Genlisea lobata Fromm-Trinta

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In 1977, the genus *Genlisea* was split into two sections: sect. *Genlisea* and sect. *Tayloria* (Fromm-Trinta, 1977). The latter section included a single species at the time—*G. violacea*—which has seed pods that split into two longitudinal valves. Section *Genlisea* included all remaining African and New World species, which have seed pods that are nearly unique among flowering plants in that they are circumscissile, splitting at the "equator" and at two further "latitudes" towards the apex (Taylor, 1991). Later, the new species *G. uncinata* P.Taylor & Fromm-Trinta (Taylor & Fromm-Trinta, 1983), and then *G. lobata* Fromm-Trinta (Fromm-Trinta, 1989), were added to section *Tayloria* by being split off from *G. violacea*. More are on the waiting list—over the past decade I have found four or five new Brazilian populations of plants which probably merit new species status.

Genlisea lobata was described only ten years ago. It was discovered in eastern Brazil at the Serra do Caparaó (the mountain range on the border of the states Minas Gerais and Espírito Santo). Until the 1960s, the Serra do Caparaó was believed to contain the highest mountain in Brazil—the 2890 m high Pico da Bandeira—until two higher peaks (Pico da Neblina, 3014 m, and Pico 31 de Março, 2992 m) were discovered on the isolated Brazil-Venezuela border.

I have been to the Serra do Caparaó on three occasions, and while my main purpose was to locate *G. lobata,* numerous interesting carnivorous plants were found each time (including *G. aurea* St. Hil, *Drosera villosa* St. Hil, and *Utricularia reniformis* St. Hil.). On my first trip (June, 1993) I only found a single small population of *G. lobata*, growing at approximately 1300 m altitude on mosses along a partly shaded stream. The plants were in full bloom (Figure 1).

As described by Fromm-Trinta (1989), each *G. lobata* rosette is composed of a few spathulate leaves, each 7-12.5 mm long by 1.5-3.5 mm wide at the apex. The inflorescences are covered in simple and glandular hairs and reach 22 cm in length (they are usually around 10 cm long), each bears up to 14 flowers, of which only one to three are open at any given moment. The pedicels reach 13 mm in length and become reflexed after pollination. The bilobed flowers are 8.5-10 mm in length. The flowers I saw were white with an orange-yellow mark at the base of the lower lip with several vertical, dark-purple streaks on the upper lip. The spur was entirely deep-purple in color.

When I returned to this site on the Serra do Caparaó for the second time (October/November, 1995) it was the end of the dry season and to my surprise there was no sign of *G. lobata*—it is an annual! Like *G. violacea*, it probably dies out at most sites towards the end of the dry season, but hangs on as a perennial at those few sites which stay moist year-round.

On my third trip to the Serra do Caparaó (February, 1996) too much time was used to climb the Pico da Bandeira and explore the carnivorous plants along the trail, so no time was left for *G. lobata;* it was too dark by the time we returned from the summit. Strangely enough, no further *G. lobata* sites were found on these highlands. The type location is somewhere along the long road that leads to the start of the summit trail, but *G. lobata* was not seen along this road (N.B. a friend did find some later, in 1999).

In early 1996 I visited the Serra da Araponga, less than 100 km to the west of the Serra do Caparaó. I went there in search of a *Drosera villosa* but got much more than I

Figure 1: *G. lobata* at Serra do Caparaó.

Figure 2: *G. lobata* from sunny sites at Serra da Araponga.

bargained for. Near the top of the Serra do Araponga, above 1350 m altitude, the rainforest gives way to grassy mountainsides. When we arrived, these areas were very wet (even boggy), and *U. longifolia* Gardner leaves and inflorescences were growing as thick as a grass lawn. Curiously, the inflorescences were highly branched, each bearing several large pink-purple flowers. Most interestingly though was that about half the *U. longifolia* population had pure white flowers, with only the yellow mark on the lower lip! The leaves of these plants were an overall light-green in color, with no red pigmentation (i.e. what many carnivorous plant growers call albino plants).

Around the *U. longifolia*, we found plenty of *G. lobata* and, partly shaded by grasses, *D. villosa* plants forming curiously long stems. I was more than overjoyed and happily surprised to find *G. lobata* on the Serra da Araponga, since it was previously only known from two locations on the nearby Serra do Caparaó.

The *G. lobata* plants at the Serra da Araponga were growing in humid sandy soil, semi-shaded by grasses. Plants growing in sunny areas had flowers colored like those of the specimens I had seen at the Serra do Caparaó (Figure 2), but in shady spots the white background was instead light-lilac with light-purple streaks on the lower lip, reminding me very much of its close cousin *G. violacea*.

G. lobata is surely very closely related to the more widespread *G. violacea*, and both have very similar requirements in cultivation. These two species can be grown as perennials and pollination must be done by hand to ensure seed set. If the pedicel remains erect after the flower drops off, the pollination was unsuccessful, but if the pedicel bends downwards, watch the developing seed capsule so as to not miss the seeds when the capsule splits. Germinating the seeds is a whole different story: Good luck! It seems that some kind of dry stratification helps. Sow the seeds, water them once or twice, and then let the pot dry for a few weeks (or months). Keep it moist again, thereafter.

References:

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Literature Reviews

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Although fashionable among ecologists, stable isotope ratio analyses of carnivorous plant extracts are less convincing than simple identification of carcasses in the traps or tracer feeding studies. As long as isotope selectivity in the absorption of nutrients or during metabolism in the plant cannot be ruled out, and if no attempt is made to determine the physiological fate of specific metabolites, the mere isotope ratio is actually of rather limited informative value, unless someone doubts that nitrogen is taken up at all from the prey in the two species discussed. Nevertheless, the two cited papers are amusing examples of elaborated scientific proof for the obvious. (JS)