side or lanatoside A [2, 6].

Cardenolide (4) – mp 239-241°C, $[\alpha]_D^{20}$ +3.0° (c 0.5 ; methanol). On PC and TLC it appeared at the level of an authentic sample of digitalinum verum, and a mixture gave no depression of of the melting point. With the Svendsen–Jensen reagent it fluoresced blue, which is characteristic for the glycosides of the gitoxigenin series. In the Keller–Kiliani reaction the layer of sulfuric acid acquired a carmine-red color and did not change under the action of acetic acid. The Pesez reaction was also negative, which also showed the absence of a 2,6-deoxysugar. It contained no acetyl or formyl groups. Acid hydrolysis gave the aglycone gitoxigenin and a sugar component consisting of glucose and digitalose. It underwent enzymatic hydrolysis with the enzyme of the grape snail with extreme difficulty, being split partially into strospeside and glucose.

The facts given above gave us grounds for concluding that cardenolide (4) was gitoxigenin 3-O-monodigitalosideglucoside or digitalinum verum [2, 7].

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PYRROLE DERIVATIVES FROM THE MARINE SPONGE Axinellidae Gen sp.

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UDC 547.741:547.781+593.4

Continuing a study of the secondary nitrogen-containing metabolites of marine sponges [1, 2] we have investigated the composition of an ethanolic extract from a marine sponge of the family Axinellidae (Tanzania, Mange reef) from the collections of the 12th voyage of the Scientific Research Ship "Professor Bogorov."

Repeated chromatography on silica gel and Sephadex LH-20 of a crude extract led to the isolation of five compounds each containing a pyrrole grouping in its structure.

The melting point and spectral characteristics of compound (I) coincided completely with those given in the literature for 4,5-dibromopyrrole-2-carboxylic acid [3, 4]. The structures of compounds (II), (III), and (IV) were established on the basis of a comparison of their spectral characteristics with literature information for 1,2,3,4-tetrahydropyrrolo[2,3-c]-5H-azepine-1,5-diol [5], debromohymenialdisine hydrochloride [5, 7], and hymenialdisine [6, 7], and also by a direct comparison with authentic samples of the substances isolated from the marine sponge Acanthella carteri [2].

From a fraction giving a qualitative reaction with diazotized benzidine and with the reagent for a guanidine group (sodium nitroprusside–potassium ferricanide in an alkaline medium), we isolated compound (V) with the composition $C_{11}H_{11}N_5OBr_2 \cdot HCl$, mp 222-223°C ($MeOH-H_2O$), $[\alpha]_D^{22}$ –204°. The mass spectrum showed the presence of two bromine atoms – M^+ 391, 389, 387 (1:2:1) – and of a guanidine fragment – 374, 372, 370 (M – NH_3), 363, 361, 359 (M – CHNH), 349, 347, 345 (M – NH_2CN) – in compound (V). These facts coincided with those given in the literature for dibromophakellin hydrochloride [8]. The ^{13}C NMR spectrum [(DMSO-d_6), δ: 156.5 (s, C-15); 153.3 (s, C-8); 124.8 (s, C-5); 114.5 (d, C-3); 105.8 (s, C-4); 101.5 (s, C-2); 82.0 (s, C-10); 68.1 (s, C-6), 44.6 (t, C-13); 38.6 (t, C-11); 19.0

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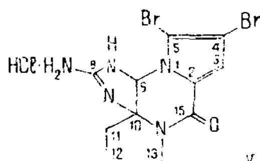
(t,C-12)] confirmed the structure of compound (V) as that shown below



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LOW-MOLECULAR-WEIGHT RNAs FROM PLANT SEEDS

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In the present paper we give the results of a comparative electrophoretic study of the cytoplasmic low-molecular-weight RNAs (lm RNAs) isolated from postmitochondrial supernatants from homogenates of defatted flours or the seeds of the cotton plant (Gossypium hirsutum), the mung bean (Phaseolus aureus), and kenaf (Hibiscus cananabinus) and the tissues of bakers' yeast (Saccharomyces cerevisiae). The ln RNAs were isolated from the total ribosomal RNA (total rRNA) by a procedure described previously [1, 2]. The preparation of total rRNA from bakers' yeast was used as the standard. Electrophoresis was performed in 10% polyacrylamide gel (PAG) in 0.05 M Tris borate buffer with pH 8.3 containing 0.001 M EDTA-Na_2 in the presence of 7 M urea. The copolymerization for the preparation of the PAG in 6 × 100 mm tubes was performed at room temperature, the amounts of initiator (ammonium persulfate) and catalyst (TEMED) being selected experimentally at 0.05% each. Preliminary electrophoresis was performed for an hour at a voltage of 10 V per centimeter height of the gel. On one tube of gel with a volume of 50-60 µl was deposited 7-10 OU_{260} of the total rRNA denatured at 50°C for 3 minutes in 0.005 M Tris borate buffer with pH 8.3 containing 0.001 M EDTA-Na_2 and 7 M urea [3].

Electrophoresis was performed at a voltage of 18 V per centimeter height of the gel for 2.5-3 h. The gel was stained by the procedure described previously [2].

The electrophoretic pattern (Fig. 1) showed that the total rRNA from plant seeds did actually contain a set of lm RNAs in addition to tRNA and the 5S and 5.8S rRNAs. In the quantitative respect the amounts of the 7S and > 7S lm RNAs were the greatest among the components of the spectrum of the lm RNAs in the total rRNAs. For each plant studied we established the characteristics spectrum of the lm RNAs. The spectra of the lm RNAs of the different plants had lm RNA zones with the same mobility and also zones characteristics of each given plant. The results obtained show that during the isolation process not only the ribosomes but also other ribonucleoproteins (RNPs) present in the cytoplasm of the cells of

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