The allure of the split cane rod

by Stephen Dugmore

There is an awful lot to be said about bamboo rods, their history, their design and their construction. In this article I just want to touch on how I ended up making them and share some thoughts on a few rods and rod design.

How I started making bamboo rods

Every fishing rod has at least one good story in it. Some have many. I can clearly remember going at the age of 5 with my father to the local fishing shop to buy my first fly rod. I can't for the life of me remember what make it was and the label has long since worn off. All I know, is that it started out as a 7'6" five weight, it was an ugly yellow fibreglass model but, most importantly, it was my ticket to fishing independence.

I fished it for several years and there are many stories that rod could tell, moments of real triumph and glory. There were also moments of real anguish and disappointment. Not least the rod's final story – how it ended up as a useless bunch of 2ft sections as a result of my vain attempt to convert it to a 'smuggler's rod' - without first factoring in how the ferrules would work.

It was another sad ending to a special rod that led to my making bamboo rods. In retrospect it dawns on me that the sorry ending of my first rod was in no small part due to its being surpassed by the arrival of this latter rod. It was a Walker Bampton 7ft, 4/5wt split cane and it was a dream of a rod. It had a silky-smooth action and could cast a line as far and as gently as I was able to. I became a bamboo convert.

Unfortunately my tough old fibreglass rod had allowed me to develop some rather nasty fishing habits, one of which was to invert the rod and use the reel to hook down high branches on which my fly had become snagged – something that happened regularly. And that's right, you've guessed it - the Walker Bampton was not up to this challenge! I can honestly say I nearly cried! Especially as I firmly believed that, that, as they say, was that. There was no way the rod could ever be repaired. The sleeve of fiberglass I cut off the defunct old yellow rod and fitted over the break in the tip was not a bad job, even if I say so myself, but the dream was gone and I never really fished the rod again.

I replaced the rod with a 6ft Farlows split cane 'Midge'. This rod didn't have the grace of the Walker Bampton. It was a comparatively 'clunky' stick and unfortunately buckled under the pressure of my teenage desire to cast a full fly line. I couldn't afford to buy another cane rod and so had to make do with 'plastic'. Numerous years and graphite rods down the line, I one day, for no good reason, started hankering for that bamboo feel and got to thinking about the old Walker Bampton and wondering whether it wouldn't be possible to do a better repair job on it, or somehow make a new tip for it. Okay! Great idea! But, actually…., come to think of it….., how the hell is a split cane made anyhow? How on earth is bamboo tapered into those ridiculously thin strips?

I did some research on the internet and discovered a number of things. Yes, the tip could probably have been repaired if I had not epoxied it together with a fiberglass sleeve! Yes,

a new tip could be made for it, if the butt section hadn't been left lying around and delaminated in the meantime, and finally, yes, why not, while I was about it, I could actually make a whole new rod!

And that is really the long and the short of it, although, to be honest, there is no 'short' of it. Hours of blood, sweat and elbow wrenching making the steel forms and other tools together with hours of research, led to hours of planing, gluing, sanding, binding, wrapping, varnishing and so on. Well, much to the consternation of my family, I did eventually get there and made a rod. I still fish that first rod on occasion even though I managed to overheat the strips and even though it is not exactly pretty. "Burnt offering" is how one of my 'politer' friends refers to it.

Ironically after all the research I did, remaking the Walker Bampton has slid down the list of rods I would still like to make…and the action of the yellow fiberglass is, thankfully, unrepeatable.

