

CHRISTMAS GIFTS
Great ideas for discerning game-fishers

GOODBYE MR THURSO
An exclusive interview with Eddie McCarthy



9 770041 537175
£3.65
DECEMBER
2015

TROUT & SALMON

WIN!
A SET OF 10
WYCHWOOD
CONNECT
FLY-LINES

PLAN YOUR DREAM TRIP

- *Fish Iceland's secret salmon river*
- *Winter Mayfly sport in Madeira*
- *Essential tips for the travelling angler*

TROUT ON A SNAKE

*The fly you must
try on winter
reservoirs*

**TO IMITATE
OR ATTRACT?**

A guide to choosing wet-flies

**ADD LIFE
TO YOUR NYMPHS**

Patterns and ploys to fool fussy trout

**SALMON ON
TROUT TACKLE**

Fabulous sport in Donegal

In the name of science

Jon Beer helps a professor catch sea-trout in Shetland

PHOTOGRAPHY: JON BEER

IT BEGINS, AS with so many a strange tale, with a phone call from Gordon. Young Andrew, he said, was back.

Young Andrew has appeared in these chronicles before. Nine years ago, in a surreal episode (*T&S*, February 2007), Philip and I had turned up at Gordon's house to find Young Andrew, his wife, Minnie, and Old Andrew, his father, with Gordon and Marjorie. We revelled. And in the course of that liberal evening Gordon related the curious tale of an urn of ashes, left behind by a guest at Gordon's hotel. A fisherman, it seemed, had wished his ashes to be scattered on a Shetland loch but the bloke who had brought the ashes to Shetland had returned to England - leaving the ashes in the hotel. They were still there behind reception. We were incensed. Full of indignation, sympathy and strong drink we determined to set the thing right. The next day we made a dignified procession across the bright turf of the 8th green of the golf course and, with some ceremony, cast the last remains of a fellow fisherman over the waters of the Loch of Tingwall. And then we went fishing. And having fished, Philip and I came back to Oxfordshire, Old Andrew returned to Edinburgh while Young Andrew and Minnie flew home to Hong Kong.

And now he was back in Shetland. Not as Young Andrew, fisherman, bon vivant and ash-scatterer - but as Prof. Andrew L. Miller, Division of Life Science, Hong Kong University of Science and Technology, here as a visiting fellow to the NAFC Marine Centre in Scalloway. I couldn't imagine a more genial fellow to visit but I had no idea what it was that Andrew did in Hong Kong. I asked Gordon. My Shetland is rudimentary: I get about one word in three - but I fancy there was something about "fish scales" in there.

So I phoned Andrew. He'd been at school with Gordon in Shetland but the years in America and Hong Kong have smoothed off some of the trickier dialects of Shetland. But that didn't help because, it turns out, my biology is equally rudimentary and I hardly laid a glove on Andrew's explanation the first



▼
*Jon Beer is the president of the Wild Trout Trust. He fishes all over the world and is author of three books, *Gone Fishing*, *The Trout and I*, and *Not All Beer and Bezenecet*.*

time round. There was something about fish scales in there. Also bones. And lots of calcium.

He tried again. And once more. And slowly I got it. I'm sure you'll do better. Here goes.

