

# Some remarks on *Euphorbia poissonii* Pax

by Roland Seidelt



Fig. 1: My *Euphorbia poissonii* about 5 years old in summer 2016

*Euphorbia poissonii*: the name sounds poisonous, but it does not refer to the plants' toxic white latex, but to Adrien Eugène Poisson (1871-1910). He travelled through the French colonies in West Africa at the end of the 19<sup>th</sup> and the beginning of the 20<sup>th</sup> century on behalf of his government as a cotton and palm oil agent<sup>1)</sup>. Being a naturalist, he was

1) Adrien Eugène Poisson should not be confused with his namesake Dr Louis Henry Poisson (1877-1963), who also explored the African flora as a veterinarian in the French military service. However, he was mainly active in Madagascar, where he met Raymond Decary in Antsiranana (former Diego Suarez) in 1916 and undertook several joint research trips with him. From 1920 to 1924, L. H. Poisson was stationed in the small town of Tulear, that was almost unknown at that time, and conducted important field research there. Tulear is still known today for the Arboretum d'Antsokay founded by Herman Petignat (1923-2000), a collection of endemic plants in which Petignat's friend professor Werner Rauh of the Heidelberg University (1913-2000) also played a major role.

also interested in botany and studied the local vegetation in search of plants that could possibly serve as a source of caoutchouc.

During an excursion in 1900 he discovered a cacti-form tree *Euphorbia* that could deliver sufficient latex of good quality. It grew in the vicinity of Conakry (now the capital of Guinea) and he provisionally named it *Euphorbia elastica* (Poisson & Pax, 1902). That plant later turned out to be *Euphorbia drupifera* Thonn. It must not be confused with *Euphorbia elastica* Jumm., a tree *Euphorbia* native to Madagascar.

During his second excursion in 1901 he discovered another *Euphorbia* tree in the area of Dahomey (a former West African kingdom, now part of the Republic of Benin). It looked very much like the *Euphorbia* he had found near Conakry – but he soon found out that it was something different: When he tested the ability of the latex to coagulate he got a swollen face and his eyes hurt for several days while one of his local helpers com-



Figs 2 and 2a (right, close-up): *E. poissonii* growing in Cameroon in a locality directly at the N1 road from Garoua to Kaélé. Note that the branches barely show any tubercles and spines are missing.



Fig. 3: Ferdinand Albin Pax (Courtesy of Uniwersytet Wrocławski)



Figs 4 and 4a (left, close-up): A border of fields built by a living fence of *Euphorbia poissonii* in Cameroon on the N1 north of Garoua. Branches clearly bear small tubercles with a minute spine at their tips.



pletely lost his eye-sight. Testing a drop of latex on his tongue resulted in a pungent pain. Unlike the Guinea spurge, this *Euphorbia* produced only one resin, which was a case of very high caustic content. A short while later Poisson discovered yet another *Euphorbia* – again a tree with thick spiny branches. He described its latex as nothing special and of little use for industrial purpose.

In these days travelling naturalists were reluctant to take bulky, fleshy branches, the more so when they were heavily armed with sharp spines, as such branches do not dry well in hot and humid countries and often rot during preparation. Instead they often preserved material they had collected in some kind of aseptic liquid, but its nature often made any later identification difficult.

Being uncertain what these plants were he sent his material to the German botanist Ferdinand Albin Pax (1858-1942) who still is well-known for his studies on African euphorbias and the numerous species he described. In a paper written in 1902 with co-author M. J. Poisson, the father of Eugène, Pax described these two trees from Dahomé as *Euphorbia renouardi* Pax (now also a synonym of *E. drupifera*) and *E. poissonii*,



Figs 5 and 5a (right, close-up): *E. poissonii* found close to the junction of the NI2 with the NI in the direction of Kaélé. Note that the branches are heavily armed with long spines at the tip of pronounced tubercles.

honouring the discoverer of these plants. Unfortunately he does not say which of these two was the one with very caustic content.

Later, differences in spination and especially in the shape of the leaves led to the differentiation of *Euphorbia unispina* N.E.Br. and *Euphorbia venefica* Trémaux ex Kotschy from *Euphorbia poissonii*. Chemical studies have also revealed clear differences in toxicity. For example, the concentration of toxins in *Euphorbia poissonii* is reported to be about 30 times higher than in *Euphorbia unispina* (Wickens, 2008)<sup>2</sup>. For the time being, the latest taxonomic changes occurred when Weber et al. (2020) reduced *E. unispina* to a synonym of *E. venefica*, but also confirmed that *E. poissonii* is a good species.

Because the justification of species delimitation is sufficiently discussed in literature, I will focus on natural localities and differences of plants encountered as well as on my own experiences in plant care in the greenhouse.

2) For further information on the ethno-medical use of *E. unispina* see <https://prota4u.org/database/protav8.asp?g=pe&p=Euphorbia+unispina+N.E.Br.> and <http://tropical.theferns.info/viewtropical.php?id=Euphorbia+unispina> (both accessed 31 December 2020)





Figs 6 and 6a (left, close-up): This site is a village at the entrance to the Kola Gorge near Guider (Cameroon). Branches were almost terete, spines well developed.

### *Euphorbia poissonii* in cultivation

My first encounter with *Euphorbia poissonii* was in 2013 at the Haage plant nursery in Erfurt (Germany). A few small plants were on sale there for 39.50 euros each and I was immediately captivated by the sight of them. The small, light grey, still spherical shoots about 2 cm in diameter were so different from most of the other euphorbias that I immediately decided to buy them.

I initially followed the advice from the internet (e.g. <https://worldofsucculents.com/euphorbia-poissonii/>), that recommended a weekly watering and a permeable, fast-drying substrate. According to the origin of the plants and in order not to run any risk, I took the plants out of the greenhouse in September and kept them on the windowsill of my office directly above the central heating at 20 °C. I continued regular watering once a week. Visible growth of the thick shoots and large juicy green leaves confirmed my plant liked this kind of treatment.

I do not try to copy the natural dry seasons in West Africa. So the plant remains green for most of the year and only has a short leafless period when



Figs 7 and 7a (right, close-up): This site is a Tata Somba settlement close to Boumkombé (Benin) on the border with Togo. Note the large leaf scars, the almost terete branches and the absence of spines.

the flowers develop. It is easy to tell from the leaves when water can be given again.

For me, *Euphorbia poissonii* is an easy species to keep if minimum temperatures above 10 °C are maintained. Especially wetness and low temperatures quickly lead to root rot.

If you fertilise the plants regularly and repot generously and in good time, they will grow rather quickly. However, it certainly must have taken decades for plants to reach heights of more than 3 m in the wild.

## Propagation

Because I have neither found seeds at the locations nor produced my own so far, I have no experience with sowing *E. poissonii*. But the rooting of a small cutting succeeded without problems. Of course, it is important to wash off the abundant latex. In addition, as with all euphorbias, treatment with a powder for rooting cuttings is recommended. A 2 cm spherical shoot of the plant shown in Fig. 6 produced new leaves after only a few months – a good sign that rooting in pure sand was successful.





Fig. 8: Tata-Somba mud house in the Boumkombé region (Benin)

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## Variability observed

On my travels through the former German colonies of Cameroon (2016) and Togo (2018), as well as in neighbouring Benin (2018) I saw specimens of *Euphorbia poissonii* in several natural localities as well as used as a hedge plant in villages along our route. What stood out at first glance was the high variability of growth forms these plants showed: Tall bushes with thin shoots and individual plants with thick shoots grew next to each other as did heavily spined and hardly spined specimens.

## References

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