**Supplementary material for**

**NEW SPECIMENS OF BAURUTITAN BRITOI AND A TAXONOMIC REASSESSMENT OF THE TITANOSAUR DINOSAUR FAUNA (SAUROPODA) FROM THE SERRA DA GALGA FORMATION (LATE CRETACEOUS) OF BRAZIL**

Julian C. G. Silva Junior1, Agustín G. Martinelli2, Thiago S. Marinho3,4, João I. da Silva3,5 and Max C. Langer1

1 Laboratório de Paleontologia de Ribeirão Preto, Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto, Universidade de São Paulo, Ribeirão Preto, São Paulo, Brazil.

2 Sección Paleontología de Vertebrados, Museo Argentino de Ciencias Naturales “Bernardino Rivadavia” – CONICET, Buenos Aires, Argentina.

3 Centro de Pesquisas Paleontológicas L. I. Price, Complexo Cultural e Científico Peirópolis, Pró-Reitoria de Extensão Universitária, Universidade Federal do Triangulo Mineiro, Uberaba, Minas Gerais, Brazil.

4 Departamento de Ciências Biológicas, Instituto de Ciências Exatas, Naturais e Educação, Universidade Federal do Triângulo Mineiro, Uberaba, Minas Gerais, Brazil.

5 Fundação Cultural de Uberaba, Prefeitura municipal de Uberaba, Uberaba, Minas Gerais, Brazil.

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**APPENDIX I. Measurements of BR-262 specimens.**

**Table 1.** Measurements (cm) of cervical vertebrae. **\*** = incomplete values; **----** = structure not preserved. **aEI**:average elongation index; **AMCH**: anterior maximum centrum height; **AMCW**: anterior maximum centrum width; **ML1**: maximum length (with condyle); **ML2**: maximum length (without condyle); **NSH**: neural spine height; **PMCH**: posterior maximum centrum height; **PMCW**: posterior maximum centrum width.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Specimen | aEI | ML1 | ML2 | AMCH | AMCW | PMCH | PMCW | NSH |
| CPPLIP-035 | 3,8 | 34,95 | 31,78 | 6,75 | 6,57 | 7,9 | 10,79 | 10,94 |
| CPPLIP-039 | ---- | 22,65\* | ---- | ---- | ---- | 5,92 | 8,83 | 8,56\* |
| CPPLIP-040 | ---- | 15,42\* | ---- | 5,61 | 6,66 | ---- | ---- | ---- |
| CPPLIP-049 | ---- | 18,73\* | ---- | 5,55 | 4,57 | ---- | ---- | ---- |

**Table 2.** Measurements (cm) of trunk vertebrae. **\*** = incomplete values; **----** = structure not preserved. **AMCH**: anterior maximum centrum height; **AMCW**: anterior maximum centrum width; **ML1**: maximum length (with condyle); **ML2**: maximum length (without condyle); **NSH**: neural spine height; **PMCH**: posterior maximum centrum height; **PMCW**: posterior maximum centrum width.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Specimen | ML1 | ML2 | AMCH | AMCW | PMCH | PMCW | NSH |
| CPPLIP-036 | 12,96 | 9,37 | 6,13 | 11,42 | 7,85 | 10,91 | ---- |
| CPPLIP-037 | 15,98 | 12,82 | 7,82 | 9,99 | 9,32 | 10,65 | 13,68\* |
| CPPLIP-043 | ---- | ---- | ---- | ---- | ---- | ---- | 12,79\* |
| CPPLIP-103 | 15,85 | 12,52 | 7,73 | 11,23 | 12,83 | 13,41 | ---- |
| CPPLIP-110 | 12,69 | 11,77 | 7,50\* | 12,27 | 8,38 | 9,77 | ---- |
| CPPLIP-111 | 16,82 | 11,50 | 9,15\* | 10,49\* | 9,82\* | 11,83 | ---- |
| CPPLIP-458 | 10,49 | 8,61 | 6,22 | 7,81 | 6,3 | 9,01 | 18,68 |

**Table 3.** Measurements (cm) of caudal vertebrae. **\*** = incomplete values; **----** = structure not preserved. **aEI:** average elongation index; **AMCH**: anterior maximum centrum height; **AMCW**: anterior maximum centrum width; **ML1**: maximum length (with condyle); **ML2**: maximum length (without condyle); **NSH**: neural spine height; **PMCH**: posterior maximum centrum height; **PMCW**: posterior maximum centrum width.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Specimen | aEI | ML1 | ML2 | AMCH | AMCW | PMCH | PMCW | NSH |
| CPPLIP-045 | 1,6 | 10,81 | 9,19 | 5,06 | 6,28 | 4,7 | 6,63 | 2,09\* |
| CPPLIP-046 | 1,2 | 12,31 | 9,4 | 6,34 | 7,43 | 6,71 | 9,14 | ---- |
| CPPLIP-047 | 1,1 | 11,34 | 7,74 | 4,14 | 7,13 | 5,12 | 7,56 | ---- |
| CPPLIP-061 | 0,9 | 10,12 | 7,56 | 5,97 | 6,95 | 7,08 | 8,9 | ---- |
| CPPLIP-091 | 1,8 | 13,44 | 11,37 | 5,55 | 7,68 | 5,41 | 7,32 | ---- |
| CPPLIP-093 | 1,5 | 10,2 | 9,37 | 5,07 | 6,28 | 5,06 | 6,97 | 2,61\* |
| CPPLIP-094 | 1,9 | 13,43 | 11,96 | 5,4\* | 6,27 | 5,59 | 6,8 | ---- |
| CPPLIP-095 | 1,6 | 12,55 | 9,77 | 5,58\* | 7,32 | 4,71 | 7,15 | ---- |
| CPPLIP-096 | 1,7 | 11,51 | 10,06 | 5,93 | 5,75 | 5,4 | 6,45 | 2,44\* |
| CPPLIP-102 | 0,7 | 12,72 | 8,32 | 9,45 | 12 | 11,45 | 13,27 | 13,84 |

