A SCREENING FOR ANTIOXIDANT SPECIES WITH PHOTO-PROTECTOR ACTIVITIES AT THE ZONGO VALLEY (BOLIVIA)

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ABSTRACT

Eleven plants were collected at the Zongo Valley to evaluate their antioxidant and photo-protector properties. In this paper we report a strong correlation between high antioxidant activity and strong UV-A and/or UV-B absorptions. The most active species, tested at 10µg/ml with the DPPH assay, were *Fuchsia boliviana (leaves), Baccharis pentlandii* (flowers), *Rubus floribundus* (fruits), *Fuchsia boliviana* (flowers and fruits) *and Brachyotum microdon* (flowers). All the mentioned species have important UV- B and/or UV-A absorptions. This DPPH/UV technique could be used to preliminary screen vegetable samples and to select those with DPPH values above 83% and strong UV-A and/or UV-B absorptions. The chosen samples can then be evaluated with other more expensive *in vitro* assay (TEAC, ABTS or FRAP) to finally confirm their activities with the *in vivo* test. To our knowledge, this is the first time that the antioxidant properties of *Distichia muscoides*, *Souroubea fragilis*, *Brachyotum microdon*, *Monnina bridgesii*, *Baccharis pentlandii*, *Thibaudia crenulata*, *Siphocampylus tupaeformis*, *Cobaea scandens*, *Fuchsia boliviana* and *Rubus floribundus* are reported. In addition, this is the first time that *Siphocampylus tupaeformis* and *Thibaudia crenulata* are presented in a publication as well as the study of their photo-protector and antioxidant properties.

Keywords: Zongo Valley, Antioxidant Activity, Photo-Protector Property, UV-A and/or UV-B Absorption, *Distichia muscoides*, *Souroubea fragilis*, *Brachyotum microdon*, *Monnina bridgesii*, *Baccharis pentlandii*, *Thibaudia crenulata*, *Siphocampylus tupaeformis*, *Cobaea scandens*, *Fuchsia boliviana*, *Rumex acetocella* and *Rubus floribundus*.

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