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The handle <http://hdl.handle.net/1887/20618> holds various files of this Leiden University dissertation.

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Title: Ornamental bulb crops as sources of medicinal and industrial natural products

Issue Date: 2013-03-14

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Curriculum vitae

Andrea Lubbe was born in Belville, South Africa on 7 June 1983. After completing a Bachelor of Science (BSc.) degree in Molecular and Cellular Biology at Stellenbosch University in 2004, she continued with an Honours degree in Botany at Stellenbosch University. During her undergraduate and Honours degrees at Stellenbosch she developed an interest in medicinal plants.

After graduating from Stellenbosch University in 2005 (BSc. Hons.) she was awarded a Huygens Scholarship from the Dutch organization Nuffic to follow the Master of Science (MSc.) program in Natural Products and Biodiversity at Leiden University in the Netherlands. Her MSc research involved the bioactivity-guided fractionation of medicinal plant *Sceletium tortuosum*, and phytochemical studies on the plant's alkaloids.

She graduated from the MSc. program in 2008, and stayed in Leiden to continue working towards a PhD degree under the supervision of Prof. Robert Verpoorte. Her PhD research was part of two projects, the first funded by the Flowers and Food Foundation and the second funded by the province of Zuid-Holland. Her work was focused on the cultivation of *Narcissus pseudonarcissus* (daffodils) as raw material for the extraction of the alkaloid galanthamine as a drug against Alzheimer's disease. The broader topic of her doctoral research was the conversion of Dutch ornamental bulb crops to medicinal or other industrial crops. The results of this research are presented in this thesis. During her PhD studies (December 2010-May 2011), she spent six months working at Qiagen GmbH in Hilden, Germany as part of Marie Curie Industry-Academic exchange Metabolomics Standardization Project. Here she obtained valuable experience working in a large life sciences company.

With the sound knowledge of phytochemical techniques and metabolomics approaches obtained in Leiden, her aim is to continue studying medicinal plants, and to gain experience in other "omics" techniques. On completion of her doctoral studies, she will continue with post-doctoral research on plant secondary metabolites important to human health at Washington State University in the United States.

List of Publications

Andrea Lubbe, Henk Gude, Robert Verpoorte, Young Hae Choi (2013) Seasonal accumulation of major alkaloids in organs of pharmaceutical crop *Narcissus* Carlton. *Phytochemistry*, in press.

Andrea Lubbe, Robert Verpoorte, Young Hae Choi (2012) Effects of fungicides on galanthamine and metabolite profiles in *Narcissus* bulbs. *Plant Physiology and Biochemistry* 58, 116-123.

Andrea Lubbe, Isabell Seibert, Thomas Klimkait, Frank van der Kooy (2012) Ethnopharmacology in overdrive: The remarkable anti-HIV activity of *Artemisia annua*. *Journal of Ethnopharmacology* 141 (3), 854-859.

Andrea Lubbe, Kashif Ali, Robert Verpoorte, Young Hae Choi (2012) NMR-based metabolomics analysis, in *Metabolomics in Practice: Successful Strategies to Generate and Analyze Metabolic Data*, edited by Michael Lämmerhofer and Wolfram Weckwerth (Wiley-VCH, Weinheim) (In press).

Andrea Lubbe, Young Hae Choi, Peter Vreeburg, Robert Verpoorte (2011) Effect of Fertilizers on Galanthamine and Metabolite Profiles in *Narcissus* Bulbs by ¹H NMR. *Journal of Agricultural and Food Chemistry* 59 (7), 3155-3161.

Andrea Lubbe, Robert Verpoorte (2011) Cultivation of Medicinal and Aromatic Plants for specialty industrial materials. *Industrial Crops and Products* 34, 785-801.

Arno Hazekamp, Justin T. Fishedick, Mónica Llano Díez, **Andrea Lubbe**, Renee L. Ruhaak (2010) Chemistry of Cannabis, in *Comprehensive Natural Products II*, Volume 3, Second Edition, edited by Lew Mander and Hung-Wen Lui (Oxford: Elsevier Ltd, 2010). Chapter 3.24, 1033-1084.

Andrea Lubbe, Barbora Pomahacova, Young Hae Choi, Robert Verpoorte (2010) Analysis of Metabolic Variation and Galanthamine Content in *Narcissus* Bulbs by ¹H NMR. *Phytochemical Analysis* 21 (1) 66-72.

Patents:

Robert Verpoorte, **Andrea Lubbe**, Hendrikus Gude (2012), WO/2012/057617, Method for the production of glycosides from bulbs and use of the glycosides thus produced. Application filed October 2011.