



## California Confluences

Profiles in Fly Fishing  
Interviewer: Bud Bynack

# Larry Tusoni

**M**AKING BAMBOO RODS has a heritage over a century long in the United States, and those who cherish the aesthetics and angling qualities of these rods tend to honor that tradition by valuing and seeking out rods made in the styles developed by pioneering craftsmen such as E. C. Powell, E. F. Payne, and Hiram Leonard. But while many, though by no means all cane-rod enthusiasts tend to be traditionalists, California culture sometimes is said to be indifferent to tradition, focusing instead on developing cutting-edge technologies, especially computer technologies. In the Gold Rush town of Angels Camp, California, however, rod-making tradition and high tech meet in the person of bamboo rod maker and software developer Larry Tusoni.

Carrying on a family tradition that harks back to his rod-maker father and uncle, Tusoni's High Sierra Rod Company offers a wide array of cane fly rods, including both classic and innovative configurations and tapers, while Tusoni also offers makers of bamboo rods a state-of-the-art computer program, *RodDNA* — *The Bamboo Rod Design and Analysis Software*, a freeware program that allows rod makers to compare and analyze over eight hundred different models and tapers. And recently, he has developed a proprietary program, *Rod DNA Designer*, and written a book to accompany it, *Bamboo Rod Taper Design with RodDNA Designer*, that give cane rod makers the ability to model and develop their own tapers. In such confluences, the old and the new both sustain and transform each other.

**Bud:** You're a second-generation maker of cane rods — I've read that your dad, Nicholas P. Tusoni, and his brother Patrick built rods in Massachusetts and Vermont and sold some of them through Orvis. I've also read that you made your first bamboo rod when you were 10 years old.

**Larry:** I believe they made rods and blanks for a number of New England rod companies as subcontractors, rather than as direct employees. They had full-time jobs, so it

was really a hobby for them, although they made many rods for themselves.

**Bud:** How about filling in what happened between then and now? How did you end up in California, in Angels Camp in the Gold Country, making rods and developing software?

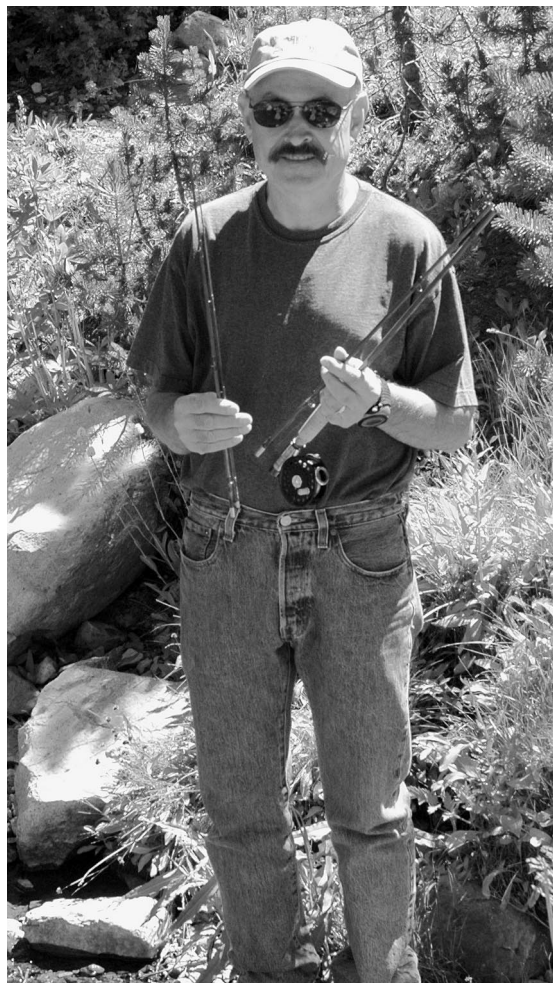
**Larry:** It's a long story, but I have been making rods most years — some years none, some years too many. I ended up in California when my now wife, Lynda, and I started a serious relationship. I moved from New Hampshire to Reno, Nevada, after a bad divorce. Then we moved to Southern California, then to the Bay Area, then to Angels Camp. Lynda grew up in Sonora, so when we visited there, I liked the area, which reminded me of northern New England, but with better weather. We ended up buying the oldest house and stone office building in Historic Angels Camp, where my rod shop is located.

**Bud:** Your family's involvement with making cane rods goes back to the 1940s. How has the craft evolved over the past seven decades? Obviously, the Internet has made access to information more accessible to many more people, but in addition to that, how have tools, techniques, materials, and other aspects changed?

