A Statement regarding the Cochineal, the Coccus Cacti. Lin.

" It is doubtless the most valuable product, for which the dyer is indebted to insects, and, with the exception of indigo, the most important of dyeing materials. Though the Spaniards found it employed by the natives of Mexico, where alone it is cultivated, on their arrival in 1518, its true nature was not accurately ascertained for nearly two centuries afterwards. Acosta indeed, as early as 1530, and Herrara and Hernandez, subsequently had stated it to be an insect. But led apparently by its external appearance, notwithstanding the conjectures of Lister, and assertions of Pere Plumier, to the contrary, it was believed by the Europeans in general, to be the seed of a plant, until Hartsoeker, in 1694, Leeuwenhoek and De la Hire, in 1704, and Geoffroy, ten years later, by dissections and microscopical observation, incontrovertibly proved its real origin.

" This insect, which comes to us in the form of a reddish shrivelled grain covered with a white powder or bloom, feeds on a particular kind of Indian fig, called in Mexico, where alone Cochineal is produced in any quantity, Nopal, which has always been supposed to be the Cactus Cochinilifer. Lin. but, according to Humboldt, is unquestionably a distinct species, which bears fruit internally white.

" Cochineal is chiefly cultivated in the Intendency of Oaxaca; and some plantations contain 50 or 60,000 nopals in lines, each being kept about four feet high, for more easy access in collecting the dye. The cultivators prefer the most prickly varieties of the plant, as affording protection to the cochineal from insects; to prevent which from depositing their eggs in the flower or fruit, both are carefully cut off. The greatest quantity, however, of cochineal employed in commerce, is produced in small nopaleries, belonging to Indians of extreme poverty, called Nopaleros. They plant their nopaleries in cleared ground on the slopes of mountains or ravines, two or three leagues distant from their villages; and when properly cleaned, the plants are in a condition to maintain the cochineal in the third year. As a stock, the proprietor, in April or May, purchases branches or joints of the Tuna de Castilla, laden with small cochineal insects recently hatched (Semilla.) These branches, which may be bought in the market of Oaxaca for about 3 francs (2s. 6d.) the hundred, are kept for twenty days in the interior of their huts, and then exposed to the open air under a shed, where, from their succulency, they continue to live for several months. In August and September, the mother

cochineal insects, now big with young, are placed in nests made of a species of Tillandsia called Paxtle, which are distributed upon the nopals. In about four months the first gathering, yielding twelve for one, may be made, which in the course of the year is succeeded by two more profitable harvests. This period of sowing and harvest refers chiefly to the districts of Sola and Zimatlan. In colder climates the semilla is not placed upon the nopals until October or even December, when it is necessary to shelter the young insects by covering the nopals with rush mats, and the harvests are proportionably later and unproductive. In the immediate vicinity of the town Oaxaca the Nopaleros feed their Cochineal Insects in the plains from October to April, and at the beginning of the remaining months, during which it rains in the plains, transport them to their plantations of nopals in the neighbouring mountains, where the weather is more favorable.

"Much care is necessary in the tedious operation of gathering the cochineal from the nopals, which is performed with a squirrel's or stag's tail by the Indian women, who for this purpose squat down for hours together beside one plant; and notwithstanding the high price of the cochineal, it is to be doubted if the cultivation would be profitable were the value of labour more considerable (*a*)

"The cochineal insects are killed either by throwing them into boiling water, by exposing them in heaps to the sun, or by placing them in the ovens (Temazcalli) used for vapour-baths. The last of these methods, which is least in use, preserves the whitish powder on the body of the cochineal, which being thus less subject to the adulterations so often practised by the Indians, bears a higher price both in America and Europe.

"The quantity at present annually exported from South America, is said by Humboldt, to be 32,000 arobas, there worth £500,040 sterling, (*b*)—a vast amount to arise from so small an insect, and well calculated to show us the absurdity of despising any animals on account of their minuteness. So important is the acquisition of this insect (of which the Spanish Government is extremely jealous) regarded, that the Court of Directors of the East India Company have offered a reward of £6000 sterling to any one who shall introduce it into India (*c*).

(*a*) I believe that the cultivation would succeed very well in India, on account of the low wages: as also in this Colony, it being easy work, the Hottentot women and children would prefer it above other labor.

(*b*) Dr. Bancroft estimates the present annual consumption in Great Britain at about 750 bags, or 150,000 lbs., worth at the present price 375,000*l*.

(*c*) See Kirby & Spence, vol. I. p. 321. edited in 1822, (9 years ago)!!!

where hitherto the Company have only succeeded in procuring from Brazil the wild kind, producing the Sylvestre cochineal, which is of very inferior value."—*Kirby & Spence's Introduction to Entomology, fourth edition, vol. I. p.* 318 *to* 322.

C. F. H. von Ludwig, Phil: Dr.
Member of the S. A. Institution.