Astrocaryum yauaperyense: A Synonym of *Astrocaryum murumuru*

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Astrocaryum yauaperyense **Barbosa Rodrigues was tentatively treated as a synonym of *A. murumuru* Martius from the similarity of the pistillate flowers (Kahn and Millán 1992). However, there is a contradiction in Barbosa Rodrigues (1903): the text discusses that he had no time to collect flowers, yet the illustrations include drawings of pistillate flowers. New collections of Barbosa Rodrigues' palm corroborate Kahn and Millán's position.**

Astrocaryum yauaperyense was collected in the Yauaperi River valley in 1884 by Barbosa Rodrigues who described it as a new species some years later (1888, 1891, 1902, 1903). The author did not collect flowers, as he wrote in his famous book, Sertum Palmarum Brasiliensum (Vol. 2, p. 80): "Tout mon temps étant occupé par la pacification des sauvages Krichanás de la rivière Yauaperi, je n'ai pas eu le loisir de rechercher les fleurs de cette espèce; c'est pourquoi la description n'est pas plus complète. Néanmoins, par le faciès et par les caractères que je décris, cette espèce s'éloigne de toutes celles connues." ("Because of pacifying Krichanás savages of Yauapery River all the time, I could not search for flowers of this species; this is the reason why my description is not complete as it should be. Nevertheless, from the facies and characters I describe, this species is well-distinct from the others"). Barbosa Rodrigues (1903) described the vegetative parts in particular (trunk, pinnae, peduncular bract) and, very succintly, the fruit "*drupa turbinata, fusca, aculeata*" (i.e. "drupe with a reversed cone shape, sombre brown, spiny").

There is no reference to a type or to any vouchers collected. A plate (Tabl. 80A) includes illustrations of vegetative parts (part of leaf, rachis, apex of peduncular bract) and of a fruit, but also of an entire rachilla and of a pistillate flower with details of calyx, corolla, staminodial ring and gynoecium. The obvious contradiction between Barbosa Rodrigues' text (no time to collect flowers) and the drawing of a pistillate flower in Plate 80A makes it impossible to know the origin of this flower. All the vegetative and reproductive parts drawn are from one (or more) species which undoubtedly belong(s) to section *Ayri* of subgenus *Monogynanthus*. The fruit seems to be unripe and is uninformative for identification at the specific level, but the pistillate flower is very similar to that of *A. murumuru*. Consequently Kahn and Millán (1992) considered *A. yauaperyense* a synonym of *A. murumuru;* however, reproductive material from this palm had to be collected and studied in order to support this position.

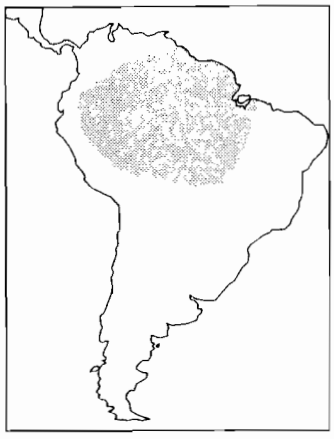
Astrocaryum yauaperyense Rediscovered

The Jauaperi River (spelled Yauaperi on old maps) is a tributary of the Rio Negro. I visited the middle Jauaperi valley in July-August 1993 where it is crossed by highway BR 174 (Manaus-Venezuela). The species was there; I found it near Caracaraí in

