

“*Cleistocactus chotaensis*” is not from Peru: the mystery finally solved

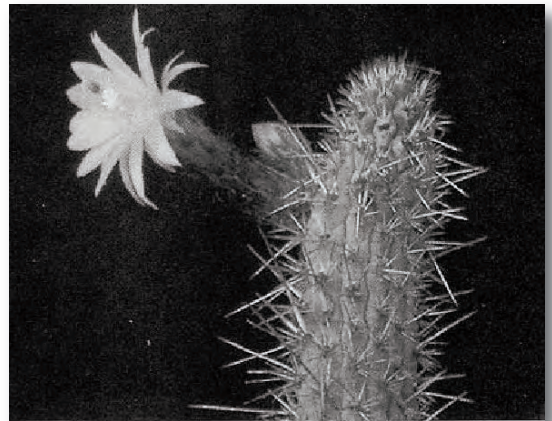
Joel Lodé (France)

The meanderings of an incredible investigation

Cleistocactus chotaensis was described by Frederick Albert Constantin Weber (1830-1903) and published after his death by Robert Roland-Gosselin (1854-1925) in January 1904, in the *Bulletin de la Société Centrale d'Agriculture, d'Horticulture et d'Acclimatation* of Nice under the title 'Les *Cleistocactus*'.

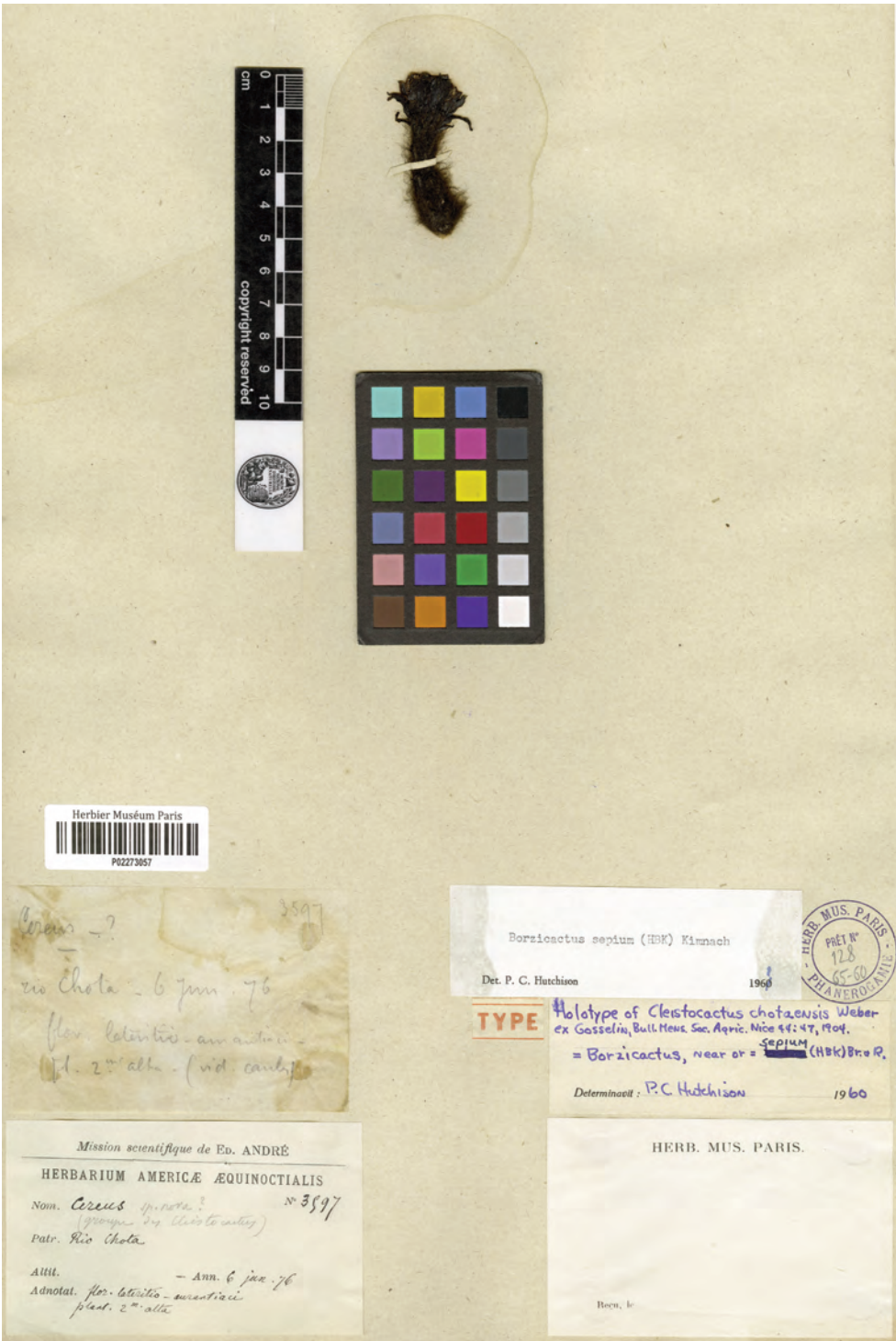
In 1913, the German botanist Friedrich Karl Johann Vaupel included the species into *Cereus*.

