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Chemical identification and anti-inflammatory potential of *Mimosa caesalpiniifolia* in experimental colitis: role of the expression for COX-2 and TNF-alfa

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Mimosa is one of the larger genres of the Fabaceae family and Mimosaceae sub-family and are the source of alkaloids, phenolic acids, terpenoids, carotenoids, and especially flavonoids.[1] In spite of most of the species being found in the Caatinga and Cerrado regions, chiefly in NE Brazil, chemical and biological studies are till scarce on these plants, which are recommended against inflammatory diseases, also having an anti-microbial effect, and being effective against infections. The chemical structures of the leaves of *M. caesalpiniifolia* (Benth.) were identified with spectroscopic analyses (UPLC-MS; ESI-IT-MS^n and RMN of ^1H and of ^{13}C). In the assay, the colitis was induced by the TNBS acid (2,4,6-trinitrobenzenesulfonic acid)[2] in the immune-histochemical assay, after the laboratory protocol. Mice were previously randomised in ten groups (n = 10 per group) on the dosages (25, 50, 125, and 250 mg/kg/day) of the hydro-alcoholic extract from the leaves of *M. caesalpiniifolia* (EHM) and the ethyl acetate fraction (Fr-EtOAc). The chemical investigation led tyo the identification of twenty-three substances, three of them flavonoids described for the first time in the literature. In the colitis assay the EHM for the 125 mg/kg dose had a preventive effect, whilst the Fr-EtOAc for the 50 mg/kg dose had a therapeutic effect with a reduction in the intensity of the injuries. The EHM and the Fr-EtOAc reduced the inflammation and modulated the expression for COX-2 and TNF-α during chronic colitis as caused by the TNBS. These results contributed to the knowledge of the chemical and biological profile of the extract from the leaves of *Mimosa caesalpiniifolia.*

Keywords: *Mimosa caesalpiniifolia*, flavonoids, colitis.
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References

[1]Silva, M.J.D., Carvalho, A.J.S., Rocha, C.Q., Vilegas, W., Silva, M.A., Gouvêa, C.M.C.P., 2014. Ethanolic extract of *Mimosa caesalpiniifolia* leaves: chemical characterization and cytotoxic effect on human breast cancer MCF-7 cell line. S. Afr. J. Bot. 93, 64-69.

[2]Paiotti, A.P.R., Artigiani Neto, R., Marchi, P., Silva, R.M., Pazine, V.L., Noguti, J., Pastrelo, M.M., Gollücke, A.P.B., Miszputen, S.J., Ribeiro, D.A., 2013. The anti-inflammatory potential of phenolic compounds in grape juice concentrate (G8000 (TM)) on 2,4,6-trinitrobenzene sulphonic acid-induced colitis. Br. J. Nutr. 110, 973-980.