

## ANGLING IN THE UPLANDS

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**(A.C.H. to the Mountain Club, Cape Town. 8.2.46)**  
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Mountaineers and upland anglers have much in common.

There are several Object of your Club which are closely akin to some of those of the Cape Piscatorial Society and will have strong appeal to anglers who love the mountain valleys and to whom there are more things in fishing than catching fish.

If I may be allowed to take these Objects in their order and clothe them in my own words – then, in the first place I must pay tribute to mountaineers in general and to members of your Club in particular for providing a great deal of the existing knowledge of typography and climatic conditions, of rock formations and physical geography, and of the flora and fauna of the uplands which is available to the upland angler.

The mountaineers have dealt with Nature as they found her in the raw. Their chief interest, maybe, has been the overcoming of difficulties, hardships and dangers to reach secluded places, but in attaining this they have made use of the opportunity of acquiring a knowledge of our indigenous wild life of the uplands and of discovering things not found at lower levels. The upland angler came later in the field, as his quarry was not indigenous and had to be introduced from abroad.

In this connection, it is significant that from authoritative information about the insects and crustaceans of the mountain streams, which play such a large part of in the well-being of our trout, one must turn, inevitably, to the reports on the Fauna of the Mountain Ranges of the Cape Province in the Transactions of the Royal Society of South Africa, which are the work of Dr K.H. Barnard.

Another point – the protection of means of access to the upland valleys, of rights of way and good footpaths, is often a matter of common interest to mountaineers and anglers.

The laws made to protect our flora and fauna should receive meticulous observance from both these groups of nature lovers, and it is in their own interests to do all in their power to help in the enforcement of Forest and Game Laws (and with these I link the inland fisheries laws) and those relating to wild birds and flowers.

No mountaineer or angler worthy of the name can witness without revulsion the desecration of beauty spots – whether by fire, exploitation for gain or by litter; and surely the pollution of streams s one of Man’s foulest crimes against Nature’s bounty.

The angler will, I know, subscribe enthusiastically to the embargo on stone rolling, particularly if this may be extended to include the untimely arrival of a rock in a placid pool where he is stalking a rising trout!

The principal quarry of the upland angler of the Northern Hemisphere is the Trout, or allied fish of the salmon family such as char and grayling. There are no trout indigenous to the Southern Hemisphere. There are no native trout in Africa with the exception of those in mountain streams in Morocco. The

upland valleys of the south-western Cape, some part of Kaffraria, the eastern slope of the Drakensberg and areas in the Eastern Transvaal offered marvellous potential trout streams, without trout, and were in most cases devoid of any fish which could be said to compensate for their absence.

Many of our European settlers had been bred up in trout angling, which is a form of fanaticism. They had had to leave it behind them and try to put it out of their minds. Think of their reactions, when some leisure or other purpose, often no doubt connected with mountaineering, allowed them to view these tantalisingly empty trout streams! But the same thing was happening in Australia, Tasmania and New Zealand, and it must be admitted that Australia showed the solution.

It happens that the eggs of trout and salmon are deposited in autumn or early winter in their native northern habitats, and that the development of the embryo fish is retarded by the cold so that the fry can commence feeding under favourable conditions in the spring.

Nature's cold-storage may cover a period of as much as four months. This meant that, even in the sailing ship days, man could reproduce this condition if he placed the eggs under enough ice in the hold of the vessel to last out for three to four months. This was actually done in the 1860's and brown trout were introduced to Tasmanian waters with considerable success. It was not as easy as it sounds, of course, and whole story is really quite a romantic one.

Our Cape trout enthusiast must have known about it, even if they never sighted the egg-bearing vessels which ran their easting down far south of the Cape of Good Hope before Suez was cut.

Chas. A Fairbridge was largely responsible for the first of all fisheries Acts being passed by the Cape Parliament in 1867 – "to encourage the introduction into waters of this Colony of fishes not native to such waters, respectively" – a very verbose Act which may have given encouragement to persons able to interpret it, but which actually accomplished nothing.

In 1875, an abortive attempt was made to bring out some trout and salmon eggs in the ice-house of the Windsor Castle of that era – they went bad en-route.

Not until 1884 was any kind of success achieved, and then it was by Lachlan MacLean, who may be rightly called the "father of trout fishing" in the Western Province.

He was in rather a unique position, as he was agent in Cape Town for Donald Currie's mail steam-packet line and was quite a fanatic on the subject of acclimatisation and a man who got things done and cut the cackle.