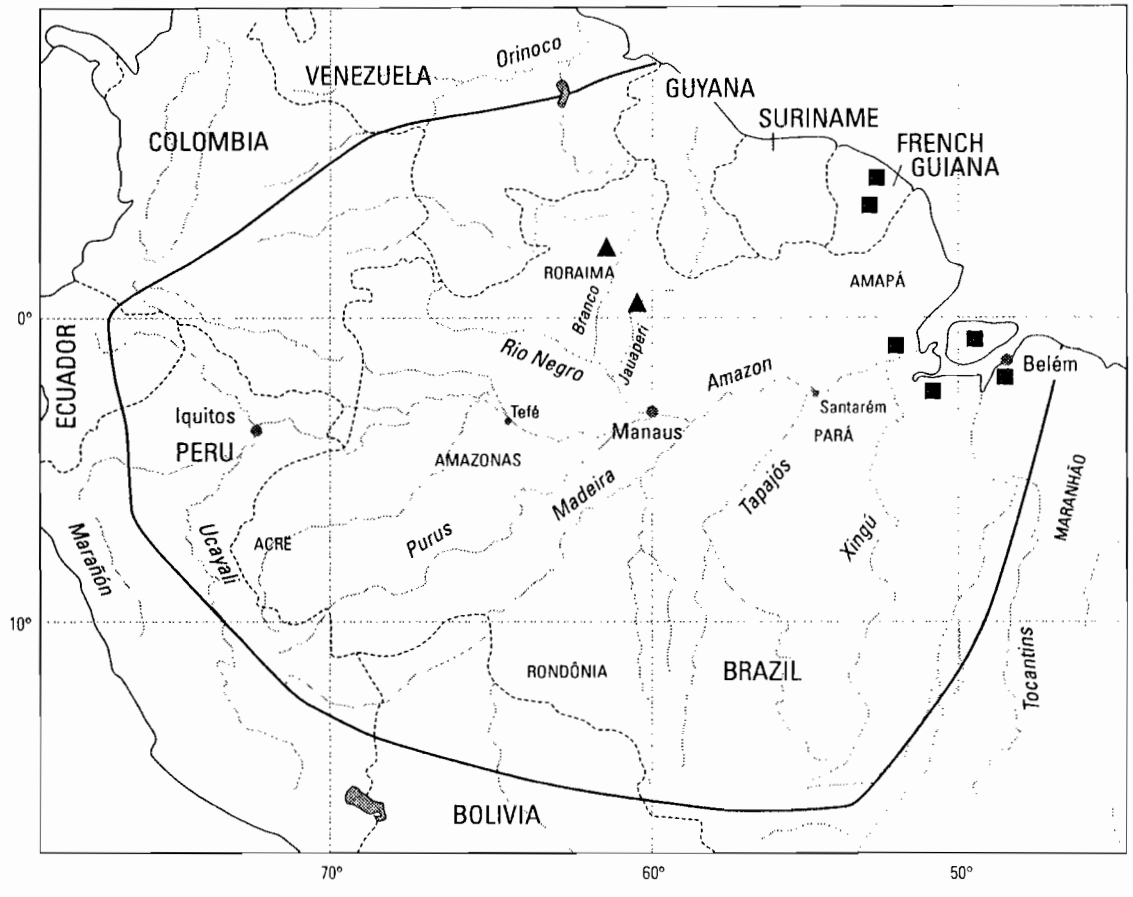
the Rio Branco River valley as well (Fig. 1). This palm usually forms dense stands in seasonal swamp forests. It also grows in pastures which have been increasing for the last 30 years with the opening of highway BR 174 and the resulting development of cattle ranching on vast areas.

The following vouchers were collected: *Kahn 3512* (fl., fr.) CEN, 31 Jul 1993, Roraima, BR 174, 35 km north of Equatorial line, 20 km before Jauaperi River. *Kahn 3515* (fr.), *3516*, *3517* (seedling) CEN, 1 Aug 1993, Roraima, Municipio Caracaraí, 10 km before the town via BR 174, on northern margin of Rio Branco River. *Kahn 3540* (fl.) CEN, 28 Oct 1993, 20 km north of Caracaraí.

Astrocaryum yauaperyense is a medium-sized, multistemmed palm with large pinnate leaves (Fig. 2). All the morphological characters of the vegetative parts fit the description of *A. murumuru*



1. *Astrocaryum yauaperyense* Barbosa Rodrigues (=*A. murumuru* Martius) in the Amazon basin.



■ *Astrocaryum murumuru* Martius

▲ Astrocaryum yauaperyense Barbosa Rodrigues

2. The palm in the field, near Caracaraí.

fairly well. However, the great similarity of vegetative parts in this group of palm species (section *Ayri*, subgenus *Monogynanthus*) led Kahn and Millán (1992) to define the species using reproductive characters, mainly (not exclusively) from those of the pistillate flower at anthesis and fruit at maturity.

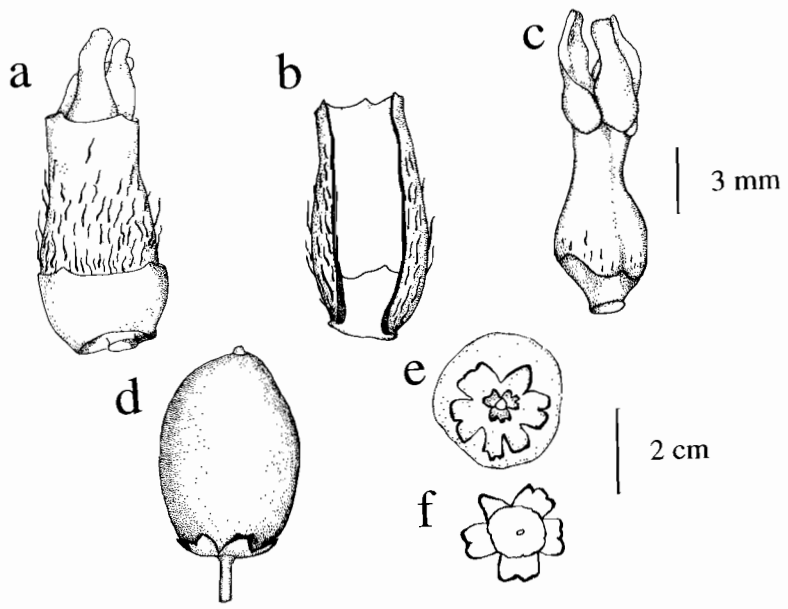
The pistillate flower of *Astrocaryum yauaperyense* (Fig. 3 a–c) – calyx glabrous, clearly shorter than corolla, cupular to shortly tubular, 3-denticulate; corolla spiny, slightly campanulate to tubular; staminodial ring adnate, 1/3–1/2 as long as corolla – presents the morphological pattern which characterizes group IV within section *Ayri* (Kahn and Millán 1992). This group includes three species: *A. murumuru* Martius; *A. chonta* Martius – distinct by the staminodial ring low, often reduced to 6 teeth; and *A. ulei* Burret – easy to identify from the calyx cupular, very short, usually less than 1/4 as long as corolla, this oblong to cask-shaped. The pistillate flower of *A. yauaperyense* is very similar to that of *A. murumuru* and differs in the same way from flowers of *A. chonta* and *A. ulei*.

