

evidently thought that they required notice. He has had them added to a figure of the plant which he reproduces from "Tabernæmontanus," as he explains, "with addition of the jointed tuberous roots as they are in Winter; yet by the Caruer's fault they are not altogether so exquisitely exprest as I intended." Withering ("Botanical Arrangement of British Plants," ed. ii., 1787, p. 613) has, "The roots, when dried and powdered, will make bread." And in Bromfield's "Flora Vectensis" (1856), the note occurs:—"The roots of *S. palustris* are said to become edible by cultivation. See Curtis, 'Brit. Entom.,' vi." This last is a book to which I have not convenient access; but the reference may give your correspondent a useful clue.

I may mention that I do not find the name "Bare Horehound" given at all in Britten and Holland's very comprehensive dictionary of English plant-names. The old name for *Stachys palustris* was "Clown's All-heal."

W. T. THISELTON DYER

Garfish

HAVING been absent from England for some time, I have only just noticed the two letters published in NATURE for July 5 and 12 (pp. 226 and 245), on "Garfish." I have little doubt that the fish described by Mr. S. Archer as having cut a slit in a felt hat was, as he believes, a garfish, a large Belone, not a Hemirhamphus, and not a swordfish or sawfish of any kind, as suggested by Mr. Goodsir. It is the constant habit of large Belones, some species of which attain, according to Dr. Günther, a length of five feet, when startled to move along the surface of the water by a series of rapid bounds for thirty or forty yards at a time, with astonishing rapidity. I have often seen them thus spring out of the water when scared by a boat. I was told that in some of the Pacific Islands these fish not uncommonly cause the death of the natives, who, when wading in the water, have their naked abdomens speared by the sharp snouts of the fish, with the result of causing peritonitis. The fish appear to bound blindly away from danger, and strike any obstacle in their way haphazard. As a good many natives wade in together in many of their fishing operations, as at Fiji, for example, where one party drives the fish into the nets held by another, such accidents may easily occur. I do not think a sawfish could possibly jump over a boat. I have described the jumping habits of the large garfish, and alluded to their fatal effects in "Notes by a Naturalist on the Challenger," p. 480.

H. N. MOSELEY

Continuous Registration of Temperature

IN your issue of July 26 (p. 306) there is a description of an apparatus lately devised by Messrs. Negretti and Zambra, by which a record of twelve temperatures in succession can be obtained by the somewhat elaborate arrangement of twelve thermometers, a clock, and a series of electromagnets and battery. I wish to bring under your notice a simple machine invented by Mr. Bowkett, late resident medical officer of the Leeds Fever Hospital, by which a continuous record of atmospheric temperature can be obtained by means of an apparatus consisting solely of a "bourdon" steam gauge tube, a clock, and a writing lever, costing little more than a few shillings.

Mr. Bowkett devoted great mechanical skill during several years of experimentation to the perfecting of a form of this instrument sufficiently small and accurate to be used for medical purposes, *i.e.* to register the temperature of the human body. For this purpose the instrument has to be somewhat more complicated, and accordingly more costly. Many of these are in use in our hospitals and elsewhere, and are of the greatest possible value.

These instruments can be made of any size, and when large are of very great strength, and might easily be applied for thermal regulation by attachment to valves or other ventilating arrangements. The instrument constructed by Mr. Bowkett for registering the temperature of rooms was of the size of a small clock, of the simplest possible character, requiring very little care in its use. Messrs. Salt of Birmingham are the licensees of the patent.

ERNEST M. JACOB

12, Park Street, Leeds

Aurora and Thunderstorm

A DISPLAY of aurora was seen here on the 30th ult., which may perhaps be of sufficient interest for insertion in NATURE.

A thunderstorm passed from west to south during the after-

noon. Thunder and lightning commenced between 3 and 4 p.m. and continued till about 9 o'clock. The storm centre was about two miles from the city; no rain fell here, though a heavy hail shower fell to the west in the afternoon. Lightning was vivid till past midnight in the south. From 11.30 to midnight an auroral light passed over the zenith from west to east, of well defined nebulous light. It was 10° in width as measured by a sextant. This was joined on the north by a horizontal band of aurora 18° altitude. There were no great flashing lights from this.

On the northern horizon was a small arc throwing up short flashes. The horizontal band was the brightest.

The temperature and force of wind and barometer readings were as under:—

	Barometer.	Wind.	Temperature.	
			Dry Bulb.	Wet Bulb.
3 p.m.,	29.857	...	79.8	71.9
6 "	29.855	...	71.4	64.0
9 "	29.862	S.S.E. 5 miles	66.4	64.0
12 "	29.851	S.S.E. 4 miles	60.9	60.3
Maximum shade reading of the day, 83.5.				
" of the 31st, 82.0.				

The observatory is 764 feet above the sea level, and I am indebted to the observer for the above figures.

ALAN MACDOUGALL

Winnipeg, Manitoba, August 10

A Complete Solar Rainbow

ON Thursday, August 16, while R.M.S. *Norham Castle* was in lat. 2° 20' N., long. 13° 58' W., a phenomenon entirely new, at least to the officers and passengers on board, appeared at 11 a.m., and lasted until 12.30 p.m. This consisted of a complete rainbow round the sun, when nearly and at the zenith, having an inner diameter—taken by Capt. Winchester, R.N.R.—of 43° 08'. The day was bright and warm, with a slight haze above. The rainbow appeared to crown the whole of the upper dome of the sky, and to possess all the normal colours, only very slightly dimmed. Whether connected with this appearance or not I cannot say, but the next two days were squally, with heavy rains.

D. MORRIS

Kew, September 5

Animal Intelligence

I AM a constant reader of NATURE, and have read with much pleasure the several instances recently communicated by correspondents of animal intelligence, a subject in which I take great interest.

It has struck me that some of your readers might in turn be interested in hearing of the intelligence and powers of observation of a collie bitch called "Winifred," my constant companion.

In one of the fields attached to my house there is a large pond well stocked with fish, and especially with eels. I very often spend an evening fishing for these latter, using several lines at different points round the pond, the rods lying on the grass, each one receiving my attention whenever its respective float indicates that there is a bite.

The collie "Winifred" is constantly with me on these occasions, and has always taken the greatest interest in her master's proceedings, watching every movement most intently. It was for a long time a source of considerable amusement to me to notice that by constant observation the dog had come to understand the connection between the bobbing and final disappearance of a float and the subsequent exciting proceedings of pulling up an eel, disengaging it from the hook, and putting it into the creel. The cocked ears, head on one side, and eager eyes of "Winifred" when she saw a float bobbing gave plain proof that she was as much interested in the fishing as her master.

One evening some six weeks ago it happened that I was at one end of the pond baiting a hook, while the dog had remained at the other end, lying on the grass close to one of the rods. Suddenly I observed her showing signs of excitement, and, on looking across, saw one of my floats finally disappearing under the water. As I did not come, "Winifred" got very excited indeed, uttered one or two sharp yelps, and ended by seizing the rod in her mouth and "backing" with it, attempting to pull out the line from the water. I hurried to take the rod from her, fearing the effects on my tackle of the lack of skill of this canine