houses interested in tea culture, organized schemes have been carried out by the Indian planters in the Australian colonies, in France, and Belgium, as well as, to some extent, in Germany, and, by the Ceylon planters, both in Germany, in France, and in Russia, in which last-mentioned country very great strides have been made in the introduction of Ceylon tea, which is now regularly imported by the Russian tea merchants, as well as by the representative of the Ceylon planters, Mr. Rogivue, in Moscow.

Trusting you will pardon the length of these remarks which I am only induced to make in the interests of accuracy.—I am, GEORGE SETON.

Indian Tea Association (London), 14, St. Mary-axe, E. C., August 13th.

Sir,—In the valuable article on "Indian Affairs" appeared in *The Times* of Monday last a most interesting contribution is made to the knowledge possessed by the British public as to the tea it drinks.

Probably very few people are aware that 84 per cent. of the tea consumed in this country is British grown, and it must therefore be satisfactory to all to learn, on the high authority of your Correspondent, that, as regards quality, the Indian and Ceylon teas have no rival in any sea borne teas in the world.

There can it seems be no room for doubt that the Indian soil and climate are better suited to the growth of fine qualities of teas. This is clearly demonstrated by the high price paid for thousands of chests of the finest qualities of Indian teas at the weekly auctions in mincing-lane; and strangely enough, the most expensive Indian teas find their best market in the north of Ireland.

As to the efforts made by India and Ceylon to find an entrance into new markets, it must be remembered that the produce of Ceylon presents a greater similarity to that of China than Indian teas do, and hence the greater success of Ceylon in finding new markets in countries using China teas. It is also true that Ceylon spent three times as much as India at the Chicago Exhibition, but it is open to question whether the result was commensurate with the cost.

In any case, it is not as rivals but as brothers that India and Ceylon are doing their best to find a market for British grown teas among our great kindred people in the West. Your obedient servant.

ERNEST TYE (per A.E.H.) Secretary.

COFFEA STENOPHYLLA.

A small box of seed of Coffea stenophylla was received from the Royal Gardens, Kew, a small quantity of which sown in the gardens and the rest distributed for experimental cultivation to the undermentioned, viz:—Mrs. Munro, Peermaad. W. Gallan, Esq., Saharanpur. Revd. G. Richter, Mercara. T. J. Ferguson, Esq., Calicut. J. Cameron, Esq., Bangalore. G. M. Woodrow. Esq., Poona. W. Hamilton-Holmes, Esq., Madras.

Appended is an extract from the Kew Bulletin of miscellaneous information for July, 1893, p. 167.

The narrow leaved "wild," "bush," or "native coffee," is sometimes found wild in the hills, and is more often cultivated by the natives than the Liberian. It grows very freely, and appears to yield quite as much as the Liberian, but it is somewhat longer in coming into bearing. Both the natives and French traders at Freetown say that it has a superior flavour, and prefer it to the Liberian. In fact, latterly, a certain amount has been exported to a wholesale French dealer who is said to sell it at 4 francs 50 centimes a lb. as "best Mocha:" considering that it is worth in Freetown about 6d a lb. this should be a fairly profitable trade, and a trial shipment should be made by the English merchants to find out exactly what the market value in Liverpool would be. The plant appears to thrive best on the higher hills about Sierra Leone, on gneissose or granitic soil, and can be grown from 500 to 2,000 feet. Probably it may be grown both above and below these limits.—*Proceedings of the Agri-Horticultural Society of Madras.*

INDIAN TEA AND COFFEE PLANTERS AND THE ANTWERP EXHIBITION.

