Iono- and Chronotropic Effects of Aqueous Extract of *Berberis lycium* Royle Root Bark and Berberine on *In Vitro* Frog-Heart Preparation

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**SUMMARY.** *Berberis lycium* Royle is used in folk medicines for treating various ailments however it has not been investigated in cardiac problems at pharmacological level. Here, iono- and chronotropic effects of *B. lycium* root bark’s aqueous extract and berberine were studied on frog-heart. Present data showed that aqueous extracts of *B. lycium* and berberine exhibited dose-dependent negative chronotropic and ionotropic effects and at higher doses both caused a heart block. Berberine also displayed a positive ionotropic effect but at very low doses. Diltiazem did not antagonize positive ionotropic effect of berberine indicating that this activity is independent of L-type calcium channels, while propranolol antagonized the positive ionotropic effect, suggesting involvement of β1- adrenoceptors. It is concluded that ionotropic and chronotropic effects exerted by aqueous extract of *B. lycium* may be due to berberine while its negative ionotropic actions and heart block may attribute to other active principle(s) present in the extract.

*KEY WORDS:* Berberine, *Berberis lycium* Royle, Chronotropic, Ionotropic.