013; Blanco et al., 2014; respectively). Two characters were also modified to *A. subjuniperus* according to the descriptions of Puértolas-Pascual *et al.* (2013): 87 (1), 174 (0).

The character state codings for *A. hulki* are:

*Allodaposuchus hulki:* ?????????? ??????1??0 1??101?101 ?????0???? ??????11?? ?????????? ?????????? ????????00 0?0?00101? ?????????? ?1??0?0??? ?????????? ?????????? ????1?10?1 00?1100000 111021010? ?????10??? ???0??1000 0

**References**

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