

NOTES ON A FEW MEDICINAL SYRUPS.

(From the *British and Colonial Druggist*.)

At a recent meeting of the Dundee Chemists' Assistants' Association, the Secretary, Mr. T. Cuthbert Henderson, A.P.S., delivered an interesting paper on Medicinal Syrups.

In introducing his subject, Mr. Henderson intimated that it was not his intention to bring before his audience a series of elaborate analytical tables, but rather to briefly account his experience in the manufacture and preservation of the more important of these syrups. Doubtless, to many the facts which he had to present would be familiar, but there were others who had, perhaps, not had the same experience in this particular branch of their profession, as he was aware there are many pharmacies in which these syrups are seldom, or never, made. The first of the syrups he proposed to bring before their notice was

SYRUP FERRI IODIDI.

This syrup, as made from the B.P., 1867, process, was not quite satisfactory. When made it was almost colorless, with only a slight green tinge, but in the course of a few days it assumed a brownish color, attributed by some to the conversion of the ferrous salt into the ferric, with liberation of free iodine. He quoted, however, from a paper on this point read before the School of Pharmacy Students' Association, by Mr. F. Browne, to the effect that the colouration is not due to free iodine, although free iodine is liberated some days after this distinct brown coloration has appeared. The various methods which have been adopted from time to time for the preservation of the syrup were enumerated. The plan of covering bottles of syr. ferr. iodid. with blue paper was useless. On the contrary, according to the writer just quoted, the more light the better. Reference was next made to the method of keeping a coil of iron wire in the syrup, the object of which was to convert any iodine liberated into FeI₂ at once. The alteration which was effected on the formula in the B.P., 1885, was with the object of better preserving the product. Part of the sugar is converted into glucose, which is said to act as a preservative. Hypophosphorous acid was a popular and successful preservative, when added in the proportion of about 0.1 per cent. But by far the best preservative he had yet found for this syrup was about 5 per cent. of glycerine. Reasoning that glycerine has the power of reducing ferric salts into ferrous it will prevent ferrous salts being converted into ferric. Four samples were exhibited, made at the same time and under similar conditions, and preserved by the methods above enumerated, the latter glycerine demonstrating its excellence as a preservative agent. At this point the author pointed out the necessity of procuring the best of sugar for these purposes. Quite as much depend-

ed on the quality of the sugar as on the manipulation.

SYR FERRI BROMIDI.

Mr. Henderson thought it strange that this syrup, so closely allied to the former, had not been made official in the B.P. He had tried both the published formula for this, viz., Martindale's "Extra Pharmacopœia" and B.P.C. formulary, 1888, and he was inclined to prefer the former. This syrup showed the same tendency to become discolored, but by the addition of hypophosphorous acid or glycerine in the above proportions this is overcome, and the syrup keeps fairly well.

SYRUP FERRI PHOSPHATIS CUM QUININA STRYCHNIA FASION'S SYRUP.

had been a source of trouble to nearly every one who has made it. He had followed for several years the formula published by Martindale Ex. Ph. 1st ed., but had not found it quite satisfactory owing to an opalescence and ultimately a white precipitate, which, some writers said, was ferric phosphate, while others held that it was quinine phosphate, which latter theory he himself had found to be the correct one. He had, therefore, reduced the quantity of quinine phosphate, the advisability of this procedure being borne out by the improved formula in the B.P.C., 1888. Mr. T. Malby Clague, in his paper before the B.P.C. this year, had also recommended a reduction of the quantity of quinine. The various methods adopted for the preservation of this syrup were detailed, and, as in the other cases, he had found 5 per cent. of glycerine perfect for preventing the brown coloration so common with it.

SYRUP FERRI PHOSPHATIS CO.

A formula for this had now been introduced into the B.P.C. Prepared according to this formula, a very pleasant preparation is the result, although not quite up to Parry's perhaps in the quantity of salts. The method is easier followed than that of precipitating the phosphate of iron; indeed, it is a pity that this method of preparation was not included in the new B.P.; doubtless it will be in the next. He thought, however, that the quantity of calcium carbonate might be reduced with advantage from 120 grams to 100 grains to the pint, and that the quantity of sodium and potassium salts should be increased.

The next syrup he had to bring before them was

SYRUP HYPOPHOSPHORICI.

Ever since the introduction of Fehling's Syrup there have been attempts innumerable to purchase a satisfactory imitation, but it would be difficult to find one which had reached perfection, either in appearance or taste. He quoted Messrs. Dott and Ingham Clarke's report to the B.P.C. of 1888 on the deficiencies of salts to be found in many syrups. After following the B.P.C. formula for some time he hit upon the following as producing an excellent and elegant syrup:-

Take of	
Strychnine	1 grain
Quinine	10 grains
Manganese hypophosphite	10 grains
Acetyl hypophosphorus	20 drachms
Water	20 ounces
Dissolve and filter	
Sodium hypophosphite	10 grains
Calcium	10 grains
Ferric hypophosphite	10 grains
Filter	
Dissolve and filter	
Mix the two solutions and add	
Glycerine	10 ounces
Syrup	20 ounces

Each fluid drachm contains 1/100 grain strychnine, 1/10 grain quinine, 1/10 grain manganese, 1/10 grain iron, 1/10 grain sodium, and 1/10 grain calcium hypophosphites. The essayist suggested, in passing, that this syrup and several other well known syrups should be included in the next B.P., he was assured that then the chemist would be able to compete with his neighbor the store man, in that both would be required by law to keep a certain quality, and tiding thus they could be prosecuted under the Sale of Food and Drug Act.

SYRUP IODICI.

as prepared by the B.P. formula sometimes presented a difficulty, inasmuch as the bottles in which it was stored acquired a strong smell of benzoin, and in heated atmospheres the stopper was apt to jump out of the bottles. Mr. Henderson commended the process of maceration and percolation as suggested by Mr. Fred. Stephenson, before an evening meeting of the Pharmaceutical Society in Edinburgh in 1888. He had also experimented with paper pulp as a clarifying agent for syrups, and the like, and he found that an adaptation of this to Stephenson's produced a very successful syrup, with a splendid aroma, good appearance and good keeping properties.

The following is the process:-

Take of	
Balsam of Tolu	1 ounce
Finest loaf sugar	2 lbs
Water	10 ounces

Reduce the balsam to powder by trituration with 8 ounces of the sugar. Macerate along with about 180 grams of paper pulp, with the water for 48 hours, with frequent agitation. Filter until bright, and dissolve the remainder of the sugar in the filtrate, which is best effected by the percolation and with out the aid of heat.

SYRUP SCILLÆ.

was the last of the syrups noticed. He had adopted the same system with it, viz., cold percolation, which avoids the decomposition of this syrup, sometimes caused by too great heat being applied, thereby driving off some of the acetic acid. The percolation is packed with about 2 1/2 pounds of sugar. The acetum scillæ is then allowed to percolate through it and the product filtered.

In conclusion, the lecturer wished to bring before the notice of those present a few

GLYCERITES.

His attention was first drawn to these by a paper read by Mr. Arthur before an evening meeting of the Pharmaceutical Society in Edinburgh this year. At that meeting the writer showed samples of ferrous iodide and ferrous bromide, and suggested that glycerites of the other ferrous salts should be made. He had found them very satisfactory, and submitted samples of the preparations glycer. ferr. iodid., bromid., hypophosph. co., phosph. co., phosph. co. quini et strych. He would advocate the introduction of the glycerites, not only on account of their property of retarding the oxidation of ferrous salts, but also because of the unsatisfactory condition of the sugar of commerce.