Evaluating Fieldbooks, living Collections and Herbarium Specimen of Prof. Werner Rauh (1913–2000)

RUPRECHT-KARLS-UNIVERSITY HEIDELBERG • HEIDELBERG INSTITUTE FOR PLANT SCIENCE

Dept. Biodiversity and Plant Systematics • Christof Nikolaus Schröder

IOS Meeting, Nees-Institute, Bonn, 17–23 October 2010

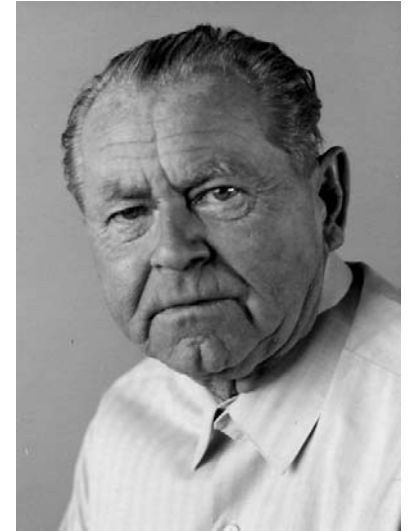# THE WERNER RAUH HERITAGE PROJECT

Prof. Werner Rauh (1913–2000)

- studied Botany, Zoology, Chemistry and Geology at Leipzig, Innsbruck and Halle (Saale)

- 1956: associate Professor of Botany at Heidelberg University

- 1960: full Professor and Director of «Institut für systematische Botanik und Pflanzengeographie» (now HIP)

- 1982: Retirement

THE WERNER RAUH HERITAGE PROJECT

Prof. Werner Rauh (1913–2000)

- More than **36 expeditions**: Europe, the Americas, Southern Africa & Madagascar, Papua New Guinea

- **90** hand written **fieldbooks**

- **8.776 pages** with detailed informations on his collections

- approximately **19.462 collections** with field numbers

- mainly **Cactaceae** (~1.500 accessions), **Bromeliaceae** (~7.000), **Euphorbiaceae** (~1.100), **Orchidaceae** (~1.600) and **succulent plants from Madagascar** (~1.500)

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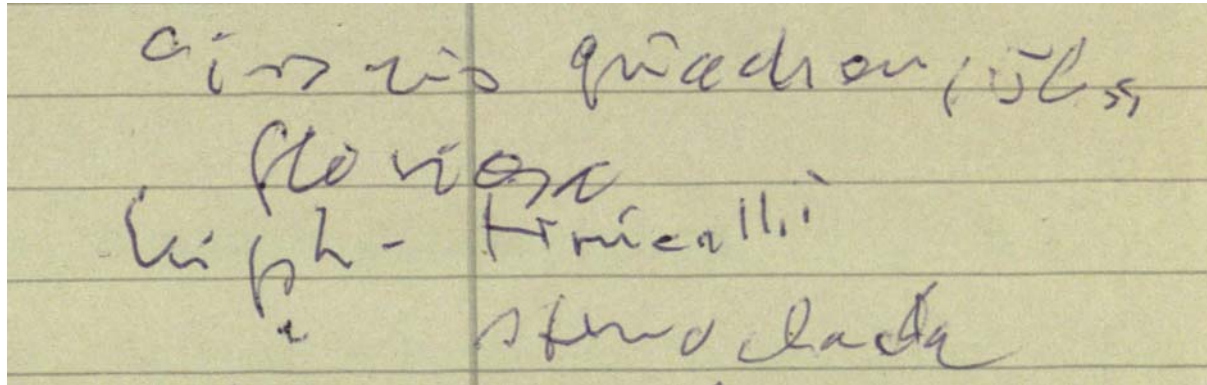
The Project

- **scanning fieldbooks**: done 2008/2009.
- **digitizing herbarium sheets** with type material: 1.200 sheets digitized in 2009 (ALUKA/API), work in progress.
- creating relational **MySQL database**: done December 2009 until June 2010.
- creating **GUI**: done April 2010, new version is in preparation.
- **storing data** to database: Chile 1984 & Madagascar 1994 completely stored in March 2010; basic recording of Peru 1954 & 1956 stored August & September 2010, going on until ...
- etc.

