

## BOOK REVIEW

McPherson, S., and Schnell, D. 2011. *Sarraceniaceae of North America*. Hardcover, 810 + xv pp., 571 figures, most in color, ISBN: 978-0-9558918-6-1.

McPherson, S., Wistuba, A., Fleischmann, A., and Nerz, J. 2011. *Sarraceniaceae of South America*. Hardcover, 566 + xi pp., 488 figures, most in color, ISBN: 978-0-9558918-7-8.

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Reviewed by Barry Rice

Stewart McPherson is a publishing whirlwind—a veritable force of nature. Just four years after he published a very attractive book called *Pitcher Plants of the Americas* (2007, 320 pages), he was compelled to return to essentially the same topic in an expanded, two volume set spanning about 1400 pages! Furthermore, in those same four years, he published six other books and a few small field guides, with another 3600 pages of content. His output is simply incredible.

His newest work is divided into two volumes: *Sarraceniaceae of North America*, and *Sarraceniaceae of South America*. The build quality is excellent—the paper is good quality, the print is clear, and the color fidelity of the imagery is magnificent. The books are filled with beautiful images throughout, many from other photographers. (Unfortunately, not all are correctly captioned or attributed.)

McPherson is not slaving alone—in these volumes, as in others, he relies upon the contributions of other workers. Some helped with specific sections, for example Jan Schlauer saw and worked only with the taxonomic descriptions of new taxa. Others helped to the extent that they are listed as coauthors.

We first consider McPherson & Schnell (hereafter M&S), which starts with a seventy page treatment of *Darlingtonia*. (In the spirit of full disclosure, I note that I supplied McPherson with a substantial amount of information about my own *Darlingtonia* research, which he included in this chapter, although I have no financial interests in the publication.) M&S treats the genus effectively and completely, starting with early historical records and following with modern observations, and an excellent summary of conservation threats.

M&S includes range information in the format of a county-by-county status. While not perfect, this practice is far better than the usual balloon-outlines that can give very misleading impressions of the ranges of rare or sporadic plant populations.

Because of my own involvement with *Darlingtonia*, M&S graciously asked me to include a description of the anthocyanin-free form of *Darlingtonia* (i.e., *Darlingtonia californica* f. *viridiflora*). That this is the only new taxon M&S recognizes within the genus is perhaps surprising, since M&S recognized and described many new pigmentation patterns within the genus *Sarracenia*. Perhaps we will see more about this in the future!

M&S clearly has an interest in the historical development of carnivorous plant knowledge. In the several pages devoted to *Darlingtonia* cultivation, we learn about interesting horticultural successes and failures in the 1800s. However, there is surprisingly little information more recent than 1900. The fascination with early cultivation practices is almost bizarre. For example, the section describing growing media relies on publications from 1875 and 1893. The repotting paragraph relies on

a reference from 1898. Yes, there are a few modern citations, but these are quite in the minority. A more coherent treatment of modern cultivation techniques would have strengthened this section considerably.

The treatment of *Sarracenia* follows the same basic format, but it is enormous in comparison. There is essentially nothing that is excluded; at times one feels that perhaps M&S err in including too much. (Why, for example, are we given a fold-out map of Canada and the entire USA that indicates all the counties and parishes for each state and province? Interesting—yes—but why?)

The real meat of the entire work is the 450 pages in which each species is discussed and analyzed in delightful detail. For example, the original historical range of each species is given at the level of county/parish, and the current status for each county/parish is also noted. Assembling this kind of information can be extremely difficult, and this 2011 range snapshot will be very useful for future researchers, as the species in the genus continue on their paths towards extinction.

Collectors in particular will take great interest in the detailed discussion and dissection of each species. However, here we see that the speed with which McPherson publishes his works has an Achilles' heel—there is a great deal of repetition in the work—repetition that should have been caught by a more careful (and time consuming) reviewing and editing process. For example, in the treatment of a newly described variety, we learn that, “Sporadic, generally small and localized populations of *Sarracenia alata* var. *cuprea* occur in Mississippi and eastern Louisiana, although the plant is extremely rare overall.” For the variety *nigropurpurea*, we are given the exact same analogous text (with the exclusion of the word “extremely”). The same exact phrase appears again for both var. *ornata* and var. *rubrioperculata*. Similar examples of parallel text/paragraph structure occur elsewhere in the book. (Compare the treatment of areolation in *S. alata* [p181] and pubescence in *S. leucophylla* [p279].) Is this technically wrong? No. But it seems somewhat lazy, and if one of my students submitted a paper with the same parallel structure I would circle the incidences in red ink and ask for a rewrite.