**Larry:** First and foremost, most makers freely share information now, where previously it was kept secret. This is the main reason, in my opinion, for the boom in bamboo rod making, which is also due to the Garrison book [Everett Garrison, with Hoagy Carmichael, *A Master's Guide to Building a Bamboo Fly Rod* (1977)]. There were plenty of other rod-making books published in the 1950s and earlier, but the Garrison book and subsequent bamboo-rod-making books and the Internet really are what facilitated the growth.

The bamboo-rod-making process (and there's a distinction between rod

makers and rod builders: bamboo rod makers make rods; rod builders finish blanks) has changed over time, but remains essentially the same, for the most part. I would say that perhaps 60 to 70 percent of makers use planing forms to finish their rods and use roughing bevellers to do the rough beveling of the strips



**LARRY TUSONI IS A SECOND-GENERATION BAMBOO FLY-ROD MAKER WHO ALSO HAS CREATED SOFTWARE FOR DESIGNING BAMBOO RODS.**

— the grunt work of shaping the bamboo strips to form the desired taper. And perhaps around 30 percent use a Morgan Hand Mill for both roughing and finishing strips. The Morgan Hand Mill is a marvelous system developed by Tom Morgan, who worked for R. L. Winston in San Francisco and eventually purchased the company and moved it to Montana. A very small percentage of makers use finish bevellers or mills. A handful of these are computer controlled (CNC — computer numerical milling).

Tools certainly have become better and more available. For example, you can now purchase very accurate digital depth gages and calipers for setting planing forms and measuring strips. New finishes, such as spar urethanes, have made the finishing process much easier and quicker than spar varnishes. You no longer have to make your own reel seats, because there are a number of excellent sources for them.

The actual bamboo (*Arundinaria amabilis McClure*, or Tonkin cane) is the same, but now you can buy culms — the raw material for rods — that have been hand selected for bamboo rod makers specifically. For example, there are no grower marks cut into the culms now, and they are no longer straightened by serious heat treatment.

**Bud:** One rod maker I talked to described your *RodDNA* program as “the Microsoft of rod-making software.” On the one hand, since you're both a rod maker and a software developer, it seems like a natural step for you to have taken. But on the other, I can imagine that a lot of decisions had to be made concerning whether to undertake the project at all. How did you come to develop it?

**Larry:** That's a nice compliment. It was indeed a natural step for me, but I was working full time as a software engineer, so I really did not have the time to take on such a project. I used the bamboo-rod software tools that were available, but they were very limited. This was the impetus for me to develop *RodDNA*. I personally wanted many more features, so I decided to take the time to develop it. It took quite a few calendar months to do so, and it is still evolving today. Once I developed it for myself, I decided to let makers use it for free. To date, over twenty-three hundred makers in over 43 countries have downloaded and registered my free version of *RodDNA*.

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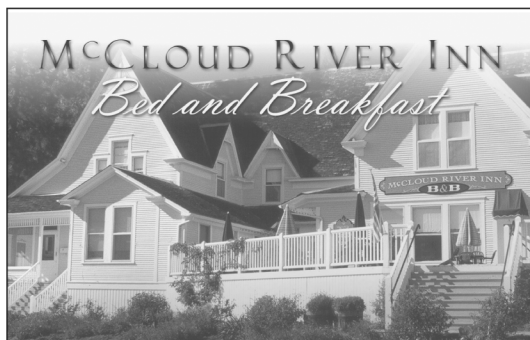
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The software provides the ability to modify any of the existing or new tapers/models in many different ways, including line weight, number of sections, geometry, length, and action, so most makers will find it very useful. It also provides rod-stress curves and other graphs that depict a rod's action, and many rods or tapers can be graphed together to see differences. Lots of reports are available, such as planing-form settings and Morgan Hand Mill settings. Basically, *RodDNA* provides the maker with all the information necessary to build rods and allows modifications and analysis of the tapers.

*Bud:* I gather that its database of tapers is at least in part "crowd sourced" — submitted by users. That's a growing use of current communications technology. What do you see as the pluses and minuses of tapping the "hive mind"?

*Larry:* Yes, a large number of the tapers in the *RodDNA* database have been submitted by makers, and others have been included that were previously published, with permissions when needed. One interesting thing is that you might find three or four tapers for the same classic rod, but all will be slightly or even grossly different. As a result, tapers should be analyzed for any obvious typos or gross errors before one begins to make one. On each new release of *RodDNA*, I try to analyze as many existing tapers as I can to find any of these errors and also try to add at least 50 or so new tapers, or new versions of existing tapers. It's a tedious job.

