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Biflavonoids from *Ouratea multiflora*

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Abstract

A new flavone dimer, 3-hydroxy-4′,5,7-trimethoxyflavone-(6 → 8′′)-3′′-hydroxy-3′′′,4′′′, 5′′,7′′-tetramethoxyflavone, together with amenthoflavone, have been isolated from the leaves of *Ouratea multiflora*. Its structure was established by spectroscopic methods, including two-dimensional NMR spectroscopy.

Keywords: Ouratea multiflora; Biflavonoids

Plant. *Ouratea multiflora* Pohl (Ochnaceae) leaves were collected at the Botanical Reserve of Jureia, São Paulo, Brazil in October 1997 and identified by Ines Cordeiro. A voucher specimen (Cordeiro 1504) is deposited at the 'Herbário do Estado Eneida P.K. Fidalgo' of the Botanical Institute, São Paulo State, Brazil.

Uses in traditional medicine. *Ouratea* species have been reported to be useful in rheumatic and gastric ailments [1].

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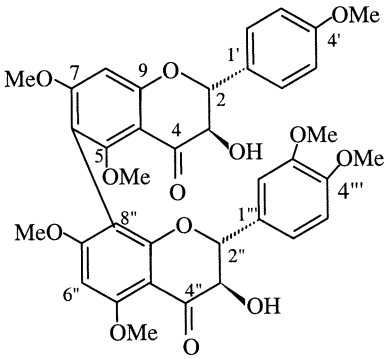
Previously isolated constituents. *O. multiflora* was not previously studied for its chemical constituents. Several bioflavonoids were isolated from *O. spectabilis* [2], *O. hexasperma* [3,4] and *O. semiserrata* [5].

New-isolated constituents. The ethanolic extract of the dried leaves (170 g) yielded the new flavone dimer, 3-hydroxy-4′,5,7-trimethoxyflavone-(6 → 8′′)-3′′-hydroxy-3′′′,4′′′, 5′′, 7′′-tetramethoxyflavone (38.7 mg, 0.0228%) and amenthoflavone [6] (75 mg, 0.0441).



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3-Hydroxy-4′,5,′7-trimethoxyflavone-(6 → 8′′)-3′-hydroxy-3′′′,4′′′,5′′,7-tetramethoxyflavone (**1**). Colorless powder, mp > 250°C (Me_2CO); ^{1}H-NMR (300 MHz, $CDCl_3$): δ 6.12 (1H, *d*, H-2), 6.46 (1H, *d*, H-3), 6.80 (1H, *s*, H-8), 7.90 (2H, *d*, H-2′ and H-6′), 7.00 (2H, *d*, H-3′and H-5′), 6.12 (1H, *d*, H-2′′), 6.46 (1H, *s*, H-6′′), 7.17 (1H, *s*, H-2′′′), 6.97 (1H, *d*, H-5′′′), 7.51 (1H, *d*, H-6′′′), 4.12 (1H, *s*, 3-OH), 3.94 (3H, *s*, 5-OMe), 3.90 (3H, *s*, 7-OMe), 3.87 (3H, *s*, 4′-Me), 3.98 (3H, *s*, 5′′-OMe), 3.92 (6H, *s*, 7′′-OMe and 3′′′-OMe), 3.84 (3H, *s*, 4′′′-OMe); ^{13}C-NMR (75 MHz, $CDCl_3$): 89.0 (C-2 and C-2′′), 78.2 (C-3 and C-3′′), 200.4 (C-4), 162.9 (C-5), 104.9 (C-6), 161.3 (C-7), 92.3 (C-8), 158.5 (C-5), 102.7 (C-10 and C-10′′), 122.7 (C-1′), 130.3 (C-2′), 114,5 (C-3′), 162.2 (C-4′), 114.5 (C-5′), 130.3 (C-6′), 200.5 (C-4′′), 163.8 (C-5′′) 98.1 (C-6′′), 164.8 (C-7′′), 102.6 (C-8′′), 156.7 (C-9′′), 121.7 (C-1′′′), 108.8 (C-2′′′), 146.4 (C-3′′′), 152.7 (C-4′′′), 111.8 (C-5′′′), 119.7 (C-6′′′), 56.03 (5-OMe), 56.16 (C-7-OMe), 55.49 (4′-MeO), 56.32 (5′′-OMe), 56.44 (7′′-OMe), 56.04 (C-3′′′), 55.29 (C-4′′′); EIMS *m/z* (rel. int): 358(24), 329(21), 328(91), 327(26), 314(100), 311(17), 298(30).

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References

[1] Correa M.P. Dicionário de Plantas úteis do Brasil, Editora da Impressa Nacional, Rio de Janeiro, 1926.
[2] Felicio JD, Gonçalez E, Braggio MM, Constantino L, Albasini A, Lins AP. Planta Med 1995;61:217.
[3] Moreira IC, Sobrinho DC, de Carvalho MG, Braz-Filho R. Phytochemistry 1994;35:1567.
[4] Moreira IC, de Carvalho MG, Bastos ABFO, Braz-Filho R. Phytochemistry 1999;51:833.
[5] Velandia JM, de Carvalho MG, Braz-Filho R. Química Nova 1998;21:397.
[6] Markham KR, Sheppar C, Geiger H. Phytochemistry 1987;26:3335.