

**Systematic revision of *Gyriabrus* (Rodentia, Caviomorpha), a large dinomyid from the Neogene of South America (Supplementary online material)**

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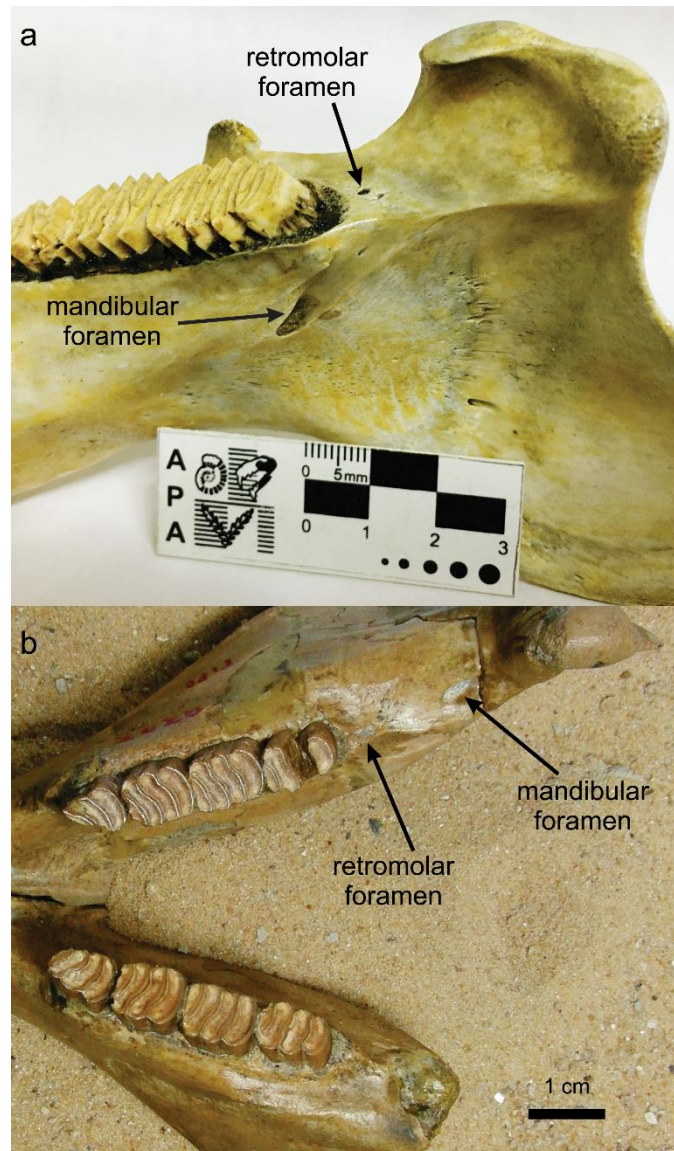
***Institutional abbreviations:*** MACN, Museo Argentino de Ciencias Naturales “Bernardino Rivadavia”, Ciudad Autónoma de Buenos Aires, Argentina; MLP, Museo de La Plata, La Plata, Argentina; MNHN, Museo Nacional de Historia Natural, Montevideo, Uruguay; PVL, Instituto Miguel Lillo-Paleontología Vertebrados, San Miguel de Tucumán, Argentina; LLR, personal collection of the author.

***Other abbreviations:*** M/m, upper/lower molar; i, lower incisor; P/p, upper/lower premolar.

**S1.** Tooth measurements of *Gyriabrus* species. Abbreviations: llw, labio-lingual width; mdw, mesio-distal width. a, Kraglievich 1930; b, Kraglievich 1932; c, Rusconi 1945; d, Stirton 1946; e, Ameghino 1891; f, Ameghino 1885.

