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ACAD. S.Yu. YUNUSOV INSTITUTE OF THE CHEMISTRY  
OF PLANT SUBSTANCES

INTERNATIONAL SCIENTIFIC  
CONFERENCE

**Actual Problems of the  
Chemistry of Natural Compounds**

**ABSTRACTS**

March 15–16, 2023  
Tashkent

## CONFERENCE TOPICS

1. Chemistry, biology, pharmacology, and technology of natural compounds and their derivatives.
2. Successes and problems of creation of new drugs.

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**ON THE HYPOLIPIDEMIC EFFECT OF TOTAL EXTRACTIVE PREPARATIONS CONTAINING FLAVONOIDS, TRITERPENE GLYCOSIDES AND PHYTOECDYSTEROIDS ISOLATED FROM *Thermopsis alterniflora*, *Zygophyllum oxianum* and *Silene viridiflora***

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Currently, the idea of using various biologically active substances isolated from plants for the prevention and treatment of hyperlipidemia and atherosclerosis is becoming more widespread.

The aim of the present work was to study in an appropriate way the sum of flavonoids from *Thermopsis alterniflora*, the sum of triterpene glycosides from *Zygophyllum oxianum* and the sum of phytoecdysteroids from *Silene viridiflora*.

The experiments were carried out on male rats weighing 200-250 g, with hyperlipidemia caused by triton WR-1339 (225 mg/kg, once, intraperitoneally). The test substances were administered orally at doses of 5-50 mg/kg. The content of total cholesterol and triglycerides in the blood serum of animals was determined by the enzymocalorimetric method using Cypress diagnostics (Belgium) reagent kits on a Secomam Basic biochemical analyzer (France). In the course of the studies, it was found that the amount of flavonoids isolated from *Thermopsis alterniflora* (apigenin, luteolin, formononetin, etc.), from *Silene viridiflora*, the amount of phytoecdysteroids (ecdysterone, sileneosides A, D, polypodin B, etc.) and from *Zygophyllum oxianum*, the amount of triterpene glycosides (zygofiloside E, etc.) have a significant hypolipidemic effect. The amount of triterpene glycosides from *Z. oxianum* lowered the level of cholesterol in the blood serum more pronouncedly (by 35.0%), the amount of flavonoids from *Th. alterniflora* clearly showed a hypotriglyceridemic effect of 40.8%, and the amount of phytoecdysteroids from *S. viridiflora* had an approximately equivalent effect in this regard (25.8-30.2%). The reference drug clofibrate under these conditions lowered the level of cholesterol in the blood serum by 27.2%, and triglycerides by 38.6%. The data obtained in experiments on rats on a significant lipid-lowering activity of the studied substances were subsequently confirmed in rabbits with experimental atherosclerosis caused by prolonged oral administration of cholesterol.

Thus, the considered total preparations of flavonoids, triterpene glycosides, and phytoecdysteroids are of interest as potential drugs for the treatment of hyperlipidemia and atherosclerosis.