ISOLATION OF A *DEBARYOMYCES HANSENII* YEAST STRAIN FROM FERMENTED LEAVES OF *CAMELLIA SINENSIS*


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The surface of plants accommodates a varied microflora. This environment is usually named the phyllosphere, a term used in microbiology to refer to leaf surfaces or total above-ground surfaces of a plant as habitat for microorganisms (Ruinen 1956). In this environment a numerous and diverse community of microorganisms resides including bacteria, fungi, and yeasts. Some are beneficial to the plant, while others function as plant pathogens and may damage the host plant or even kill it (Lindow & Brandl 2003). In addition, many phyllosphere microorganisms are of great commercial importance to agricultural industry because they are involved in production of many fermented foods and beverages. Yeasts play an important part in this microflora. Very recently the microbial colonization of young leaves of tea plant (*Camellia sinensis* Kuntze), which are the commercial components of tea crop, has been studied with particular reference to the bacterial component (Gunasekera & Paul 2007). In contrast, the yeast component of *C. sinensis* phyllosphere remains very poorly characterized. Most studies have focused almost exclusively on the presence of several toxin-producing fungal species in tea factory atmosphere, due to their negative impact on human health (Dutta et al 2004). In the present study, four-years-old *C. sinensis* (Assam tea company India) tea plant leaves were used in a laboratory-scale tea fermentation process, and a yeast strain, predominant at the end of the fermentation, was isolated, identified and characterized. A psychrotolerant, halotolerant and alkalophilic yeast was isolated from fermented leaves of *C. sinensis* Kuntze, the tea plant. The yeast strain, named Tea-Y1, was both phenotypically and genotypically identified as belonging to the species *Debaryomyces hansenii*. This assignment was confirmed by scanning and transmission electron microscopy. The analysis of growth curves demonstrated the ability this yeast strain to grow in a temperature range between 4°C and 28°C, with an optimum of 23°C. There is evidence that environmental microorganisms inhibiting the tea factories and presumably derived from tea plant phyllosphere may be involved in the tea leaves fermentation process (Dutta et al 2004). Our result indicates that *Debaryomyces hansenii* may be one of these microorganisms.

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