



SINA

Conference 2015 Tulln/Donau

Stable Isotope Network Austria

14th Austrian

Stable Isotope

Network Meeting

Tulln/Donau, November 26th-27th 2015

**Austrian Institute of Technology GmbH
Health and Environment Department**

**University of Natural Resources and Life Sciences
Department of Chemistry (VIRIS Lab)**

Austrian Institute of Technology and University of
Natural Resources and Life Sciences

14th Stable Isotope Network Austria Meeting

Tulln/Donau 26th-27th November 2015

PROGRAM AND ABSTRACT VOLUME

Editorial: STEFAN WYHLIDAL, ANDREA WATZINGER, REBECCA HOOD-NOWOTNY,
THOMAS PROHASKA

To be cited as Wyhlidal, S., Watzinger, A., Hood-Nowotny, R., Prohaska, T., (eds): 14th Austrian Stable isotope user group meeting. Austrian Institute of Technology, 39p., Tulln/Donau, 2015

Impressum:

Alle Rechte für das In- und Ausland vorbehalten.

Copyright: Austrian Institute of Technology, Konrad-Lorenz-Str. 24, 3430 Tulln, Austria
Medieninhaber, Herausgeber und Verleger: Austrian Institute of Technology, Tulln/Donau
homepage: www.ait.ac.at

32 Poster Presentation

DISCRIMINATING BETWEEN DIFFERENT ORIGIN OF AYOUS (TRIPLOCHITON SCLEROXYLON) FROM WEST- AND CENTRAL AFRICAN COUNTRIES

Katrin Teufl¹, Stefan Hölzl², Bernd Degen³, Micha Horacek⁴

¹ Josephinum Research, Rottenhauserstr. 1, 3250 Wieselburg, Austria

² RiesKraterMuseum Nördlingen, Eugene-Shoemaker-Platz 1, 86720 Nördlingen, Germany

³ Thünen-Institut für Forstgenetik, Sieker Landstr. 2, 22927 Großhansdorf, Germany

⁴ HBLFA Francisco-Josephinum, BLT Wieselburg, Rottenhauserstr. 1, 3250 Wieselburg, Austria

Controlling the declared provenance of timber is an important topic in view of illegal logging. Globally 20-40% of logging is estimated to be illegal. A large international project regarding the investigation of origin of tropical timber from Western and Central Africa has just been completed. The aim of this project was to establish DNA- and isotope methods to differentiate between the origins and to feed the produced data into a database to serve as a base for the identification of true origin. This shall serve as a reference for questions of provenance control in the future and combat illegal logging of tropical timber. Here we report the investigations of stable isotope patterns of Ayous (*Triplochiton scleroxylon*). The measured samples came from five countries: Ivory Coast, Ghana, Cameroon, Congo and Democratic Republic of Congo (DRC). The first two countries mentioned are in Western Africa while the others are in Central Africa. *Triplochiton scleroxylon* is one of the major timber logged in this region and intense harvesting resulted in over-exploitation. The samples were measured for their isotopic ratio of the elements hydrogen, oxygen, carbon, nitrogen and sulphur by IRMS (Isotope Ratio Mass Spectrometry). Sr isotopes were measured by TIMS (Thermal Ionisation Mass Spectrometry). The results show a strong influence of geology and climate on the isotope signatures. Samples from DRC can be identified due to the climatic situation of the Congo Basin and the western African countries possess a pattern influenced by the Precambrian bedrock. The results furthermore document a significant influence of the type of investigated sample material (drill core taken with a drill, wood chips, tree bark, the latter two types harvested with a bush knife).