FLAVONOIDS OF EUPHORBIA JAXARTICA AND E. LAMPROCARPA

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The comminuted air-dry raw material was extracted with chloroform and then with hot methanol. The solvent was evaportaed off from the methanolic extract in vacuum (40° C) to small volume, this was diluted with water, the precipitate was filtered off, and the filtrate was treated with ethyl acetate. The extract was dissolved in a fivefold volume of chloroform. The amorphous precipitate that deposited was separated off to give a mixture of flavonoid compounds (%): 1.2 in the epigeal part and 1.6 in the roots of E. jaxartica, and 2 in the epigeal part and 9 in the roots of E. lamprocarpa.

On paper chromatograms, the flavonoids of the epigeal parts of both plants gave five spots, with R_f 0.41, 0.54, 0.72, 0.80, and 0.89 [in the butanol–acetic acid–water (4 : 1 : 5) system].

The combined flavonoids were hydrolyzed with 5% H_2SO_4. Quercetin and kaempferol were detected. Consequently, these compounds are glycosides of quercetin and kaempferol.

When the mixture was separated by preparative chromatography on paper (Whatman 1), crystals with mp 189–190° C were obtained, which were then hydrolyzed. The hydrolysate was extracted with ether, giving crystals with mp 302–306° C, identical on paper chromatography with quercetin. The mother solution of the hydrolysate was shown by paper chromatography to contain D-glucose and rhamnose. Thus, the crystals with mp 189–190° C are rutin as was confirmed by a direct comparison with an authentic sample.

We have found rutin for the first time in these two species of Euphorbia.

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