Some thoughts on bamboo rods and their designs

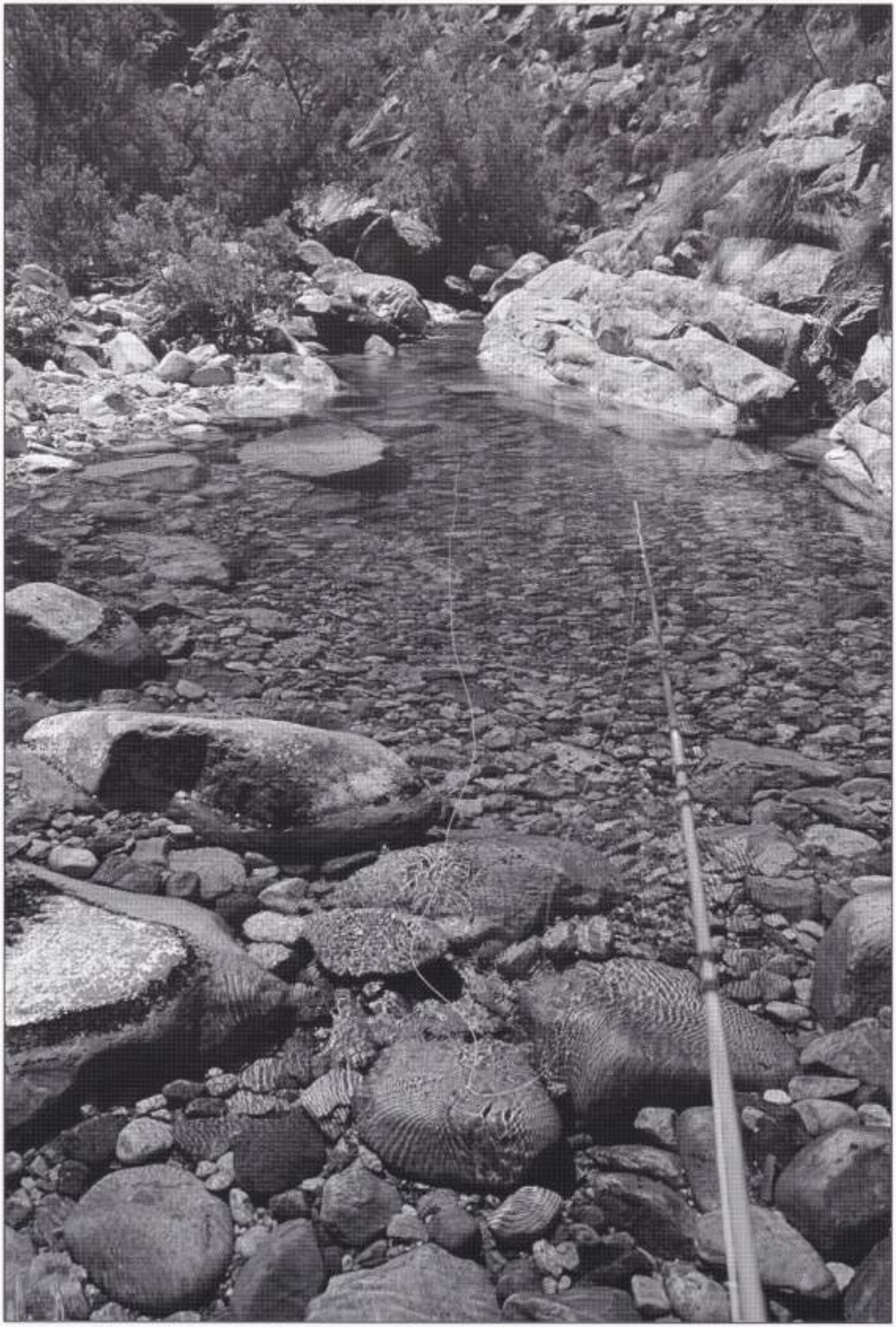
After my background research - see the end of this article for those who may be interested - I made a series of quite different rods in order to explore several classic tapers and their different actions. As we unfortunately do not have easy access to many classic rods in South Africa to test cast, this was my best means of gaining an understanding of what is broadly possible in bamboo. Also 'fishing' a rod and 'test casting' it are definitely not the same thing. It is invaluable to be able to actually fish a rod to fully understand its qualities.

It is clear from a little research and practical experience that there is actually a limited number of fundamentally different approaches to the design of rod tapers, but within these 'families' of rods, endless variations are possible. This is one of the really appealing factors in making one's own rods – the ability to experiment with the designs and tapers.

