

Caudalejeunea yangambiensis (Vanden Berghen) E.W.Jones
(Lejeuneaceae) with mature perianths from Ghana

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Abstract Mature perianths of *Caudalejeunea yangambiensis* (Vanden Berghen) E.W.Jones (Lejeuneaceae) are described for the first time, and the species reported new to Ghana.

Whilst examining a Ghanaian collection of *Henicodium geniculatum* from P.W.Richards' West African collections (NMW), a small accompanying tuft of *Caudalejeunea yangambiensis* in one of the packets attracted attention. This species has not previously been reported from Ghana, and this collection extends its known distribution westwards by about 1500 km. Of particular interest is that the collection includes mature perianths. Fertile plants of *C. yangambiensis* are apparently rare and, so far as I am aware, mature perianths have not been previously reported. The original description of the species (Vanden Berghen, 1951) was based only on sterile plants, and in a later description (Vanden Berghen, 1978), no mention is made of gametoecia. The only account of gametoecia are of plants from Budongo Forest, Uganda, published in Jones (1957), who described female inflorescences with very immature perianths, considering the species to be "probably dioicous".

Caudalejeunea yangambiensis (Vanden Berghen) E.W.Jones Lacri, Tafo: 6°13'N 0°20'W, on cocoa tree in plantation, with *Caudalejeunea hanningtonii*, *Frullania spongiosa* and *Henicodium geniculatum*, 29 May 1967, P.W.Richards 6317 p.p. (NMW). New to Ghana.

Details of latitude and longitude do not appear on the packet, and I have been unable to find coordinates for Lacri. There are two populated places named Tafo in Ghana, about 160 km apart. However, Richards published records of bryophytes from Kibi (6°10'N 0°33'W) which he collected on the following day (30 May 1967), and it seems most likely that the Tafo in question is the one near Kibi - at the coordinates given above.

In addition to Ghana, *C. yangambiensis* is known from a few collections from Cameroon (Jones, 1990), the Republic of Congo (Pócs, 1980), D.R.

