

# STEROID COMPOUNDS OF MARINE SPONGES.

## VI. STEROLS AND THEIR DERIVATIVES FROM *Trachyopsis aphysinoides*

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From an ethanolic extract of the sponge *Trachyopsis aphysinoides* Dendy, collected on the shores of the island of Sri Lanka at a depth of 2-3 m during the 15th expedition voyage of the Scientific-Research Ship "Professor Bogorov," by column chromatography on silica gel (40/100  $\mu$ m) in the hexane-ethyl acetate (7:1)-(5:1) system we have isolated three steroid compounds. The first of them, with mp 166-168°C (from EtOAc),  $[\alpha]_D^{20}$  -60° (c 0.2; CHCl<sub>3</sub>), proved to be identical with respect to its mass and PMR spectra to the 24-ethyl-25-methylcholesta-5,22-dien-3 $\beta$ -ol - a metabolite of the sponge *Halichondria* sp. - that we have recently described [1]. It was accompanied by, as a minor component, the known 24-isopropylcholesta-5,22-dien-3 $\beta$ -ol [2]. Mass spectrum, m/z, %: 426 (M<sup>+</sup>, 40); 411 (4); 408 (15); 393 (7); 383 (80); 365 (100); 300 (33); 271 (63); 255 (83); 213 (43).

The third compound isolated had mp 132-134°C (from hexane),  $[\alpha]_D^{20}$  -22° (c 0.2; CHCl<sub>3</sub>). PMR spectrum ( $\delta$ , CDCl<sub>3</sub>, 250 MHz): 0.818 (3 H, s, CH<sub>3</sub>-18); 0.885 (3 H, s, CH<sub>3</sub>-19); 0.998 (3 H, d, J = 6.5 Hz, CH<sub>3</sub>-21); 0.833 (3 H, d, J = 6.5 Hz, CH<sub>3</sub>-26); 0.815 (3 H, d, J = 6.5 Hz, CH<sub>3</sub>-27); 0.908 (3 H, d, J = 6.6 Hz, CH<sub>3</sub>-28); 6.24 (1 H, d, J = 8 Hz, CH-6); 6.51 (1 H, d, J = 8 Hz, CH-7); 5.18 (2 H, m, CH-22, 23). Mass spectrum. m/z, % (direct introduction) 428 (M<sup>+</sup>, 6); 410 (30); 396 (100); 363 (50); 337 (20); 271 (16); 253 (34); 251 (37); 213 (19), 211 (29). It was identified as 24  $\xi$ -methyl-5 $\alpha$ ,8 $\alpha$ -epidoxycholesta-6,22-dien-3 $\beta$ -ol [3].

We succeeded in obtaining another, more polar, steroid compound by column chromatography on Polikhrom-1. It was identified as halistanol sulfate after a comparison of the mass spectrum of the corresponding triacetate with that of a standard sample [4, 5].

Thus, we have shown for the first time the simultaneous presence in sponges of three types of steroid derivatives: sulfated steroid polyols, sterols with an additional alkylated side chain, and peroxides of  $\Delta^{5,7}$ -sterols.

### LITERATURE CITED

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