Taxonomic Results of the BRYOTROP Expedition to Zaire and Rwanda

13. Radulaceae

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1. Leaf-lobes with gemmae on margins........2
*1. Leaf-lobes without gemmae on margins...3

2. Funnel-shaped gemmae occurring on dorsal margins of leaf lobes; leaf-lobules covering the stem for 1/4-1/3 of the stem-width
.................................................... R. flaccida
*2. Discoid gemmae occurring on dorsal margins of leaf-lobes; leaf-lobules extending far beyond the farther edge of the stem ......... R. quadrata

3. Leaf-lobules with auriculate or volute base.. 4

Abbreviations::

* New record for Rwanda viz. Zaire
KB: Kahuzi-Biega (Zaire)
Ka: Karisimbi (Rwanda)
Ny: Nyungwe Forest (Rwanda)
Ak: Akagera region (Rwanda)
Ki: Kigali region (Rwanda)

100-171, number of collecting site.

For locality data and a description see the contribution by E. Fischer on the vegetation of the study area in this volume (Tropical Bryology 8: 13-37, 1993). The specimens are deposited at the Botanical Museum Berlin as well as in the herbarium of the author (except for unicates).

*3. Leaf-lobes without auriculate or volute base .............................................6

4. Leaf-lobules transverse wide rectangular with volute base ........................................ R. voluta
*4. Leaf-lobules with auriculate base ..............5

5. Leaf-lobules elliptical or bluntly triangular with strongly auriculate base; keels very short and sinuate; gynoecia terminal on short gynoecial branches .................................. R. boryana
*5. Leaf-lobules subquadrate with auriculate base; keels long and substraight or somewhat sinuate; gynoecia terminal on long ordinary branches and stems ................................ R. stipatiflora

6. Leaf-lobules with reflexed apical or adaxial margins ...........................................7
*6. Leaf-lobules without reflexed margins

6. Leaf-lobules covering the stem for 4/5-1/2 of the stem-wide and with reflexed adaxial margins; cells of stem thin-walled with minute trigones ........................................ R. comorensis
*7. Leaf-lobules extending far beyond the farther edge of the stem and with reflexed apical margins; cells of stem thick-walled with large trigo-
nes ................................................


This species is very variable in form, and Jones (1977) reduced the above-cited four species to synonymy of R. appressa. Jones (1977) cited “it is likely that R. appressa will prove to be identical with R. javanica Gottsche. ...” However, R. appressa differs from R. javanica in many characters. In general appearance, R. appressa resembles R. reflexa known from SE Asia.

Hab.: On bark and soil.

Alt. Range: Between 850-1500 m alt. at Irangi forest station in Zaire.

Distr.: Sierra Leone, Guinea, Ghana, Western Nigeria, Cameroun, Republique Centrafricaine, St. Tomé, Principe, Zaire, Tanzania, Rodrigues, Mauritius, Réunion, Comores, Madagascar (Jones, 1977).

Specim. exam. : KB: 126, Pócs 6850; 127, Pócs 6882.


This species is a polymorphic species. Many species were described under a different name from Africa and its adjacent area, but these were reduced to synonymy by Castle (1937 & 1969).

R. boryana seems to be one of the commonest species in Rwanda and Zaire.

Hab.: This species was collected on branches and bark of trees, on cliffs, and on soil.

Alt. Range: Between 900-2040 m alt. in Zaire and 1600-2400 m alt. in Rwanda.


This species is characterized by (1) fragile plants with often caducous, ovate to oval leaf-lobes with rounded apices, (2) leaf-lobes with thin-walled cells, small trigones and a smooth cuticle, (3) subquadrate leaf-lobules often with reflexed adaxial margins, bluntly angular to rounded basal portions, and sinuate, decurrent keels, and (4) leaf-lobules covering from 4/5-1/2 of the stem-width. This species has not been reported previously from continental Africa.

Hab.: It occurs on bark and rotten wood.

Alt. Range: Between 1500-2470 m alt. in Zaire and 1400-2500 m alt. in Rwanda.

Distr.: Mauritius, Réunion (Jones, 1977). New to
Rwanda and Zaire.


