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. 4α-*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% ($M^+$–$CH_3$); 408, 15% ($M^+$–HOH); 393, 65% ($M^+$–$CH_3$–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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petrol (40–60°); $Et_2O$ soluble fraction; precipitated and crystallized from EtOH; triacontane,[6] $C_{30}H_{62}$, m.p. 66° (Found: C, 85·0; H, 14·60. Calc.: C, 85·30; H, 14·69%); IR and NMR. Whole plant, extract EtOH; concentrate and cool; residue, extract petrol (40–60°): $Et_2O$ insoluble fraction; crystallized from EtOH; myristone,[7] $C_{27}H_{54}O$, m.p. 75–76° (Found: C, 81·86; H, 14·03. Calc.: C, 82·23; H, 13·70%); IR, NMR, MS; reduction, dimyristyl carbinol.[8] m.p. 80–81°. Ethanolic concentrate; extract. petrol (40–60°); waxy solid; acetylation, tetracosanyl acetate, $C_{26}H_{52}O_2$, m.p. 56–57° (Found: C, 78·58; H, 13·32. Calc.: C, 78·78; H, 13·13%); hydrolysis; tetracosanol,[9] $C_{24}H_{50}O$, m.p. 75–76°; (Found: C, 81·55; H, 14·24. Calc.: C, 81·35; H, 14·12%). Benzene extract of residual plant after ethanolic extr. precipitated with MeOH and crystallized from EtOH; dotriacontane,[10] $C_{32}H_{66}$, m.p. 69° (Found: C, 84·8; H, 14·5. Calc.: C, 85·33; H, 14·66%).

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## CAMPANULACEAE

# LOBELINE FROM *LOBELIA NICOTIANAEFOLIA*

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**Key Word Index**—*Lobelia nicotianaefolia*; Campanulaceae; lobeline.

In 1954 Gedeon and Gedeon had reported[1,2] that the Indian lobelia, *Lobelia nicotianaefolia* Heyne, did not contain lobeline. A pharmacological study of Indian lobelia showed[3,4] that its total alkaloidal extract showed stronger respiratory stimulant action than did lobeline alone. This interesting finding and also reports[5–10] about the occurrence of lobeline in other species of *Lobelia* prompted us to reinvestigate the drug.

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