



DESCRIPTION OF THE KARYOTYPE AND THE NUCLEOLAR ORGANIZER REGIONS OF *Prochilodus vimboides* KNER 1859, LAKE CURIMBATÁ, (PROCHILODONTIDAE) OF THE DOCE RIVER BASIN, MINAS GERAIS STATE BRAZIL



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Prochilodus vimboides is known as curimbatá in the Rio Doce Basin. This species is distributed in coastal basins, the São Francisco Basin and portions of the Upper Paraná Basin. Cytogenetic knowledge is nonexistent regarding the Rio Doce population. Specimens of *Prochilodus vimboides* were collected in the Risoleta Neves Hydroelectric Dam, located in the Upper Rio Doce between the municipalities of Santa Cruz do Escalvado and Rio Doce, Minas Gerais. The objective of the present study was to cytogenetically characterize one of the populations of *P. vimboides* of the Rio Doce Basin.

As the diploid number and chromosome morphology were identical in seven other species of *Prochilodus*, these characteristics may be conserved in this genus. A unique characteristic of this species is the presence of two to five pairs of Ag-NORs found in the telomeric regions of the chromosomes. All other *Prochilodus* spp. have one pair of NORs.



Materials & Methods

- Cytogenetic techniques followed Bertollo et al., (1978) to obtain mitotic metaphase chromosomes.
- Nucleolar organizer regions (Ag-NORs) were detected using silver nitrate (Howell & Black, 1978).
- Photos were taken using an Olympus BX60 microscope and processed in Adobe Photoshop CS5. Karyotypes were mounted with Image Pro Plus®, following Levan et al., (1964) in m, sm, st and t, based on arms ratio.



Figure 1 -- *Prochilodus vimboides*; source: Beagle.

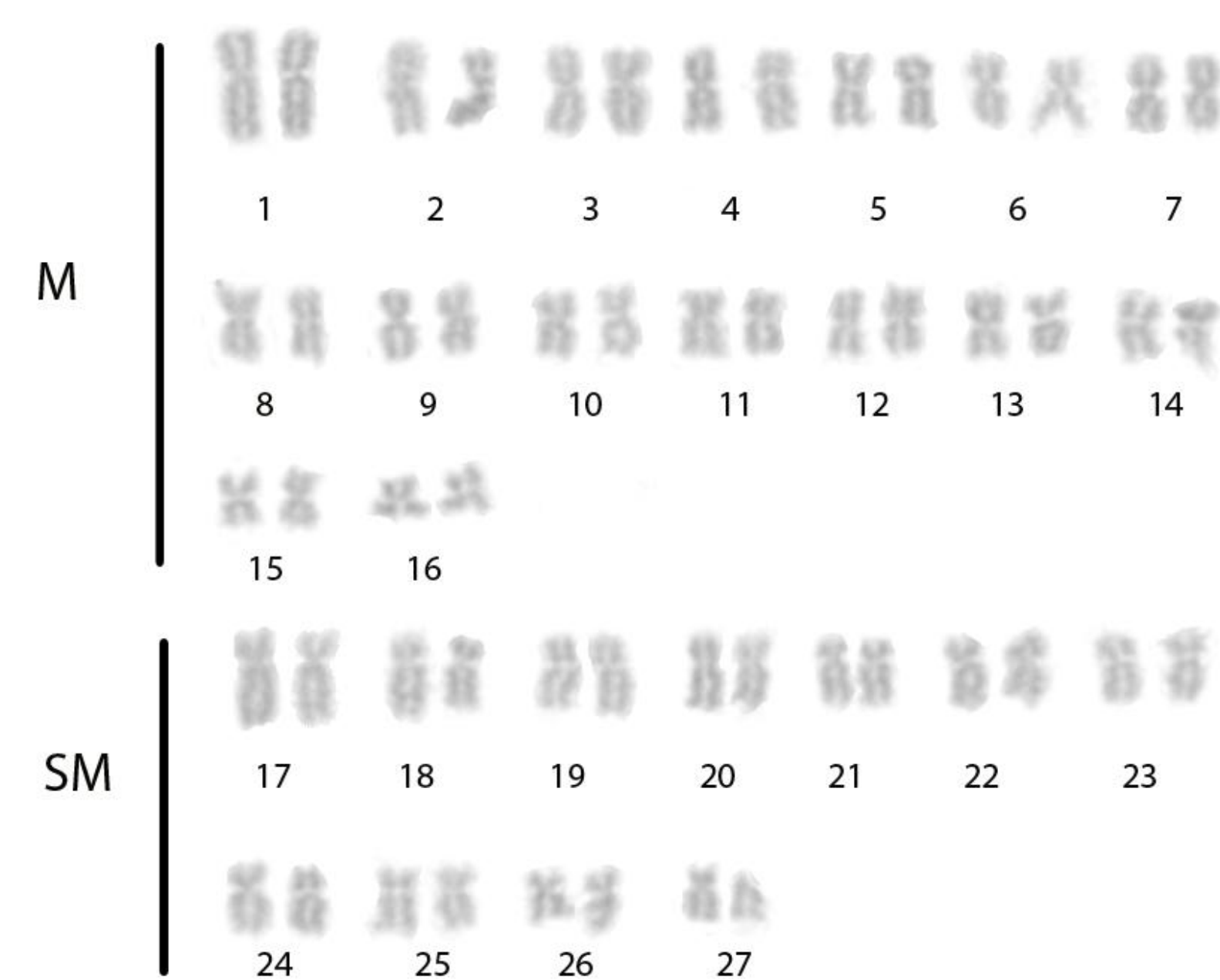


Figure 2 – Karyotype of *Prochilodus vimboides*, Rio Doce Basin, in the Risoleta Neves hydroelectric dam region.