In addition to my free *RodDNA* program, I have implemented a new *RodDNA Designer* program and have written a book to go along with it. The book is titled *Bamboo Rod Taper Design with RodDNA Designer*. Tom Morgan wrote the foreword. It offers the maker the ability to create new tapers from scratch in almost a dozen different ways and sophisticated tools to do modifications, analysis, and correlations, to name a few features — for

example, analyzing tapers using the existing taper or model database to see how unique a given taper may be and to provide some validity on a new taper's viability.

*RodDNA* and *RodDNA Designer* thus are complementary programs. While *RodDNA* provides the maker with all the information necessary to analyze and make rods based on existing tapers or models, *RodDNA Designer* and *Bamboo Rod Taper Design with RodDNA Designer* provide the missing piece: the ability to create new tapers from scratch. Anyone interested can go to <http://www.rodDNA.com> for more information on both *RodDNA Designer* and *RodDNA* (The *RodDNA* link is at the very bottom of the page.)

*Bud:* In some ways, crafting cane rods and developing software seem like antithetical pursuits. However, both require a lot of patience and attention to detail. Which is it — making rods as a refuge from the world of software, or all of a piece with how you like to do things?

*Larry:* To me, the processes complement each other. Software is very intellectually challenging, but the results are intangible. Bamboo rod making is also intellectually challenging, but with tangible results. I usually start my day with software development and end with rod making, having been inspired by the book *The Good Life*, by Helen and Scott Nearing, who spent half or a portion of every day with intellectual endeavors and the other half with physical endeavors. I find it a nice balance.

*Bud:* You offer a wide range of rods and rod types, from a tournament rod with a taper developed by your dad in the 1940s, through four-piece rods and rods with proprietary tapers, to five-strip, pentagonal rods, as well as the "conventional" six-strip hexagonal builds, including rods with "classic" tapers, not to mention unfinished blanks. I've read that you and your partner, Charles Irvine, are committed hand craftsmen. So I gather that none of these rods,

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including the blanks, are the product of CNC production, correct? What is it about cane that makes the construction of a fly rod a hands-on kind of thing, even for a computer-savvy person like you?

*Larry:* Yes, I offer many different types of rods in varying configuration and geometries. This keeps bamboo rod making interesting to me. Even though I have built many rods of the same type, I still like designing new rods and can't wait to cast them. And yes, each rod is handcrafted. I do use machinery to rough bevel or mill strips, but each strip is finished in a planing form, setting the taper by hand. This is the best part of the process, in my opinion, although casting each new rod comes close. I much prefer working with hand tools and enjoy the accompanying quiet.

*Bud:* How do your tapers differ from the "classic" tapers found on cane rods by Garrison, Leonard, Payne, and the like? How did you develop them? And what's up with the four-piece rods? Classic cane was two-piece or three-piece. The conventional wisdom is that more ferrules means diminished action and feel.

*Larry:* A lot of classic makers had what I call a "taper signature." By this I mean that most of their rods had similar tapers and therefore a similar feel. Others had rods of very different tapers, such as Pinky Gillum. My tapers are composed of the basic four types of bamboo rod tapers: linear, progressive/regressive, parabolic, and compound. Linear tapers taper at the same rate from tip to butt. This is sometimes referred to as a "straight" taper. Progressive tapers are similar to linear tapers, except that a bias or extra value is added to particular positions in the taper. Regressive tapers subtract a bias value at particular taper positions. The change may or may not be cumulative, but it changes the taper. The terms "parabolic" and "semiparabolic" with regard to tapers are typically used synonymously. However, these are in fact two distinct types of tapers. Most parabolic rod tapers are in fact semiparabolic tapers. They typically have softer butt sections. The term was probably derived from the shape of the semiparabolic taper when charted. Finally, compound tapers are tapers whose values do not follow any consistent logical or mathematical progression. This class of tapers is typically developed empirically and may be based on a linear or other class of taper.

While my tapers are in fact unique, some of my progressive taper rods, for example, might cast like a Garrison, because

most of his tapers were progressive. Some of my tapers were designed by my dad and uncle, and as with all my tapers, have been proven empirically over time.

As to the number of rod pieces, a carefully designed rod will cast well without diminished action. Personally, I carry one of my 4-weight four-piece Alpine rods with me most of the time and actually consider its action equal to a good two-piece rod, but with more portability.

*Bud:* Rod makers I've asked tell me that pentagonal rods are one area where there's

considerable room for development in cane rods. I gather that pentas are both more powerful and lighter than hexes, but also more difficult to build. What brought you to an interest in pentas? Apart from the pull of tradition toward hexes, why haven't they received more attention?

*Larry:* Pentagonal rods are my specialty and personal preference and are more difficult to make than hex rods. I personally like the aesthetics of them, how they cast, and how they last. For example, they're less likely to take fishing sets — bends that



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remain after the rod has been stressed in fishing. I am fortunate to have many proven penta tapers, because few exist. My dad and uncle made pentas, which obviously had an influence on me.