Taxonomically, M&S add seventeen new infraspecific varieties and forms, which I list briefly in Table 1. (The number enlarges to nineteen, if you include *Darlingtonia* and a technical establishment of an already-familiar name.)

Despite the enormity of this work, and the energy with which M&S present their viewpoints about taxonomy, it is a mystifying and serious omission that they include no botanical keys for the genus.

Generally speaking, M&S follow the taxonomy of Schnell (2002). This system diverges from some other contemporary researchers in treating “Gulf Coast purps” as *Sarracenia purpurea* subsp. *venosa* var. *burkei* (instead of *Sarracenia rosea*), and in the treatment of *S. rubra* with five subspecies (instead of as many as three species: *S. rubra*, *S. jonesii*, and *S. alabamensis*). This is a continuation of a long-lasting argument, and with this publication, we see M&S squarely at odds with treatments such as Flora of North America (Mellichamp, T.L., and Case, F.W. 2008, <http://www.eFloras.org>, Vol. 8, *Sarracenia*, accessed 15 Feb 2012). M&S use every opportunity to provide their rationale in detail, and their derision of alternate viewpoints is not concealed! The reader is encouraged to draw their own conclusions. In Table 1, I provide a conversion between these two warring camps. (And make no mistake about it—a taxonomic war it is!)

M&S present a few statements as fact, when perhaps they are subject to debate. However, with the authority of Schnell as a coauthor, these statements should not be readily dismissed. For example, they state as simple fact that yellow-flowered (but not anthocyanin-free) clones of *S. psittacina* or *S. leucophylla* are showing signs of prior hybridization (instead of novel mutation). While likely correct, I am not sure this has been proven. In their extensive discussion of all naturally occurring

hybrids (itself quite a feat!), the authors claim that the binomial system for hybrids (i.e., *S. ×catesbaei*) has been “abandoned.” While I suspect they mean that they have stopped using the system in their publication, it certainly has not been abandoned by other botanists or the botanical code in general!

On the other hand, I wish that M&S had been equally bold when dealing with one of the taxa associated with *Sarracenia rubra*. It has long been known that an interesting expression of what appears to be *Sarracenia rubra* occurs in central Georgia and southwestern South Carolina. This has been given a variety of names, for example *Sarracenia rubra* “ancestral form” (based upon a hypothesis of its being an antecedent of *Sarracenia rubra* subsp. *gulfensis*). M&S devote six pages to this plant, and coin the name “*Sarracenia rubra* ‘Incompletely diagnosed taxon from Georgia and South Carolina’” to refer to it. Using single quotes like this is inappropriate, as it is the format reserved for cultivars. This weird name is used in figure captions, in table captions, in the index, and at least nine times in the text, as in “Note the intricate veining of *Sarracenia rubra* ‘Incompletely diagnosed taxon from Georgia and South Carolina.’” Complicated phrase names like this are no better than pre-Linnaean names like *Limonium peregrinum foliis forma floris Aristolochiae*. Why not just establish a Latin name at some rank? Future research might reduce it into synonymy or place it at a new rank, but at least in the interim we would have a valid name we could use.

Once again, the section on cultivation suffers from the preponderance of historical information from the 1800s. Of modern methods such as tissue culture, not a word is breathed. M&S also err when they repeat the oft-claimed fallacy that cultivars must be reproduced vegetatively. Whether you like the ICNCP rules or not, they are quite clear that cultivars may be reproduced via seed as long as the key characters that define the cultivar are also reproduced—this underscores the need for good cultivar descriptions.

The second volume in the set treats *Heliamphora*. McPherson’s training as a geographer shows, for not only are we given a fold-out map of the Guiana Highlands, but the range of each taxon is also carefully indicated. This is very useful. The imagery throughout is exceedingly attractive. Five new species are included (*Heliamphora arenicola*, *H. ceracea*, *H. collina*, *H. parva*, *H. purpurascens*).

Astonishingly, as in the first volume, this monograph lacks botanical keys. It is fabulous and convenient to have a rogue’s gallery including all the species, new and old, and also all the wild hybrids, but other than picture-IDing or reading every species description in turn, there is no coherent synopsis guiding us on how to differentiate species.