This species is characterized by (1) funnel-shaped gemmae occurring on the margins of leaf-lobes, and (2) plants usually growing on living leaves of trees and on fronds of ferns in moist habitats. *R. flaccida* belongs to a member of sect. Epiphyllae Castle ex Grolle. However, Jones (1977) cited “... by no means uncommon on bark, and I have gathered it on earth. It sometimes grows on tree boles in districts where it does not occur on leaves.”

Hab.: It occurs on bark of trees.

Alt. Range: It was collected at 850 m alt. in Irangi forest, Zaire.

Distr.: Sierra Leone, Côte D’Ivoire, Ghana, Nigeria, Cameroun, Uganda, Zaire, Tanzania (Jones 1977), Neotropica.

Specim. exam.: KB: 127, Pócs 6877.


This species is characterized by (1) often caducous, ovate to rarely oval leaf-lobes, (2) oblong leaf-lobules with bluntly to rounded bases which cover the stem for 1/3-1/2 of the stem-width, decurrent abaxial margins and substraight to sinuate keels, (3) leaf-lobes with thin cell walls with or without minute trigones, and (4) a long flat-cylindric perianth. The leaf-lobule forms of this species are similar to that of branches in the depauperate plants of *R. stipatiflora*.

Hab.: It was collected on rocks and bark of trees.

Alt. Range: Between 900-2470 m alt. in Zaire.


Specim. exam.: KB: 122, Pócs 6795, 6816; 133, Pócs 7218; 143, Pócs 7618; 152, Pócs 7844.


=R. spongiosa Steph., Spec. Hep. 4: 168 (1910). syn. nov. [Synonyms are African species only.]

Jones (1977) noted that *R. recurvifolia* seems a close relative of *R. mollis* Lindb. & Gott. and/or *R. quadrata* Gott. However he made no attempt to discuss the relationship fully, and also did not reduce *R. recurvifolia* to a synonym of *R. quadrata*.

More recently I have examined many specimens determined as *R. quadrata* and its allied species (including all the types) from the Neotropics, and I compared African specimens determined as *R. recurvifolia* with *R. quadrata* (= *R. mollis*). Consequently I confirmed that *R. recurvifolia* is conspecific with *R. quadrata*.

Hab.: On bark of trees.

Alt. Range: It occurs at between 2250-2600 m alt. in Zaire and 2500 m alt. in Rwanda.

Distr.: Cameroun, Ethiopia, Kenya, Kivu, Tanzania, Natal, Réunion, Madagascar (as *R. recurvifolia* (Jones, 1977), Neotropica.


=R. newtoni Steph., Spec. Hep. 4:149
This species is characterized by (1) loosely imbricate, ovate leaf-lobes, (2) contiguous, subquadrate (wider than long) leaf-lobules with decurrent abaxial margins and arched adaxial margins, and large basal appendages, and (3) leaf-lobules usually extending far beyond the farther edge of stem.

Hab.: On branches and trunks of trees.

Alt. Range: It occurs at between 1300-3200 m alt in Zaire.


Specim. exam.: KB: 124, Pócs 6778; 149, Pócs 7734


This species is characterized by (1) large plants (up to 10 cm or more), (2) widely ovate leaf-lobes with rounded auriculate bases which extend far beyond the farther edge of stem, (3) loosely to moderately imbricate, transverse, wide-rectangular leaf-lobules with voluted, auriculate base (very variable in form on same stem), and (4) leaf-lobules with sinuate and not decurrent keels.

I have examined many specimens of *R. voluta* from Ireland and the Neotropics, also I compared *R. allamanoi* with *R. voluta*. There are many cases where there is no distinction between them. Therefore I have reduced *R. allamanoi* to a synonym of *R. voluta*.

Hab.: On bark of trees and on soil.

Alt. Range: It occurs at between 2500-3570 m alt. in Rwanda and 2400 m alt. in Zaire.

Distr.: Uganda, Kenya, Rwanda, Zaire, Tanzania (as *R. allamanoi*, Jones 1977), North and South America, Great Britain. New to Africa!


Literature Cited


