

Chemical Study of *Sophora flavescens* Soland

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Sophora flavescens Soland., a perennial long-rhizome-taproot polycarpic herb of family *Fabaceae* widely has been used in herbal medicine for centuries in folk and Oriental traditional medicine. Also it is a relict species of Miocene-Pliocene period. It has been proved that alkaloids and flavonoids in its underground parts have many pharmacological functions, such as diuresis, anti-microbe, anti-insect, anti-ulceration, anti-arrhythmia, anti-tumor and curing hepatitis. Also it has been used for treatment of skin and mucosal ulcers, sores, gastrointestinal hemorrhage, diarrhea, inflammation and arrhythmia.

However, a long-term over-gathering of its roots and rhizomes has made this plant facing with the risk of being exhausted therefore nowadays we need to find some ways of its rational usage. Although the chemical constituents and their biological activity of this plant have been reported well, there are no paper related with complex study of different parts of *S. flavescens*. We begin the study of chemical composition of alkaloids and flavonoids – major biologically active substances in different parts of this plant: roots and rhizomes, shoots and stems, seeds and pericarps of legumes. The sum of alkaloids from the roots of *S. flavescens* collected in Chita region is 0,4-0,5%. The main alkaloid is matrine-N-oxide (0.20-0.25%). The qualified structure of matrine-N-oxide was determined based on GC-MS, ¹H, ¹³C NMR and RSA data.