Difficulties and complexity of Rauh's fieldbooks (1)
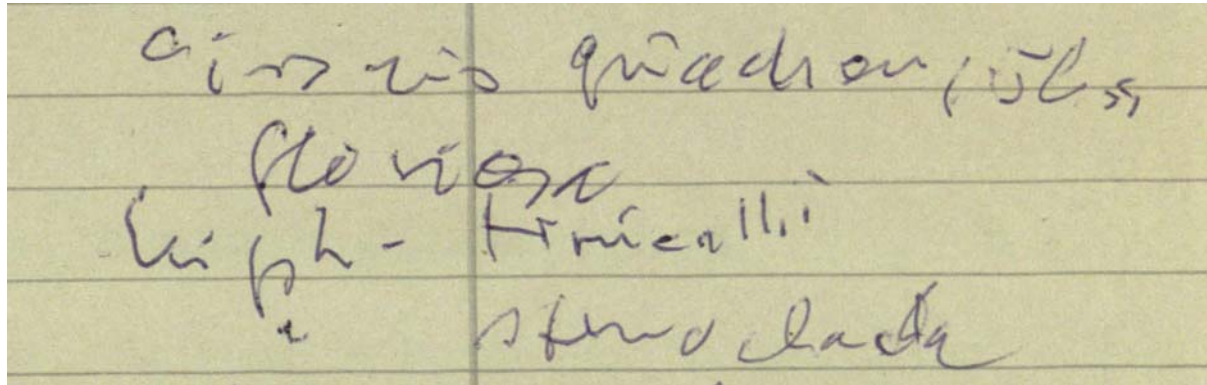
- **Rauh's handwriting**: often nearly indecipherable:

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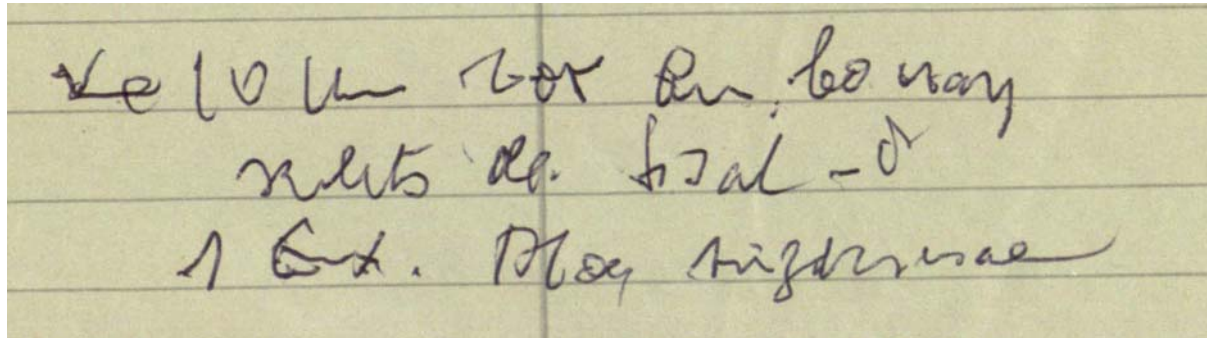

Cissus quadrangularis
Gloriosa
Euph.[*orbia*] *tirucallii*
[*Euphorbia*] *stenoclada*

