

I and acetylfilicinic acid (II) in the presence of 3.7% formalin were reacted together in dilute alkaline solution to obtain albaspidin AA (III), $C_{21}H_{24}O_8$, m.p. 170–173° and filixic acid ABA (IV), $C_{32}H_{36}O_{12}$, m.p. 164–167°. In the next, I and excess dimedone (V) were reacted together in dilute alkaline solution to yield II, $C_{10}H_{14}O_4$, m.p. 170–173°, methylene-bis-dimedone (VI), $C_{17}H_{24}O_4$, m.p. 189° and phlorobutyrophenone (VII), $C_{10}H_{12}O_4$, m.p. 184–187°. All reaction products (II, III, IV, VI and VII) were identical with authentic samples.

TABLE 1. CONSTITUENTS OF SOME *Dryopteris* SPECIES

<i>Dryopteris</i> spp.	Locality	Filixic acid			Norflavaspidic acid AB
		BBB	ABB	ABA	
<i>D. dickinsii</i>	Toyama	+	+	+	+
	Kumamoto	(+)	(+)	(+)	(+)
	Mie	+	+	+	+
	Shiga	(+)	(+)	+	+
<i>D. tasiroi</i>	Kumamoto	(+)	(+)	+	+
	Kumamoto	(+)	+	+	+
<i>D. commixta</i>	Kumamoto	(+)	(+)	(+)	+

+, Isolated; (+), TLC spot; TLC-Plate, Kieselgel H; Solvent system, $CHCl_3$ –MeOH– H_2O = 7:3:1 (lower); Colour reag., Diazotized benidine.

We have also investigated the occurrence of phloroglucinol derivatives in the several sources of *D. dickinsii*, and *D. tasiroi* Tagawa and *D. commixta* Tagawa. The results were showed in Table 1.

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DENNSTAEDTIACEAE

STEROLS AND TRITERPENES OF *OLEANDRA PISTILLARIS**

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Key Word Index—*Oleandra pistillaris*; Dennstaedtiaceae; sterols; triterpenes.

Plant. *Oleandra pistillaris*, Dennstaedtiaceae (Oleanroideae). *Source.* Cameron Highlands (Malaysia). *Previous work.* None.

Present work. Ground plant material (whole plant; 660 g) extracted with hot EtOH

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yielded 1.7 g of nonsaponifiable. Column chromatography (Al_2O_3) and preparative TLC (silica gel H) yielded the following sterols and triterpenes which were identified by GLC (1% SE-30 and 3% OV-17) and GLC-MS (3%, OV-17). 4-*Desmethyl sterols*. Campesterol (11%), stigmasterol (4%), sitosterol (85%) and a trace amount of cholesterol. 4 α -*Methyl sterols*. Cycloeucalenol (30%), citrostadienol (10%), and an unknown sterol (58%). The MS of the unknown constituent had a M^+ at m/e 426. Other major fragments were (m/e , %): 411, 50% ($\text{M}^+ - \text{CH}_3$); 408, 15% ($\text{M}^+ - \text{HOH}$); 393, 65% ($\text{M}^+ - \text{CH}_3 - \text{HOH}$); 373, 20%; 327, 24%; 315, 100%; 269, 27%; and 191, 62%. Further investigations are underway to identify this component. A trace amount of 24-methylene lophenol was also detected. 4,4-*Dimethyl sterols*. Cycloartenol (41%) and 24-methylene cycloartanol (59%).

Multiple analyses were performed for each sample on GLC, with authentic samples being run before and after each sample. Each MS was compared with a spectrum obtained from authentic samples or compared to spectra previously published.¹⁻⁴

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ANGIOSPERMAE DICOTYLEDONAE AIZOACEAE

CHEMICAL INVESTIGATION OF *GISEKIA PHARNACEOIDES*

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Key Word Index—*Gisekia pharnaceoides*; Aizoaceae; alkanes; alkanols.

Plant. *Gisekia pharnaceoides* (Balu-ka-Sag-H). *Uses.* Medicinal.¹ *Previous work.* No chemical examination reported so far.

Whole plant. Extract aqueous: paper chromatography showed the common sugars;²⁻⁴ and organic acids,⁵ oxalic, succinic, tartaric and citric, m.p., m.m.p., co-PC. Extract

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