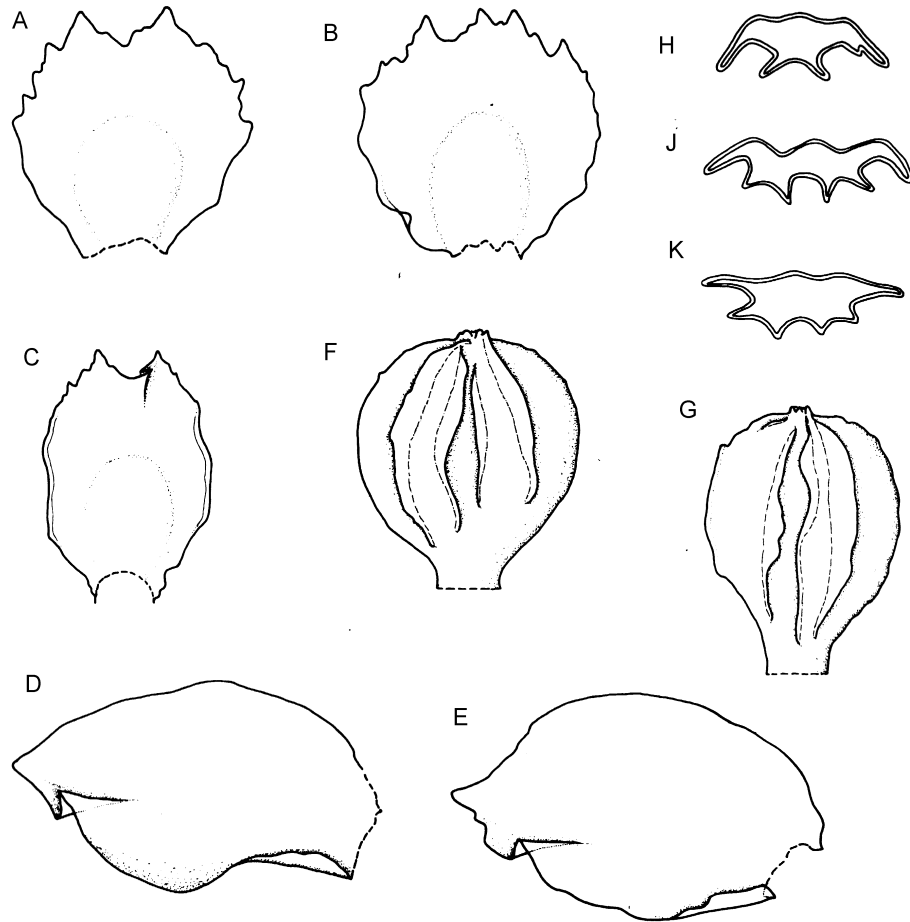


Fig. 1. *Caudalejeunea yangambiensis* (Vanden Berghen) E.W.Jones A, B: bracteoles, flattened under coverslip. C: bracteole *in situ*. D, E: female bracts. F, G: perianths. H, J, K: transverse sections of a single perianth with 4 ventral keels. Figs A-K: *Richards 6317* p.p. Scale: Figs A-K, 1.0 mm.

Congo (Vanden Berghen, 1951), Rwanda (Vanden Berghen, 1978) and Uganda (Jones, 1957; Pócs & Lye, 1999).

The present collection is small, and consists of parts of only four shoots, all of which lack the lower parts of the stems. However, all are fertile, with fine examples of typical gemmiferous shoots with their characteristic conduplicate leaves. Since the gametophyte has been previously described (and well illustrated in Vanden Berghen, 1951), a description is given here of only the female structures. Only four mature perianths were available for study, one of which was destroyed to obtain transverse sections, and four other perianths in various stages of immaturity. No male structures were present on any of the shoots.

Presumed dioicous, but possibly autoicous with male inflorescences on branches remote from female structures, and not yet observed in this species. Gynoecium terminal on a leading shoot or lateral branch, without innovations (gemmiferous shoots, lateral). Female bracts 1.4-1.6 × 0.85-1.0 mm, broadly lanceolate-ovate, spreading, with entire or weakly sinuose margins, apex bluntly acute, the ventral margin sometimes infolded; lobule small, the free margin inrolled and not visible *in situ*. Bracteoles 0.9-1.2 × 0.85-1.0 mm, very broadly obovate (as seen flattened under a cover-slip), but *in situ* the lateral margins strongly reflexed ventrally, and thus appearing more oblong; apex often clearly bifid; margins ± strongly irregularly dentate to half way, sinuose below. Mature perianth 0.9-1.1 × 0.75-0.9 mm, very broadly oval, obovate or pyriform, or nearly round, about the same length as the bracteole, or slightly immersed or exserted; weakly inflated ventrally, with usually 3-4 sharp keels, some of which are at least 0.75 the length of the perianth and sometimes extending over its whole length, an additional very short ventral keel sometimes present in the upper part of the perianth; dorsal keel represented by a single broad, low ridge; ventral and lateral keels more or less entire, but with an occasional prominent cell, a short and blunt tooth, or a notch, making the outline slightly

irregular; beak short, 30 µm long. No developing capsules present.

The perianths of only two of the other eight named species of African *Caudalejeunea* have two or more ventral keels. *C. grolleana*, known only from Madagascar, has two ventral keels, each with a rudimentary wing, but is a tiny plant, with perianths only 0.6 × 0.4 mm (Gradstein, 1974). The perianths of *C. katangensis* are about the same size of those of *C. yangambiensis*, and have two long ventral keels with 2-3 short, supplementary ones (Vanden Berghen, 1972). The margins of the bracteoles of *C. katangensis* are, however, only sinuose-cripsed, without dentition. *C. madagassa* (Madagascar only) sometimes has weak ventral keels, but the perianth has a broad, often interrupted, dentate-laciniate wing on the lateral keels.

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