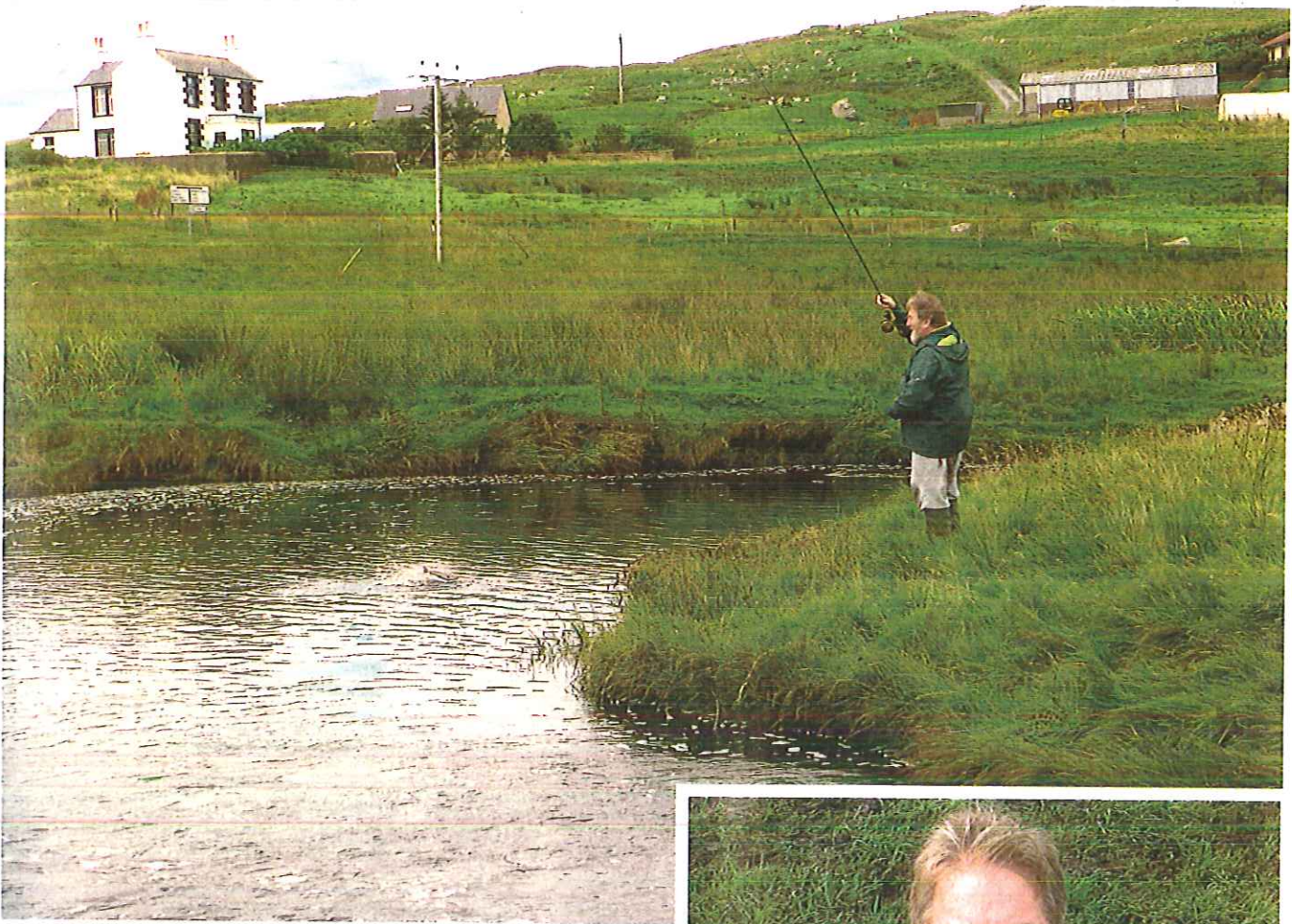
Calcium is absolutely essential for cell life and growth - but the level of calcium in the blood is critical. Bones are largely composed of calcium phosphate and our skeleton, as well as forming a superstructure to hang all the rest of the gubbins on, acts as the body's bank of calcium. The optimal level of calcium in the blood is partly maintained by drawing on this bank, dissolving bone when the calcium in the blood is too low or depositing bone when the level is too high. Up to now, most research into these intricate systems within living bones uses the mouse as a model for humans. This is tough on the mouse, which must be killed before a bone can be surgically removed. And it's not ideal for the researcher who must sacrifice a valuable subject that may have been specially - and very expensively - bred for a particular study. And you don't come to Shetland for its mice. I come for its trout. And so does Prof. Miller.

The scales of *teleostei* - fish with rayed fins and a swim bladder - are made of the same form of calcium phosphate as human bone. But unlike bone they're worn on the outside, just under the skin - so a fish can donate a scale or so to science with no harm and simply grow another in a week or so. Bone research

would benefit mightily if fish scales prove to be a usable model for human bone. But do fish scales behave like human bone?