Difficulties and complexity of Rauh's fieldbooks (1)
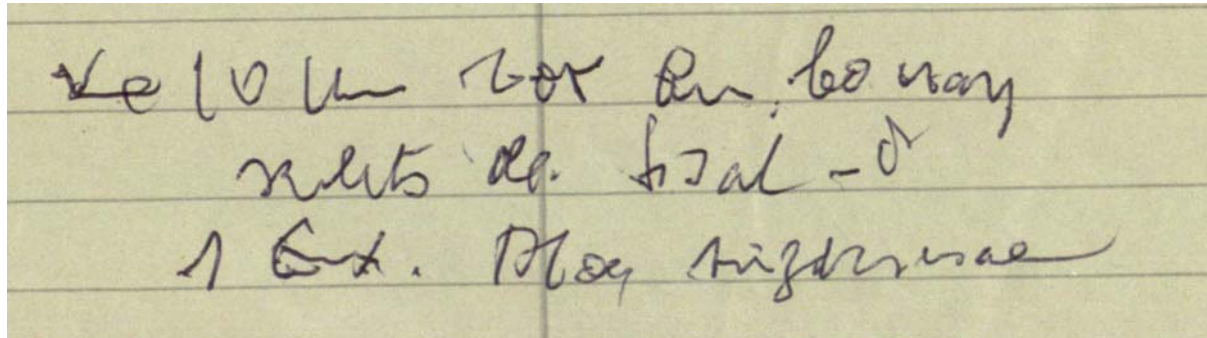
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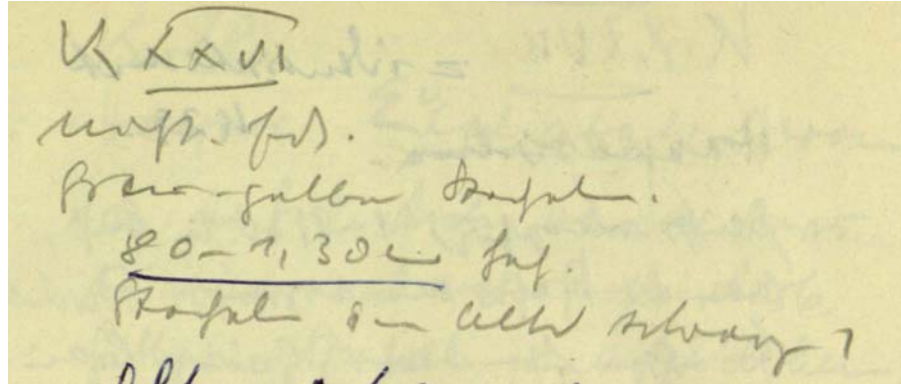

10 km vor Amboasary

rechts der Sisal-P[lantagen]

1 Ex.[emplar] *Aloe suzannae*

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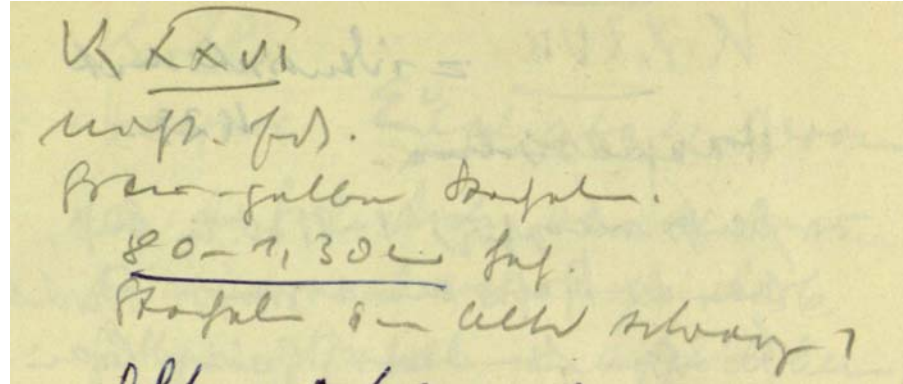
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Difficulties and complexity of Rauh's fieldbooks (1)

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KXXVI

nicht. fot.[ografiert] [?]

grau-gelbe Stacheln.

[0,]80-1,30 m hoch.

Stacheln im Alter schwarz ?

Difficulties and complexity of Rauh's fieldbooks (2)

- different field number systems
  - K7 = Cactus No. 7, collected Peru 1954.

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  - **T247** = Plant No. 247, collected Tanzania 1960.
  - **Ke787** = Plant No. 787, collected Kenya 1960.
  - starting 1961 (?) Rauh used **numbers without letters**.

Difficulties and complexity of Rauh's fieldbooks (3)

- often not only single numbers
  - K55d (1956) = Type collection of *Matucana yanganucensis* var. *salmonea*.
    We find K55, K55a, K55b, K55c … as well in the FDB!

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- No quotable numbering of booklets and pages.

