The products of the hydrolysis of the tannins from Acacia dealbata consisted of three substances (I-III).

It was established that the tannins of Diospyros kaki, Rubus fruticosus, and Cydonia vulgaris were formed by the polymerization of leukocyanidin, that of Thea sinensis from catechin, those of Punica granatum from leukocyanidin and leukodelphinidin, and those of Acacia dealbata from catechin, leukocyanidin, and leukodelphinidin. A direct relationship was observed between the amount of free catechins and the possibility of the formation of tannins of catechin nature.

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BROMINATED DIPHENYL ETHERS FROM THE MARINE SPONGE Dysidea fragilis

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Sponges of the family Dysideidae contain a large number of brominated diphenyl ethers [1-3]. We have investigated the sponge Dysidea fragilis gathered on the littoral of Mozambique during the 19th voyage of the Scientific Research Vessel Bogorov. Chromatography on silica gel of a chloroform extract of the freeze-dried sponge (195 g) yielded three fractions. Crystallization of the first fraction from hexane gave a new diphenyl ether (I) with the composition $C_{12}H_4O_2Br_6$, mp 151-153°C, yield 1.18% (on the dry weight of the sponge). The mass spectrum (M^+ 654, 656, 658, 660, 662, 664, 666) and the PMR spectrum [($CDCl_3$, δ) 7.79 (d, J = 2 Hz, H-6), 7.29 (dd, J = 8 Hz, 2 Hz, H-4), 6.42 (d, J = 8 Hz, H-3, and 6.01 (br s, OH)] showed the presence in compound (I) of six bromine atoms, a hydroxy group and three interacting aromatic protons.

The positions of the substituents were determined with the aid of double heteronuclear resonance, details of the ^{13}C NMR spectra being given in Table 1. The methylation of (I) with MeI gave a monomethyl ether, mp 118-120°C (hexane), PMR spectrum ($CDCl_3$): 7.79 (d,

TABLE 1. Chemical Shifts and $^{13}C-^1H$ Spin-Spin Coupling Constants (δ, DMSO-d_6)

Carbon atoms	I		III	
	δ	J_{C-H}, Hz	δ	J_{C-H}, Hz
1	112,1	d 11,1	151,5	br.s
2	152,0	m	137,7	t 7,4
3	116,1	d 164,6	117,5	br.s
4	131,3	d 169,2; d 6,5	125,0	d 174,8; d 6,5
5	114,3	d 11,1	118,4	t 5,5
6	135,0	d 172,9; d 6,5	119,6	d 165,5; d 8,3
1′	148,8	br.s	144,8	m
2′	139,8	br.s	150,8	br.s
3′	117,2	br.s	116,3	d 168,3; d 6,5
4′	125,2	br.s	115,5	t 4,0
5′	119,8	br.s	127,8	d 172,9; d 6,5
6′	115,8	br.s	118,1	br.s
OMe			60,4	q 146,1

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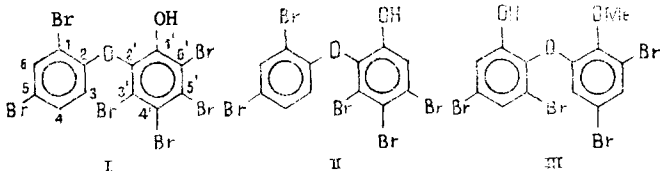
J = 2 Hz), 7.29 (dd, J = 8 Hz, 2 Hz), 6.30 (d, J = 8 Hz), and 3.86 (s, OCH_3).

The second fraction contained a mixture of compounds (II) and (III) in a ratio of 1:1. After chromatography on Silufol-254 plates in $CHCl_3$, compound (II) was obtained with mp 198-199°C (hexane), yield 0.08%, identical in its spectral characteristics with a compound described in the literature [1, 4].

Crystallization of the third fraction from hexane gave a methoxydiphenyl ether (III) with the composition $C_{13}H_8O_3Br_4$, mp 143-145°C (colorless needles), yield 4.43%. The mass and NMR spectra coincided with those given in the literature for a compound of analogous structure isolated from the sponge D. herbacea [3], with the exception of a marked difference in the melting point (according to the literature: pale green wax, mp 32-33°C). The methylation of compound (III) with MeI led to a dimethyl ether in the form of an oil not differing in its indices from those given in the literature [2, 3]. The hydrogenation of (III) over 10% Pd-C gave 2-(2'-hydroxyphenoxy)anisole, mp 71-73°C (hexane).



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PIGMENTS AND VITAMINS OF THE LEAVES OF SOME PLANTS OF THE FAMILY LEGUMINOSAE

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In continuation of a study of the chemical composition of various parts of plants of the family Leguminosae, we have investigated the presence of vitamins and pigments in the leaves of representatives of this family (Table 1).

TABLE 1. Amounts of Pigment and Vitamins in Leaves

Plant (collection site)	Amount, mg/kg					
	carotenoids	β-carotene	xanthophylls	chlorophylls		tocopherols
				a	b	
Sophora pahycarpa C. A. Mey. (Chimkent province)	59,6	9,5	50,0	37,2	37,5	6,6
Sophora alopecuroides L. (Environs of Alma-Ata)	225,9	197,5	28,4	146,7	117,0	37,0
Thermopsis alpina (Pall.) Ledeb. Chimbulak boundary)	148,6	31,7	116,9	109,3	98,7	32,0
Thermopsis turkestanica Gand. (Alma-Ata province)	50,0	19,2	30,8	257,2	247,6	28,0
Glycyrrhiza glabra L. (Alma-Ata province)	179,4	115,4	64,0	103,8	76,5	38,7
Psoralea drupaceae Bunge (Chimkent province)	71,0	4,2	66,8	67,4	51,2	46,0

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