It seems they might. Scales, it turns out, have cells almost identical to the osteoclasts and osteoblasts that dissolve and deposit the calcium in human bones. Andrew Miller's team in Hong Kong has already demonstrated in the laboratory that living scales of the zebrafish, a small freshwater species, respond in the same way as human bone to changes in calcium levels in a surrounding solution. But does it happen in nature? Some fish must cope with large fluctuations in calcium levels in the wild, fish that ▶

"Bone research would benefit mightily if fish scales prove to be a usable model for human bone"



ABOVE
Professor Andrew Miller (at work?) on the Laxo Burn, on the east side of Mainland.

RIGHT
Andrew measures meteorological data for each sea-trout sample.

LEFT
Andrew and Jon take a break beside the burn at Weisdale.

BELOW
Collecting scale samples from a good sea-trout.



move from fresh to saltwater as youngsters - and then back again as adults. Sea-trout, for instance - which was why Andrew was back in Shetland.

Andrew was planning to collect live scales from sea-trout at several locations on the east and west sides of the islands. To investigate the scales' reaction to changing levels of calcium in their surroundings, at each location he would need several trout captured in freshwater, some more from saltwater and yet more from brackish, intertidal water. That's an awful lot of sea-trout - but these fish would be catching themselves in a cunningly deployed fish trap.

The trap was deployed, right enough, but the Shetland sea-trout had proved even more cunning. By the time Gordon phoned me, only one sea-trout had been found in the trap - placed there, he suspected, by a waggish local fisherman. But that hadn't slowed the collecting of sea-trout scales one

bit: Gordon and Andrew were enjoying some prodigious summer sea-trout fishing in the voes and burns of Shetland. And it was then, I fancy, that I realised it was about time I did my bit to relieve the suffering of humanity, to put my shoulder to the wheel of bone research and join Gordon

and Andrew in the quest for medical enlightenment and sea-trout. And not long after I was on the ferry from Aberdeen.

This is one of the joys of arriving in Shetland by boat: you land at seven in the morning, refreshed after a night's sleep, with a full day ahead of you. Mine began with breakfast at Gordon's hotel. Andrew arrived halfway through my bacon, eggs and tomatoes and within half an hour we were off fishing, on our way to Weisdale Voe on the West Side.

Voes are a feature of the Shetland coastline. On a map, these long, narrow inlets resemble the fjords of Norway but Shetland voes are typically shallow, each fed by a small burn, crossed, often as not, by a road following the coastline. The pool at the mouth of the burn is a favourite haunt of Shetland sea-trout - and

sea-trout fishermen. The trout can enter on any flood tide and drop back into the voe on the ebb, with the pool changing from fresh to salt and all stations between depending on the height of the tide and the brio of the burn. It was high tide at Weisdale. I began at the tail of the pool above the bridge: Andrew began where the burn tumbled down from a riffle into the pool. Within a few minutes a small sea-trout had latched on to his Kingsmill fly to be lifted ashore. On the bank, there was a great unpacking of instruments: a few scales were removed with the finest of tweezers and a blood sample taken. The modest little sea-trout was weighed, measured and examined for parasites before Andrew set about recording the temperature, salinity, acidity and depth of the water - along with the time, barometric pressure, wind speed and direction, air temperature,

humidity and I don't know what else. And laden with that little lot we set off to Andrew's laboratory at the NAFC Marine Centre in Scalloway and the waiting Leanna.

The all-important exchanges of calcium at the surface of the still-living scale are measured with the exquisitely fine microprobe of the Scanning Ion-sensitive Electrode

Technique scanner. This gizmo sat in its aluminium shrine, presided over by Leanna Henderson, high-priestess of SIET. It takes Leanna around four hours to process a single scale. Which means, it was dawning on me, that to satisfy SIET's - and Leanna's - daily appetite, we must catch two sea-trout: the first before 9 am, the second before 1 pm. We were back in the car and heading for the east coast.

The Laxo Burn tumbles down to the head of the voe in a series of gentle falls. A week ago, in a small pool at the bottom of the falls, Gordon and Andrew had come across a shoal of sea-trout at low tide: they had all the saltwater samples they needed. We were after a sea-trout in the freshwater of the burn above the falls.