Solutions (1)

- **Standardized page number**

Example: **HEIDRAUHFDB000A_004**

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            (FDD = Fielddiary, HRB = Herbarium sheet etc.)

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000A   = Booklet 0A, Peru 1954, No. K7–K106

Solutions (1)

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Example: HEID RAUH FDB 000A _004 [klick]

HEID   = Heidelberg
RAUH   = Collection Rauh
FDB   = Fieldbook
              (FDD = Fielddiary, HRB = Herbarium sheet etc.)
000A   = Booklet 0A, Peru 1954, No. K7–K106
_004   = Page No. 4 = Cover page

Solutions (2)

• „URCI" = Uniform Rauh Collection Identifier

Example 1:   540012008306

Solutions (2)

- „URCI" = Uniform Rauh Collection Identifier

Example 1:   54 00 1 2 0083 06

Solutions (2)

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Year: 1954 (Peru)

Solutions (2)

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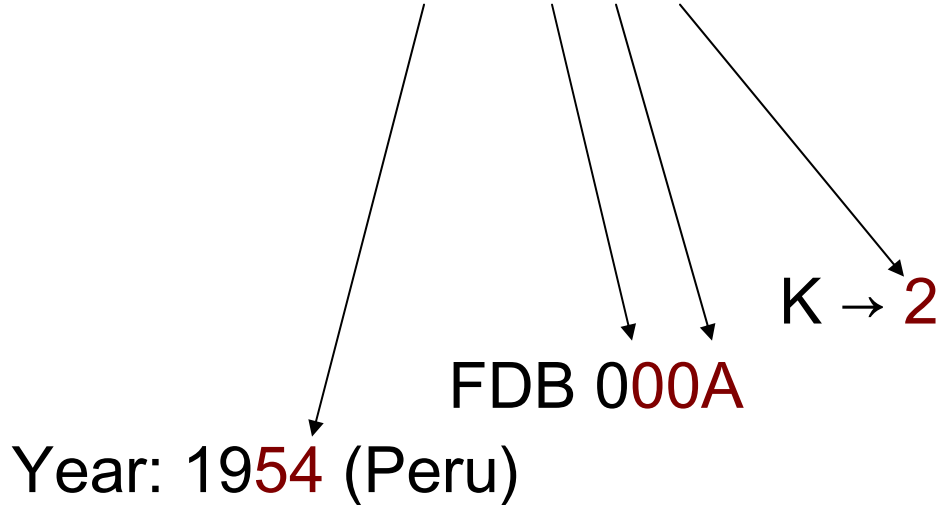
Example 1:   54 00 1 2 0083 06

FDB 000A

Year: 1954 (Peru)
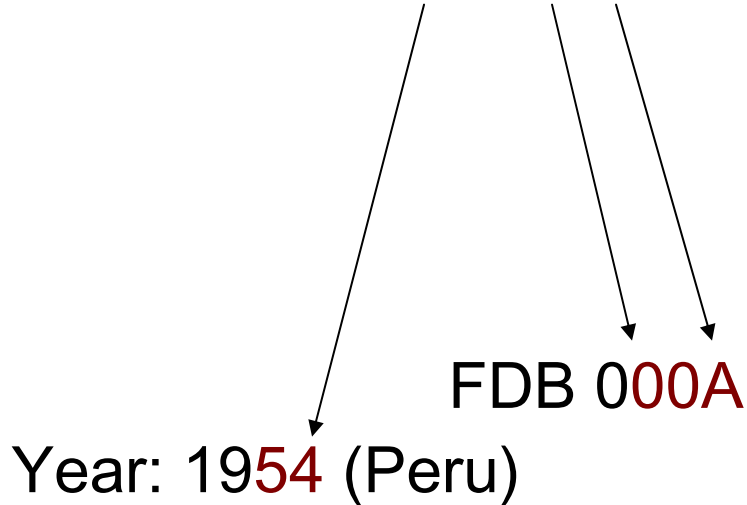
Solutions (2)

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Example 1:   54 00 1 2 0083 06