Early in 1884, MacLean received 20,000 brown trout eggs in good condition, at his own expense, and these were taken to the wool washery which is still in existence near Wolseley ("Ceres Road") and is fed by the furrow which leads from the upper Breede River just below the White Bridge at the bottom of Michell's Pass. They produced 17,000 alevin trout, but then things went all wrong – it is said because the hatching troughs were lined with zinc. A few were reared in a pond there, but seem to have "died without issue", and I am told that Lachlan MacLean had one of about 2 ½ lb. stuffed in a glass case in his office in Adderley Street, and I would very much like to know what happened to this historic relic. Apart from this, the 1884 experiment seems to have made no impression at all on the troutless state of our rivers.

But it gave additional incentive and showed that it could be done; and by 1890 MacLean and his friends had worked on the Government of the day and got them to vote money for an official scheme. Official importations of brown trout eggs commenced early in 1892 – and it must be remembered that one great difficulty was that eggs taken in winter in Britain had to be hatched here in the Cape summer when the waters are normally too warm of such a purpose. But from this point commences the real introduction of trout to the Western Province streams.

They were born in a brewery. Anders Ohlsson, M.L.A., was another enthusiast and trout pioneer. He arranged for hatching boxes for the imported trout eggs to be erected in the old Anneberg Brewery and water was led to them from the famous Newlands Spring.

The services of a French pisciculturist, Ernest Latour, had been retained, and he brought out the first lot of eggs himself, and handled the subsequent shipments. He seems to have evinced professional mistrust of the apparatus prepared by our enthusiasts, with the result that he took 60,000 of his imported brown trout eggs and planted them in what he described as “a little brook above Stellenbosch”. When one considers that this was in the month of March, 1892, it is not surprising that a man straight from Europe would call the summer trickle of the Eerste River “a little brook”. Similarly, one wonders if anything resulted from this libation of precious eggs; as the temperature of the river water would have been far too high under usual conditions at that time of the year, whereas, that of the cool Newlands Spring water would have been favourable. This was proved a few weeks later, when Latour had reorganised things at Newlands to his liking and hatched eggs from the succeeding shipments successfully. The trout did so well in fact that soon the small rearing ponds at Newlands became inadequate, and the Government took a lease on part of the farm “Jonker’s Hoek” for a permanent trout hatchery. Latour supervised the construction work, which was completed in its first stage by December 1895. It has been the principal hatchery in South Africa ever since.

Latour gave place in 1894 to John L. Scott, who came from the Solway Fisheries, Dumfries, Scotland. The breeding stock, of brown trout produced eggs for the first time in June 1895, and thereafter the stocking of rivers went apace – at any rate at horse and buggy pace. Rainbow trout were a later importation and they were first distributed to our streams in 1899.

I will not dwell on this historical aspect. I have recently had a hand in writing up the whole subject in Report No.1 of the Cape Inland Fisheries Dept., and any Member who would like more details will be welcome to a copy.

To revert to the indigenous fauna of our Cape mountain streams – members will have seen the slender little fishes which occur in quite small streams in the kloofs. They are the real natives, and in many cases they are positively the only fish inhabiting a mountain or upland stream, for example the Klaasjagers, the Schusters, the Bokram, the Silvermine and the streams around the Table in the Peninsula.

These are the Galaxias, and without going into too many details, ours are tiny representatives of a group of fishes found only at the southern tips of Africa, America and Australia, and in New Zealand. In the other countries mentioned some kinds grow much larger and to a certain extent take the place of the trout of the northern lands bordering on to the Arctic. Galaxias are quite scaleless, and if you examine them in a glass bowl they seem to be so transparent that all their “innards” are visible, particularly the red blood vessels. The mountain form of our Galaxias is often prettily barred, hence its second name of “zebratus”, and those from the brown streams are usually particularly well marked. It may be mentioned that they are often mistaken for and report as trout fry. The Galaxias also occurs lower

down, and in the vleis of the Cape Flats, where it usually takes a lightly-speckled colour form known as “punctifer”. But Dr Barnard has shown that there are many transitional stages and variations between these two forms. I mention all this because Galaxias is often the fish best known to mountaineers at the Cape, and its occurrence only at the southern tip of this continent may be a matter of interest.

The well-known Cape “kurper”, first noticed by the early settlers in the Liesbeek River, does not ascend so high, but it was probably more plentiful in upland streams before the arrival of the trout. In some tributaries of the Berg, Breede and Sonderend rivers, for instance in the lower gorge of the Wit River and its tributary streamlets, the handsome little “rooi-vlerk” or red fin may have been noticed, but is often confused with the young of the large witvis which also occurs.