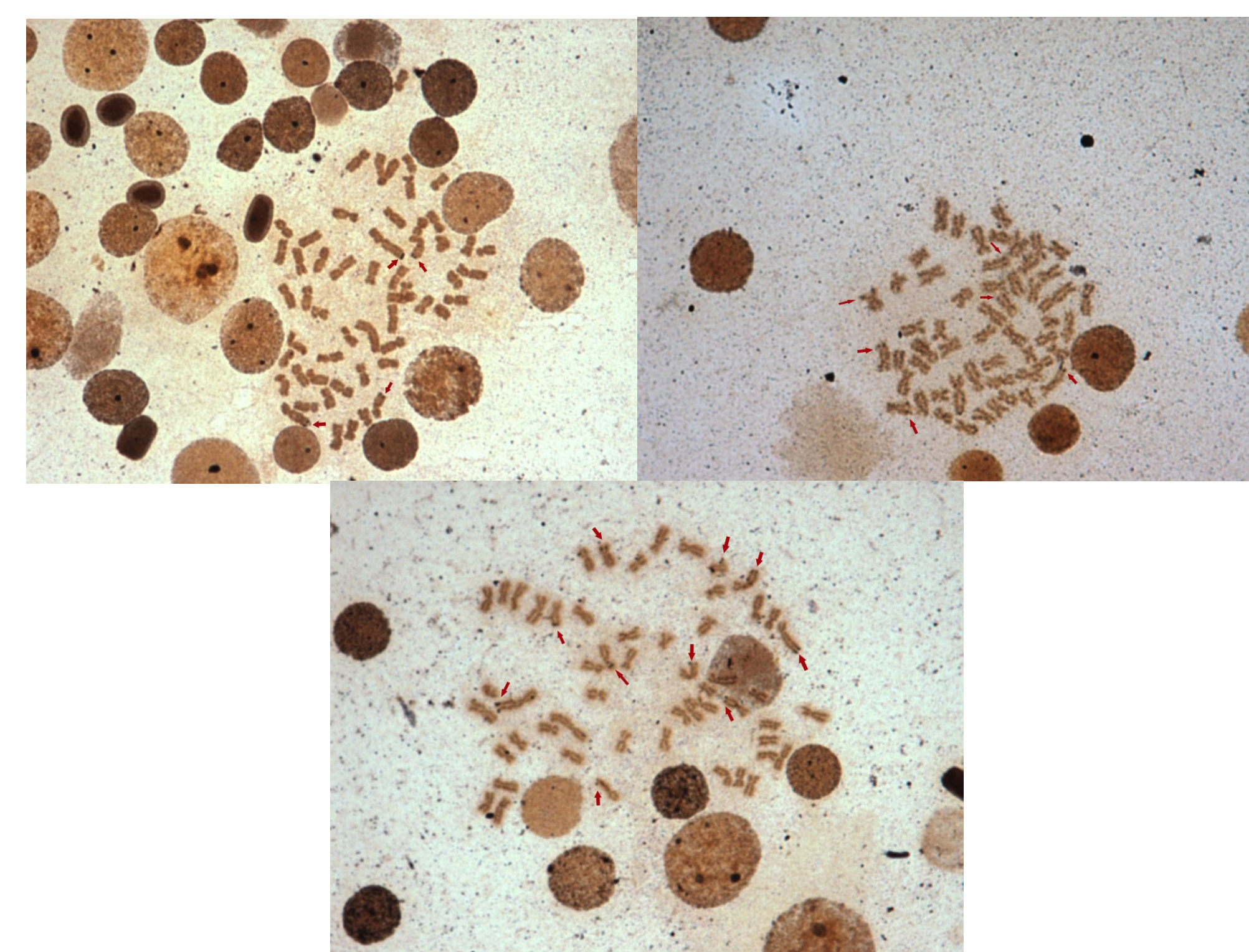
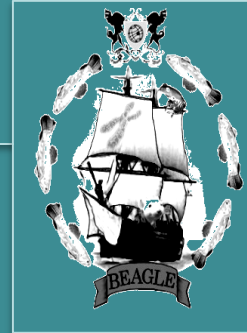


Figure 3 – Nucleolar Organizer Regions (NOR).



Results & Discussion

- The diploid number of the studied population was $2n=54$ and $FN=108$, with a karyotype of $32m+22sm$. One characteristic of this species is the presence of a second pair of metacentric chromosomes with secondary constrictions, also found in seven other species of this genus.



Conclusion

As there are not many cytogenetic studies of *P. vimboides*, these data may contribute to the preservation and understanding of the phylogeny of *Prochilodus*.

More elaborate cytogenetic techniques, such as bandings, are important for establishing phylogenetic relations within this genus and the family Prochilodontidae; moreover, they represent important tools for the detection of cryptic species.

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