The fruit of *A. yauaperyense* (Fig. 3 d–f) is usually ellipsoid to ovoid, 5.7 x 3.5 cm, with a short pedicel, to 1.6 cm long, an epicarp slightly or not pilose at maturity, and a mesocarp remarkably fleshy. It differs in shape from that of *A. murumuru* which is most frequently turbinate. However, such a difference may depend on a higher reproductive rate and on a higher density of fruits on the rachis which develop mutually compressed into a turbinate shape. Fruits of *A. chonta* and *A. ulei* differ from those of both former taxa in smaller size, in an epicarp usually densely pilose, a mesocarp less fleshy, and in characters of perianth – a corolla slightly folded at margin in *A. chonta*, a calyx remarkably short in *A. ulei*.

Moreover, these two species are single-stemmed palms which grow on periodically flooded alluvial soils and on clay soils, respectively. *Astrocaryum yauaperyense* and *A. murumuru* are multistemmed palms, mainly found in seasonal swamp forests.

Conclusion

The new material collected in the Jauaperi River valley, as well as data on palm habits and ecology, provide convincing arguments in favor of treating *Astrocaryum yauaperyense* as a synonym of *Astrocaryum murumuru sensu* Martius (not of Henderson's concept of *A. murumuru*). In fact, Henderson (1995) transformed *Astrocaryum murumuru* into a broadly defined species and treated the related taxa as varieties or as synonyms of these. In particular, he considered *Astrocaryum yauaperyense* a synonym of his variety *murumuru* which also includes *A. chonta* and *A. ulei*, two very close species, as seen above. At this point, the ranking at infraspecific level would be consistent. The problem which makes his treatment impossible to apply is that he also treated *Astrocaryum gratum* Kahn et Millán as a synonym of. var. *murumuru*. *Astrocaryum gratum* clearly differs from the former taxa in the morphological pattern of its pistillate flower as well as in other



3. *Astrocaryum yauaperyense* Barbosa Rodrigues (=*A. murumuru* Martius), from *Kahn 3512* (CEN) – a) pistillate flower; b) staminodial ring adnate inside corolla; c) gynoecium; d) ripe fruit with short pedicel; e) perianth in fruit (outside); f) perianth in fruit with staminodial ring (inside).

reproductive and vegetative characters. This species is very close to *Astrocaryum macrocalyx* Burret, *A. perangustatum* Kahn et Millán and *A. urostachys* Burret – the four species forming group III in section *Ayri* (see Kahn and Millán 1992). Henderson treated these three latter species as three varieties, each distinct from var. *murumuru*, but he did not discuss his position about *A. gratum* – included in var. *murumuru* – although it would have been coherent to consider it as a different variety as well.

We shall never be sure of the origin of the pistillate flowers drawn by Barbosa Rodrigues (1903) in Plate 80A; but at least we can say that they correspond very well to a pistillate flower of *A. murumuru* and of *A. yauaperyense* as rediscovered. Because of this doubt about the origin of the flower, Plate 80A cannot be a lectotype as it was referred to by Glassman (1972). I propose the voucher *Kahn 3512* (CEN) as a neotype for the name *Astrocaryum yauaperyense* Barbosa Rodrigues.

This note brings me to the following conclusion: Taxonomists must argue from complete data before deciding whether a taxon is a new one. If knowledge is incomplete or data confused – e.g., the contradiction between drawings and text by Barbosa Rodrigues, and lack of herbarium collections – the status quo is best maintained or the taxon should be considered as uncertain. Kahn and Millán's decision (1992) in considering *A. yauaperyense* as a synonym of *A. murumuru* was somewhat premature, but this position has now proved to be consistent with new material of the palm.

Acknowledgments

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