

DIAGNOSES AND DESCRIPTIONS (ID 584)

Presenter
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What is a diagnosis (and what is not a diagnosis)?

A diagnosis distinguishes one taxon (e.g. a new species of a genus) **from other taxa** (e.g. all species or a sister species of the same genus). It is a **comparison**.

It needs to be **specific about what exactly is different** (e.g. has peanut-shaped spores instead of lemon-shaped spores).

A diagnosis is NOT a short form of the description, as a description only mentions the features of an organism without putting them in comparison with other taxa.

Example 1 morphology (correct)

- a) *Species nova* differs from *Species nota* in having non-ornamented spores instead of reticulate spores.
- b) *Species nova* differs from all other species in the genus in having blue non-ornamented spores.

In both cases the distinguishing feature is mentioned and comparison is made to other taxa.

Example 1 morphology (incorrect)

- a) *Species nova* differs from other species with respect to its spore ornamentation.
- b) *Species nova* has blue non-ornamented spores.

Example 1a) lacks to state the actual difference, Example 1b) is only describing some features, without mentioning, if this is different from other species.

Example 2 sequences (correct)

- a) *Species nova* differs from *Species nota* in having an A instead of a G at position 234 in the ITS alignment used in this study (doi 32423fdsfsd.ewa).
- b) *Species nova* differs from all other species in the genus in having a stop codon after the 34th codon.

In both cases the distinguishing feature is mentioned the comparison is unambiguous.

Example 2 sequences (incorrect)

- a) *Species nova* differs from other in having a unique ITS sequence (AX300932).
- b) *Species nova* has the motif ATGGTGGGCTGGCAAATCG in its ITS sequence.

Example 1a) lacks to state the actual difference, Example 1b) is only describing some features, without mentioning, if this is different from other species.

Excercise 1 – morphology

- a) *Species nova* differs from all other species parasising Brassicaceae in having pear-shaped spores.
- b) *Species nova* has the largest clamydospores of the genus.

?

Excercise 2 – sequences

- a) *Species nova* is the only known species with ATGGTGGGCTGGCAAATCG in its ITS sequence.
- b) *Species nova* has a unique ITS sequence. It is unmatched to anything known from the genus.

?

Excercise 1 – morphology

- a) *Species nova* differs from all other species parasising Brassicaceae in having pear-shaped spores.
- b) *Species nova* has the largest clamydospores of the genus.

Both correct.

Excercise 2 – sequences

- a) *Species nova* is the only known species with ATGGTGGGCTGGCAAATCG in its ITS sequence.
- b) *Species nova* has a unique ITS sequence. It is unmatched to anything known from the genus.

2a) is correct, 2b) fails to state what is actually different.

Parasites of algae

Both crown oomycetes (*Pythium*, *Lagenidium*) and early-diverging oomycetes (*Eurychasma*, *Eurychasmidium*, *Petersenia*, *Sirolopidium*) parasitise various algae.

Sirolopidium litorale / *Urospora neglecta* pathosystem established (genome / interactome)

