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Sound insulation of artificial and natural sound signals in reeds habitats

Igor Ianovschi[a] and Ludmila Osipova[b]
[a]Universitetskaja nab. 7/9, Dep. Vertebrate Zoology, 199034 St. Petersburg, Russian Federation
[b]St. Petersburg State University, Universitetskaya emb., 7/9, 199034 St. Petersburg, Russian Federation

From the point of view of acoustical communication, dense fields of reeds are strong acoustical filtre which distorts original sound signal. In this research the rate of sound signals sound insulation in massives of reeds was estimated. As a models were used artificially synthesized, modulated by frequency signals of 3 frequency lines: 1-2 kHz, 2-4 kHz and 4-8 kHz with duration of 0,1 and 0,25 msec. For comparison were also used elements of bird songs. The least damping was noted in signals with descending frequency modulation in 8 - 4 kHz range in the upper level of reeds (6db on 10 metres). The most damping were noted in signals with descending frequency modulation in 2 - 1 kHz in the middle level of juncaceous massive(18 db to 10 metres). The signals with frequency modulation of 4-2 kHz were extending better in the upper level of reeds (7-8 db), whereas in the lower and upper levels were noted dependence of damping rate on duration of sound impulse - the signals with duration of 0,25mec were damping less than signals with duration of 0,1msec . The elements of bird songs during their emission in the middle level of juncaceous massive were damping by 15-20db on 10 metres.