Indigenous Woods of the Carving Zoomorphic Art in the Southern Brazilian Atlantic Forest

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Trees constitute an inseparable part of artistic expression in many human cultures. The zoomorphic woodcarving art of the Guarani Mbya Indigenous People—an ethnic group that once densely occupied much of South America—embodies the synergy between bioeconomy, technology, art, and ancestral knowledge of trees and their woods. It reflects the millennial sociocultural relationship between humans, their territory, and sustainable management practices aimed at preserving both ancestral culture and biodiversity. This editorial highlights the connection between wood properties and Indigenous carving art within the context of the Atlantic Forest in southern Brazil, aiming to demonstrate ancestral knowledge of the forest and its species.

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Indigenous cultures maintain a historical and social relationship of interdependence with forest territories. Millennia-old ancestral knowledge, in synergy with the sustainable management of biodiversity, is transmitted orally from generation to generation through cultural manifestations such as narratives, rituals, agriculture, fishing, hunting, dance, music, games, and handicrafts (Cunha *et al.* 2022; Paulino *et al.* 2025). Brazil is home to approximately 305 indigenous peoples who coexist with forests, among whom the Guarani people stand out for their woodcarving art. They are ancient inhabitants of the tropical forest territory (Yvyrupá), which, before European colonization, encompassed present-day Brazil, Suriname, Paraguay, Uruguay, the Guianas, and Argentina (Sackser *et al.* 2025).

The Guarani mobilize cognitive, symbolic, and technological knowledge of biodiversity in the creation of their art, which expresses their way of being (*Reko*) and their cultural identity. Their artistic practice engages multiple dimensions of art: (i) enjoyment and expression, through sensitivity, perception, and aesthetic appreciation; (ii) reflection and critique, by situating their people's sociocultural history within the world; and (iii) creativity, originality, and technical skill (Santos and Mendes 2025). The entire know-how process of craftsmanship is the responsibility of the indigenous artisan and involves symbolic and spiritual mechanisms. First, the artisan seeks protection from God (*Nhanderu*) so that the process may occur safely—from the collection of the wood in the forest to its cutting, carving, and pyrography. Upon entering the forest, the artisan selects the tree, fells it, and cuts it into pieces, allowing it to dry for three days. Using a cutting instrument, he carves the wood and lets it dry for an additional six days. The sculpture is

then finished by refining the characteristic details of the represented animal and adding ornamental elements through pyrography (Mirim 2025).

The know-how of this carved art activates multiple intelligences of the artisan, including: (i) logical-mathematical, in planning and executing the manufacturing process; (ii) linguistic, in listening, learning, and sharing knowledge; (iii) spatial, in recognizing the surrounding geographic environment; (iv) bodily-kinesthetic, in perceiving and representing the movement and features of the depicted animals; and (v) naturalistic, in understanding nature and its biodiversity (Souza and Sitko 2022). The zoomorphic sculptural art thus reflects a plurality of knowledge systems emerging from the human relationship with territory and biodiversity, generating a synergistic integration of science, technology, art, and ancestral wisdom. Wood, as the most utilized forest resource across human cultures, constitutes the primary raw material for this Indigenous craftsmanship.

Indigenous Wood and the Art of Zoomorphic Carving

The Guarani ancestral knowledge of sustainable management of natural resources enables the use of a diverse range of species in their zoomorphic woodcarving art. The indigenous woods used in these carvings are derived from native trees of the Atlantic Forest, found within indigenous life territories (Table 1). The Guarani culturally refer to this artistic expression as "bichinhos" ("little animals") and represent native fauna that inhabit or once inhabited the forest (Fig. 1).

Tree species such as *Alchornea triplinervia* (Euphorbiaceae, *tapiá*), *Cordia sellowiana* (Boraginaceae, *juretê*), *Jacaranda puberula* (Bignoniaceae, *caroba*), *Schefflera morototoni* (Araliaceae, *pau-mandioca*), *Simarouba versicolor* (Simaroubaceae, *caixeta*), *Trema micranta* (Cannabaceae, *grandiúva*), and *Zanthoxylum rhoifolium* (Rutaceae, *mamica-de-porca*) are commonly used by indigenous artisans in their craftsmanship. These species display physical and sensorial properties that indicate an empirical selection of woods with good workability, dimensional stability, and visual qualities suited to artistic expression (Table 1).