The following is from the *Times* of the 21st inst:—

It is with regard to the two other great staples of the British planting industry in India, coffee and tea that most regret must be felt. The Indian coffee planters and the Indian tea planters are trying to open new markets, and the Indian tea planters know that on their ability to do so the future of their enterprise depends. The Javanese planters are equally alive to this fact and the Government of Holland has given a really admirable exhibition of the produce of the Dutch East Indies. To the European visitor who contrasts the well-designed collection in the Dutch section with the few tea samples in the section of British India it must seem that the Dutch East Indies still has the monopoly of the Indian trade. After some inquiry we believe we are correct in saying that the Government of British India has not found itself able to assist the exhibition of its teas and coffees by the subvention of a single rupee. A London tea Company, with a branch office in Brussels, has sent to the British section a small but interesting collection of its wares; and Indian tea is sold at the British refreshment bar. It is needless to enlarge on the utter inadequacy of the means adopted to the end in view. Indeed, the Dutch section, by way of illustrating the general Eastern trade of Holland, gives incidentally a more important collection of British Indian teas than is to be found in the British Indian section. With deficit grappling at its throat the Government of India was powerless to attempt any similar collection, and the time has not yet come when the widely-scattered industries of the Indian continent, any more than the Indian railways or Indian irrigation enterprises, can organize their own representation without State organization and aid. But for the unwearied energy and the courageous acceptance of personal responsibilites which have throughout marked the action of her Majesty's Consul General for Belgium the Indian section at the Antwerp Exhibition would have ended in something very like a fiasco. Any small success which it may have attained is due to Mr. de Coursy-Perry, ably assisted by Sir Charles Kennedy, and to the three or four private firms or companies who have sent samples of their goods.

The inadequate representation of Indian produce at Antwerp is the more to be lamented, as it marks a retrograde step from the position which British Indian products won at Amsterdam. To take the single example of tea-planting, the Indian industry in which British capitalists are at this moment most vitally interested. At the Amsterdam Exhibition a valuable collection of British Indian teas was shown, over 2,700 specimen packets were sold, and more than 40,000 cups of tea were served. Notwithstanding the previous inclination of the jurors towards Javanese varieties, 58 awards were granted to Indian teas including a diploma of honour, even gold and 17 silver medals. The official report osnly regretted that while it was thus "in the power of the Indian Department of the Exhibition to create a demand for tea, it was unable to create also a constant supply. Those who brought packets almost invariably wanted more, and asked or wrote to know where it was to be obtained in similar packets after the close of the Exhibition." At this point the function of the Government very properly ceased and the business of the private merchant began. The direct shipment of tea from India to Holland is still insignificant, being under 16,000 lb.; but the transhipment of Indian teas from England to Holland exceeds a quarter of a million pounds. Indeed, a considerable re-exportation of Indian teas from Great Britain to Europe and America has developed since the Amsterdam Exhibition, and now amounts to 21·3 million pounds. It is this re-export trade which might have received a valuable impulse from the Antwerp Exhibition if Indian teas

had been adequately brought to the notice of the European purchaser. The course of the trade shows that wherever Indian teas obtain a foothold they make their way. But it also shows that they are still scarcely known in the European market. The re-exports of China teas from Great Britain to the Continent and America continue ten times greater than the re-exports of Indian teas. It is no longer entirely a question of tea *versus* coffee for the upper classes in Holland, Belgium, and Germany are beginning to use tea more freely, and medical men have raised the question whether the excessive consumption of coffee has not something to do with the obesity and failure of nerve force which is so common among middle-aged Germans. Curiously enough, it would appear that, next to America, the largest purchaser of Indian teas from Great Britain is Turkey, which, according to the returns, took in 1893, nearly half-a-million pounds. As we pointed out some time ago with regard to America, so also in Europe, the struggle is developing into one between the British capitalist and the Chinese peasant for the tea trade of the world. The Korean war, if sufficiently prolonged, will give the Indian and Ceylon planters another opportunity which they are not likely to let slip.

VARIOUS PLANTING NOTES.

A Dye From Vine-leaves.—Schunk, Knecht, and Marchlewski, three German chemists, as reported in the *Journal of the Chemical Society*, have obtained from brown vine-leaves gathered in autumn a dye that colours wool mordanted with chrome and tin respectively brown and yellow. The substance was obtained primarily as a brownish-yellow, partially crystalline glucosid. When boiled with sulphuric acid this yields sugar and the colouring matter, which is obtained as a reddish-brown powder.—*Public Opinion.*

Grevillia Seedlings.—A writer in the *Madras Mail* gives his experience regarding casuarina seeds. He says:—I planted about half a pound of seeds, and only one or two seedlings came up. I planted some more, and watched results. Squirrels came and carefully removed all those on the surface. Streams of ants appeared from every direction, and each ant as he departed took away a seed. I afterwards succeeded by planting in large pots, setting them in water, and covering them with a wire netting.