Both volumes draw to an end with profiles of several carnivorous plant nurseries, appendices complete with new taxon descriptions, and (what the heck, why not?) some conversion tables. What? No periodic table?

Make no mistake—these are beautiful books with wonderful images and lots of fascinating details. With a little more time and reflection in their construction and editing, they could have been superb and complete monographs. I suspect that the shortcomings of both volumes are due to an overly-speedy publication schedule at Redfern Natural History Productions. Perhaps working on a monograph for 40 years may be too long, but certainly spending a little more time on a work fosters a superior outcome.

Should you buy these two books? Of course. They will update your species lists from McPherson’s 2007 work, and Schnell’s 2002 book, and give you instant access to spectacular images of all the species the various authors currently recognize. Of course, these works have errors and flaws, but do not wait for second editions—buy them now. You will not regret it.

Table 1. The taxonomic system from McPherson & Schnell (2011) compared to the Sarraceniaceae treatment given in FNA (Flora of North America). New names are given in bold text. These new names were established after FNA was published—to aid the user of the FNA system, I have inserted the new names in the appropriate places. For simplicity, autonyms are not explicitly given at the forma level (*i.e.*, *Darlingtonia californica f. californica*). Each taxon is indented one interval for each step on the ranking of species-subspecies-variety-form.

McPherson & Schnell	Flora of North America
<i>Darlingtonia californica</i>	<i>Darlingtonia californica</i>
<b><i>D. californica f. viridiflora</i></b>	<b><i>D. californica f. viridiflora</i></b>
<i>Sarracenia alata</i> var. <i>alata</i>	<i>Sarracenia alata</i> var. <i>alata</i>
<i>S. alata</i> var. <i>alata f. viridescens</i> <sup>1</sup>	<i>S. alata</i> var. <i>alata f. viridescens</i>
<i>S. alata</i> var. <i>atrorubra</i>	<i>S. alata</i> var. <i>atrorubra</i>
<i>S. alata</i> var. <i>cuprea</i>	<i>S. alata</i> var. <i>cuprea</i>
<i>S. alata</i> var. <i>nigropurpurea</i>	<i>S. alata</i> var. <i>nigropurpurea</i>
<i>S. alata</i> var. <i>ornata</i>	<i>S. alata</i> var. <i>ornata</i>
<i>S. alata</i> var. <i>rubrioperculata</i>	<i>S. alata</i> var. <i>rubrioperculata</i>
<i>Sarracenia flava</i> var. <i>flava</i>	<i>Sarracenia flava</i> var. <i>flava</i>
<b><i>S. flava</i> var. <i>flava f. viridescens</i><sup>1</sup></b>	<b><i>S. flava</i> var. <i>flava f. viridescens</i></b>
<i>S. flava</i> var. <i>atropurpurea</i>	<i>S. flava</i> var. <i>atropurpurea</i>
<i>S. flava</i> var. <i>cuprea</i>	<i>S. flava</i> var. <i>cuprea</i>
<i>S. flava</i> var. <i>maxima</i>	<i>S. flava</i> var. <i>maxima</i>
<i>S. flava</i> var. <i>ornata</i>	<i>S. flava</i> var. <i>ornata</i>
<i>S. flava</i> var. <i>rubricorpora</i>	<i>S. flava</i> var. <i>rubricorpora</i>
<i>S. flava</i> var. <i>rugelii</i>	<i>S. flava</i> var. <i>rugelii</i>
<i>Sarracenia leucophylla</i> var. <i>leucophylla</i>	<i>Sarracenia leucophylla</i> var. <i>leucophylla</i>
<b><i>S. leucophylla</i> var. <i>leucophylla f. viridescens</i><sup>1</sup></b>	<b><i>S. leucophylla</i> var. <i>leucophylla f. viridescens</i></b>
<b><i>S. leucophylla</i> var. <i>alba</i></b>	<b><i>S. leucophylla</i> var. <i>alba</i></b>
<i>Sarracenia minor</i> var. <i>minor</i>	<i>Sarracenia minor</i> var. <i>minor</i>
<b><i>S. minor</i> var. <i>minor f. viridescens</i></b>	<b><i>S. minor</i> var. <i>minor f. viridescens</i></b>
<i>S. minor</i> var. <i>okefenokeensis</i>	<i>S. minor</i> var. <i>okefenokeensis</i>

Table 1 Cont.

