

**PHYSIOLOGICAL AND BIOCHEMICAL CHARACTERISTICS
OF *MENYANTHES TRIFOLIATA* (MENYANTHACEAE) IN THE MIDDLE TAIGA SUBZONE
(ENVIRONS OF SYKTYVKAR)**

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SUMMARY

The purpose of the present work was to study the physiological and biochemical characteristics of *Menyanthes trifoliata* L. above-ground shoots and rhizomes in the middle taiga subzone of Komi Republic (Russia). Experiments with flowering *M. trifoliata* plants growing in lowland spring hypnum bog were performed in June—July 2009—2010. The respiration rate, biomass accumulation, and the contents of pigments, nitrogen, protein amino acids, soluble carbohydrates and ash elements in blooming plants were studied. Plants accumulated 300 g/m² dry mass, 45 % of this total was located in rhizomes. The leaves were characterized by the intensive respiration (2.5 mgCO₂/g dry mass), high nitrogen content (3.5 %) and high accumulation of chlorophylls and carotenoids. Content of six identified soluble carbohydrates (rhamnose, fructose, glucose, sucrose, maltose and raffinose) in above-ground shoots and rhizomes was about 10—15 % of dry weight. The plants contained 160 mg/g dry weight of protein amino acids in which 40 % were indispensable ones. There were the considerable concentrations of ash elements (K, Na, Fe, Mn). The obtained results can be instrumental in planning the rational use of *M. trifoliata* resources in the Republic of Komi.

Key words: *Menyanthes trifoliata*, biomass, respiration, nitrogen, amino acid, pigments, carbohydrates, ash elements.