| Species                                   | Material     | mdw (in mm) | llw (in mm) | Tooth position |
|-------------------------------------------|--------------|-------------|-------------|----------------|
| <i>Gyriabrus holmbergi</i>                | MACN-A 5879  | 10.63       | 7.8         | P4             |
|                                           |              | 8.85        | 7.87        | M1             |
|                                           |              | 9.81        | 8.03        | M2             |
|                                           |              | 9.91        | 8.14        | M3             |
|                                           |              | 37.92       |             | P4-M3          |
| <i>Gyriabrus holmbergi</i> <sup>a</sup>   | MNHN 1342    | 12.5        | 9           | P4             |
|                                           |              | 9           |             | M1             |
|                                           |              | 10          |             | M2             |
|                                           |              | 9           | 7.8         | M3             |
|                                           |              | 38.5        |             | P4-M3          |
| <i>Gyriabrus holmbergi</i> <sup>b</sup>   | MACN-Pv 3466 | 7.5         | 7.5         | M1?            |
| ? <i>Gyriabrus quadratus</i> <sup>c</sup> | PVL 1041     | 8.8         | 8.5         | M1 or M2       |
| ? <i>Gyriabrus royai</i> <sup>d</sup>     | holotype     | 8           | 7           | P4             |
| <i>Gyriabrus glutinatus</i> <sup>e</sup>  | MACN-A 5881  | 8           | 7           | m1?            |
| <i>Gyriabrus holmbergi</i> <sup>f</sup>   | lost type    | 9           | 7           | m1?            |
| <i>Gyriabrus holmbergi</i>                | MLP 15-252   | 8.74        | 9.36        | i              |
|                                           |              | 9.69        | 7.09        | p4             |
|                                           |              | 8.74        | 7.24        | m1             |
|                                           |              | 10.52       | 8.04        | m2             |
|                                           |              | 11.04       | 7.77        | m3             |
| <i>Gyriabrus holmbergi</i>                | MACN 3956    | 9.5         | 7.54        | p4             |
|                                           |              | 9.13        | 7.83        | m1             |
|                                           |              | 10.11       | 7.76        | m2             |
|                                           |              | 11.21       | 6.98        | m3             |
| <i>Gyriabrus rebagliattii</i>             | MACN 4728    | 9.92        | 7.72        | p4             |
|                                           |              | 9.11        | 9.56        | m1             |
|                                           |              | 10.35       | 9.26        | m2             |
| <i>Gyriabrus latidens</i> <sup>c</sup>    | PVL 1034     | 9           | 7.5         | p4             |

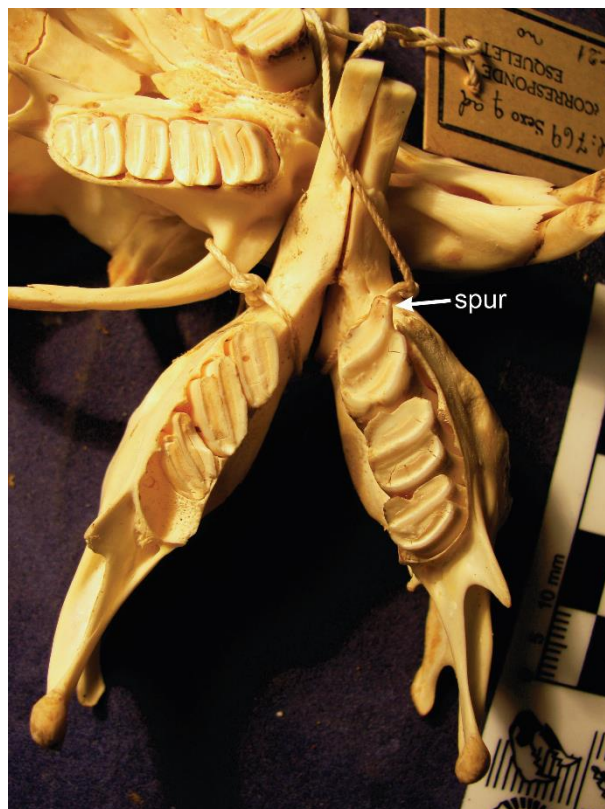
S2. Caviomorph rodents showing position of retromolar foramen. **a**, right mandible of *Hydrochoerus hydrochaeris* (LLR 8.1) in posteromedial view; **b**, mandibles of *Tetrastylus intermedius* (MACN-Pv 8323) in occlusal view.



**S3.** X-ray image of a right mandible of *Gyriabrus holmbergi* (MLP 15-252) in medial-lateral view. Yellow arrow showing the base of the incisor reaching behind the molars.



**S4.** Mandibles of *Lagostomus maximus* (MACN-Ma 5-21) in occlusal view, showing abnormal right molars. m1 with buccal spur, due to malocclusion.



## References

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