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The air-dried and comminuted leaves of <u>Begonia</u> <u>erythrophylla</u> Neum. were extracted with 80% ethanol in the hot water bath. The ethanolic extract was investigated for the presence of phenolic compounds [1] by two-dimensional chromatography on Filtrak FN-12 paper (GDR).

The chromatography of its extract in two solvent systems. 1) butan-1-ol-acetic acid (glac.)—water (3:1:1), and 2) 15% acetic acid], showed that the leaves contained flavonols, flavones, and flavone C-glycosides. We give information on the study of the flavonols and flavones.

The individual phenolic components were obtained by preparative paper chromatography of the ethanolic extract in systems 1 and 2. The zones of the pure flavonoids were cut out from the chromatograms and were steeped in 80% ethanol, this operation being repeated three times. The ethanolic solutions of the flavonoid components were used for acid hydrolysis and their subsequent identification. The results of the Bryant cyanidin reaction indicated the aglycon nature of components (I-IV) and the glycosidic nature of flavonoid components (V-VII).

The structures of the aglycons and glycosides that had been isolated were established with the aid of UV spectroscopy in 96% ethanol with diagnostic reagents [2, 3], the mobilities on paper chromatography in four solvent systems, and the results of acid hydrolysis and some chemical transformations and color reactions, and also by direct comparison with authentic samples of flavonoids [4, 5]. It was established on the basis of the results obtained that the flavonoid substance (I) was 3-0-methylquercetin, (II) was 3-0-methylkaempferol, (III) was quercetin, (IV) luteolin, (V) quercetin 3-0-rutinoside (rutin), (VI) quercetin 3-0-rhamnoside (quercitrin), and (VII) luteolin 7-0-glycoside (cynaroside). This is the first time that these compounds have been isolated from Begonia erythrophylla Neum.

Rutin, isoquercitrin, quercitrin, (+)-catechin, 1-caffeylglucose, 1-feruloylglucose, astragalin, 3-0-methylquercetin 7-0-glycoside, 3-0-methylkaempferol 7-0-glucoside, 3,3',7-tri-0-methylquercetin (ternatin) and quercetin have been isolated from some begonia species previously [6-9].

LITERATURE CITED

- 1. L. K. Klyshev, V. A. Bandyukova, and L. S. Alyukina, Plant Flavonoids, Nauka, Alma-Ata (1978), p. 220.
- 2. J. B. Harborne, Comparative Biochemistry of the Flavonoids, Academic Press, New York (1967).
- 3. V. V. Vereskovskii, D. K. Shapiro, and T. I. Narizhnaya, Khim. Prir. Soedin., 257 (1982).
- 4. V. V. Vereskovskii, Khim. Prir. Soedin., 417 (1980).
- 5. V. L. Shelyuto, V. I. Glyzin, and N. T. Bubon, Khim. Prir. Soedin., 118 (1972).
- 6. M. Bopp, Planta, 48, No. 6, 631 (1957).
- 7. J. B. Harborne and E. Hall, Phytochemistry, 3, No. 3, 453 (1964).
- 8. M. Ensemeyer and L. Landhammer, Planta Medica, 46, No. 4, 254 (1982).
- 9. M. Ensemeyer and L. Landhammer, Archiv. Pharmazie, 317, No. 8, 692 (1984).

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