



Togemon: a Cactaceae in the *Digimon* world

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Digimon is one of the most well-known Japanese animated series of the past decades. 'Digimon' is an abbreviation of 'digital monsters' and the character types in the *Digimon* world are based on various living things, such as animals and plants, but also mythical and alien-like creatures (Digimon Web, 2023; Wikimon, 2023).

One of the plant-type monsters in *Digimon* is Togemon, which in the first animated series (1999) belonged to the character Mimi Tachikawa (DigimonWiki, 2023a). Togemon is a champion level form of Palmon. From its body and features, Togemon resembles a plant of the Cactaceae family, particularly a species of cactus. This article discusses Togemon's morphological features in botanical terms, considering it a Cactaceae plant.

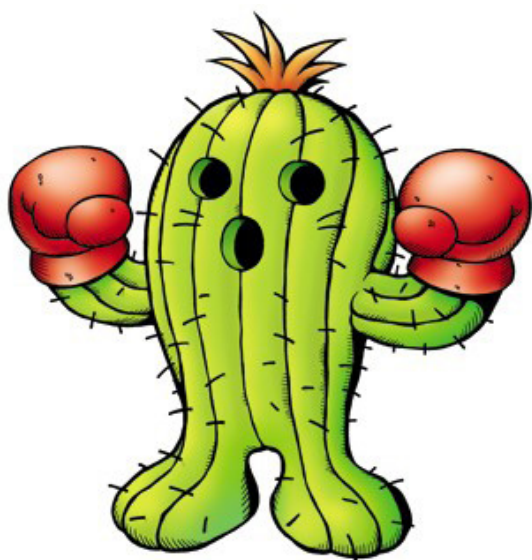


Figure 1. Togemon, official artwork (source: DigimonWeb).

CACTACEAE

The species of family Cactaceae – i.e., the cacti – live in and are well adapted to arid and semi-arid environments (Pérez-Molphe-Balch et al., 2015), being immediately recognizable because most species have spines. In Cactaceae, “regular” leaves are reduced or absent and some leaves are modified into spines, which arise from specialized tissues of the plant (areoles, located in the axillary meristems) located in the stem or cladode (Simpson, 2010). The term ‘cladode’ refers to a single node or internode of the stem that is modified to function as a leaf, that is, it becomes responsible for the photosynthesis (Beentje, 2016). The succulent stem of the cactus also acts as a water reservoir for the plant (Binns, 2022).

Cactaceae are distributed mostly in the desertic regions of the “New World” (Simpson, 2010), but can be found all over the world. They have economic importance for society too, as some of the fruits are edible and many species are cultivated as ornamental plants (Simpson, 2010; Pérez-Molphe-Balch et al., 2015; Prisa, 2022). However, they face some threats like habitat loss and degradation, and illegal collection (Ortega-Baes, 2010).

TOGEMON

Togemon (トゲモン) is a champion level plant or vegetation *Digimon*. Its prior form is Palmon, while its next form of evolution is Lilymon, which resembles a lily flower



Figure 2. Togemon uses its special attack Needle Spray against its opponent (source: *Digimon Adventures*).

(*Lilium* spp.). Other forms are Togemon X and Ponchomon. Togemon X looks like Togemon but wears a poncho (a Mexican-style dress) and a sombrero, and carries the so-called X-Antibody (DigimonWiki, 2023b). Ponchomon is a ghost-type Digimon which is rumored to appear when a Togemon has died due to unforeseen circumstances (DigimonWiki, 2023c). Ponchomon looks like Togemon X but has no feet (it is a flying ghost) and still wears the poncho (hence its name) and sombrero.

Togemon's debut was in *Digimon Adventure* animated series episode 6 (aired 11/Apr/1999; Toei Animation) during a battle against Monzaemon in Toy Town, in which Palmon's anger and determination to protect Mimi makes it Digivolve into Togemon.

Togemon was inspired by real cacti, as seen by its body shape and features (Fig. 1). Like a cactus stores water in its stem, Togemon stores its own nutrition in form of data for surviving in barren desert areas (Digimon Web, 2023; Grindosaur, 2023). According to DigimonWiki (2023), the etymology of Togemon is derived from the Japanese word 'toge' (棘), which means 'thorn'. Togemon's signature special attack is 'Needle Spray', in which it spins around and shoots a numerous spine out of its body towards the opponent (Fig. 2; DigimonWiki, 2023). Real cacti do not shoot their spines, obviously. In another one of its usual attacks, called 'Coconut Punch', Togemon uses its fists to rain hits on its opponent like falling coconuts.

REAL-LIFE TOGEMON CACTUS

The species of Cactaceae that served as the inspiration for Togemon is the horse creeper cactus, aka devil's pincushion or by its scientific name *Echinocactus texensis* (DigimonWiki, 2023a). *Echinocactus texensis* is a succulent subshrub species endemic to Northern Mexico and central-southern United States (New Mexico, Oklahoma, Texas) (POWO, 2023).



Figure 3. *Echinocactus texensis* Hopff., showing the tuft-like spines and the reddish fruits (source: Wikimedia Commons; photo by S. Shebs, 2005).

The color of Togemon's body is green, as expected from the cladodes of the stem of Cactaceae, and it bears spines as a modified leaf. In Cactaceae, the cladode or stem takes over the "traditional" function of the

leaves in performing photosynthesis or carbon fixation (Huber et al., 2018). Since the stem does the photosynthesis, the leaves are modified into spines which functionally act as protection against herbivores (Aliscioni et al., 2021), while also preventing water loss by evaporation due to its minimal surface area (Kim et al., 2017). Togemon's "tuft of hair" resembles the dried-out flower tepals of *E. texensis*, while his red "boxing gloves" are reminiscent of the reddish fruits of *E. texensis* (Fig. 3).

BOX 1. Description of *Echinocactus texensis*.

Echinocactus texensis (Fig. 3) is generally a solitary plant, pale grayish green to yellowish green in color, about 10 to 20 cm wide (rarely up to 30 cm) and 30 cm tall at maturity and becomes more cylindrical with time (Baker, 2022). The central spines are usually three in number, all recurved or with one erect and straight spine, pale tan to gray in color but often spotted pink or red; the radial spines are typically 4 or 5 in number (Baker, 2022). The flower (Fig. 4) is up to 6 cm long and 6 cm wide, with its inner tepals being bright pink and the stigma lobes being white to pale pink (Baker, 2022). According to Powel & Weedon (2004), the flowering period is in between April and July. The fruits are spheric to ovoid and glossy, with the seeds being irregularly spheric to egg-shaped (Baker, 2022). The bright red fruit is edible (Tropical Britain, 2023).

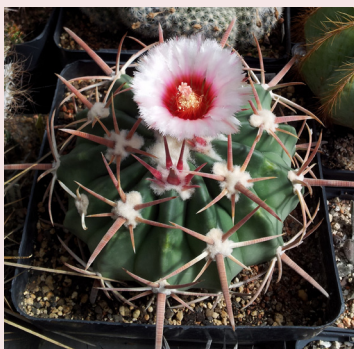


Figure 4. Flower of *E. texensis* (source: Wikimedia Commons; photo by M. Wolf, 2012).

Togemon is a plant or vegetation type Digimon inspired by a real species of Cactaceae named *Echinocactus texensis*. Overall, the morphological features of Togemon are, as far as possible for a monster, actually quite accurate in relation to the real plant.

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