

The holothurian Holothuria atra is one of the most common species of marine invertebrates inhabiting coral reefs. The glycosides of this holothurian exhibit cytotoxic and antifungal properties [1, 2]. However, hitherto the composition of the glycosidic fraction of this holothurian has been little studied [3] and only holothurin B has previously been isolated in the individual state from extracts of it [4].

Continuing a chemical investigation of the glycosides of echinoderms we have isolated four individual glycosides by a known method [5, 6] from the glycosidic fraction of H. atra collected in December, 1981, on the northwestern littoral of the island of Madagascar (Scientific Research Ship "Professor Bogorov") at a depth of 2-3 m.

By comparing the physicochemical characteristics (melting points, $[\alpha]_D$, ^{13}C and ^1H NMR spectra, TLC) of the glycosides obtained, the compounds isolated were identified as the previously known holothurins A, B, and B₁, and desulfated B [4, 7-11]. It was shown that the glycosidic fraction of H. atra consists of 12.5% of holothurin A, 84.2% of holothurin B, 1.08% of holothurin B₁, and 2.15% of desulfated holothurin B. The last of these glycosides has not previously been isolated from natural sources.

LITERATURE CITED

1. M. M. Anisimov, V. V. Shcheglov, V. A. Stonik, A. I. Kul'ga, E. V. Levina, and G. B. Elyakov, Dokl. Akad. Nauk SSSR, 207, 711 (1972).
2. M. M. Anisimov, E. B. Fronert, T. A. Kuznetsova, and G. B. Elyakov, Toxicon, 11, 109 (1973).
3. G. B. Elyakov, V. A. Stonik, E. V. Levina, V. P. Slanke, T. A. Kuznetsova, and V. S. Levin, Comp. Biochem. Physiol., 44B, 325 (1973).
4. V. A. Stonik, A. D. Chumak, and V. V. Isakov, Khim. Prir. Soedin., 522 (1979).
5. G. K. Oleinikova, T. A. Kuznetsova, A. I. Kalinovskii, V. A. Stonik, and G. B. Elyakov, Khim. Prir. Soedin., 101 (1981).
6. G. B. Elyakov, N. I. Kalinovskaya, A. I. Kalinovskii, V. A. Stonik, and T. A. Kuznetsova, Khim. Prir. Soedin., 323 (1982).
7. I. Kitagawa, T. Nishino, and Y. Kyogoku, Tetrahedron Lett., 1419 (1979).
8. I. Kitagawa, T. Nishino, T. Matsuno, U. Akutsu, and Y. Kyogoku, Tetrahedron Lett., 985 (1978).
9. I. Kitagawa, T. Inamoto, M. Fuchida, S. Okada, M. Kobayashi, T. Nishino, and Y. Kyogoku, Chem. Pharm. Bull., 28, 1651 (1980).
10. V. I. Kalinin, V. A. Stonik, S. A. Avilov, and G. B. Elyakov, Khim. Prir. Soedin., 403 (1981).
11. T. A. Kuznetsova, N. T. Kalinovskaya, A. I. Kalinovskii, G. K. Oleinikova, N. V. Rovykh, and G. B. Elyakov, Khim. Prir. Soedin., 482 (1982).