According to the only element of herbarium that we have, deposited in the National Museum of Natural History of Paris (holotype, *André* 3597, a relatively open dried flower, the tube is covered with brown hair, see photo), we can appreciate that it is probably not a *Cleistocactus sensu stricto*, but a *Borzicactus*. The unpublished synonym of 'Seticereus chotaensis', is sometimes seen because Roland-Gosselin found a similarity with the “cereus of Humboldt” (= *Seticereus humboldtii*). Later, the name of *Loxanthocereus trujilloensis* Ritter (1981) was also attached to it, presumably because of the flower characteristics and also because *C. chotaensis* is thought to have originated in Peru. I say that, because in the short diagnosis, there is no indication of country, just “Río Chota”. Here begins the mystery.



Loxanthocereus trujilloensis Ritter, considered erroneously as synonym of *C. chotaensis*. © Ritter

There is indeed a river in Perú called on most maps “Chotano”, but sometimes also, “Chota”, located in the department of Cajamarca, in the province of



© Holotype of *Cleistocactus chotaensis* deposited at the herbarium of the Museum National d'Histoire Naturelle, Paris.



Enlargement of the herbarium flower, which has long brown hairs.

Cleistocactus Chotaensis, (Web). sp. nov.

Flores laterilio-aurentiaci.

Planta 2^m alta.

Río Chota, 6 jun. 1876.

(Herbier Ed. André, n° 3597.

Il n'existe qu'une fleur sèche de 5 centimètres de longueur ; limbe de 2 1/2 centimètres de diamètre. Tube très velu, couvert de poils noirs, sur une longueur de 3 1/2 centimètres. Limbe peu étalé ; anthères visibles entre les extrémités des pétales. Fleur semblable à celles des *Cereus* de Humboldt. c'est-à-dire faisant partie du genre *Cleistocactus*.

Original text of the diagnosis of Roland-Gosselin, giving no indication of country.

Chota, near the city of Chota, all this gives enough of "chotas" to assume that this herbarium was made with a plant from the Río Chotano, Perú.

For the purposes of our investigation and to verify that this taxon is indeed Peruvian, we

must examine in detail the annotations of the herbarium. The flower was collected June 6th 1876, its original colour is orange-red brick, the plant is 2 m high. No country is indicated; however, detailed separately in the Museum's documents, annotated by P. Hutchison in 1960 and identified as *Borzicactus*-very probably- *sepium* , the following information is added to the document: 6/6/1876, Locality, Río Chota; Country, **Ecuador**; Identifications, *Cleistocactus sepium* (Kunth) F.A.C.Weber [CACTACEAE family] (registered under this name). Holotype of *Cleistocactus chotaensis* F.A.C.Weber [CACTACEAE family]; Checked by Hutchison, P.C., 1960; *Borzicactus sepium* (Kunth) Britton & Rose [CACTACEAE family]; Checked by Hutchison, P.C., 1960.