There are many classic rods and design approaches that deserve exploration. I just want to refer to a few, which I think are outstanding examples of their types.

One of the iconic rods that I soon discovered I simply had to make was a Leonard Baby Catskill one weight – this because, in its day, it was the lightest rod ever made. There are numerous Baby Catskill tapers in various lengths and lineweights but it is the 1wt which is the most intriguing. It is quite possibly the most difficult bamboo rod to make because the dimensions in the tip are exceedingly fine and really push the envelope of what is achievable in six strip bamboo. As a result it is an extraordinarily delicate fishing instrument, definitely not for the faint hearted, but a real treat for those who like to fish small, light and fine. For its delicacy it is surprising how much line it can hold in the air and how gently it will lay it down. Just watch out when you hook into a 20 incher, as you surely will!

Another rod that I considered essential to make is one of the Edward Garrison tapers, of which I chose the 209. Garrison, often referred to in the bamboo world as 'God', or the 'big G', was an engineer and his approach to rod design was through an understanding and manipulation of stresses in the rod. He devised a methodology for determining stresses in a rod and advocated designs where the stresses reduce progressively through the rod. This generates what he referred to as 'linear wave action'. The idea being that all the



"... a good medium action bamboo could just be the ultimate small stream fly rod," John Gierach, Fly Fishing Small Streams, 1989.

energy generated and stored in the rod is progressively transferred to the line in such a way that it is completely 'exhausted' as the tippet finally turns over and the fly gently lands. This makes for a very full, smooth actioned rod. There are many rodmakers who rate the 209 as one of the best tapers ever designed. It certainly is a very, very nice rod. I incidentally mic'ed my original Walker Bampton and it is almost certainly a rendition of the 209, which is partly why I don't have a pressing need to remake it.

Two other rods, which are often highly acclaimed are the Payne 101 and Paul Young's Para 15. These rods are very different in conception. The Payne 101 is a fast actioned rod and is more similar to graphite than a lot of other bamboo designs while the latter is what is often referred to as a 'parabolic' rod. Parabolic rods are controversial rods, some people (e.g. Charles Ritz) love them and others (e.g. Joan Wulff) hate them. All agree that they are very different to cast from any other type of rod. They have relatively slim butts and tips, with a comparatively thicker mid section. The thinking is that the delicate tip will cast short and the thinner butt imparts a 'slingshot' effect allowing for greater distance when required. I have made a version of the Payne 101 and the Para 15 has become top of my 'to do' list - I am not wholly convinced I will like it but I feel I have to try it.

An approach to design that I consider in many ways to be the best and has inspired my own approach, is one advocated by E.C. Powell. He generated 3 families of tapers, A, B and C, each representing a different 'speed', with A being fastest. In simple terms, the tapers start with a tip dimension and then increase arithmetically or geometrically through the rod. A different formula applies to each series. A 'constant' factor is then introduced into each formula, which further refines and distinguishes a taper within a family. This approach makes intuitive sense to me. It is in some ways a similar idea to Garrison's, but approaches the problem from a different tack. The big difference between the two approaches is that more variation is inherently possible in EC's.

There are numerous other rods I have tried, which introduce all sorts of abrupt changes in the taper, hinges etc. While some certainly have merits, I must confess to being skeptical about many of them.

After making the initial rods I have subsequently been experimenting with tweaking tapers as well as combining qualities of different rods in order to fine tune them to my own, and others, individual preferences.

Inspired by a maverick, now retired, rodmaker, Mike Montagne, I developed a spreadsheet application that derives the taper of any rod from the input of its bendform i.e. the shape the rod assumes under loading. The bendform of a rod describes in geometric terms the action of the rod, eg. the slow rod has a quarter circle bend form and a fast rod as tight bend in the tip and little bend in the butt and mid section. The description of a bendform allows one to determine factors such as the casting cycle and the size of loopform that will be generated by the rod It is thus invaluable for design and comparative purposes.