<p><i>Sarracenia oreophila</i> var. <i>oreophila</i>  <b><i>S. oreophila</i> var. <i>ornata</i></b>  <i>Sarracenia psittacina</i> var. <i>psittacina</i>  <i>S. psittacina</i> var. <i>psittacina</i> f. <i>viridescens</i>  <b><i>S. psittacina</i> var. <i>okefenokeensis</i></b>  <i>S. psittacina</i> var. <i>okefenokeensis</i> f. <i>luteoviridis</i>  <i>Sarracenia purpurea</i> subsp. <i>purpurea</i>  <i>S. purpurea</i> subsp. <i>purpurea</i> f. <i>heterophylla</i>  <i>Sarracenia purpurea</i> subsp. <i>venosa</i> var. <i>venosa</i>  <b><i>S. purpurea</i> subsp. <i>venosa</i> var. <i>pallidiflora</i></b>  <i>S. purpurea</i> subsp. <i>venosa</i> var. <i>burkii</i>  <i>S. purpurea</i> subsp. <i>venosa</i> var. <i>luteola</i>  <i>S. purpurea</i> subsp. <i>venosa</i> var. <i>montana</i>  <i>Sarracenia rubra</i> subsp. <i>rubra</i>  <i>S. rubra</i> subsp. <i>gulfensis</i>  <b><i>S. rubra</i> subsp. <i>gulfensis</i> f. <i>luteoviridis</i></b>  <b><i>S. rubra</i> subsp. <i>alabamensis</i></b><sup>2</sup>  <i>S. rubra</i> subsp. <i>wherryi</i>  <i>S. rubra</i> subsp. <i>jonesii</i>  <b><i>S. rubra</i> subsp. <i>jonesii</i> f. <i>viridescens</i></b>  <i>S. rubra</i> taxon <i>nomen nudum</i><sup>4</sup></p>	<p><i>Sarracenia oreophila</i> var. <i>oreophila</i>  <b><i>S. oreophila</i> var. <i>ornata</i></b>  <i>Sarracenia psittacina</i> var. <i>psittacina</i>  <i>S. psittacina</i> var. <i>psittacina</i> f. <i>viridescens</i>  <b><i>S. psittacina</i> var. <i>okefenokeensis</i></b>  <b><i>S. psittacina</i> var. <i>okefenokeensis</i> f. <i>luteoviridis</i></b>  <i>Sarracenia purpurea</i> subsp. <i>purpurea</i>  <i>S. purpurea</i> subsp. <i>purpurea</i> f. <i>heterophylla</i>  <i>Sarracenia purpurea</i> subsp. <i>venosa</i>  <b><i>S. purpurea</i> subsp. <i>venosa</i> f. <i>pallidiflora</i></b>  <i>Sarracenia rosea</i>  <i>Sarracenia rosea</i> f. <i>luteola</i>            (not considered distinct from other <i>S. purpurea</i> taxa)  <i>Sarracenia rubra</i> subsp. <i>rubra</i>  <i>S. rubra</i> subsp. <i>gulfensis</i>  <b><i>S. rubra</i> subsp. <i>gulfensis</i> f. <i>luteoviridis</i></b>  <i>Sarracenia alabamensis</i> subsp. <i>alabamensis</i>  <i>S. alabamensis</i> subsp. <i>wherryi</i>  <i>Sarracenia jonesii</i>  <b><i>S. jonesii</i> f. <i>viridescens</i></b><sup>3</sup>            (as yet unassignable)</p>
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<sup>1</sup>M&S did not specify a varietal rank for this form, so botanical code automatically assigns it to the autonomous variety.

<sup>2</sup>A previous attempt to establish this name had technical errors; the name has now been correctly established.

<sup>3</sup>This new combination is made here, as follows:

*Sarracenia jonesii* f. *viridescens* (S.McPherson & Schnell) B.Rice *comb. nov.*

Basionym: *Sarracenia rubra* subsp. *jonesii* f. *viridescens* S.McPherson & Schnell, *Sarr.N.Am.*:759 (2011).

<sup>4</sup>This taxon is referred to by M&S as *Sarracenia rubra* 'Incompletely diagnosed taxon from Georgia and South Carolina.'