

Appendix 1.

Maximum genealogical memory of the Zo'é

Records of Zo'é birth dates from 1992 are accurate. The first official census for the Zo'é people was carried out by the Funai in collaboration with the anthropologist Dominique Tilkin Gallois in 1992. Currently, the census is carried out by the Sesai (Secretaria Especial de Saúde Indígena) – the Brazilian governmental agency that coordinates and executes national public policies for the health care of indigenous peoples – that shares the information with the Funai. Nurses of the Sesai act permanently in the Zo'é Indigenous Land and accompany all births. Both, the Funai and Sesai share their censuses with interested institutions, such as the Iepé, and we have access to all data as we are advisors of Iepé.

Birth years prior to 1992 are approximations. Gallois carried out the first kinship survey among the Zo'é and included projections for birth years for all the Zo'é who were alive in 1992. In her calculations, she used the average age for maternity/paternity of 18 year-old. Her kinship data includes a name list of dead Zo'é persons, but without projections for their birth years. We expanded this list through ethnographic information about kinship among the Zo'é collected between 2012 and 2021. Here, we projected birth years for some dead Zo'é persons whose names were on the list. For this, we recalculated the average age for maternity/paternity among the Zo'é by using birth data of Zo'é persons born between 1991 and 2021. The average age was 17.84, a similar value to that used by Gallois in 1992. Therefore, we defined that, in average, every 18 years a new Zo'é generation starts.

We carried out several maternity/paternity genealogies for different Zo'é family lineages, from current generations to the more ancient generations remembered by the Zo'é. The result was a maximum genealogical memory of eight generations for the

lineage shown below (Supplementary Table 3). In this lineage (elaborated in 2021), Jiawu hum (represented in the supplementary table 1 by the generational term “Ego”), born in 2009, does not have children. As we backed tracked the Jiawu hum genealogy according to the Zo’é ancestral memory, we reached the ancestral parental limit due to the lack of information about the ancestrality of Tupã, a Zo’é acknowledged as an important leader in the historical occupation of the region where we carried out our floristic inventories. According to our calculation, Tupã should have been born around 1876, which is about 143 years before the year we carried out our floristic inventories (i.e., 2019). This ancestral memory of eight generations, or 143 years, allowed us estimated the occupation history of the region where we carried out our fieldwork in 2019. Just as the Zo’é know the descendant lineage of Tupã, they also know the territorial movements done by him and their descendants. In this sense, we can affirm that the forest patches inventoried by us named Kyrybyrity ki’a, Kuruwaty hembra ki’a and Barakeja ypa parabyha ki’a were not cleared in the last 143 years at least, and so represent old-growth/mature forests.

Table A1.1. Maximum genealogical memory of the Zo’é.

Generation	People’s name	Gender	Birth date	Information sources
-7	Tupã †	M	~1876	Our calculation
-6	Kanikot †	M	~1894	Our calculation
-5	Awa’e †	M	~1912	Our calculation
-4	Siran †	F	~1930	Our calculation
-3	Ikarong †	M	~1948	Census of Funai and Gallois
-2	Jawara	F	~1976	Census of Funai and Gallois
-1	Uo puku	M	01/06/1994	Census of Funai and Sesai
Ego	Jiawu hum	M	08/10/2009	Census of Funai and Sesai

“Generation” corresponds to the family ancestrality of the lineage; “People’s name” corresponds to the name of the person of the generation and includes the son, father, grandfather, great grandfather and so on; “Gender” includes male (M) and female (F); “Birth date” is the exact date (for Jiawu hum and Uo puku) or the approximate year (all other persons) in which a specific person was born; “Information sources” are the sources used to reach the birth date. The † symbol in front of the names indicates that the person is dead.

Date of village evacuations

The year Narera taperet and Kuruwaty taperet were evacuated was calculated from data contained in the censuses. Both evacuations occurred because of the death of specific persons: Narera taperet in 2010 and Kuruwaty taperet in 2002. Evacuation of Misaw taperet, in turn, is documented in Gallois and Havt (1998) and occurred in 1991.

The approximate year Bikura rupa taperet was evacuated was calculated in terms of the maturity of Biri, our main Zo'é collaborator, born in ~1945. We asked Biri which current Zo'é person he looked like when he met Bikura rupa taperet. Biri pointed to Riru, born in 2004, who in 2019 was 15 years old. Thus, we inferred that Biri was 15 years old when he met Bikura rupa taperet, that is he knew him around 1960. Then, we asked Biri which current fallow is similar to the successional stage of Bikura rupa taperet when he met him. Biri told us that, at that time, Bikura rupa taperet had some palms and tress, as well as a flechal (i.e., a population of *Gynerium sagittatum*, a Poacea species that only occurs in young fallows), and thus looked like a 10 year-old fallow. Therefore, we inferred that Bikura rupa taperet was fallowed around 1950.

Finally, the Dipisow taperet area was part of the village of the ancient leader Dipisow. This fallow was already frequented by Zo'é people from the generation of Biri's grandparents, that is people born two generations earlier than Biri's generation, around 1910. When adults (~1930), these people camped in Dipisow taperet to collect inajá fruits and hunt white-lipped peccaries (*Tayassu pecari*). As the Zo'é have no memory about the leader Dipisow and his descendants, we inferred that Dipisow taperet was fallowed before to the approximate year of Zo'é ancestral memory, that is before 1876.