Tea Leaves and Insects.—A few days ago we received specimens of withered and sound leaves from the same tea-trees, about 10 years old, and about 7 months from last pruning. The tea in question is at about 4,000 ft. elevation. Dr. Trimen to whom we submitted the specimens has kindly favoured us with the following:—The brown and dry patches on the older leaves are probably due to the attacks of a mite, either "Red-spider" or one of its allies. There are no insects now on the leaves, but their cast skins can be still seen on the dead patches.

A Curious Grass.—In the eighth number of the first volume of *Contributions from the United State National Herbarium, Washington*, is described and figured a curious grass, Chloris longifolia, Vasey, which produces branching panicles on or beneath the surface of the ground. The flowers borne on these subterranean branches are larger than those borne on the ordinary panicles, and are female only. They cannot, therefore, be considered as cleistogamic, and must be fertilised by pollen from other flowers. Amphicarpum is mentioned as a grass with similar habit. It may be that this is a provision against the ill-effects of drought.—*Gardeners' Chronicle.*

Effect of Rain on Plants.—We learn from *Nature* of January 11, 1894, that: "Professor J. Wiesner, who has recently been studying the influence of artifical rain upon European and exotic plants, gave an account of his results at a recent meeting of the Vienna Academy. Some of the plants, called by Professor Wiesner "ombrophobe," can only for a short time stand continuous rain, and soon shed their leaves and decay. Others, called "ombrophil," can stand it for months together. Plants growing in dry places are, as a rule, ombrophobe, but the reverse cannot be said of plants growing under wet surroundings. Leaves appear to gain in power of resisting rain as they develop, and to reach a climax in this respect at the period of their greatest vital activity, after which they loose much of that power. Leaves which can be wetted by water are usually ombrophil, those which cannot are usually ombrophobe, but in cases where leaves are both ombrophobe and easily wetted, they are extremely sensitive to rain. Professor Wiesner thinks that ombrophobe leaves are enabled to resist the putrefactive action of water, especially at high temperatures, by certain antiseptic substances which they contain. The same may be said of hydrophil roots and submerged parts of aquatic plants."—*Gardeners' Chronicle.*

The Papaw Tree.—A correspondent sends us the following paragraph taken from a foreign contemporary:—"Some thirteen years ago we planted a large number of papaw trees at our station at Masasi in the Rovuma district. As these began to grow many proved to be males, and not wishing to occupy our plantation with what we considered to be useless trees, we proceeded to root up and throw away the male trees. Our native deacon who had lived many years in Zanzibar asked us why we did this, since if we wished it, he said we could probably obtain fruit from all or most of the trees we were destroying. Asked how that was to be done he replied, 'By breaking off all the upper part of the tree, and allowing the tree to sprout again from the bare trunk.' We were incredulous, but he persisted that it was a thing commonly done in Zanzibar on the Arab plantations, and induced us at length to make the experiment. It was quite successful. We broke off the entire upper part of all the male trees at a point below all the leaves and flowers. In due time they sprouted again, when we discovered that many of them, though by no means all, put forth this time the characteristic female flower, the 'squat blossom growing close to the trunk of the tree,' which in course of time set, and then the fruit formed in the ordinary manner, and was developed, in no way differing from that of a tree that is, so to speak, a born female. With regard to the others that sprouted again with male flowers, we broke them off again, when a proportion of them on the second occasion would turn out females. Others we tried three or four times in the same way without succeeding in changing the sex. In all cases where male trees changed into female in this way, female trees were growing in close proximity to them. We would like to ask experts whether what we are now describing is known to them, and in what way it is to be accounted for. So little did we see a good reason for the tree on being broken off, sprouting again of the opposite sex, that until the phenomenon really occurred we felt that we were behaving in a manner worthy of the pork-butcher, who, noticing that the Asters in his garden were more than usually streaky, attributed the fact to his having buried a side of bacon in their vicinity the year before. After all though, and for aught we know, it may be as well known to naturalists as to others, that by the means we have been describing papaw trees may be induced to change their sex."—*Journal of Horticulture.*