The early history of trout distribution, beginning in the “nineties, shows that the pioneer acclimatisers stuck at nothing and tried them out in practically every water in the Western Province, including even the vleis of the Flats and all sorts of farm dams. It was a matter of trial and error, and it can be said that nearly every water has been given its chance to adopt trout at some time during the last 50 years, and that if trout are not present today there must be something about the water which is unsuitable for them.

The main causes of unsuitability in this region are high water temperature and the acidity of the peaty type of stream. It took some time before it was realised that trout are not tolerant of our kind of brown peat-stained water, and in consequence many hundreds of thousands of trout eggs were wasted in attempts to stock such waters, not only near Cape Town but all around the southern coastline to George and the Tsitsikamma. Trout do not take kindly to waters containing a population of large coarse fish – such as witvis or scabies.

The first river to show its suitability for trout was appropriately the Eerste River, followed in fairly quick succession by the Lourens, the upper parts of the Berg River and its tributaries the Wemmers and the Banhoek Dwaars. A little later the upper Breede River and its tributaries began to show results, viz. the Wit River above Bain’s Kloof, the Smalblaar River in du Toit’s Kloof, the Holsloot or Louw’s Hoek River, the Hex River, and the Ceres Dwars, Titus and Witels. The latter has the distinction of being one of the coolest and clearest of mountain streams even in the height of summer drought, and it is far more of a job for a mountaineer than the average angler. The rainbow trout also took readily to the Little Berg River above Tulbagh, and to the Twentyfourrivers stream. A rather remarkable Cape cart trip by Mr W.C. Fairbridge in 1895 resulted in the upper reaches of the Olifants River on the Witzenberg Vlakte and down to Visgat Falls being stocked with brown trout – and they persist to the present day.

It will be noted that all these streams are of the, comparatively, “white water” type, i.e. they are not notable for their brown peat-stain. Another notable rainbow trout stream is the Elands River at Villiersdorp, particularly notable because it is a “white water” exception in a darkly peaty river system – that of the Sonderend. The Palmiet River at Elgin received a lot of attention in the early days, and it did yield a few large brown trout, but we now know that brown trout fingerlings brought from the hatchery and released in a peaty water may grow fine fish, but are not able to reproduce their kind in it. Rainbow trout do not seem to tolerate peaty water at all, and just disappear entirely.

Coming nearer home, some may remember that trout fishing was all the rage in the early years of this century on the Table itself, in the Woodhead and Hely-Hutchinson reservoirs. That water is brown enough in all conscience.

The fact is that the trout never actually bred in the Table Mountain reservoirs, and that the stock was kept up for a few years by transporting hatchery fingerlings up the construction cableway. Mr Costly White told me that he made several trips with cans of young trout up the old cable-way. When the reservoirs were drained to the dregs just before Steenbras was laid on, and were subsequently emptied for cleaning, and surviving trout were lost and they have never been replaced. There is also an almost legend, that there was a ranger up there, from north of the Tweed, whose larder never lacked a trout whilst they lasted.

From 1931, for several years, we tried experiments with trout in the Silvermine Reservoirs, and here again it was proved that brown trout fingerlings will grow in peaty water but not establish themselves by breeding. Some rainbows we tried, soon went over the spillway, and we caught them on a fine mesh screen below the apron, but the brown trout "stayed-put". We also tried a series of experiments in the feeding stream with trout eggs brought from the hatchery, and these were a total loss.

Steenbras Reservoir itself contains a number of brown trout but the stock has been maintained by large annual replenishments of hatchery fish, and we have never had any proof that they have managed to breed in the Steenbras or Kogelberg streams. Little fish which have been brought to us in triumph as "trout fry" have always turned out to be Galaxias.

So we have the remarkable fact that, broadly speaking, the streams coming from the sandstone escarpments are suitable for trout, and those from the southern dip-slopes are too peat-stained and acid for the breeding requirements of these fish. Areas in Britain have very similar peaty waters to which brown trout are indigenous. They breed in them it is true, but on the whole do not grow well in them, as they do in the same water lower down after it has been neutralised or rendered alkaline by the limestone. Salmon migrating upstream to breed are said to avoid peaty tributaries if the main stream is of the "white water" type. It seems, therefore, that our much higher temperature has something to do with it, and renders the trout more susceptible to the acidity and colloidal matter in peat water. It may be mentioned here that summer-breeding fish like bass are not affected by peaty water to the same extent as the winter-breeding trout.