E	→ 1
K	→ 2
Kal	→ 3
Ke	→ 4
M	→ 5
P	→ 6
T	→ 7

K → 2

FDB 000A

Year: 1954 (Peru)

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Solutions (2)

• „URCI" = Uniform Rauh Collection Identifier

Example 1: 54 00 1 2 0083 06

No. 83

K → 2

FDB 000A

Year: 1954 (Peru)

Solutions (2)

- „URCI" = Uniform Rauh Collection Identifier

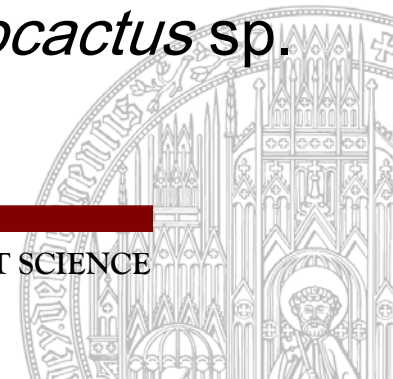Example 1:   54 00 1 2 0083 06

letter f

No. 83

K → 2

FDB 000A

Year: 1954 (Peru)
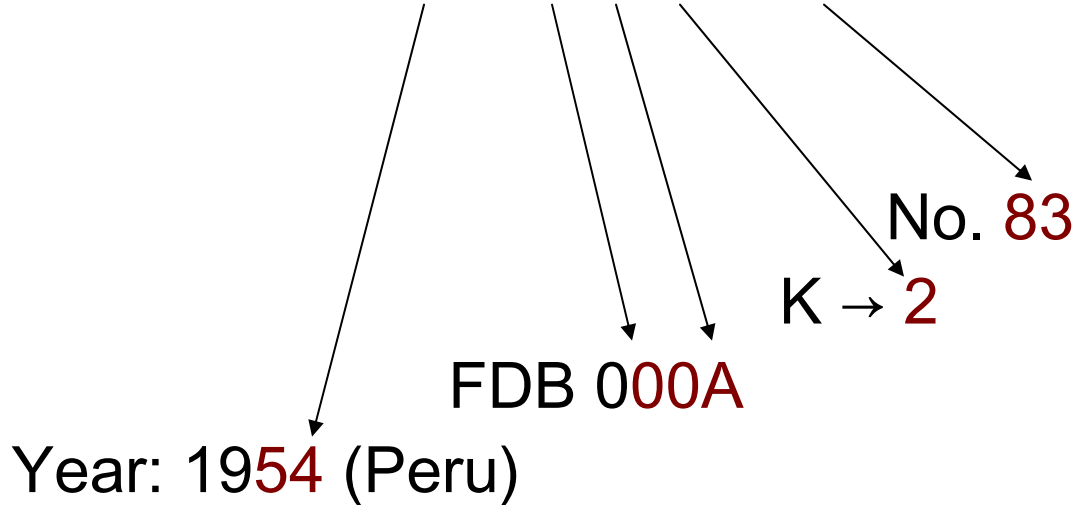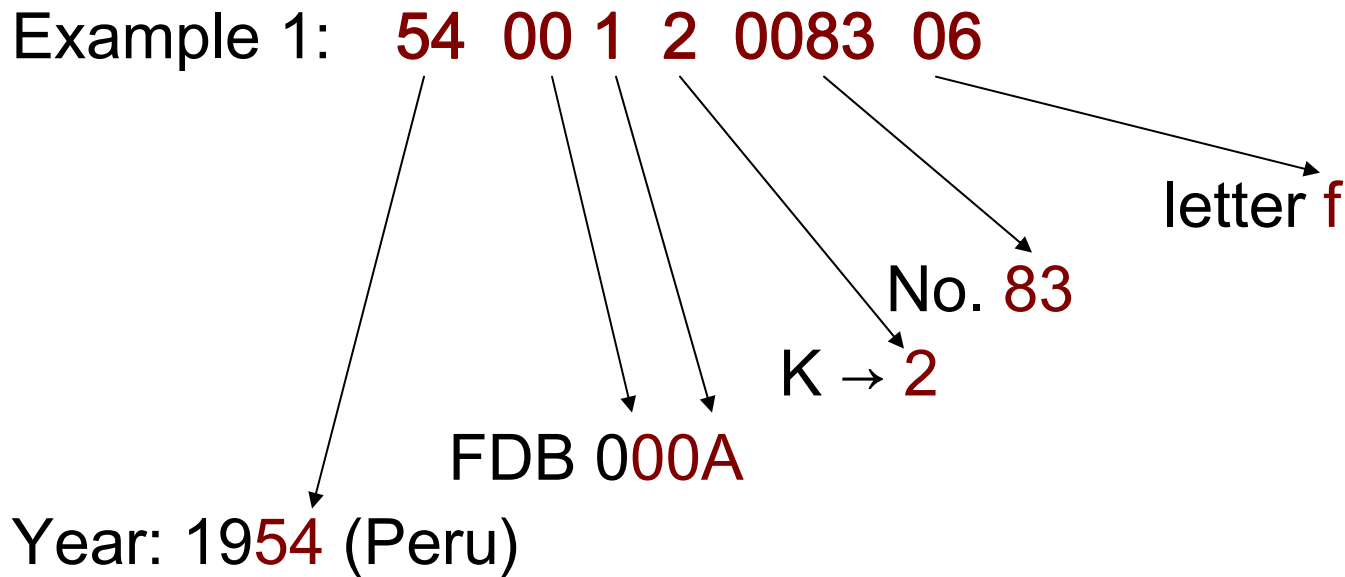
Solutions (2)