In general, these are low-density woods (0.31–0.50 g/cm³), which confer lightness and ease of carving. They predominantly exhibit light coloration, ranging from white to yellowish and tan hues, with absent to moderate luster, which facilitates the final decoration of the artifact through the use of fire. The texture varies from fine to medium, and the grain is straight, allowing for clean cuts and precise manual control during carving. Most of these woods are soft to cut or require a sharp knife for manual carving.

Table 1. Indigenous Wood Used in Carving Zoomorphic Art by Guarani Mbya People in Southern Brazil

Family	Species		Wood Properties*			
		Density (g/cm³)	Color	Shine	Texture	Grain
Araliaceae	*Schefflera morototoni*	0.41	white to yellowish	moderate	medium	straight
Bignoniaceae	*Jacaranda puberula*	0.31	yellowish white	weak	medium	straight
Cannabaceae	*Trema micrantha*	0.31	yellow to greyish	absent	fine	straight
Cordiaceae	*Cordia sellowiana*	0.48	greyish	weak	medium	straight
Euphorbiaceae	*Alchornea triplinervia*	0.37	light beige	absent	medium	straight
Rutaceae	*Zanthoxylum rhoifolium*	0.50	yellow to pale olive	absent	medium	straight
Simaroubaceae	*Simarouba versicolor*	0.37	whitish to straw-white	moderate	fine	straight

* Data obtained from literature (Carvalho 2003; Brazilian Forest Service 2025).