Nowhere in Shetland is more than three miles from the sea. The ample rains that fall on the islands

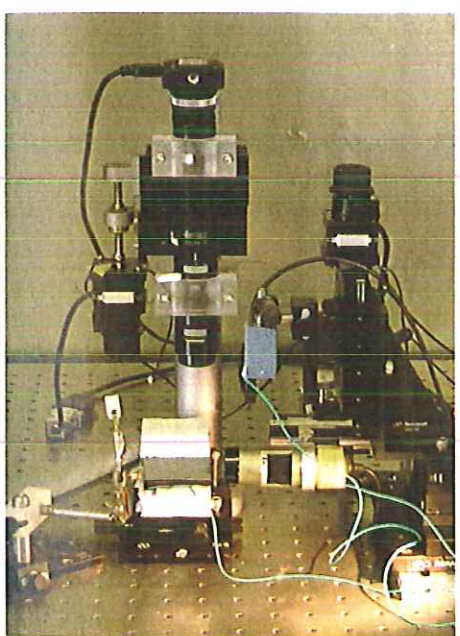
“Pools change from fresh to salt and all stations between depending on the height of the tide and the brio of the burn”

A typical view on the east side of Mainland, Shetland.





Gordon Williamson into the first of several sea-trout from the head of Collafirth yoe.



LEFT
The SIET scanner in its aluminium, electromagnetic-shielding shrine.

RIGHT
A sea-trout scale under the scanner's microscope.

BELOW
Andrew and Leanna Henderson in the NAFC Marine Centre laboratory, Scalloway.





ABOVE
Time for a few casts in the sea before catching the ferry to Yell.

are collected in hundreds of small streams that drain straight to the sea. In mainland Britain you'd pass over such tiny streams and head for grander waters in search of sea-trout. But, for the sea-trout of Shetland, these tiny streams are all they have to migrate into so each little burn will have its population of visitors and residents. We caught several of both on our way down the first small pool above the bridge. We only needed one but it's hard to stop when there are sea-trout to be caught and ever the chance of a bigger one.

That night I woke to the rain drumming on the roof. It was still raining when Andy and I headed to Laxo Burn to collect another freshwater sea-trout. The burn was grotesquely swollen, leaping down the falls to the sea in a peat-stained cataract. Had this flood brought a bounty of fresh-run sea-trout into the burn? If so, they were too knackered to take a fly. Or perhaps they had ridden the flood up into the hills because we didn't get a touch in the pools above the bridge. So we crossed the island to Weisdale where we'd had a fish in minutes the day before. With all this rain, the pool above the bridge would be freshwater. But here too we found nothing but small resident brown trout, cowering in the margins from the flood. Andrew and Gordon had never failed to catch the daily sea-trout all summer. Now, on my second day, we were staring down the barrel of a blank.

The rain had slowed and, in the late afternoon, Gordon thought it might be worth a last chuck. The water was still high but falling at Weisdale. On a couple of occasions in the weeks of sampling he'd seen a good fish in the run above the bridge where the water barrels down to the voe. I'd fished there that

"Gordon tied on something similar but a lot more manly: like a TB&S on steroids"

morning with my little Teal, Blue and Silvers and touched nothing. Now Gordon tied on something similar but a lot more manly: a sand-eel imitation on a huge saltwater hook, like a TB&S on steroids. And with this he proceeded to land a sea-trout of 20 inches.

The sun shone the next day. Gordon and I were planning to fish a burn on the island of Yell but there would be time to cast a fly in Colla Firth on the way to the ferry. I have no idea when a voe becomes a firth: they look about the same size to me. Andrew joined us where the tiny Burn of Quhamm seeped to the sea, barely a mile and half from its source. And at the end of a sandy spit festooned with seaweed we had the best sea-trout

fishing of my few days in Shetland, as we cast to a shoal against the shore and caught fish after silver fish from the sunlit shallows.

Sea-trout, you may recall, are the shyest of fish: as a rule, best fished for after dark. But Shetland is long, long way from Westminster: up here they ignore some of the rules. **T&S**

Where to stay

GORDON AND Marjorie Williamson run Herrislea House Hotel, the fishingest hotel in Shetland. Tel: 01595 840 208 or visit www.herrisleahouse.co.uk
NORTHLINK Ferries run a nightly service from Aberdeen to Orkney and Shetland. For details visit www.northlinkferries.co.uk or phone 0845 6000 449.
NEXT MONTH Jon will be looking at all the game fishing in the islands in "A Visitor's Guide to Fishing in Shetland".

