Notes on the layout of the herbarium (MEES/C3)

The herbarium and the taxonomic description are each included in the module grade with 30 %. Both should be provided least four weeks before the summer term ends. The students are asked to pick up their collection subsequent to the evaluation by the scientific staff of the Herbarium Haussknecht, since the storage capacities are limited. For further questions please contact the academic staff of the Herbarium Haussknecht.

The following minimum requirements must be met:

- The work must be in all parts carried out on one's own responsibility.
- A list of species in alphabetical order including the corresponding plant families must be provided. The scientific plant names always include the author(s)[1].
- At least 80 % of the plants must be identified correctly.
- At least 50 % of the herbarium records must represent complete plant preparations.
- A detailed morphological description of a plant handed out by the instructor at the end of the course "Vertiefte Bestimmungsübungen an Pflanzen", using the appropriate technical terms, has to be added to the herbarium.

Furthermore, the plant collection should contain a cover sheet containing the student's name, the matriculation number, e-mail address, and the date of submission.

The plant collection should contain thirty plants on a theme of your choice (e.g., plants of a certain biotope, umbelliferous plants, Poaceae, native woody plants, medicinal plants). Before starting a special collection, such as developmental states of woody plants, fruits, bryophytes, it is necessary to consult the herbarium staff.

Not to be collected are

- protected plants according to the Federal Species Protection Regulation (BArtSchV),[2]
- species of the Red Lists of Germany and of the respective federal state of origin[3],
- plants from protected areas, i.e., nature reserves and national parks[4]
- Garden, park and indoor plants.

In order to prevent herbarium preparations from being passed on, they are permanently marked during inspection. If plants marked in this way are found to be part of a plant collection, this is considered an attempt to deceive in accordance with § 17(4) of the Testing and Study Regulations. An attempt to deceive is also present in the case of fictitious label data. The student has the obligation to provide proof.

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[1] The correct author citation can be retrieved via https://europlusmed.org/.

[2] For every protected species included, the mark will be reduced by one. Please see WISIA for further information: https://www.wisia.de/index.en.html.

[3] See information in FloraWeb provided by the Federal Agency for Nature Conservation: http://www.floraweb.de/index.html.

[4] See the interactive online map of protected areas in Germany provided by the Federal Agency for Nature Conservation: https://geodienste.bfn.de/schutzgebiete?lang=de.

Brief instructions for the creation of a herbarium[5]

The collected plant material can be transported in a standard bag. Immediate insertion into a collection folder, consisting of two firm cardboard lids and preferably absorbent paper, is however more advisable. In the case of some genera, such as *Parietaria* L. or *Mercurialis* L., rapid insertion at the site is even necessary, since leaves and stems rapidly become flaccid after removal. Whole plants including at least some part of their underground organs should always be collected. In the case of woody plants and perennials all parts of the plant relevant for the intended use, such as long and short shoots, leaves, flowers, fruits or stipules, and in the case of smaller plants several specimens should be collected.

Subsequent to the collection, the plant material is prepared. Thereby:

- Larger specimens should be folded to the corresponding format of the herbarium sheets (A3). The kink should be clear to avoid confusion with growth peculiarities.
- Both, the upper and the lower side of the leaves or fronds should be visible.
- Thicker parts of the plant, such as tubers, bulbs, rhizomes or fruits, should be divided.
- Flowers should be prepared and mounted in a way that as many parts as possible are visible without additional preparations.

The prepared material is then dried under pressure. The pressure applied must not be too high, otherwise the preparations will be crushed. On the other hand, low pressure could result in curled preparations. The plants are dried by replacing the damp paper with dry paper daily at the beginning and later at larger intervals. For this purpose, preferably absorbent newspapers or other papers should be used, but not glossy or surface-smoothed paper. Preferentially, the plants should be placed in folded sheets with thicker layers of absorbent paper in between to absorb the moisture. Only the intermediate layers are changed to avoid unnecessary destruction of the initially very sensitive preparations.

Each plant preparation is accompanied by a label with the following information:

- the scientific name including the respective authors and the plant family,
- the locality as the most accurate and comprehensible geographical description of the growing site with reference to larger political or geographical units as well as landscape units,
- the location as an ecological description of the growing site and finally
- the collection date and name of the collector.

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[5] See Natho, G. & Natho, I. 1964[3]. Herbartechnik. Lutherstadt Wittenberg [German] available at the library of the Herbarium Haussknecht.

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Flora of Thuringia

Scientific name: *Juncus sphaerocarpus* Nees
Family: Juncaceae

Location: Weimar, 1 km NNO Mellingen
Habitat: depression in arable field, limestone

Collected by: H. Korsch
Date: 30.07.2015

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Example of a label.

The dried and prepared plants are fixed with gummed paper strips on A3 sheets of drawing cardboard (~ 120 g/cm^3). The paper strips are available on request in the Haussknecht Herbarium. The label is glued on at the bottom right of the sheet.

The collection and preparation techniques are presented in a separate course in the Haussknecht Herbarium.

Below are some digitized copies of two herbarium sheets as an example.

HERBARIUM HAUSSKNECHT, JENA (JE)

Flora von Thüringen

POACEAE
Bromus commutatus SCHRAD.   Wiesen-Trespe

Nördliches Grabfeld: Heldburg, am Südwestfuß des
Kornberges ca. 1,5 km WNW Schlechtsart;
Feldrain

2003, 13. Juni   leg.   H.-J. Zündorf

HERBARIUM HAUSSKNECHT, JENA (JE)

Flora von Thüringen

CAPRIFOLIACEAE
Lonicera xylosteum L.   Rote Heckenkirsche

Orlasenke: Pössneck, am Kirchfelsen unmittelbar
südöstlich Döbritz;
lichter steiniger Laubwald

2010, 9. Mai   leg.   H.-J. Zündorf