My uncle-in-law, Winston Jones, a gifted engineer and software writer, has been helping to develop this much further. The program he has been writing is now able to predetermine the bendform of a rod under various loads as well as simultaneously determine the stresses in the rod. This provides the best of both worlds, effectively combining both EC's and

A wry smile from the author has he contemplates cutting and gluing the bamboo segments for the tip of the editor's 'Ought Weight' Leonard Baby Catskill.

Putting his product to good use, Stephen Dugmore on the Smalblaar.

Garrison's approach. The program determines the weight and volume of the rod, the centre of gravity, the loopform, casting cycle, ferrule positions and sizes, optimum guide positions etc. This all operates interactively, allowing for the design and assessment of any rod as well as for making very subtle changes to it. The design can also be scaled to different lengths and lineweights whilst maintaining a similar character. The program then outputs the data required to actually build the rod. While this in no way replaces a simple hands on, trial and error, "how does it feel" approach, the program is becoming a really fantastic design tool.

I have also been delving into the construction of square and rectangular bamboo rods. These rods offer another entire avenue for exploration. Per same area, a rectangular cross sectional profile is significantly stiffer than hexagonal (or circular). While this is not necessarily desirable in and of itself, it does allow one to make much faster action rods for those who prefer them. In fact a rectangular section can result in a rod that is faster than anything that is currently achievable in graphite, simply by virtue of its cross sectional profile.

Construction

I have not gone into the actual construction process in this article but for anyone wanting to get an idea of what is involved please refer to my website www.freestonerods.co.za. or alternatively visit some of the links below.

Further information

My initial search on the internet led me to some articles in Global Flyfisher by the Reverend Harry Boyd – a very experienced rodmaker

http://globalflyfisher.com/rodbuilding/bamboo1/

After reading these articles I contacted Harry. He kindly put me onto various websites and the Rodmakers List, which is a forum for rodmakers to discuss rodmaking issues. It is an invaluable source of information.

