

CHRONICLE

THIRD SOVIET - INDIAN SYMPOSIUM ON THE CHEMISTRY OF NATURAL COMPOUNDS

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The Soviet-Indian Committee for Scientific Cooperation, the Academy of Sciences of the USSR, and the Academy of Sciences of the Uzbek SSR held the third Soviet-Indian Symposium on the Chemistry of Natural Compounds in Tashkent from October 22 to 25, 1973. The first symposium was held in Tashkent in 1968, the second in Delhi in 1970, and now for the third time the scientists of the Soviet Union and of India have met again in the capital of Uzbekistan. The contact between the scientists of the two neighboring countries has begun to take on a traditional character.

The holding of the symposium in Tashkent is due to the fact that there is a large scientific center here - the Institute of the Chemistry of Plant Substances of the Academy of Sciences of the Uzbek SSR, where urgent problems of the chemistry of natural compounds are being dealt with and where many qualified specialists are being trained. A large amount of scientific-research work is being performed in the university and, finally, the All-Union Journal "Khimiya Prirodnikh Soedinenii" ["Chemistry of Natural Compounds"], which is translated abroad into English, has been published in Tashkent for 10 years.

Major scientists of the Institute of the Chemistry of Natural Compounds of the Academy of Sciences of the USSR (Moscow) and also scientists from Leningrad, Kishinev, Khar'kov, Tbilisi, Pyatigorsk, Novosibirsk, Vladivostok, and other towns took part in the symposium.

The delegation of Indian scientists was led by Dr. M. L. Dhar - the Director of the Central Institute for the Study of Drugs in Lucknow. The delegation included Professor S. Rangaswami from Delhi University, Professor S. Bhattachariya from the Indian Institute of Technology in Bombay, Professor N. Subba Rao (Hyderabad), Professor Azima Chatterjee, and other prominent Indian scientists.

Among the Soviet participants in the symposium were Academicians of the Academy of Sciences of the USSR Yu. A. Ovchinnikov and A. S. Sadykov, Corresponding Members S. Yu. Yunusov, M. N. Kolosov, I. V. Tortov, and G. B. Elyakov, Academician of the Academy of Sciences of the Belorussian SSR A. A. Akhrem, and Academician of the Academy of Sciences of the Moldavian SSR G. V. Lazur'evskii.

The symposium was opened by Academician Yu. A. Ovchinnikov. He gave a lecture on the scientific link between Soviet and Indian workers and the problems of the further development of bioorganic chemistry.

Seven plenary lectures and about 100 scientific communications were delivered at the symposium, the main attention in them being devoted to alkaloids, steroids, carbohydrates, terpenoids, plant antibiotics, and questions of the creation of valuable drugs and preparations for agricultural purposes. At a plenary meeting, Dr. M. L. Dhar reported on the work of the Institute that he directs in the fields of alkaloids, saponins, enzymes, and other natural compounds. Professor L. K. Ramachandran (Osman University, Hyderabad) gave a plenary lecture on the toxic substances of seven species of *Lathyrus* causing the disease lathyrism. The Indian visitors gave a number of interesting reports at the sectional meetings. Thus, Professor S. Rangaswami has isolated and demonstrated the structure of three steroid saponins from *Dioscorea*. Dr. T. R. Govindachari (CIBA Research Center, Bombay) has isolated four new isoquinoline alkaloids from the plant *Ancistrocladus* and has determined their structures. All the other communications of our Indian colleagues were also made on a high scientific level and aroused great interest.

Academician A. S. Sadykov greeted the participants in the symposium and then gave a lecture on the predominant conformations of the alkaloids including piperidine and quinolizidine rings.

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Corresponding Member of the Academy of Sciences of the USSR S. Yu. Yunusov had prepared for the opening at the symposium a brochure on the structure of and the work directed by him in the Institute of the Chemistry of Plant Substances, and he gave a lecture on this subject and showed the laboratories of the Institute to the participants in the symposium. In his lecture, S. Yu. Yunusov gave information on the study of 4000 plants for their alkaloid content as a function of the period of vegetation, the growth site, and the organs of the plant. A total of 415 alkaloids had been isolated of which 222 had proved to be new; the structures of 206 alkaloids had been demonstrated. The results of the investigations in the alkaloid field had been given in the form of 1058 publications, and the total number of papers published by the Institute was 1910. The work of the Institute was based on the interconnection of the complex investigation of all the main classes of plant substances and the creation of synthetic plant regulators. Candidate of Chemical Sciences V. T. Ivanov gave a lecture on the work performed in the M. M. Shemyakin Institute of the Chemistry of Natural Compounds of the Academy of Sciences of the USSR on the mechanism of the action of a new class of bioregulators, the ionofoms - compounds binding metal ions in solutions and transporting them through biological membranes. The relationship has been traced between the primary structure, the ion-forming states, the capacity for complex-formation, and the membrane activity among the valinomycin antibiotics.

Professor M. N. Zaprometov devoted his speech to the biosynthesis of phenolic compounds in plants. The biosynthesis of phenolic compounds in plants is brought about in two ways: through shikimic acid and by the acetate-malonate route. Although the two routes differ with respect to their starting materials and end-products, in some cases, especially in the synthesis of flavonoids, they can take place in combination. The plant cell possesses a wide capacity for using roundabout and alternative routes for the biosynthesis of some phenolic compounds. An interesting lecture by Corresponding Member of the Academy of Sciences of the USSR G. B. Elyakov was devoted to progress in the chemistry of marine invertebrates - echinoderms. With a large amount of factual material, the lecturer showed the characteristic features of the structure of the pigments, carbohydrates, lipids, sterols, and triterpene aglycones of marine organisms.

The participants in the symposium visited the University and toured the sights of Tashkent.