**Table 4.** Measurements (cm) of chevrons. **\*** = incomplete values; **----** = structure not preserved.

|  |  |  |  |
| --- | --- | --- | --- |
| Specimen | Total height | Proximal rami height | Distal rami height |
| CPPLIP-055 | 21,95\* | 8,86 | 13,09\* |
| CPPLIP-056 | 14,53\* | 4,12\* | 10,41\* |
| CPPLIP-057 | ---- | 6,30\* | ---- |
| CPPLIP-098 | 22,66 | 9,03 | 13,66 |
| CPPLIP-099 | 20,33\* | 11,29 | 9,04\* |
| CPPLIP-100 | ---- | 7,31 | ---- |
| CPPLIP-109 | 21,35\* | 6,3 | 15,05\* |
| CPPLIP-112 | 22,89\* | 10,75 | 12,14\* |

**Table 5.** Measurements (cm) of pectoral girdle elements. **\*** = incomplete values.

|  |  |  |
| --- | --- | --- |
| Specimen | Maximum proximodistal length | Maximum mediolateral breadth |
| CPPLIP-038 | 64,67 | 44,59 |
| CPPLIP-138 | 46,19 | 23,89 |
| CPPLIP-140 | 26,83\* | 24,81\* |

**Table 6.** Measurements (cm) of forelimb elements. ---- = structure not preserved; \* = incomplete measures. **DAW**: distal anteroposterior width; **DWI**: distal width index; **ECC**: eccentricity index; **ML**: maximum proximodistal Length; **MPTB**: maximum proximal transverse breadth; **MMB**: midshaft mediolateral breadth; **MSC**: midshaft circumference; **MDTB**: maximum distal transverse breadth; **PAW**: proximal anteroposterior width; **PWI**: proximal width index; **RI**: robustness index.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Specimen | DAW | DWI | ECC | ML | MPTB | MMB | MSC | MDTB | PAW | PWI | RI |
| CPPPLIP-007 | ---- | ---- | ---- | 47,86\* | 32,5 | ---- | ---- | ---- | 10,83\* | ---- | ---- |
| CPPPLIP-008 | 28,62 | 0,28 | 1,2 | 94,63 | 30,28 | 13,18 | 38,6 | 26,83 | 16,57 | 0,31 | 4,03 |
| CPPPLIP-010 | 7,59 | 0,40 | 1,47 | 26,94 | 10,31 | 5,15 | 14,2 | 11,02 | 4,61 | 0,38 | 3,05 |
| CPPPLIP-263 (not described on the manuscript) | ---- | ---- | ---- | 64,09\* | 41,44 | ---- | ---- | ---- | 23,62 | ---- | ---- |

**Table 7.** Measurements (cm) of pelvic girdle elements. \* = incomplete measures.

|  |  |  |
| --- | --- | --- |
| Specimen | Maximum proximodistal length | Maximum mediolateral breadth |
| CPPLIP-042 | 33,98\* | 14,50\* |
| CPPLIP-069 | 64,57 | 16,83 |

**Table 8.** Measurements (cm) of pedal elements. **ML**: maximum proximodistal length, **MPTB**: maximum proximal transverse breadth, **MSB**: maximum shaft breadth, **MDTB**: maximum distal transverse breadth.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Specimen | ML | MPTB | MSB | MDTB |
| CPPLIP-011 | 13,11 | 8,9 | 4,48 | 6,88 |
| CPPLIP-054 | 15,78 | 6,29 | 3,12 | 5 |

**APPENDIX II. List of synonyms of *Baurutitan britoi*.**

A complete list of synonyms is provided here. Following the Open Nomenclature proposed by Matthews, 1973.

.2006 *Baurutitan britoi* Kellner et al.

p.2006 *Baurutitan britoi* Santucci and Bertini

p.2006 *Trigonosaurus pricei* Salgado et al.

.2007 *Baurutitan britoi* Casal et al.

p.2008 *Baurutitan britoi* Salgado and Carvalho

.2009 *Baurutitan britoi* Barco

.2010 *Baurutitan britoi* Calvo and Porfiri

.2010 *Baurutitan britoi* Csiki et al.

p. 2010 *Trigonosaurus pricei* Csiki et al.