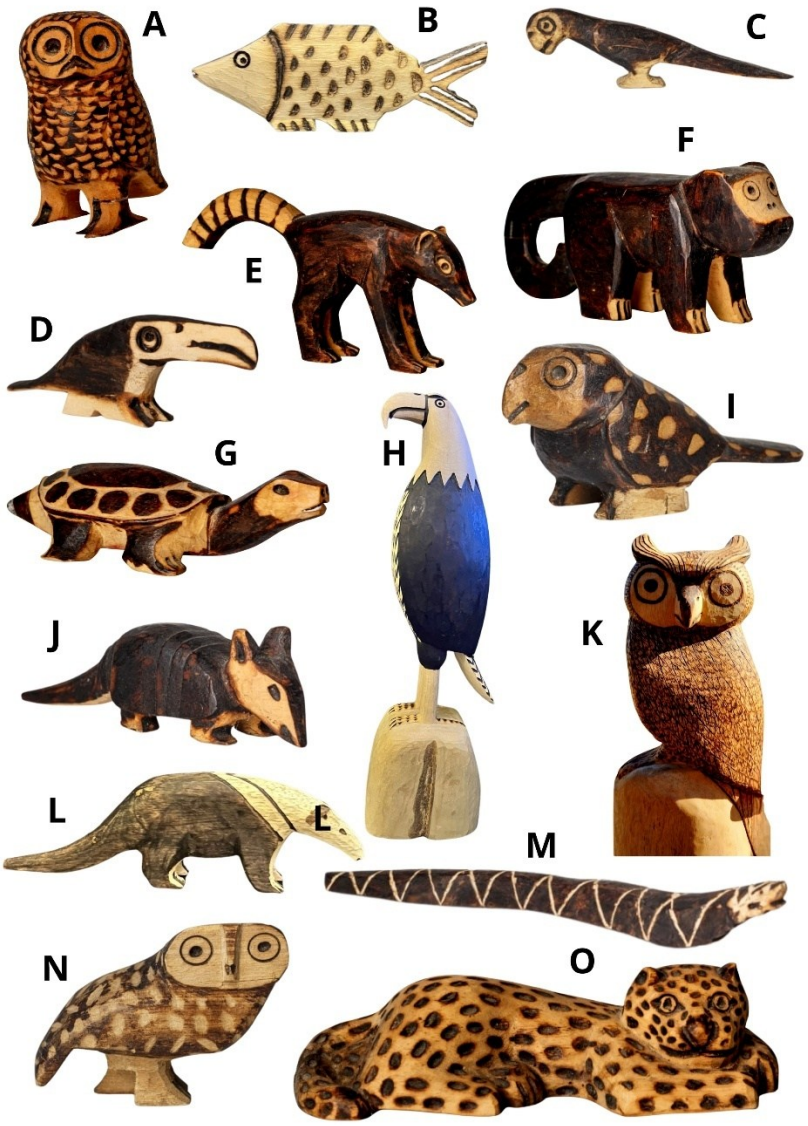

Fig. 1. Indigenous craving zoomorphic art of the Guarani Mbya people in southern Brazil. Legend: A – owl (*coruja*). B – fish (*peixe*). C – macaw (*arara*). D – toucan (*tucano*). E – raccoon (*guaxinim*). F – monkey (*macaco*). G – turtle (*tartaruga*). H – hawk (*gavião*). I – owl (*coruja*). J – armadillo (*tatu*). K – owl (*coruja*). L – anteater (*tamanduá*). M – snake (*cobra*). N – owl (*coruja*). O – jaguar (*onça*).

Conclusion

The Indigenous woodcarving art of the Guarani Mbya people demonstrates a profound understanding of the technological properties of trees within the context of the Atlantic Forest. The selected woods exhibit characteristics that are well-suited to the practice of manual carving. The technique employed by master artisans integrates symbolic, spiritual, and bioeconomic values, allowing them to express their millennia-old culture while simultaneously contributing to forest conservation—thus giving tangible meaning to the interdependence between society and nature.

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References Cited

Brazilian Forest Service. (2025). Brazilian Timber Database (PT-BR). Available at: https://www.gov.br/florestal/pt-br/assuntos/laboratorio-de-produtos-florestais/banco-de-dados-madeiras-brasileiras. Access: October 2025.

Carvalho, P. E. R. (2003). *Espécies Arbóreas Brasileiras (Brazilian Tree Species)*. Embrapa, Brasília.

Cunha, M. C., Magalhães, S. B., Adams, C. (2022). *Povos Tradicionais e Biodiversidade no Brasil: Contribuições dos Povos Indígenas, Quilombolas e Comunidades Tradicionais para a Biodiversidade, Políticas e Ameaças (Traditional peoples and biodiversity in Brazil: Contributions of Indigenous peoples, Quilombola communities, and other traditional groups to biodiversity, related policies, and emerging threats)*. Sociedade Brasileira para o Progresso da Ciência, São Paulo.

Mirim, K. (2025). "Os bichinhos! A arte escultórica zoomórfica do povo *Guarani Mbya* (The zoomorphic sculptural art of the Guarani Mbya people: The little creatures)" *Acta Biológica Catarinense* 12(2), 53-54. DOI: 10.21726/abc.v12i2.2725.

Paulino, F. A., Nunes Junior, O., and Melo Júnior, J. C. F. (2025). "Conservation of the Atlantic Forest trees through Indigenous Sustainability," *Frontiers in Ecology and the Environment* 23(2), article e-2839. DOI: 10.1002/fee.2839

Sackser, M. G., Below, J. V., Keller, H. A., and Hilgert, N. I. (2025). "Firewood, landscape, and culture: Strategies of collection and use among settlers and guaranies in the Argentine Atlantic forest," *Journal of Ethnobiology* 45(3), 289-311. DOI 10.1177/02780771251349281

Santos, C. L. D. S., and Mendes, A. D. N. A. (2025). "Contrapontos epistemológicos entre as concepções do conhecimento de arte na BNCC e propostas arte-educativas (Epistemological contrasts between conceptions of knowledge in art in the Brazilian National Common Core (BNCC) and art-educative proposals)," *Per Musi* 26, article e252601.

Souza, G. M., and Sitko, C. M. (2022). "A teoria das inteligências múltiplas no processo de ensino e aprendizagem e a atividade criativa (The theory of multiple intelligences in the teaching and learning process and creative activity)," *Scientia Plena* 18(8), 1-12.