I think hex rods are much more popular simply because the majority of makers make and promote them and, as you say, most classic rods were hex rods, except those from Nat Uslan, Claude Kreider, and Robert Crompton and some others. And hexes are easier to make, and more tools are available for making them.

I would say more than 90 percent of the rods I make are pentas — from 5-foot 6-inch one-piece rods, to 8-foot 3-inch four-piece rods, to Spey rods and everything in between. From a mathematical perspective, pentas benefit from the Golden Ratio (aka Phi), in which the ratio of a whole line to a larger segment is equal to the ratio of the larger segment to a smaller one. It's found throughout major works of art and architecture.

*Bud:* You do make the occasional four-strip quad rod, but you've said you "don't like how they cast and look." Why not?

*Larry:* They are just not for me. I have made a number of them, but none recently. Pentas are my passion.

*Bud:* In 2008 and again in 2011, you were one of the special guests invited to attend the European Rod Makers Gathering in Sansepolcro, Italy. The international bamboo-rod-making culture seems to be thriving. What did you learn at Sansepolcro and what did the Europeans most want to learn from you?

*Larry:* I now have attended three European Bamboo Rod Makers Gatherings, two in Sansepolcro, Italy, and one in Sarnen, Switzerland. The first thing that struck me was the enthusiasm and sheer numbers of new makers and new, innovative rod-making techniques.

As with most gatherings I attend, I usually learn something, and at the 2011 ERG, I learned about what type of tapers the Italians makers like most and found that it was directly related to how they like to cast. In fact, I have at least two of these tapers in my *RodDNA Designer* database.

I introduced my *RodDNA Designer* software and book at this gathering. The rod makers there were obviously interested in learning about taper design and how to create their own tapers. I was also asked to critique a lot of rods, from both a casting and a finish perspective. It is a very organized and fun gathering, and I would highly recommend it to anyone interested in

bamboo rods. Next year's will be held in southwestern France, I believe.

*Bud:* At home at Angels Camp or in Virginia Lakes, you're near a lot of good angling opportunities. What kind of fly fishing do you like best, and what kind of rod do you like to use for it?

*Larry:* Like most people, I like fishing the local rivers and creeks, such as the East Walker River, just down the road from my house, where I hold my Eastern Sierra Rod Makers Gathering, or ESRG, on Bridgeport Lake. Also Hot Creek and the Owens River. If I am at my cabin in Virginia Lakes, I typically hike to one of my favorite lakes. I do most of my fishing in the eastern Sierra mostly with either a two-piece Brookie model rod or a four-piece Alpine rod.

*Bud:* You mentioned the Eastern Sierra Rod Makers Gathering. Is that just for accomplished rod makers, or do you offer help for those who would like to get started crafting their own bamboo rods? How would you suggest novices begin?

*Larry:* For those interested in bamboo rods and those interested in making them, attending a rod makers gathering is probably

the best way to get started. The ESRG this year will be held from September 30 to October 2 at Bridgeport Lake. (See <http://www.highsierrarods.com/gathering.html>.) Also, taking a rod-making class is a very inexpensive way to get started. Many makers, including us, offer such classes.

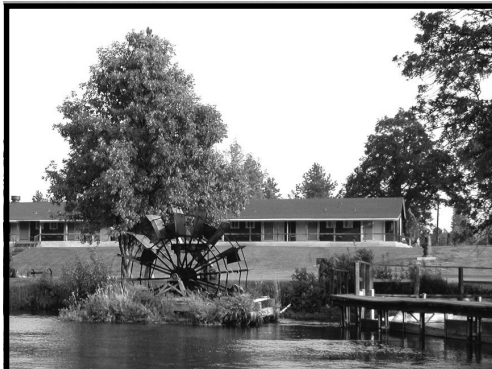
If you want to get your feet wet first by purchasing a blank, ask where the blanks were made. Some retailers of Chinese-made bamboo blanks and rods don't mention the origin of their offerings, and some even hide this fact. Most of the Chinese rods to date have been very inexpensive, with poor quality. I see a lot of broken ones for repair, which is really not worth the effort.

*Bud:* You also breed Samoyeds and make wine. I have to ask: What happens when you spill red wine on a fluffy white dog?

*Larry:* Very funny! On more than one occasion, one of our show Samoyeds has been striped with red wine! Fortunately nothing sticks to their fur for long!

*Bud:* As that question demonstrates, we've arrived at the Silly Tree Question. If you were a tree, what kind of tree would you be?

*Larry:* A bristlecone pine, of course! 🌲



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