

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

HJ 710.11-2014

**Technical guidelines for biodiversity monitoring. macrofungi
(English Translation)**

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Foreword

To implement the "People's Republic of China Environmental Protection Law" to regulate our observations of biodiversity, the development of this standard quasi.

This standard specifies the main content of a large fungal diversity of observation, technical requirements and methods.

The Standard Appendix A, B, C, D, E, F, G are informative appendix.

This standard is the first release.

This standard is developed by the Ministry of Environmental Protection Science, Technology organization.

This standard is mainly drafted by. Institute of Microbiology, Chinese Academy of Sciences, Ministry of Environmental Protection, Nanjing Institute of Environmental Sciences.

This standard MEP October 31, 2014 for approval.

This standard since January 1, 2015 implementation.

The standard explanation by the Ministry of Environmental Protection.

1 Observation techniques guide biodiversity is Macrofungi

1 Scope

This standard specifies the main content of a large fungal diversity of observation, technical requirements and methods.

This standard applies to the observation of large fungal diversity in the range of People's Republic of China.

2 Normative references

This standard refers to the contents of the following documents or the terms. For undated references, the latest edition of to this standard.

GB/T 7714 after bibliographic references packet rules GB/T 8170 repair value expressed about the rules and limit values and judgment HJ 623 regional evaluation standards Biodiversity HJ 628 genetic resources collection technical specification (Trial)

3 Terms and Definitions

The following terms and definitions apply to this standard.

Fungi fungi

It refers to the line to absorb nutrients, a cell wall, capable of producing spores, without chlorophyll, with sexual or asexual reproduction in two ways eukaryotic organic body.

Macrofungi it refers to all capable of forming a visible fruiting bodies of fungi.

Sclerotinia cup fungi it refers to the sexual stage of the formation of apothecia Ascomycetes, including most visible Ascomycetes, which ascus fruit cup-shaped, Disc-shaped, bell-shaped, saddle-shaped, tongue, tripe-like and so on.

Underground fungus hypogeous fungi Refers to the whole growth process fruiting bodies of fungi are large below the surface, including some species of Ascomycetes and Basidiomycetes.

Ectomycorrhizal fungi ectomycorrhizal fungi Refers to the formation of some large woody plant roots ectomycorrhizal fungi symbiotic relationship, the vast majority of Basidiomycetes, a few Aurantiacus.

4.1 Scientific Principles

Observation plots and observing the object should be representative, can fully reflect the overall situation of the observation area macrofungi; should Unified, standardized methods of observation, can observe the dynamic changes Fungal community and species diversity.

4.2 Operability principles

Observation program should be considered owned by the human, financial and logistical support and other conditions, to ensure that practical observations. Cherrie High-efficiency, low-cost methods of observation.

4.3 principles of sustainability, Observations should meet the needs of biodiversity conservation and management, and is able to biodiversity conservation and management play a guiding and early warning. Observation plots, transects and quadrats, once

established, can not be altered arbitrarily.

24.4 Principle of protection

Macrofungi its formation in which ecosystems, evolution and stability play an important role in breaking any large fungus to bad behavior will inevitably adversely affect the entire ecosystem. It should be done without damaging the plots in and around large true Bacteria and other species and their habitats, avoid frequent observation beyond the objective need.

4.5 Security Principles Observation has certain characteristics of field work. Observers should receive professional training, good protective measures.

5 Methods of Observation

5.1 Observations ready

5.1.1 The formation and training of the observation team Founded observation team, clear lines of responsibility observer of the observer are trained to master the observer field observation method, Species identification and knowledge of outdoor survival skills.

5.1.2 gather information Collection of observational regional climate, geography and vegetation and other natural environmental materials, large master distribution of common fungi and plants and Identify knowledge, preparing the observation of high resolution topographic map of the area.

5.1.3 observation equipment and instruments Including long tape measure, stakes, collecting bags, collecting knives, a digital camera, a global positioning system (GPS) locator, altitude Instrument, observation record form, stylus, mosquito cover, mosquito drugs, Macrofungi identification manuals.

5.2 observation target Mainly for observation has important economic, ecological and threatened macrofungi. Including edible and have medicinal Kind of poison, with trees symbiotic ectomycorrhizal fungi, macrofungi saprophytic degradation of plant residues, as well as some of the parasites on the move Plants, and other species rely on host nutrition.

5.3 Sample set

5.3.1 representative plot method in the observation area, select the number of species and locations are more abundant, but its observations can not accurately reflect the entire Case observation area can not be used for statistical analysis.

5.3.2 Random sampling the observation area is divided into several plots. Within each plot is divided into a number of fixed area plots and number, and then use Fisher random number table random sampling, usually without replacement approach. When the plot terrain, to reach the sampling Point takes longer Macrofungi uneven distribution and other factors will affect the results when using stratified random sampling method.

5.3.3 stratified random sampling method Stratified according to the type of habitat, climate,

altitude, land use type or species richness and other factors.

5.4 Field Sampling

5.4.1 fruiting bodies apparent sampling of terrestrial Macrofungi

5.4.1.1 This method is mainly applied to the sample surface observation apparent large fruiting bodies of fungi.

5.4.1.2 set several transects in the selected sample, the sample is not necessarily a straight line. Transects should cover plots within the main habitats Types, each habitat type at least two sample lines, each line transect keep at least 50 m from each sample length of 0.5 ~ 1 km. Positioning with GPS locator transect start and end coordinates, at 1: 100,000 map marked transect.

5.4.1.3 along transects every 20 m to set a radius 1.26 m, an area of 5 m² circular plots, so that each habitat type Up to about 50 the number of type plots. Like square habitats must be homogeneous as possible. With certain signs indicating the location of the plots.

Category 5.4.1.4 statistics selected quadrats large surface fungi, the number of individuals (quadrat record sheet Appendix A). for 3 large unidentifiable species of fungi, which features fresh recording when shooting in situ photos of fruiting bodies, collect a small amount of child Entity, after the numbers into their respective specimen bag, back to identify and improve the indoor observation records. Sample collection by HJ 628 predetermined execution.

5.4.1.5 during the sampling plots, plots should also be taken in situ photographs and detailed records of the acquisition date, location, sea Stubbs, ecological characteristics (such as the Health matrix, surrounding vegetation, symbionts, etc.), collecting persons.

5.4.2 fruiting bodies smaller types of systematic sampling

5.4.2.1 This approach is suitable for the kind of fruiting bodies smaller observation (such as some disk aurantiacus bacteria).

5.4.2.2 sample to sample at least twice a year, usually in the middle and the end of the season occurred fruiting bodies were. Sample collection by HJ 628 predetermined execution.

5.4.2.3 establish plots nearby close 5.4.1 Large fungus-like party.

5.4.2.4 to 0.56 m radius, the establishment of 1 m² circular plots to sample surveys can be completed within one week as the standard to determine the number of samples party.

Category 5.4.2.5 statistics selected smaller entities like Fang Zhongzi fungi, the number of individuals, a small collection of various plots within the class of fungi Fruiting bodies for identifying species, methods of operation with 5.4.1.4, 5.4.1.5 and press the record information.