- „URCI" = Uniform Rauh Collection Identifier

Example 1: 54 00 1 2 0083 06 = Rauh K83f (1954)
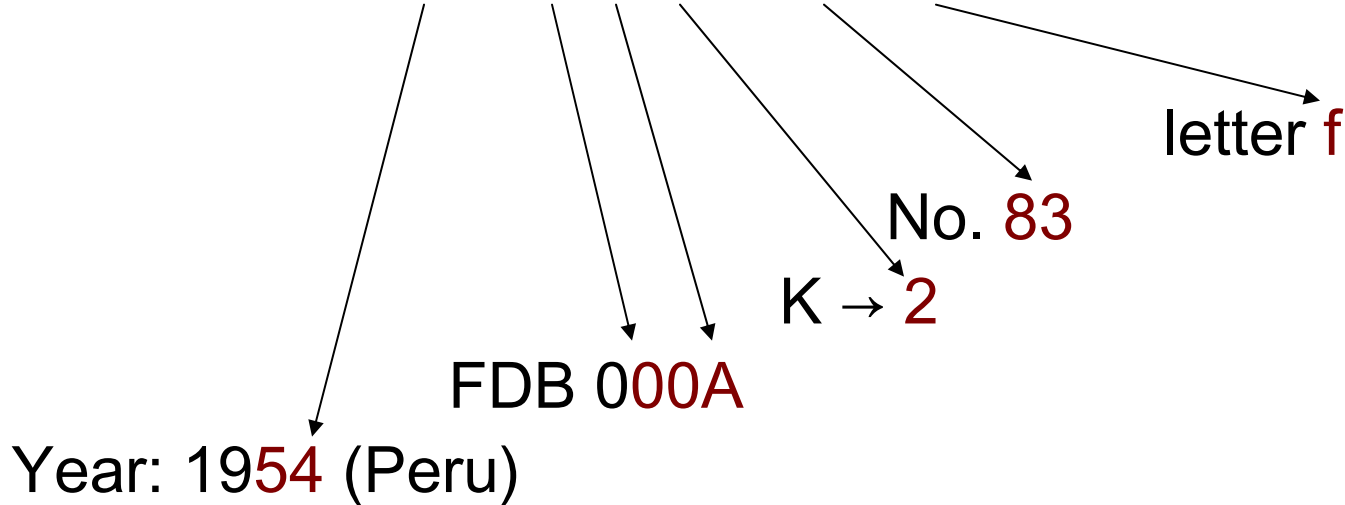
letter f

No. 83

K → 2

FDB 000A

Year: 1954 (Peru)

Tephrocactus sp.

