

ELLAGIC ACIDS FROM *CALLISTHENE MAJOR**

DIRCEU DE B. CORRÊA, LOURDES F. B. GUERRA, ADOLFO P. DE PÁDUA and OTTO R. GOTTLIEB†

Instituto de Ciências Exatas, Universidade Federal de Minas Gerais, 30000 Belo Horizonte, MG, Brazil; †Instituto de Química, Universidade de São Paulo, 05508 São Paulo, SP, Brazil

(Received 15 November 1984)

Key Word Index—*Callisthene major*; Vochysiaceae; ellagic acids.

Abstract—3,3'-Di-*O*-methyl and 3'-*O*-methyl-3,4-*O*,*O*-methylidene ellagic acids have been isolated from *Callisthene major*.

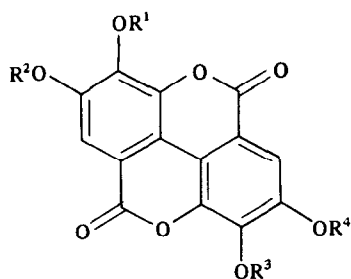
The family Vochysiaceae is represented in South America by the genera *Callisthene*, *Erisma*, *Qualea*, *Salvertia* and *Vochysia*. Species of the four latter genera have been examined and found to contain ellagic acid derivatives (1a–g), flavanones (2a–c), 2,6-dimethoxybenzoquinone

(3), 2,2',4,4'-tetramethoxy-5,5'-dimethylbenzophenone (4) and sitosterol (5) in the woods; gallic acid (6), pyrogallol (7) and catechol (8) in the barks; 5-desoxyflavones (9a–d) in the leaves; and vochysine (5,4'-dihydroxy-7-methoxy-8-(2-pyrrolidinyl)-flavan, 10) in the fruits. Occurrences and references are listed in Table 1. It is the purpose of the present note to report the isolation and characterization of 3,3'-di-*O*-methyl ellagic acid (1d), 3'-*O*-methyl-3,4-*O*,*O*-methylidene ellagic acid (1f) and friedelin (11) from the wood of *Callisthene major* Mart. (Table 1). 1f has been

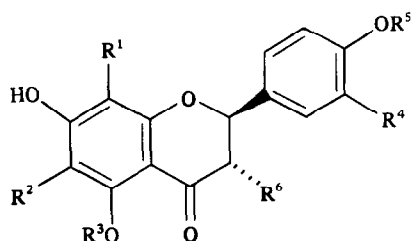
Part 3 in the series "The Chemistry of Brazilian Vochysiaceae"
For part 2 see ref. [1].

Table 1. Phenolic constituents of Brazilian Vochysiaceae

Species	Wood	Bark	Leaves	Fruits
<i>Callisthene major</i> Mart.	1d, 1f, 11			
<i>Erisma calcaratum</i> (Link.) Warm	1b, 1c [2]			
<i>Qualea grandiflora</i> Mart.		6, 7, 8 [3]		
<i>Q. labouriauana</i> Paula	2a, 2b, 2c 4, 5 [1]			
<i>Q. paraensis</i> Ducke	2a [1]			
<i>Salvertia convallariodora</i> St. Hil.	1b, 1e, 1f 1g, 5 [2]		9a, 9b, 9c 9d [4]	
<i>Vochysia acuminata</i> Bongard	1a, 1b [2]			
<i>V. cinnamomea</i> Pohl			9a, 9b [4]	
<i>V. tucanorum</i> Mart.			9a [4]	
<i>V. tyrsoides</i> Pohl	1b, 1e, 3 5 [2]			
<i>V. guianensis</i> (Aubl.) Poir.				10 [5]

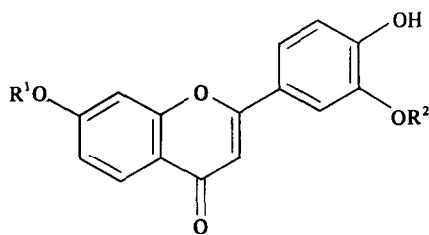


- 1 a** $R^1 = R^2 = R^3 = R^4 = H$
1 b $R^1 = R^2 = R^3 = Me, R^4 = H$
1 c $R^1 = R^2 = R^3 = Me, R^4 = \text{rutinosyl}$
1 d $R^1 = R^3 = Me, R^2 = R^4 = H$
1 e $R^1 = R^2 = R^3 = R^4 = Me$
1 f $R^1 - R^2 = CH_2, R^3 = Me, R^4 = H$
1 g $R^1 - R^2 = CH_2, R^3 = R^4 = Me$



- 2 a** $R^1 = R^2 = Me, R^3 = R^5 = R^6 = H, R^4 = OMe$
2 b $R^1 = Me, R^2 = R^3 = R^4 = R^5 = R^6 = H$
2 c $R^1 = R^4 = R^5 = H, R^2 = R^3 = Me, R^6 = OH$

found previously in *Salvertia convallariodora*, another species of the Vochysiaceae, but **1d** and **11** are reported for the first time in the family.



- 9 a** $R^1 = R^2 = H$
9 b $R^1 = H, R^2 = Me$
9 c $R^1 = \text{glucosyl}, R^2 = H$
9 d $R^1 = \text{glucosyl}, R^2 = Me$

EXPERIMENTAL

Wood of *Callisthene major* was collected near Ouro Preto, MG, Brazil, and identified by the botanist José Badini (Voucher, Herbarium, Escola de Farmácia, Universidade Federal de Ouro Preto, MG, no 23.186). A dried, powdered sample (1 kg) was extracted with EtOH. The soln was evapd. Column chromatography of the residue (35 g) yielded **1d** (3 mg), **1f** (1 mg) and **11** (30 mg), which were identified by comparison with authentic samples.

REFERENCES

1. Corrêa, D. de B., Guerra, L. F. B., Gottlieb, O. R. and Maja, J. G. S. (1981) *Phytochemistry* **20**, 305.
2. Corrêa, D. de B., Birchall, E., Aguiar, J. E. V. and Gottlieb, O. R. (1975) *Phytochemistry* **14**, 1138.
3. Rocha, A. B., Silva, J. B. da and Panizza, S. (1980) *Rev. Ciênc. Farm. (Araraquara, Brazil)* **2**, 109.
4. Lopes, J. L. C., Lopes, J. N. C. and Leitão, Fo., H. F. (1979) *Phytochemistry* **18**, 362.
5. Baudouin, G., Tillequin, F., Koch, M., Vuilhorgne, M., Lallemand, J.-Y. and Jacquemin, H. (1983) *J. Nat. Prod.* **46**, 681.