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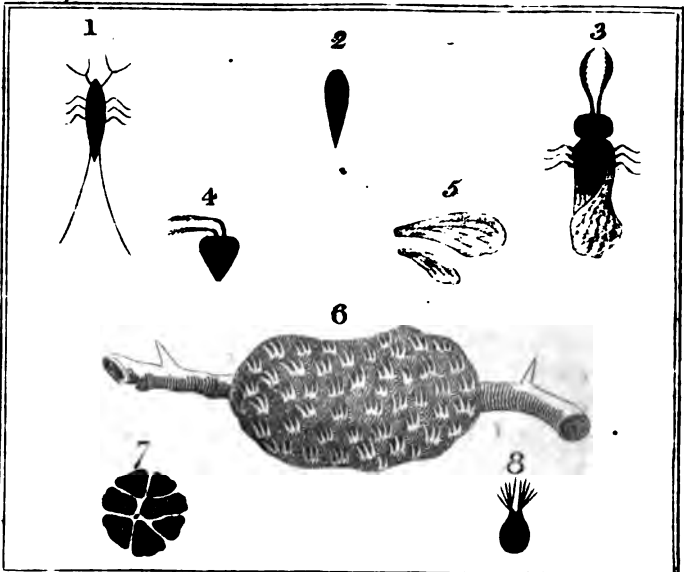
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XXIV.

ON THE LACSHA, OR LAC INSECT.

BY MR. WILLIAM ROXBURGH.

SOME pieces of very fresh-looking lac adhering to small branches of *mimosa cinerea*, were brought me from the mountains on the 20th of last month. I kept them carefully, and to-day, the 4th of *December*, fourteen days from the time they came from the hills, myriads of exceedingly minute animals were observed creeping about the lac and branches it adhered to, and more still issuing from small holes over the surface of the cells: other small and perforated excrescences were observed with a glass amongst the perforations, from which the minute insects issued, regularly two to each hole, and crowned with some very fine white hairs. When the hairs were rubbed off, two white spots appeared. The animals, when single, ran about pretty briskly; but in general they were so numerous as to be crowded over one another. The body is oblong, tapering most towards the tail, below plain, above convex, with a double, or flat margin: laterally on the back part of the thorax are two small tubercles, which may be the eyes: the body behind the thorax is crossed with twelve rings; legs six; feelers (antennæ) half the length of the body, jointed, hairy, each ending in two hairs as long as the antennæ; rump, a white point between two terminal hairs, which are as long as the body of the animal; the mouth I could not see. On opening the cells, the substance that they were formed of cannot be better described, with respect to appearance, than by saying it is like the transparent amber that beads are made of: the external covering of the cells may be about half a line thick, is remarkably strong and able to resist injuries; the partitions are much thinner; the cells are in general

irregular squares, pentagons, and hexagons, about an eighth of an inch in diameter, and $\frac{1}{4}$ deep; they have no communication with each other: all these I opened during the time the animals were issuing, contained in one-half a small bag filled with a thick red jelly-like-liquor, replete with what I take to be eggs; these bags, or utriculi, adhere to the bottom of the cells, and have each two necks, which pass through perforations in the external coat of the cells, forming the fore-mentioned excrescences, and ending in some very fine hairs. The other half of the cells have a distinct opening, and contain a white substance, like some few filaments of cotton rolled together, and numbers of the insects themselves ready to make their exit. Several of the same insects I observed to have drawn up their legs, and to lie flat; they did not move on being touched, nor did they show any signs of life with the greatest irritation.

December 5. The same minute hexapedes continue issuing from their cells in numbers; they are more lively, of a deepened red colour, and fewer of the motionless sort. To-day I saw the mouth; it is a flattened point, about the middle of the breast, which the little animal projects on being compressed.

December 6. The male insects I have found to-day. A few of them are constantly running among the females most actively: as yet they are scarce more, I imagine, than one to 5000 females, but twice their size. The head is obtuse; eyes black, very large; antennæ clavated, feathered, about $\frac{2}{3}$ the length of the body; below the middle an articulation, such as those in the legs; colour between the eyes a beautiful shining green; neck very short; body oval, brown; abdomen oblong, the length of body and head; legs six; wings membranaceous, four, longer than the body, fixed to the

sides of the thorax, narrow at their insertions, growing broader for two-thirds of their length, then rounded; the anterior pair is twice the size of the posterior; a strong fibre runs along their anterior margins; they lie flat, like the wings of a common fly, when it walks or rests; no hairs from the rump; it springs most actively to a considerable distance on being touched; mouth in the under part of the head; maxillæ transverse. To-day the female insects continue issuing in great numbers, and move about as on the 4th.

December 7. The small red insects still more numerous, and move about as before: winged insects, still very few, continue active. There have been fresh leaves and bits of the branches of both *mimosa sinerea* and *corinda* put into the wide mouthed bottle with them: they walk over them indifferently, without showing any preference, nor inclination to work nor copulate. I opened a cell whence I thought the winged flies had come, and found several, eight or ten, more in it, struggling to shake off their incumbrances: they were in one of those utriculi mentioned on the 4th, which ends in two mouths, shut up with fine white hairs, but one of them was open for the exit of the flies; the other would no doubt have opened in due time: this utriculus I found now perfectly dry, and divided into cells by exceeding thin partitions. I imagine, before any of the flies made their escape, it might have contained about twenty. In these minute cells with the living flies, or whence they had made their escape, were small dry dark coloured compressed grains, which may be the dried excrements of the flies.

Note by the President.

THE *Hindus* have six names for *Lac*; but they generally call it *Lacsha*, from the *multitude* of small insects, who, as they believe, discharge it from their

stomachs, and at length destroy the tree on which they form their colonies. A fine *Pippala* near *Crismanagar*, is now almost wholly destroyed by them.