



***Akodon polopi* Jayat *et al.*, 2010 is a senior subjective synonym of *Akodon viridescens* Braun *et al.*, 2010**

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Two new taxa of species level were recently named for grass mice of the genus *Akodon* (Cricetidae, Sigmodontinae) from central Argentina: *Akodon polopi* Jayat, Ortiz, Salazar-Bravo, Pardiñas et D'Elía, 2010 and *Akodon viridescens* Braun, Mares, Coyner et Van Den Bussche, 2010. Several lines of evidence show that both taxa refer to the same biological species.

Various morphologic characters enumerated by the two research teams for *A. polopi* and *A. viridescens* are coincident. The brownish coloration of the dorsal pelage, the chin with a small but distinguishable white patch, the tail of approximately 70% of head and body length, and the broad rostrum are among the diagnostic characters cited for both forms. Other additional characters mentioned in the diagnosis of only one of the nominal forms are also enumerated in the general description of the other. These include the size intermediate for the genus, the hour-glass shaped interorbital region with sharply squared posterior margins in older individuals, the anterior border of mesopterygoid fossa rounded with sides parallel or slightly diverging backward, and the parapterygoid fossae with straight and gradually divergent sides. Many additional features are mentioned for both nominal forms in their general descriptions. Skin characters include the flanks coloration lighter than dorsum, bicolored tail, and the absence of white hairs on the throat. In the skull stand out the zygomatic plate with its anterior margin straight, short and broad eustachian tubes, and incisive foramina with posterior ends reaching the hypoflexus of M1. The capsular projection posterior to the coronoid process and the condyloid process extending more posteriorly than the angular process are mandibular characters shared by the two forms. Dental features include the upper incisors approximately orthodont; M1 with anteromedian flexus well developed, small anteroloph and mesoloph, and tiny enteroloph visible only in some young specimens; M2 with small mesoloph and postero flexus developed as a small indentation; M3 with metaflexus always present in young specimens; m1 with a well developed anteromedian flexid, a clearly defined anterolabial cingulum, and ectostylid and mesolophid always present in young individuals; and m2 with anterolabial cingulum, small ectostylid and tiny to obsolete mesolophid. As expected from the independent work of two research teams, there are character states that were enumerated in the diagnosis and description of one taxon but not in those of the other taxon. For example, an iridescent pelage is marked as a character of *A. viridescens* and nothing is said about it for *A. polopi* even when this coloration is evident in specimens of this latter form. This is due to the fact we (Jayat *et al.*, 2010) thought this was not a remarkable feature since this type of coloration is observed in most other species of highland *Akodon*. Finally, apparent incongruous statements in the description of both taxa are certainly result of the comparative context of each study. When we (Jayat *et al.*, 2010) pointed that *A. polopi* presents zygomatic notches that are broad and deep we are contextualizing within the observed range of variation of the entire *A. boliviensis* species group, the focus of our study. Braun *et al.* (2010) compared *A. viridescens* against a more reduced species set. Same reasoning may be posed in relation to nasal length, presented as short for *A. polopi* and long for *A. viridescens*; however, measurements of both holotypes are very similar (10.10 mm for *A. polopi* and *A. viridescens* 10.30 mm), being even the average value obtained for *A. polopi* larger than that of *A. viridescens* (i.e., 9.40 mm and 9.06 mm, respectively).

