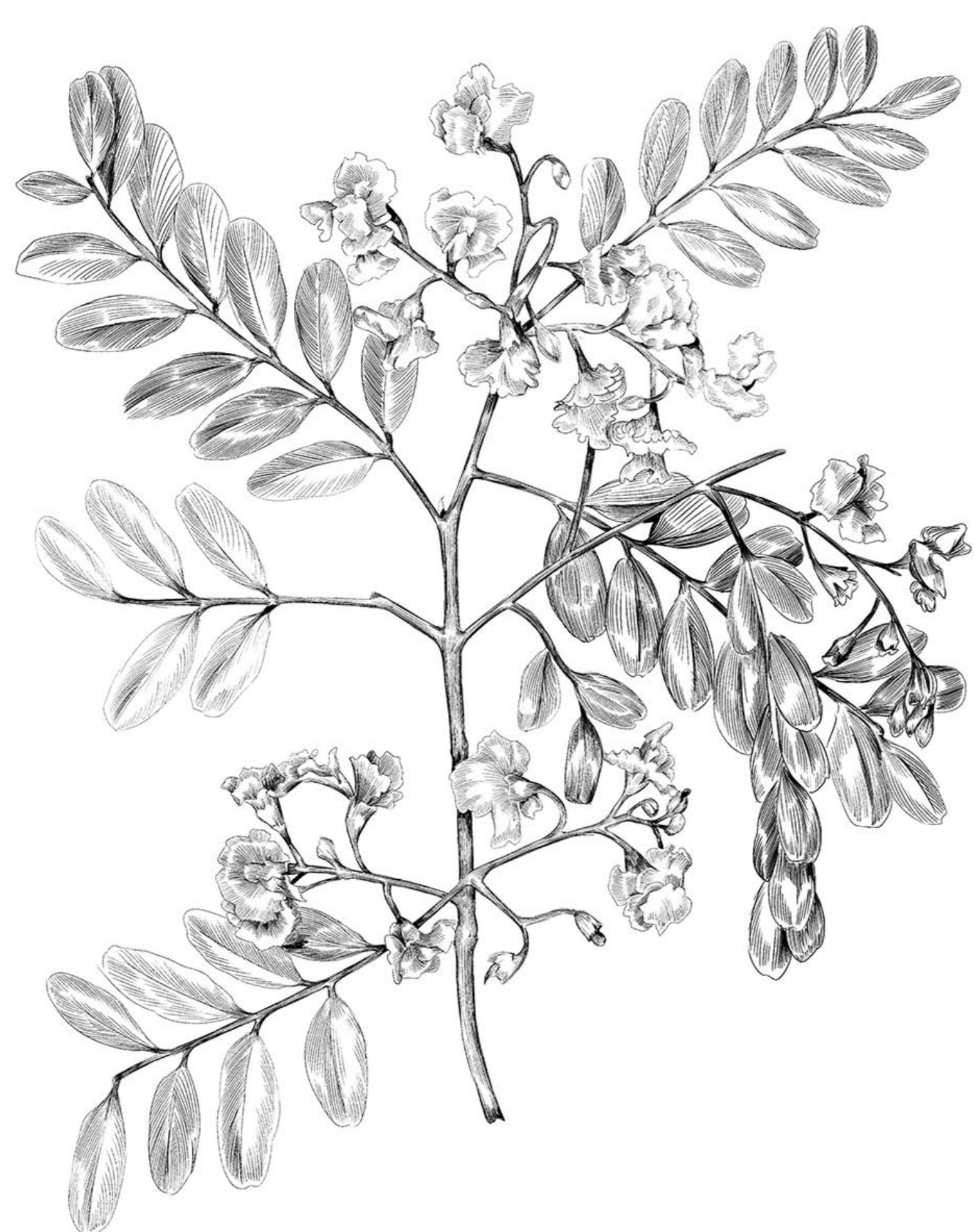


Wild Gran Chaco Fruits and the Reawakened 25

ONCE THE MAIN SOURCE OF FOOD FOR THE INHABITANTS OF THE LOWLANDS OF GRAN CHACO, deforestation and neglect threatened to eradicate wild Gran Chaco fruits. The white carob (*Prosopis alba* and *Prosopis chilensis*), the chañar (*Geoffroea decorticans*) and the mistol tree (*Ziziphus mistol*), are the “Three Musketeers” of agriculture in the Gran Chaco region. Since the Pre-Colombian era, the indigenous peoples of Gran Chaco have eaten the fruits raw, ground them into flour, and fermented for alcoholic beverages. They have been identified by local nonprofit organisations as perfect allies to combat land abandonment and local nutritional deficiencies. Thanks to the involvement of the international community, the fruits are coming back to the table.



WILD GRAN CHACO FRUIT

Geoffroea decorticans

Origin: Gran Chaco (intersection of what is now Argentina, Bolivia, Brazil, and Paraguay)
Grown in South America
A delicious fruit with many uses from food, to medicine, to soap and dye

Once the main source of food for the inhabitants of the lowlands of Gran Chaco, these traditional fruits were running the risk of disappearing due to deforestation and neglect. The white carob (*Prosopis alba* and *Prosopis chilensis*), the chañar (*Geoffroea decorticans*) and the mistol tree (*Ziziphus mistol*), the agricultural reincarnation of The Three Musketeers, have been used to make flour, bread and beverages since pre-colonization. They have been identified by local non-profit organizations as perfect allies to combat the abandonment of the land, the impoverishment of the local diet and the resulting health problems. Thanks to the involvement of the international community they are coming back to the table.

