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Poster Session II

Unlocking nature's Pharmacy from Bogland Species: Root and aerial extracts of Tormentil exhibit antimicrobial and antibiofilm effects against *Acinetobacter baumannii*

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Potentilla erecta L. (Rosacea), "Tormentil", is found on peat soil associated with Irish boglands and is widespread across Europe. The species has been used traditionally with mentions of *P. erecta* in ancient herbal texts to treat oral cavity ulcerations, along with certain contagious diseases [1]. Research into *P. erecta* has revealed anti-viral and antibacterial properties, with several publications attributing this to the tannin levels present in the rhizome. *P. erecta* has proven effective against biofilm-forming strains of *Streptococcus* mutans, as well as strains that exhibit antibiotic resistance. Contemporary research into the antibacterial properties have attributed this to the total tannin content, but there still capacity for a more profound correlation between the bioactivity and the phytochemical composition of the species. *Acinetobacter baumannii* is currently at the top of the World Health Organisation's list for pathogens that are in urgent need for novel therapeutics [2]. Following preliminary testing, we have found tormentil root and plant extracts to have an antimicrobial and antibiofilm effect against a multidrug resistant strain of *A. baumannii* ([Fig. 1]). Both antimicrobial and antibiofilm effects appear to be dose dependant. This plant contains up to 20% tannins and 5% ellagitannins and one of the most abundant phytochemicals in this plant is the hydrolysable tannin agrimoniin [3]. In this study we found that agrimoniin displayed an antimicrobial and antibiofilm against *A. baumannii* suggesting that this may be the primary phytochemical responsible for the antimicrobial activity of Tormentil.

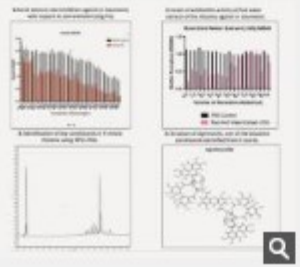

Fig. 1 *Phytochemical characterisation and biological analysis of Potentilla erecta L.*