

Fly-rod Technology

The Technology of Fly Rods, by Don Phillips. Frank Amato Publications, (503) 653-8108, 2000, 116 pages, \$24.95 softcover.

THE SUBTITLE, *An In-Depth Look at the Design of the Modern Fly Rod, Its History and Its Role in Fly Fishing*, says much about what's between the covers of this book. And, as the designer and producer of the first boron fly rods, Don Phillips is uniquely qualified to write about the subject. Although boron lost the battle to graphite (Phillips explains why), his project demanded extensive research into fly-rod design and herein he shares much of what he learned.

This is a book for anglers looking for a deeper understanding of the tools they use to catch fish. Following the introduction, Phillips walks through 2,300 years of fly-rod history. The bulk of the material comes from the last half-millennium, but even this well-documented period yielded some oddities. For example, how many readers have heard of such exotic woods as beefwood, hornbeam, logwood, and shadblow? Nonetheless, as expected, bamboo, fiberglass, boron, and graphite get the most coverage. The chapter ends with a progress review of fly-rod component technology.

After a review of important historical patents, Phillips explains the rod manufacturing processes. Are you familiar with the "pultrusion process"? I wasn't. Here, as throughout *The Technology of Fly Rods*, the author supplements concise, understandable descriptions with uncluttered illustrations (73 in all) and photographs.

We want our fly rods to do certain things. That forces manufacturers to make choices and compromises. Phillips suggests line weight, casting, line handling, setting

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the hook, landing fish, and general handling as key considerations for establishing design requirements. Once established, these lead to a comprehensive analysis of the variables available to the rod designer to meet our requirements, namely, materials, taper and cross-sectional geometry, and component design.

Have you ever had questions like: What's all this modulus stuff about? Why do modern fly rods seem to break more often? How does taper affect action? How do ferrules affect rod action? Well, here's where you will find the answers.

In the penultimate chapter, Phillips delivers a thorough analysis of casting dynamics that should help settle the disputes that seem to ebb and flow through the fly-fishing community. Then, to conclude the book, he examines some of the sophisticated techniques available to make better engineering models of fly rods, so that, for example, changes in materials can be adopted without extensive trial-and-error design.

Oddly enough, it was in this technical chapter filled with such things as stress and stiffness profiling that I discovered a small gap in Phillips' otherwise thorough research. He left out mention of another rod designer with the same last name, the late Bill Phillips from the Saranac Lake area. Bill wrote *The Trout*

Stream and Rod (1976), in which he proposed an interesting index for designing or judging rods. That index involved the rod's vibration frequency, effective length, and tip diameter.

Who will enjoy and benefit from reading *The Technology of Fly Rods*? If you grab any old rod and head out fishing (a reasonable approach), you probably won't. However, if you pore over rod catalogs, ask questions about the differences in design of bamboo and graphite rods, wonder why your rod has the number of guides it does, or simply want a deeper understanding of the fly fisher's most expensive tool, you will. I do, and so I did.

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