Most of you have spent far more time up on points of vantage from which the lay-out of the Cape mountain massifs can be observed than have I. I think, however, that it is rather a fallacy to attribute the brown stain of the streams to "palmiet", as so often is done. You can see the peaty water draining down from the mountain sponge from far above the palmiet in the stream beds, and also many of the best "white water" trout streams are heavily fringed with palmiet.

Trout, and in fact all our imported fish, have adapted themselves readily to the seasonal changes, i.e. seasons reversed from those of the Northern Hemisphere. This may seem a trite remark, but it is surprising how many people overseas do not seem to realise that the fish are influenced entirely by the succession of seasons as they find them, and not by the calendar!

Our brown trout are ready to spawn by about the end of May, and the rainbows begin to come on about a month later. In some years, the water temperature is still rather too high in June and the flow of water is not sufficient to give them the natural urge to spawn – the ideal temperature being a few degrees below 50 Fahr., although we rarely get it as low as that for long. The rainbows often have the advantage of ripening a bit later as it brings them into the proper cold season.

In Nature, the trout bury their eggs in clean gravel in the river or stream bed. Hatching takes only four to five weeks in this climate. The newly-hatched trout, or alevins, emerged from the egg with a large yolk-sac so that they look like eggs with tails, and they remain hidden deep in the protection of the gravel until they have used-up this reserve of egg yolk – a matter for several weeks. They are then active swimmers and make their way out of the redd and hide under stones, feeding on creeping insect larvae and darting out to take floating objects. The presence of suitable gravel beds or patches, free from choking mud or silt, is another important factor in the suitability of streams for trout. Here again it might be possible to keep up quite a good stock by planting hatchery fingerlings, but if suitable spawning beds were absent there would be little or no natural increase of trout. Some otherwise fine streams, for instance those near Cathcart and Stutterheim which have black-rock ledge formation, shaley stones but little real gravel, are thought to have failed to produce a permanent trout population owing to this defect.

Most anglers (and fisheries officers) restrict their activities to the lower levels and there is little knowledge of how high up the trout go to spawn, and in fact how high up in each mountain stream they go at all. Unless they are prevented by an impassable waterfall, altitude is no limit as long as there are pools large enough to give them a fair amount of space to cruise around. This is a problem which the mountaineers can help us to solve. I have heard rumours of tasty breakfasts obtained far above the normal angling altitude!

I have tried to make it clear that the trout alone are not flexible enough to provide stock for all our uplands waters. We had nothing else to try until 1937 when we succeeded in importing the smallmouth bass. This is a North American bass of the upland lakes and cool streams, and is quite distinct from the largemouth bass of the sluggish waters. The smallmouth is a real game battler for the angler, and is recognised as one of the world's freshwater game fish. It breeds in running water which is not suitable for the habits of the largemouth species. We have now proved beyond doubt that it will breed freely in brown acid water, as during the war it has established itself well in the Steenbras Reservoir.

The smallmouth bass lays its eggs on clean stones, and does not bury them like trout, but selects a spot where there is some protection from the full force of the current. They breed in early summer when the water temperature is 60 deg.F. or more, and the eggs hatch in a matter of days, not weeks. The male guards the nest and young fry, like the largemouth bass. The young smallmouth grow fast and soon disperse under stones where they feed on insect larvae, but soon graduate to larger game particular fish fry.

We have had great success with smallmouth bass in the Berg River at Groot Drakenstein and they have moved upstream towards the La Motte Forest Reserve, and here again it will be interesting to see how far up they will go. They have a distinct tendency to move upstream. We put some in the lower Wit River, where the Steenboks River stream comes in, and in only a few years they have moved right up into Michell's Pass above the Witels River junction.

We have also imported the southern form of the smallmouth bass, a distinct species known as the spotted bass. We got these fish from Ohio because we heard that they thrive in rivers which were acid and also subject to heavy floods. A number have been placed right at the top of the Palmiet River on the Nieuweberg Forest reserve, as well as in the upper Sonderend River just over Viljoen's Pass and in the tributary that joins it from the other side of the French Hoek Pass.

We have great hopes that either the smallmouth bass or the spotted bass, or both species, will serve to fill the fishless gap in the hundreds of miles from brown peat-stained streams around the southern tip of the Cape Province.