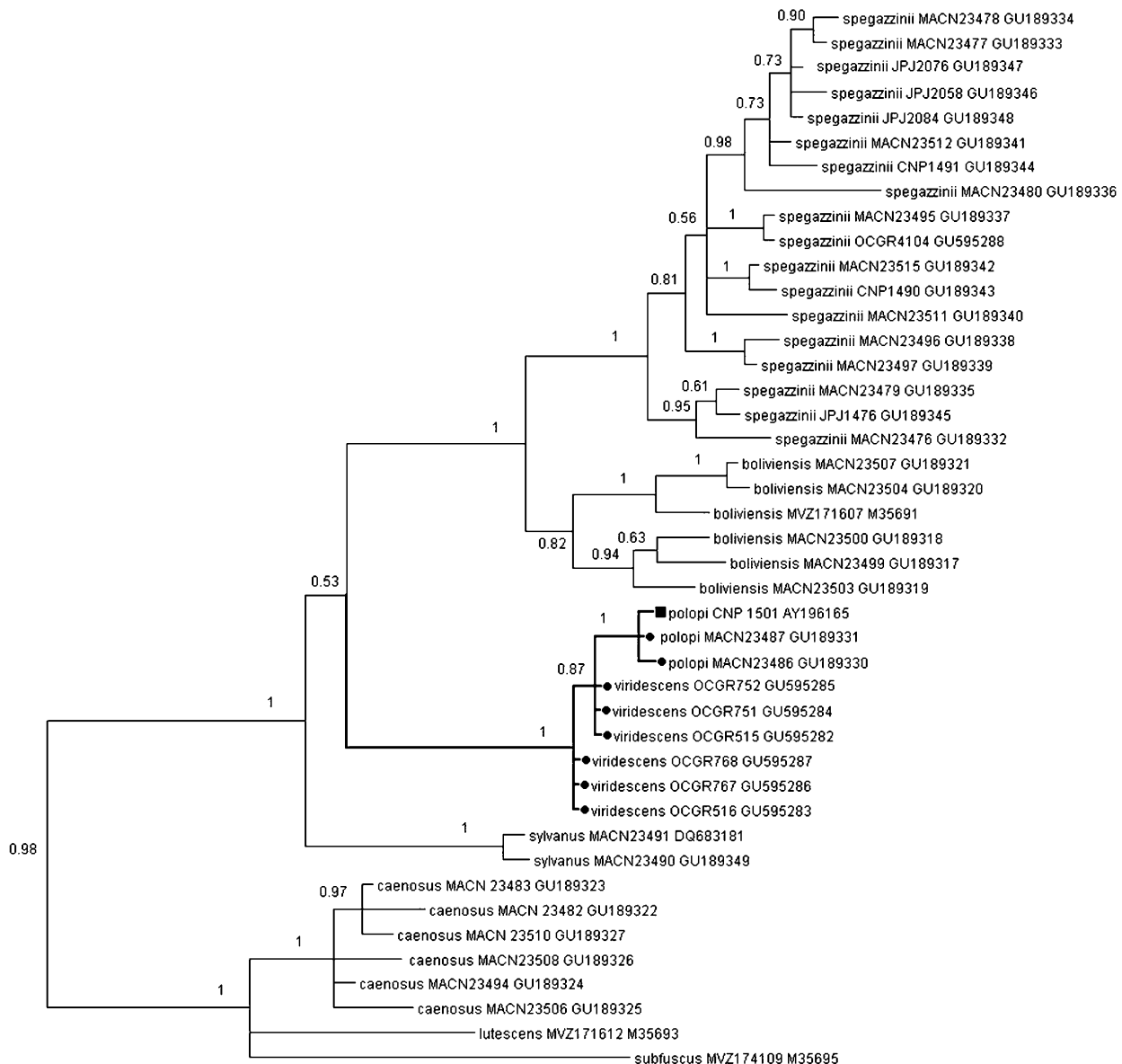


FIGURE 1. Partial majority-rule consensus tree resulting of the Bayesian phylogenetic analysis based on the first 801 bases of the *cyt b* gene of 78 sequences of *Akodon*. Numbers indicate posterior probability values of the nodes at their right. The analyzed matrix is that of Jayat *et al.* (2010) plus one sequence of *A. spegazzinii* (GU595288) and six of *A. viridescens* (GU595282-7) taken from Braun *et al.* (2010). The analytical protocol followed is that of Jayat *et al.* (2010); see that paper and Braun *et al.* (2010) for details of the sequences analyzed. The square signals the specimen (field number UP AC008; museum number CNP 1501) that was assigned to both taxa in their original descriptions.

Specimens assigned to *A. polopi* and *A. viridescens* have the same karyotype: a $2n = 40$ composed by 18 telo/acrocentric and one metacentric autosome pairs, a subacrocentric or telocentric X chromosome, and a meta/acrocentric Y chromosome (Pinna-Senn *et al.*, 1992; Braun *et al.*, 2010).

A phylogenetic analysis (Fig. 1) of cytochrome b (*cyt b*) gene haplotypes recovered from specimens assigned in the original descriptions to *A. polopi* and *A. viridescens* shows that *A. viridescens* is paraphyletic with respect to *A. polopi*. In addition, the overall observed value of uncorrected genetic variation among haplotypes ($n=9$) of *A. polopi* and *A. viridescens* is only 0.31 %, and is similar to levels of genetic variation in this molecular marker within several species of *Akodon* (e.g., Pardiñas *et al.*, 2005; Jayat *et al.*, 2007; Smith and Patton, 2007) and other akodontines (e.g., Jayat *et al.*, 2008; D'Elía *et al.*, 2008). Given the broader sampling of *A. polopi* now analyzed (i.e., including those haplotypes referred to *A. viridescens*) the list of 17 molecular synapomorphies provided by Jayat *et al.* (2010: Table 13) for this species should be amended to exclude a state character T at position 48, C at position 384, and G at position 516.

Finally, specimen CNP 1501 (field number UP AC008; cyt b Genbank accession number AY 196165) from Pampa de Achala, Córdoba, Argentina was assigned to both taxa in their original descriptions.

As both names refer to the same biological entity and are based on different holotypes (*A. polopi*: MACN 23486; *A. viridescens*: IADIZA-CM 6268), they ought to be considered subjective synonyms (ICZN 1999, art. 61). The name *Akodon polopi* was published in *Zootaxa* on March 24, 2010 while *Akodon viridescens* was published on the April 16, 2010 issue of the *Journal of Mammalogy*. Therefore, *Akodon polopi* has priority (ICZN 1999, art. 23) over *Akodon viridescens*, being the later a junior subjective synonym of *Akodon polopi*.

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