However, a quick search for *Cleistocactus chotaensis* on the internet shows an affirmation, that this taxon would come from Peru (Wikipedia: endemic of Peru, La Libertad: Río Chota). Indeed, Britton & Rose indicate "Peru" in their book *The Cactaceae II* (1920). As there is no indication of Peru in the diagnosis, I wanted to know where they found that. Perhaps Vaupel, who changed *Cleistocactus chotaensis* into *Cereus chotaensis* in 1913? ... But no; after consultation, Vaupel is right not to indicate a country, but only Río Chota.

So, who said from the beginning that this species came from Peru?

8. *Borzicactus aurivillus* (Schumann). (See Appendix, p. 226.)

PUBLISHED SPECIES, PERHAPS OF THIS GENUS.

CLEISTOCACTUS CHOTAENSIS Weber, Bull. Mens. Soc. Nice 44: 7. 1904.

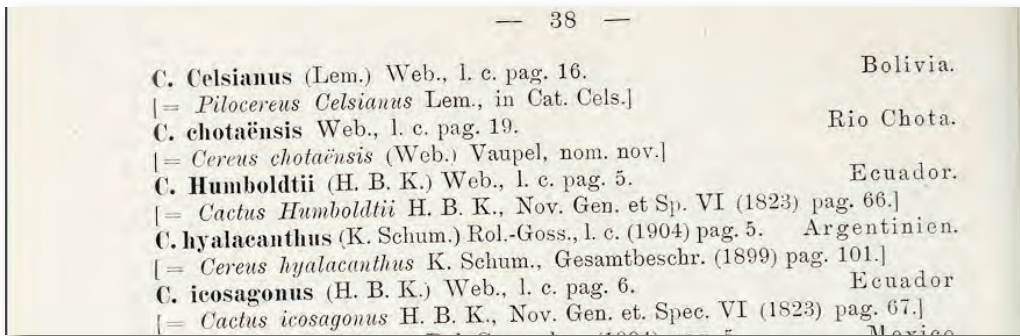
Cereus chotaensis Vaupel, Monatsschr. Kakteenk. 23: 25. 1913.

Plant 2 meters high; flowers 5 cm. long, orange-colored; limb 2.5 cm. broad; scales on the ovary bearing long black hairs; stamens as long as the perianth-segments.

Type locality: On the Rio Chota, Peru.

According to Weber this species is similar to one of the so-called species of *Cereus* collected by Humboldt from this same general region.

Britton & Rose (The Cactaceae II, 1920) indicate Peru as the origin of the plant.



Published in 1913 by Vaupel, *Cereus chotaensis* shows no indication of country.

When, in 1964, Paul Hutchison went in search of this taxon in the Río Chotano region of Perú, Dept. of Cajamarca (not La Libertad as supposedly stated), he actually found a plant of this type which he identified as the one examined in the Paris herbarium. We can still find this plant growing in the Desert Botanical Garden of Chandler, Phoenix, Arizona, as well as the Huntington Botanical Gardens in California, which bears the following statement: "Seed collected by Paul Hutchison at the following locality: PERU: Dept. Cajamarca; Prov. Chota, Rio Chotano, just above Cochabamba on the road to Chiclayo; 1950m, on Oct 19, 1964. Flowers red, zygomorphic, with purple stamens. Approximately the type locality "(see photographs of Tristan Davis and Mike Wisnev).

Peru or Ecuador?

For all botanists, there is no longer any doubt: it is the same taxon described by Weber and published by Roland-Gosselin. However, I have a doubt, because there is also a Río Chota in northern Ecuador, where *Borzicactus sepium* subsp. *ventimigliae* is found. *Cleistocactus chotaensis* could be this species?

Indeed, a text published in 1963 by Armando Dugand quotes two registers of *Cactus sepium* for Colombia and Ecuador, collected by Luis Eduardo Mora:

- COLOMBIA-Nariño: Carretera Pasto to Tuquerres, Km. 42 in El Pedregal, Municipio de Imués, alt. 2000 m., Sept. 1, 1962, *Mora* 2327 (US).

- ECUADOR- Prov. Carchi: between Bolívar and **El Chota**, alt. 1,500-2,000m, Enero 1, 1963, *Mora* 2529 (US).

