factor, which is one of the factors responsible for the precipitation of resistance in most of the insect vectors. Chadwick *et al*[7] mentioned a similar factor in establishing relationship between DDT-resistance and cross-resistance to permethrin and bioresmethrin in *Aedes aegypti*. Priester and Georghiou[8] also consider the possibility of development of extremely high permethrin resistance in *Culex pipins quinquefasciatus* due to DDT-resistance factor (KDR).

The authors thank ICMR, New Delhi, for financial support.

3 March 1986; Revised 2 May 1986

1. Verma, K. V. S. and Rahman, S. J., *J. Com. Dis.*, 1984, **16**, 144.
2. Rajavanshi, A. C., Wattal, B. L., Das, M. and Joshi, G. C., *J. Com. Dis.*, 1982, **14**, 52.
3. Verma, K. V. S., Rajavanshi, A. C. and Wattal, B. L., *J. Com. Dis.*, 1983, **15**, 219.
4. Verma, K. V. S. and Rahman, S. J., *J. Com. Dis.*, 1984, **16**, 162.
5. Bushvine, J. R., *Indian J. Malariol.*, 1958, **12**, 279.
6. Finney, D. J., *Probit analysis*, IInd edn., Cambridge Press, London, 1952, pp. 295.
7. Chadwick, P. R., Invest, J. F. and Bowron, M. S., *Pestic. Sci.*, 1977, **8**, 618.
8. Priester, J. M. and Georghiou, G. P., *J. Econ. Ent.*, 1979, **72**, 124.

EFFECT OF VICOLIDE B ON MALE SEX ORGANS OF ALBINO RATS

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VICOLIDE B was isolated[1] from the plant *Vicoa indica* (Fam: Compositae) and its antifertility activity in female rats has already been reported[2]. In the present study the effect of Vicolide B alone on male sex organs and in combination with testosterone has been reported.

Inbred male albino rats were used for the study. The animals were fed on Hindustan Lever rat feed and water was provided *ad libitum*. The drug was suspended in 0.5% carboxy methyl cellulose and administered at a constant volume of 0.1 ml/100 g. body weight.

The assay was carried out according to Ercoli *et al*[3] with following modifications. Young male albino rats weighing 60–90 g were castrated and divided into 3 groups of 8 animals each and treated as follows for 7 days from the first day of castration. The first group served as control and was fed with vehicle (0.5% carboxy methyl cellulose) alone in an appropriate quantity. The second group was administered testosterone phenyl propionate at the dose of 1 mg/kg body weight subcutaneously. The third group received testosterone phenyl propionate at the above mentioned dose and Vicolide B suspended in 0.5% carboxy methyl cellulose at the dose of 100 mg/kg body weight. On the 8th day animals were sacrificed to dissect out seminal vesicle, ventral prostate and levator ani muscle. These organs were weighed.

Effect of long time oral feeding of Vicolide B on male sex organs

Mature adult male rats weighing 100–150 g were divided into 2 groups of 8 animals each. The first group served as control and was treated with 0.5% carboxy methyl cellulose (vehicle) in appropriate quantity. The second group was fed with Vicolide B suspended in 0.5% carboxy methyl cellulose at the dose of 100 mg/kg body weight for 30 days. The animals were sacrificed on 31st day and the sex organs, testes, epididymis, vas differens, seminal vesicle and ventral prostate were dissected out. These organs were weighed (wet weight) and only the testes were fixed in 10% formal saline and processed for histopathological studies staining with haematotoxylin and eosin.

Vicolide B did not show any change in the wet weight of seminal vesicle, ventral prostate and levator ani in the testosterone administered rats (table 1). In the direct assay Vicolide B did not cause an increase in the weight of these organs suggesting that it is neither androgenic nor antiandrogenic in nature.

The long-time feeding of the compound did not cause any significant change in the weight of the male sex organs (table 2). The histopathology of the testes did not reveal any change in the organ.

Vicolide B, which is proved to be antiestrogenic preventing fertility in female rats, is devoid of antiandrogenic activity.

Thanks are due to Dr S. Venkatraman of the Post Graduate Institute of Basic Medical Sciences, Madras for helpful discussions and to the Director, Central Council for Research in Ayurveda and Siddha, New Delhi, for financial support.

Table 1 *Antiandrogenic activity (in mg/100 g body wt) of Vicolide B in male rats*

Group	Treatment	Seminal Vesicles	Ventral prostate	Lavator ani
1	Control (0.5% CMC	63.5 ± 14.5	46.0 ± 1.0	33.7 ± 5.0
2	Testosterone 1 mg/rat/day for 7 days	289.5 ± 78.3	87.16 ± 17.49	63.4 ± 14.8
3	Testosterone 1 mg/rat/day for 7 days + Vicolide B 100 mg/kg body weight for 7 days	324.5 ± 66.7	99.9 ± 14.5	73.2 ± 8.1

(Value are Mean ± S. D.)

Table 2 *Weight of genital organs of male rats after treatment with Vicolide B. (dose is expressed in mg/kg body wt, testes in g/100 g body wt and all others in mg/100 g body wt).*

Group	Treatment	Dose mg	Testes	Seminal vesicles	Ventral prostate	Vas deferens	Epidydymus
1	Control	0.5 % CMC	1.325 ± 0.155	114 ± 4.0	86 ± 1.2	69 ± 1.0	334 ± 12.1
2	Vicolide B	100	1.354 ± 0.164	116 ± 3.5	89 ± 1.5	66 ± 8.0	344 ± 12.0

(Values are mean ± S. D.)

3 October 1985; Revised 3 February 1986

1. Purushothaman, K. K., Vasanth, S., Cox, J., Akinniyi, J. A., Connolly, J. D., Rycraft, D. S. and Sim, G. A., *J. Chem. Res.*, 1981, **3,** 374.
2. Susan, T., Alam, M. M. and Purushothaman, K. K., *Indian Drugs*, 1985, **22,** 512.
3. Ercoli, A., Brumi, G., Falconi, G., Gardi, R. and Meli, A., *Endocrinology*, 1960, **67**, 521.

CHEMICAL CONSTITUENTS OF *CONVOLVULUS MICROPHYLLUS*

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ARID and semi-arid zone plants have long been used for medicinal purposes. *Convolvulus microphyllus* plant is used as a laxative and also as a brain tonic[1] and is available in abundance in the western Rajasthan region. A critical survey of literature reveals that *Convolvulus* species have received some attention[2-10] but negligible work has been carried out in *Convolvulus microphyllus*[11-13]. The present work was therefore undertaken.

The *C. microphyllus* plant was collected from the University New Campus at Bhagat-ki-Kothi, Jodhpur (India) during the rainy season. The plant material was dried and powdered and then extracted with benzene using Soxhlet extractor. The benzene fraction was concentrated and fed to a column (size 3 × 60 cm) for chromatography. The concentrated extract was adsorbed on silica gel (40 g) and dried under vacuum. The dried material was chromatographed over silica gel (800 g). The column was eluted successively with different solvents and the eluents were taken according to sequence in the order of polarity with petroleum ether and petroleum ether-benzene mixtures. The column was eluted at a speed of 50 ml/hr and each fraction of 40 ml was collected and tested over TLC