

ON BIRCH-WATER.

By OTTO HEHNER, F.C.S.

IN Spring few trees exhibit so prominent marks of vitality as does the common birch (*Betula alba*). In March and April the sap rises with extraordinary power and in great quantity, and freely escapes from any wound which may be inflicted on the tree. This juice, Birch-water, is in some parts of Germany allowed to ferment, when it is said to yield an agreeable mild, alcoholic beverage.

Having collected a large quantity of this liquid, I found its chemical composition to be as follows:—

Acidity, calculated as Acetic Acid...	...	...	0.0156 per cent.
Total solid residue	...	...	1.8255 „
Mineral Matter	...	...	0.0646 „

The solid residue included 0.0176 per cent. of Nitrogen and 1.10 per cent. of Glucose, cane sugar being entirely absent. The juice turns the plane of polarisation to the left, 0.2.

*I hope shortly to be able to give an account of some experiments on the oxidation of metallic sulphides by bromine water. I may say now that the precipitated sulphides of zinc, nickel, lead, and silver, are almost instantaneously oxidised by bromine water. Sulphides of bismuth, antimony, arsenic, copper, and mercury, are almost as readily acted on. Even sulphide of platinum is completely soluble. I believe I shall shortly be able to point out some instances in which this action of bromine on the metallic sulphides may be very advantageously employed both for qualitative and quantitative purposes.

The mineral matter was composed as follows:—

Chlorine	...	...	...	...	...	0·708
Carbonic Acid	...	...	...	...	...	20·937
Soluble Silica	...	...	...	...	...	0·114
Insoluble Silica	...	...	...	...	...	1·530
Sulphuric Acid	...	...	...	...	...	7·448
Phosphoric Acid	10·855
Lime	18·825
Magnesia	10·105
Soda	0·939
Potash	29·283
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						100·744
Minus Oxygen for Chlorine
						0·158
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						100·586
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The trees from which the juice was collected grew on slaty soil.
