Minute traits and DNA link grass species from Old and New Worlds

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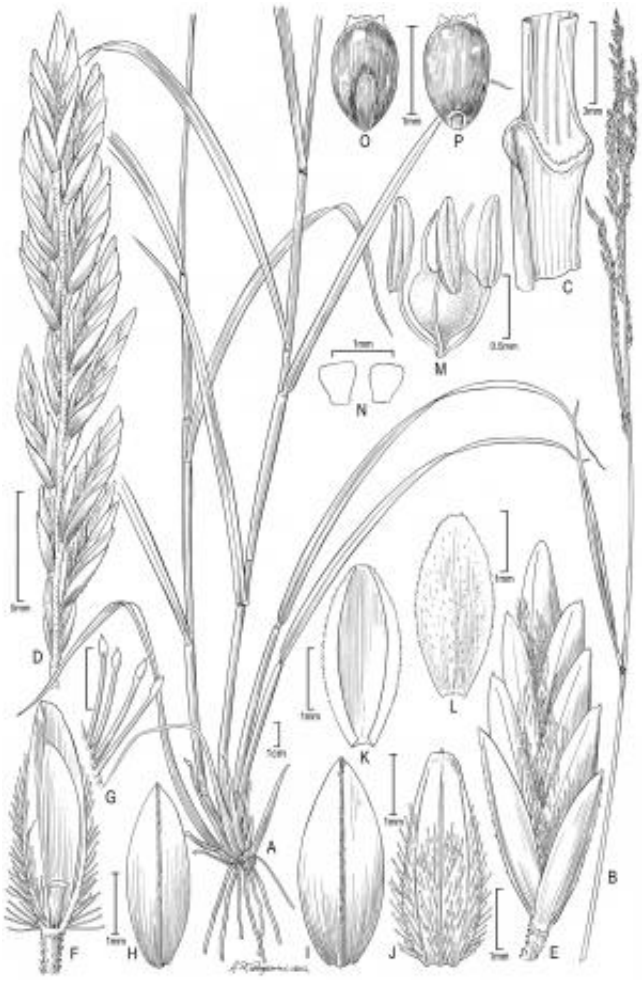

This image shows *Disakisperma eleusine*, one of the species studied. Credit: Schweickert 1896

The kinds of traits that show genealogical relationships between species are often minute and easily overlooked.

Dr. Neil Snow, a botanist at Pittsburg State University, published a paper in 1996 that included observations of some odd-shaped hairs on three species of grass native to Africa. Their odd shape stems from distinctly swollen tips that are then pinched into a small party-hat structure at the very apex.

"A tongue-twisting technical term for that shape is 'clavicorniculate', but 'club-shaped' is a workable simplification we often prefer," remarked Snow.

In 2011, Drs. Paul Peterson and Konstatin Romaschencko, working at the Smithsonian Institution, used DNA sequences to determine that the 3 African species are related to an American species that lacks the odd-shaped hairs.

"Nobody previously anticipated a close relationship between the African and American species, particularly since the American species lacks the odd hairs". "However", added Snow, "the DNA data supporting this relationship is quite robust."

The 3 authors just published a monograph in *PhytoKeys*, which places the four species together for the first time in a genus called *Disakisperma*.

"Our research is a good example of how big, bright, flashy or sexy traits are not always the ones that help solve taxonomic puzzles", concluded Snow.

More information: Snow N, Peterson PM, Romaschenko K (2013) Systematics of Disakisperma (Poaceae, Chloridoideae, Chlorideae).

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