BOTANY

Prosopis alba and *Prosopis chilensis* (white carob) are fast-growing, medium-sized deciduous trees which grow to maximum heights and trunk widths of 15 meters and one meter, respectively. The bark is thin and greyish-brown. Their foliage can span up to 10 meters, irregularly wide for a medium-sized tree, and in the spring produce small, light greenish-yellow flowers. Once pollinated, the flowers produce fruits in pods. In the summer the fruits ripen into 20 cm beige pods which encase pea-sized, dark brown seeds.

Geoffroea decorticans (chañar) is a deciduous shrub or tree. Upon maturation, chañar trees may reach up to 12 meters in height, though the canopy reaches only 8 meters. Overall, chañar height may range from 2-12 meters. Its leaves alternate along long, spiny branches, which bloom pale yellow flowers in the spring. Like cherries, the fruits hold a single seed inside cream colored flesh. However, the small (1.5-3.0 cm in diameter), brown fruits are either ovoid or globose in shape (CABI).

Like the chañar, the height of mistol trees varies; some trees grow up to 15 meters, while the majority of mistol plants are 4-9 meters. Depending on conditions, the trunk can grow from 20-60 cm. The tree flowers in the spring then produces a single seeded spherical fruit. When ripe, mistol fruits are sweet but distinctly bitter.

CULINARY USE

Although white carob, canar, and mistol are distinct species, indigenous groups in the Gran Chaco process and consume the three fruits through similar means. Much of the time (59%) the fruits are consumed raw, either in the field or within a few days of harvest, but processing increases the fruits' potential uses. Processing may include grinding the fruits (specifically caro) into flour for bread and pastries or fermenting them for alcohol. For instance, the Chorote people prepare an alcoholic drink called 'añapa' by allowing a mixture of water and ground fruits to ferment for three to four days, or until the anapa generates foam. A popular sweet called bolanchao is made by grinding mistol into a paste, then rolling the balls in powdered carob. Once the bolanchao is baked, the fruit is preserved and can be kept for many months. Mistol, one of the most versatile fruits, can also be juiced, fermented into a liqueur, or ground into patay, a component of many traditional Argentinian dishes. Both chañar and mistol may be reduced for arrope, a sweet, highly sought after homemade syrup (Montani and Gustavo).

NUTRITION AND MEDICINAL USE

The people who inhabit the Gran Chaco region have used the wild Gran Chaco fruits as medicinal treatments for thousands of years. chañar fruits are rich in minerals, carbohydrates, protein and fibers and the tree's bark can treat respiratory problems and reduce inflammation (Orrabalis et. al). White carob contains polyphenols, compounds which provide a host of benefits: treating digestion issues, managing diabetes, preventing neurodegenerative disease, and improving cardiovascular health (Perez et. al). Additionally, mistol contains polyphenols as well as high levels of flavonoids, dietary fiber, potassium, magnesium and calcium (Orqueda et. al).

AGRICULTURE

As their name suggests, Gran Chacos fruits grow wild in the South American plains' semi-arid climate. Mistol, carob, and chañar trees are drought tolerant, can withstand high soil salinity, and even grow in sand. The trees also produce the bulk of their fruits in dry years, which has allowed for their introduction to arid regions. All three wild Gran Chaco species fruit for multiple months each year. However, wild gran Chaco trees must be grown in warm conditions, as they cannot withstand frosts. In the Gran Chaco region, indigenous peoples usually forage for fruits in forests, though mistol, carob, and chañar are all cultivated throughout South America and have recently been introduced to semi-arid conditions worldwide (Arenas and Scarpa).

HISTORY

Wild Gran Chacos fruits grow wild in the Gran Chaco region of South America, located in modern day Bolivia, Paraguay, Argentina, Brazil. The region's indigenous peoples have cultivated the fruits since Pre-Colombian times. Unfortunately, European colonization led to the loss of many Gran Chaco agricultural methods and food production, a legacy which still impacts local markets today (Slow Food). Deforestation, and climate change's effects continue to threaten wild Gran Chaco fruit production.

RESEARCH

Wild Gran Chaco Fruits lack much study outside of nutritional profiles and anthropological research; despite the crop's potential, it remains underutilized, and little is known about cultivation outside of the Gran Chaco region. Most of The majority of our knowledge of mistol, chañar, and white carob lay in valuable indigenous knowledge; however, in order to increase Wild Gran Chaco viability, more collaborative work between agronomists and indigenous people is needed, as Gran Chaco Fruits continue to be mostly foraged rather than cultivated.

CUISINE

- [Bolanchao with Lemon Cream](#)
- [Aloja and Añapa](#)

SOURCING

- [Mistol Seeds](#)
- [White Carob Seeds](#)
- [Chañar seeds](#)

COMMUNITY RESOURCES

- [Collecting Mistol and White Carob](#)
- [Wild Gran Chaco Slow Food Overview](#)
- [Six Popular Fruits in the Gran Chaco Region](#)

RESOURCES

- [Chañar Tree Botany](#)
- [White Carob Botany](#)
- [White Carob Botany](#)
- [Mistol Botany](#)
- [CABI](#)
- [Montani and Scarpa](#)
- [Orrabalis et. al](#)
- [Perez et. al](#)
- [Arenas and Scarpa](#)
- [Orqueda et. al](#)