There, we still find El Chota as an Ecuadorian and not Peruvian locality, but this time there is no possible mistake; moreover, we know that the plants discovered in southern Colombia and first named *Borzicactus cutakii* nom. nud. are actually *Borzicactus ventimigliae*, now combined (in this journal) as ***B. sepium*** subsp. ***ventimigliae***. All these are not evidence, but strong presumptions that *Cleistocactus chotaensis* is not a Peruvian plant, but a taxon from Ecuador.

In 1966, Backeberg said about *Cleistocactus chotaensis* (The Cactus Lexicon, p.96) “not yet clarified, but perhaps not referring to this genus” ... and page 460, under *Seticereus roezlii* : “ It is necessary to have a more precise description of *C. chotaensis* “. Nevertheless, after the last descriptions, he

finally puts Peru as the country for this taxon.

There is on a website, a -sadly anonymous- travel relationship of Germans who travelled in Colombia and Ecuador in 1978: they could observe and photograph what they call *Borzicactus cutakii* in Colombia, towards Río



Borzicactus sepium subsp. ***ventimigliae*** (ex *Borzicactus cutakii*), Río Guaitara, Colombia.
© joabruwanie

Guaitara; their journey continued to northern Ecuador where photos of *Borzicactus sepium* subsp. *ventimigliae* were taken in Río Chota, in black & white, but which reinforced my idea that *C. chotaensis* comes from this region of Ecuador.

Anderson (2001) recognized *Cleistocactus chotaensis* as a good species, gave a precise description based on a plant of unknown source, probably from that of Hutchison -although he said from La Libertad, not Cajamarca- and added: "There is serious question whether *Cleistocactus chotaensis* still exists in the wild." Hunt *et al.* (2006) did not attempt to investigate or explain the taxon, and probably influenced by Hutchison's description, put it within *Cleistocactus*



Photos above : *Borzicactus sepium* subsp. *ventimigliae* (ex *Cleistocactus chotaensis*), Río Chota, Ecuador. © joabruwanie

(= *Borzicactus*) *sepium*, which is not false, given the Hutchison plant appearance.

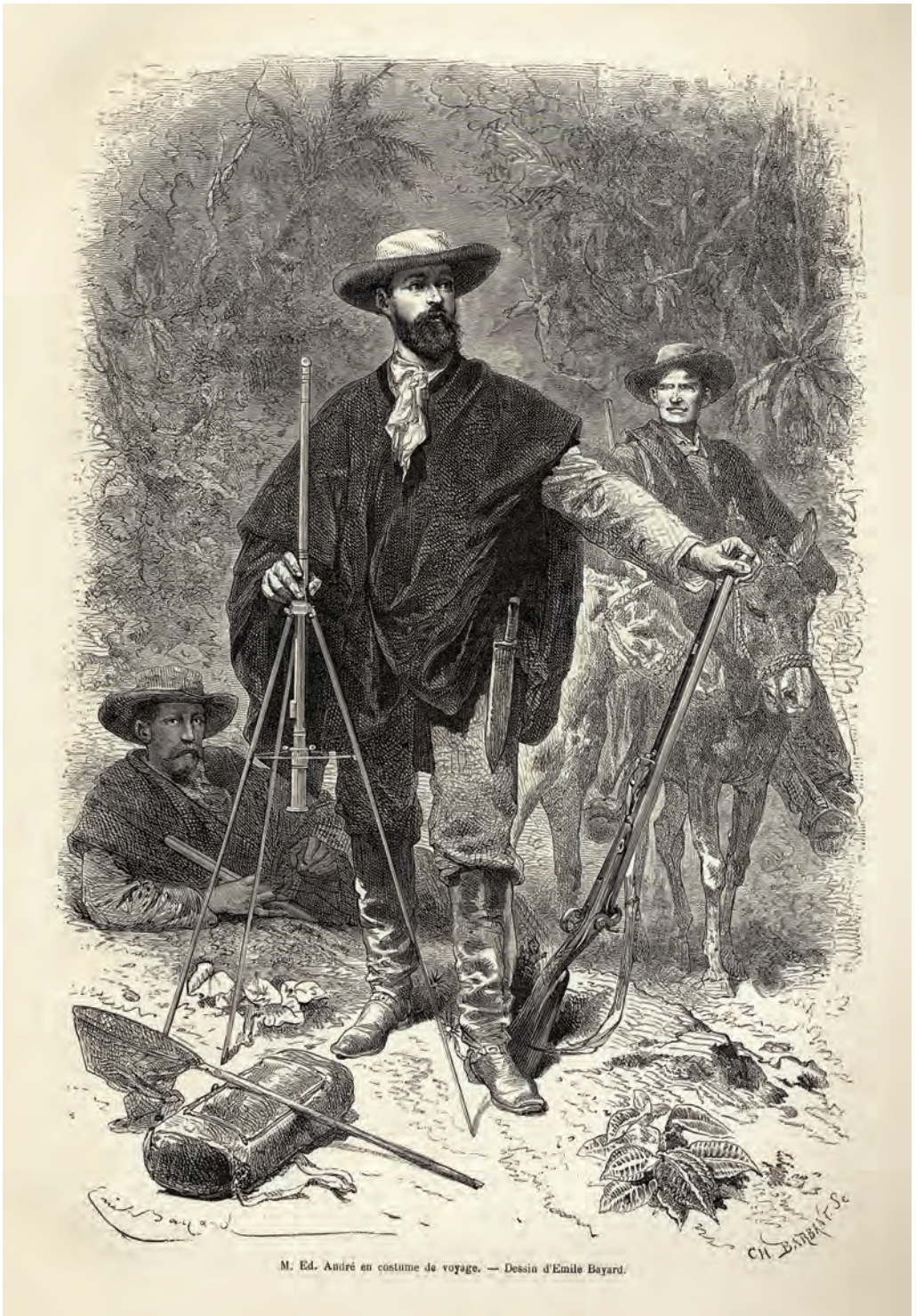
Elementary my dear Watson!