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Solutions (2)

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Example 2:   94 87 0 74313 00 = Rauh 74313
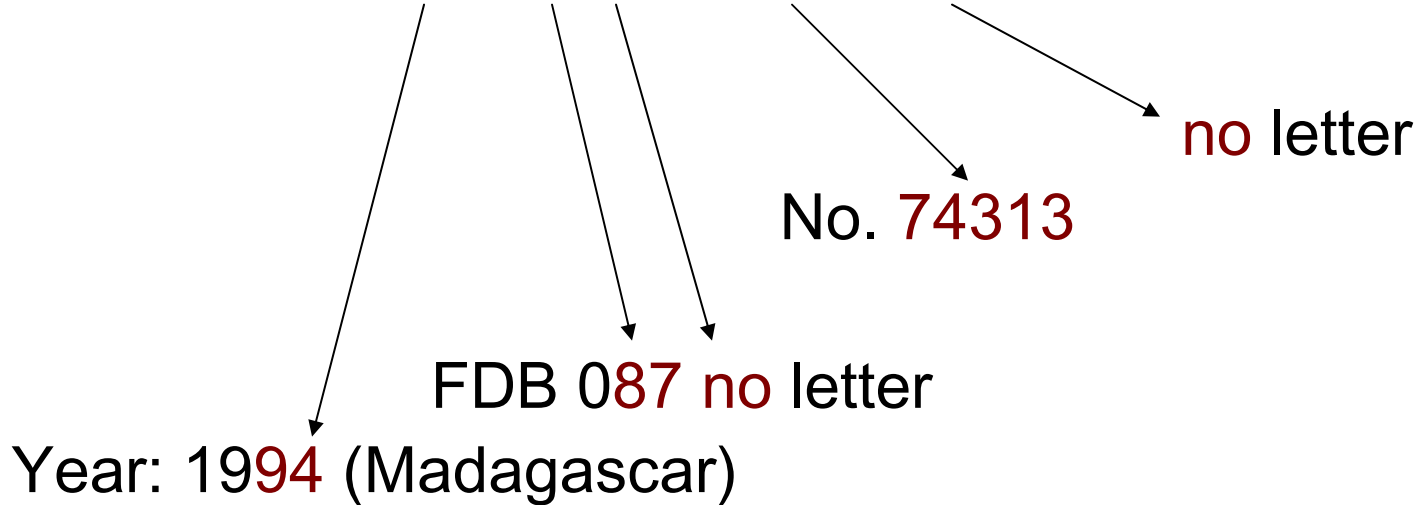
no letter

No. 74313

FDB 087 no letter

Year: 1994 (Madagascar)

Tambourissa sp.

Solutions (2)