.2010 *Baurutitan britoi* García et al.

.2010 *Trigonosaurus pricei* Gallina

.2011 *Baurutitan britoi* D’emic and Wilson

.2011 *Trigonosaurus pricei* D’emic and Wilson

.2011 *Baurutitan britoi* Filippi et al.

.2011 *Trigonosaurus pricei* Filippi et al.

.2011 *Baurutitan britoi* Gallina

.2011 *Trigonosaurus pricei* Gallina

p.2011 *Baurutitan britoi* Kellner et al.

p.2011 *Trigonosaurus pricei* Martinelli et al.

p.2011 *Baurutitan britoi* Santucci and Arruda Campos

p.2012 *Trigonosaurus pricei* Mannion et al.

p.2013 *Trigonosaurus pricei* Carballido and Sander

p.2013 *Trigonosaurus pricei* Coria et al.

.2013 *Baurutitan britoi* D’emic et al.

.2013 *Baurutitan britoi* Filippi et al.

.2013 *Baurutitan britoi* Machado et al.

p.2013 *Trigonosaurus pricei* Valieri and Díaz

.2014 *Baurutitan britoi* Lacovara et al.

.2014 *Baurutitan britoi* Poropat et al.

p.2014 *Trigonosaurus pricei* Salgado et al.

p.2014 *Baurutitan britoi* Saegusa and Ikeda

p.2015 *Trigonosaurus pricei* Poropat et al.

p.2015 *Trigonosaurus pricei* Zurriaguz and Powell

.2016 *Baurutitan britoi* Bandeira et al.

.2016 *Trigonosaurus pricei* Bandeira et al.

.2016 *Baurutitan britoi* D’emic et al.

.2016 *Baurutitan britoi* Dal Sasso et al.

.2016 *Trigonosaurus pricei* Dal Sasso et al.

.2016 *Baurutitan britoi* França et al.

.2016 *Baurutitan britoi* González Riga et al.

p.2016 *Trigonosaurus pricei* González Riga et al.

p.2016 *Trigonosaurus pricei* Martínez et al.

p.2016 *Trigonosaurus pricei* Ullman and Lacovara

p.2016 *Baurutitan britoi* Tykoski and Fiorillo

p.2017 *Trigonosaurus pricei* Averianov and Skutschas

.2017 *Baurutitan britoi* Carballido et al.

p.2017 *Trigonosaurus pricei* Carballido et al.

p.2017 *Trigonosaurus pricei* Fernandez-Baldor et al.

.2017 *Baurutitan britoi* Gorscak et al

p.2017 *Trigonosaurus pricei* Gorscak et al

p.2017 *Trigonosaurus pricei* Poropat et al.

p.2017 *Trigonosaurus pricei* Sassani and Bivens

p.2017 *Trigonosaurus pricei* Voegele et al.

.2018 *Baurutitan britoi* Díez Díaz et al.

.2018 *Baurutitan britoi* Hechenleitner et al.

.2018 *Baurutitan britoi* Salam et al.

.2019 *Trigonosaurus pricei* Apesteguía et al.

?2019 *Trigonosaurus pricei* Averianov et al.

.2019 *Baurutitan britoi* Averianov and Lopatin

?2019 *Trigonosaurus pricei* Averianov and Lopatin

p.2019 *Trigonosaurus pricei* Bandeira et al.

.2019 *Baurutitan britoi* Bandeira et al.

.2019 *Baurutitan britoi* Filippi et al.

p.2019 *Trigonosaurus pricei* Filippi et al.

p.2019 *Trigonosaurus pricei* González Riga et al.

.2019 *Baurutitan britoi* Gorscak and O’Connor

.2019 *Baurutitan britoi* Mannion et al.

.2019 *Trigonosaurus pricei* Novas et al.

.2020 *Baurutitan britoi* Carballido et al.

.2020 *Baurutitan britoi* Hechenleitner et al.

.2020 *Baurutitan britoi* Otero et al.

p.2020 *Trigonosaurus pricei* Poropat et al.

.2021 *Baurutitan britoi* Bellardini et al.

p.2021 *Trigonosaurus pricei* Bellardini et al.

.2021 *Baurutitan britoi* Cerda et al.

p.2021 *Trigonosaurus pricei* Cerda et al.

p.2021 *Baurutitan britoi* Pérez-Moreno et al.

.2021 *Baurutitan britoi* Otero et al.

p.2021 *Trigonosaurus pricei* Rubilar-Rogers et al.

p.2021 *Baurutitan britoi* Roland et al.

.2021 *Baurutitan britoi* Silva Junior et al.

.2021 *Baurutitan britoi* Soto et al.

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**APPENDIX III. Scorings for the phylogenetic analyses.**

**Iteration I**

*Baurutitan\_britoi* ??????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????-??????????????????02220001030(12)001110-00200100000310002101100???0-111?????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????00001????1010?0000

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*Trigonosaurus\_pricei* ?????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????11013?0?00301020?00210000111?100??11033310121?1122100122(01)120110201010?11120110111?0?(0 1)221?1??31?010???????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????????

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**Iteration II**

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