So, I continued my investigation, and this time I plunged into the identity of the collector, who is not Weber, but Édouard François André (1840-1911). Indeed, he may have left a travel diary, an itinerary, dates about his presence in this or that country. I discovered a surprising person, very serious in his collector's work, as he had been in his various professions, gardener, then prestigious creator of parks landscapes in various countries. As a frequent traveller, adventurer and naturalist, he visited a large part of Europe and South America. He made a trip funded by the French Government to Venezuela, Colombia and Ecuador between 1875 and 1876, adventures told the following year in "Le Tour du Monde" ("The World Tour").

During this trip, he collected thousands of botanical samples which were sent to France; in Colombia, he discovered *Anthurium andraeanum* in 1876 (today the emblem of Martinique!). Fascinated by these plants, he specialized in Bromeliads and published a book on these: "Description and history of Bromeliads collected in Colombia, Ecuador and Venezuela", *Librairie Agricole*,



Édouard André, collecteur en Colombie, Équateur et Venezuela. (Domaine public).



M. Ed. André en costume de voyage. — Dessin d'Émile Bayard.

Portrait of Édouard André in "Le Tour du Monde" of 1877. Drawing of Émile Bayard.

Actual distribution of *Borzicactus sepium* and sub-species



- subsp. *ventimigliae*
- subsp. *sepium*
- subsp. *websterianus*
- subsp. *morleyanus*
- subsp. *leonensis*
- sp. nov. Peru (Hutchison plant)



Pont du Chota (voy. p. 367). — Dessin de Riou, d'après les croquis de M. André.

Bridge over the río Chota, Ecuador, in "Le Tour du Monde" of 1883. Drawing of Riou.

Paris, 1889. We do not see any collections made in Peru, but only a desire to get back and study this country in detail, because lack of time. We have to remember that his discovery made in Río Chota dates from June 1876, date in which he was still in Ecuador...

I ended up finding and buying two original copies of his story, published respectively in 1877 and 1883. In the one of 1883, the second chapter announces, “the bridge of the Chota”, and offered me the definitive evidence that Édouard André passed to this place, accurately described, and an engraving of this famous river was even presented to illustrate his purpose!

It is interesting to note that there is nothing at all about Perú as a collection country in his biography... And more precisely, in the *Caldasia* journal of 1947, we have an answer to his lack of collection in Peru: “André is one of the most remarkable collectors to have visited Colombia and Ecuador. The account of his trip ends with a short presence in Lima, in September 1876, and his intention to continue his journey to the interior of Peru, work that he unfortunately could not carry out due to bad weather and the illness of its herbarium preparer,



Trip of Édouard André in Ecuador between 1876-1877 (Le Tour du Monde, 1883).