• „URCI" = Uniform Rauh Collection Identifier

Example 3:   94 87 0 74313 01 = Rauh 74313a

letter a

No. 74313

FDB 087 no letter

Year: 1994 (Madagascar)
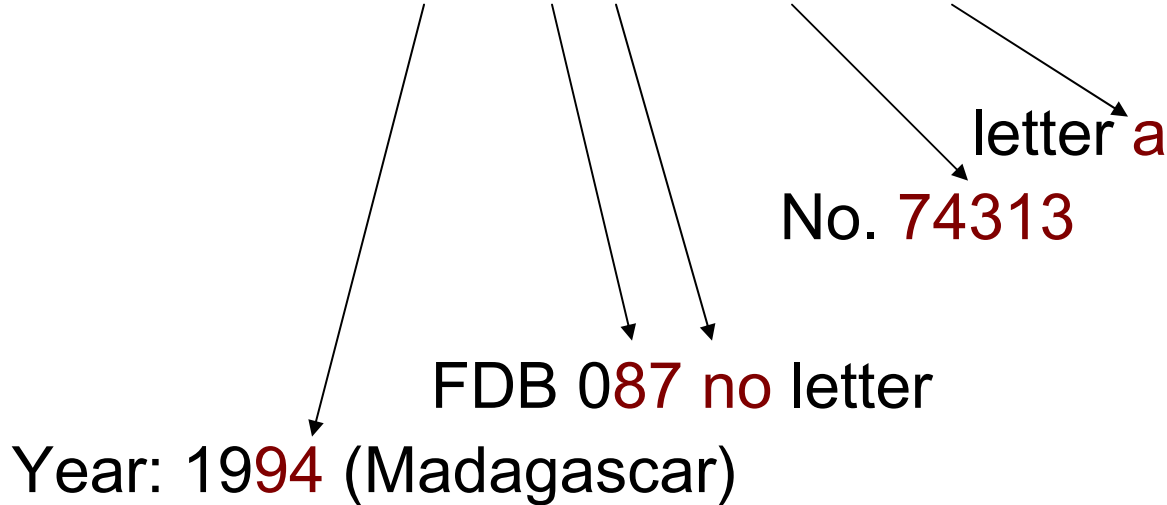
Gen. et sp. indet. (Sapotaceae)
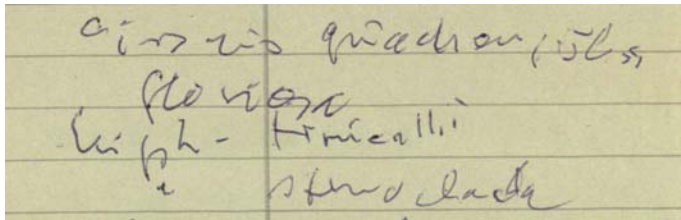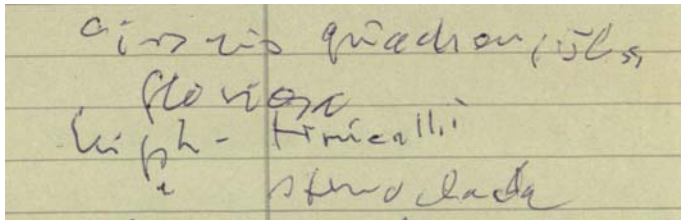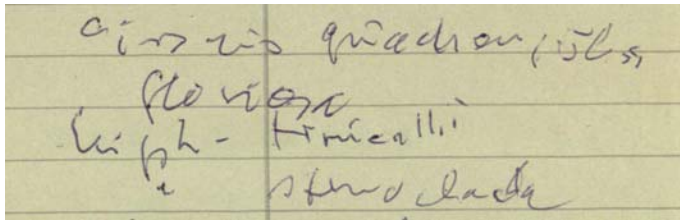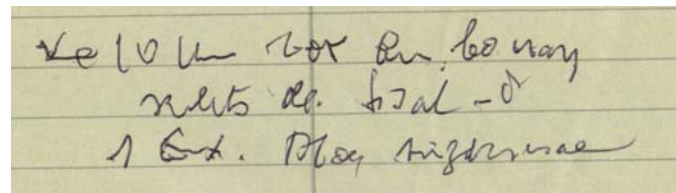
Solutions (3)

Solutions (3)

- read

Solutions (3)

- read, read

Solutions (3)

- read, read, read …

THE WERNER RAUH HERITAGE PROJECT

The DataBase [klick]

- **2 central tables**:
  - `tb_entry` & `tb_itinery`

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  - `tb_RauhBackeb`
  - `tb_images`
  - `tb_rauh_maps`

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  - `tb_images`
  - `tb_rauh_maps`
  - 3 tables for session, user and database management

THE WERNER RAUH HERITAGE PROJECT

The project's web pages

General information on the project:
http://scriptorium.hip.uni-heidelberg.de/

The project's database (development version):
http://wrhp.hip.uni-heidelberg.de/
Username: „gast" • Password: no password required!

THE WERNER RAUH HERITAGE PROJECT

Acknowledgements

- **Prof. Dr. Marcus A. Koch** (HIP) for leading the project.
- **Prof. Dr. Wilhelm Barthlott** (Nees-Institute) for generously providing us with Werner Rauh's original fieldbooks.
- **The Klaus Tschira Foundation** for funding the Project.
- The **Heidelberg Academy of Sciences and Humanities** for providing technical help (ImageWare Components Bookeye scanning system).
- **Dr. Urs Eggli** for a very fruitful and helpful discussion on the project's data model.
- The **IOS** for inviting me to this meeting.

- Thank you **to you all** for your attention.