http://www.canerod.com/rodmakers/

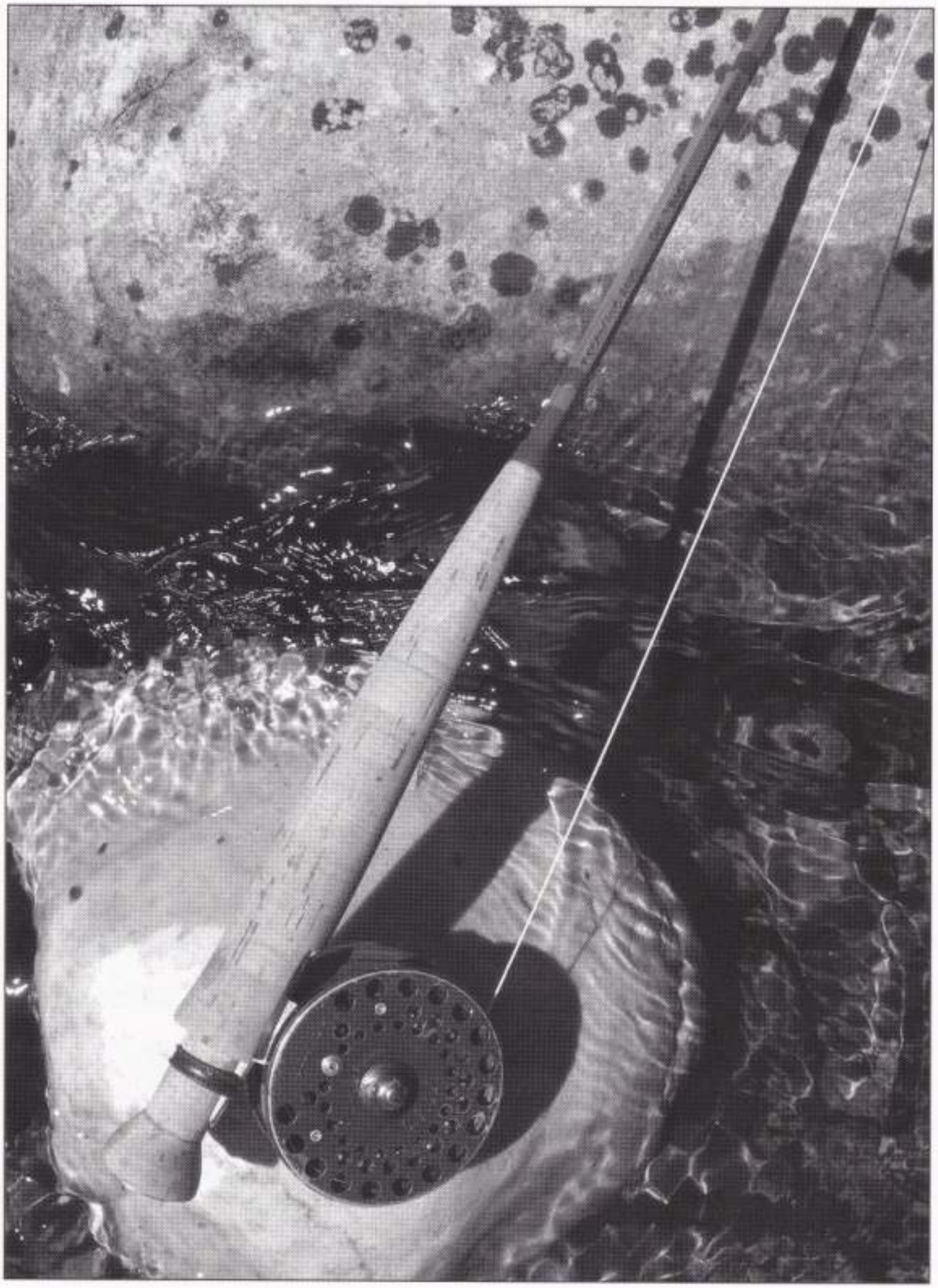
At www.canerod.com I found Thomas Penrose's site, which has instructions for building steel forms. These, in combination with the block plane, are the most essential tools for making bamboo rods. I immediately started making the forms – quite a process!.

http://www.thomaspenrose.com/form01.htm

Harry also pointed me in the direction of Todd Talsma's tips page, which has a compilation of useful tips extracted from the Rodmakers List and various other discussion forums.

http://www.bamboorodmaking.com/

There are also a number of excellent rodmaking books available that can be ordered through Amazon. Some good ones are:



The 7 foot Leonard Baby Catskill, built by the author for the editor, easily casts the new, 32 grain, Sage "Triple Ought" line which has half the mass of a one weight line. For details of the rod grip design see "The One Off, One Weight", page 40, Piscator, no 134, November 2002.

A Smalblaar rainbow caught by the author on one of his rods.

A Master's Guide to Building a Bamboo Fly Rod by Hoagy Carmichael and Everett Garrison, Meadow Run Press, 2004.

Handcrafting Bamboo Fly Rods by Wayne Cattanach, The Lyons Press, 2005.

Fundamentals of Building a Bamboo Fly-rod by Maurer Elser, Countryman Press, 2002.

Constructing Cane Rods by Ray Gould – (the CPS has this one in its collection).

Cane Rods: Tips and Tapers by Ray Gould, Frank Adams ublications, 2005.

The Lovely Reed by Jack Howell, Pruett Publishing Co., 1998.

In term of basic materials, the bamboo itself is Tonkin and comes from China. I initially ordered a bundle of 'culms' through a broker in the US. I use this cane for orders. Local rodmaker, Steve Boshoff, subsequently pointed me in the direction of a local supplier, Cane Time, who stocked bamboo that is almost certainly Tonkin. I now make my own rods out of this cane.

The guides, cork, wrapping thread etc. I order from the USA, usually from REC Components at http://www.rec.com/index.html or Goldenwitch at http://www.goldenwitch.com/.

I am grateful to local rodmaker, Dirk De Villiers, for putting me on to these suppliers.