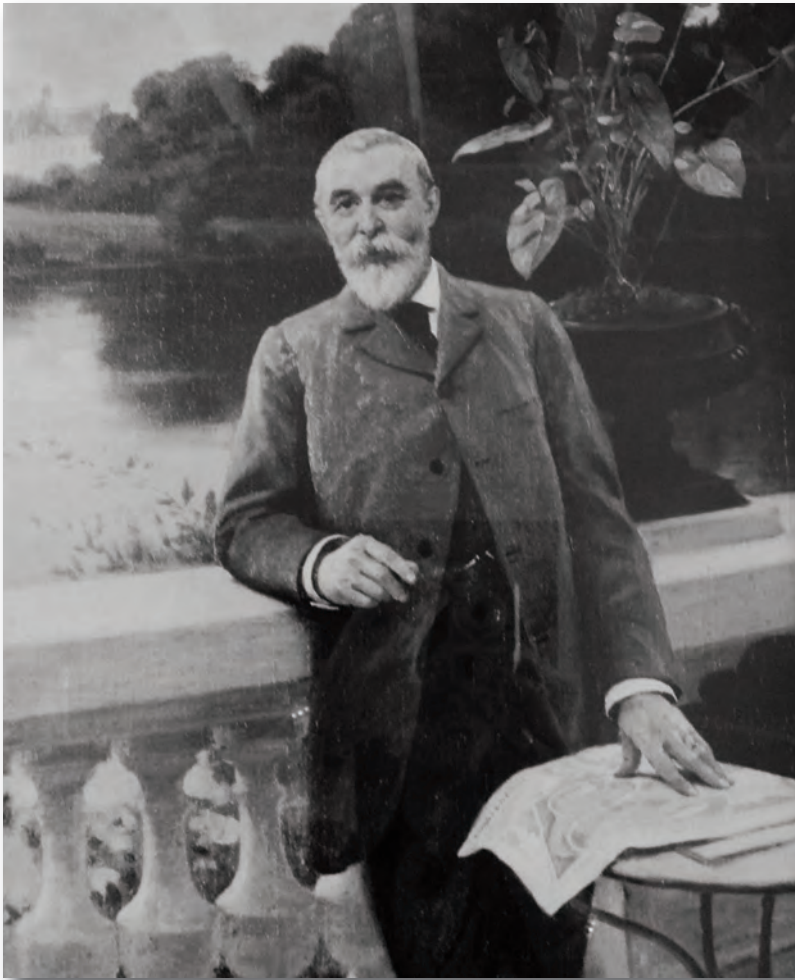
The false '*Cleistocactus chotaensis*' = ***Borzicactus* sp. nov.** of Hutchison, Perú, cult. Huntington Bot. Gardens, California, USA. © Mike Wisnev

Noetzli". This is the clear answer to our main question: "why André was unable to collect *Cleistocactus chotaensis* in Peru?". Finally, his route is very detailed from Bogota to Pasto in Colombia, then the Colombian-Ecuadorian border, passing precisely through Tuquerres, Tulcán, Huaca, crossing the Río Chota to reach Ibarra. Finally, we have all the evidence that the plant was collected in Río Chota, Ecuador, and in absence of any other ***Borzicactus*** in the area, that *Cleistocactus chotaensis* is in fact ***Borzicactus sepium*** subsp. ***ventimigliae***. The plant collected in Peru and mistakenly named '*C. chotaensis*' by Hutchison is not this taxon, but is probably a new species from Peru, apparently also belonging to the 'sepium group'.

Finally, if it was still needed, it must be remembered that in his Flora of Ecuador, Madsen (1989), quotes twice the Río Chota Valley as a register for ... *B. sepium* var. *ventimigliae* ... It is curious that we had this assertion so long on Peru as the origin of this plant, while we already had the answers ...

THANKS

I am very grateful to Tristan Davis & Mike Wisnev for their pictures of '*C. chotaensis*' and in general for all our *Cleistocactus*-themed mail exchanges.



Édouard André, collector in Colombia, Ecuador and Venezuela. In the background, the famous *Anthurium andreae*. (Public domain).

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