Research Article

A New Flavonoid From the Rhizomes of *Cyperusstoloniferus*

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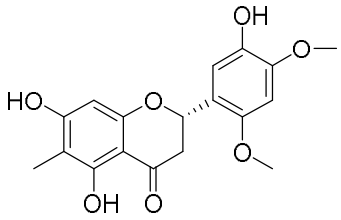
INTRODUCTION

Cyperusstoloniferus Retz. (Cyperaceae) widely grows in Asian countries like India and China. It has been used for treatment ofmenstrual disorders, dysmenorrhoea, stomachache, and inflammation.[1]The rhizomes of *Cyperus*arealso used in the treatment of diabetes, anticancer. Extracts, phytochemical constituents and their derivatives are also used as antirheumatic, excitant, febrifuge and tonic.[2-28]The rhizomes of *C. stoloniferus* werecollected in botanical garden, Bhopal University, India inSeptembert, 2014 and was identified (voucher specimen No.CSR-113) by the taxonomist of the Department of Botany, Bhopal University. Collected plants, after cutting intosmall pieces, were dried and pulverized into a coarsepowder and stored into an air-tight container.

Although *C. stoloniferus* has shown similar pharmacological effects with *C. rotundus* in India and Vietnamese folk medicine, there are very few reports on the chemical composition and biological activity of this plant. Only three studies onthe essential oil composition and the analgesic activity of *C.stoloniferus* were reported so far.

RESULTS AND DISCUSSION

The air-dried and powdered materials (2.5 kg) were extracted with methanol (6 L) in a sonic bath for 24 hours. Thecombined extracts were concentrated under a vacuum to obtain a crude residue (210 g), which was then resuspended inwater (1 L), and successively extracted by chloroform and ethyl acetate (each 1 L-3 times). The organic layers wereconcentrated to give 80.1 g and 47.7 g of chloroform and ethyl acetate residues, respectively. The chloroform residue waschromatographed on a silica gel column eluted by a gradient of 1–100% acetone in hexane to afford five fractions F1-F5. Fraction 1 was yielded the following flavonoid.



Data of the flavonoid

The compound was isolated as yellow semi solid: ^{1}H NMR (500 MHz, MeOH-d_4): δ 5.62 (1H), 2.70 (1H), 2.95 (1H), 5.97 (1H, s, H-8), 6.69 (1H,), 7.00 (1H), 1.97 (3H), 3.83 (3H), 3.90 (3H); ^{13}C NMR (125 MHz, MeOH-d_4): δ 75.2 , 43.4, 198.0, 162.6, 105.3, 166.1, 95.2, 162.6, 103.0, 120.5, 151.2, 98.7, 149.5, 141.4, 114.5, 61.9, 56.9, 56.6; ESIMS m/z: 347.13.

CONCLUSION

Although several flavanones and stilbenes have been previously isolated from *Cyperus* species, the present study is the first report for the isolation of a new flavanone from the *C. stoloniferus* rhizomes. In addition, the C-methyl-flavonoid skeleton was found for the first time from the Cyperaceae family. Piceatannol has been isolated in low yield fromother *Cyperus* plants, however this compound was found as a maincomponent (approx. 0.18% dry weight) in the rhizomes of *C. stoloniferus*. Thus compound 1 might be considered asimportant chemotaxonomic markers of *C. stoloniferus*.

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