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Note on Eumenes Conica, Fabr., and Megachile Disjuncta, Fabr., and Their Parasites Chrysis Funscipennis Brulle, and Parevaspis Abdominalis, Smith

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The state of affairs is that the influx of the cold water from the polar areas may be encountered by this moving current, or force the movement, from the depth of the top of the sea channel affording communication. The state of affairs in the Bengali Channel is incomplete, but is probably a ridge uniting the islands at the mouth of this channel to an extent of roughly 300 fathoms, within the enclosed area of 41° F.—the temperature of the ocean from the polar regions, viz., 41° F., and this is the temperature of the Inland Sea; while outside, in the river, the temperature gradually diminishes as the depth increases at once left for Moulmein. The river was of an arduous description, running through paddy fields to the low lands near the river. Moulmein itself is on the river. On a bright cold morning a leopard was discovered by the coolies, when they went to work, on a lighter just ahead of the ship. They attacked and drove it overboard, and followed it up in a boat, making numerous very badly aimed blows at its bobbing head. The ship's anchor chain it tried to scramble, but failed, swam ashore, and was shot, sinking and being carried by the strong tide below a pontoon, whence it was subsequently dragged with long poles.

The Marine Survey had the good fortune to be present in Moulmein at the time of Lord Elgin's visit, and to admire the decorations, which were of the most lavish description, and thoroughly appreciate a posture dance given by some twenty young Burmese girls in honour of the visit. The lights, the flashing jewels, the prettily shaded pale blue and pink silk dresses, the most infectious music, and the graceful and harmonious poses of the girls, altogether made up a charming picture which it will be impossible to forget.

At the mouth of the Moulmein river lies the small town of Amherst, and on the coast slightly to the south of this on several occasions landing was effected. Here the country becomes undulating, with hills rising to a few hundred feet and densely wooded to their summits, but at their bases the trees have been cleared in places to make durian, mangosteen, and sugar-cane gardens. Unfortunately these gardens are said to be extremely unhealthy during the rainy season, but inhabitable at other times of the year. In these hills and in the scrub jungle near Amherst live large numbers of jungle fowl, barking deer, mouse-deer and pig, and a few leopards, tiger, and sambar. They are also inhabited by more undesirable animals in the form of minute ticks, so small and so numerous that one's hands often look as if peppered; by large numbers of both the large dark green and the small straw-coloured scorpions; and by many snakes—the last, fortunately, usually of a harmless species. One of the most vividly coloured of the Indian snakes, Coluber oxycephalus, was caught here, and afterwards deposited in the Calcutta Zoological Gardens, where it is probably still being exhibited.

(The above appeared in the Times of India on 30th May, 1889.)

NO. XIX.—NOTE ON ENEMNES CONICA, FABR., AND MEGACHELIE DISJUNCTA, FABR., AND THEIR PARASITES CHERYSIS FUSCIPENNIS, BREULLE, AND FAVEVASPIS ABDOMINALIS, SMITH.

Mr. Aitken's note on "A Wasp and a Fly" in Vol. XII, No. 2 of the Magazine, recalls some observations I made some eight or nine years ago on the above-mentioned Pseudos wasp and bee and their parasites. I noted down the details of the incidents at the time and here they are:

Moulmein, April 24th.—Noticed a half-finished mud cell of Enenames being made on the woodwork of a window in my study. While examining it closely with a lens, the wasp returned with a pellet of mud and buzzed rather angrily round my head. I moved away a little and watched her. After
flying round for a while she alighted close to the half-finished cell and
walking up to it stuck the mud she was carrying on one side of it and
proceeded to work it into the wall of the cell kneading it, so far as I could
see without approaching too close and frightening her, with both jaws and
forelegs. Then she retreated a little as if to take a view of her work, and in
a few seconds flew away to return with more mud. It was easy enough to
recognize the species, it was E. coules, the commonest of the Fossorial wasps
in Burma. I watched for nearly an hour while the nest was being com-
pleted. It then formed the half of a hemispherical shell, somewhat smaller in
circumference than a rupee, with a circular opening at the top. When the cell
walls were so far finished the wasp flew off and was absent fully half an hour.
During her absence one of those metallic green cuckoo wasps, subsequently
identified as Chrysis fusculaena alighted near the nest, approached it cautious-
ly, examined it quickly, both inside and out, and then retreated behind the
edge of the wooden framework where it remained motionless, apparently on the watch. Presently the Enmenus returned carrying a green
caterpillar. She alighted on the window and after some preliminary
inspection of her nest, and hauling and dragging of the caterpillar, crammed
it into the cell. She took quite a long time over it, with sometimes, her head
and thorax inside, and sometimes her abdomen. All this time the Cuckoo-
wasps remained perfectly still watching. As soon, however, as the Enmenus
had flown away, the Chrysis approached the nest again, slowly and apparently
with great caution. She walked round it then up the side, and peeped in,
withdrew her head, seemed to give a final good look all round and popped in.
She could not have been more than a few seconds inside, when a loud buzz
announced the return of the rightful owner of the nest. I had barely time
to glance at the Enmenus, which alighted, as before, on the window, when my
attention was attracted by the darting out of the cell of the barglarious
Cuckoo-wasp. The Enmenus saw it too, and, with what sounded very like an
angry buzz, dashed after it in pursuit, overtook it, and then the two dropped to
the ground. I ran out but I had to go round by a veranda too high to jump
to the steps, and by the time I arrived on the ground the fight was over and the
Enmenus had disappeared. The Chrysis, however, lay on the ground
crippled and crawling painfully with all its wings torn off close to the roots.
I have the specimen and one torn forewing which was all I could find, in
my collection still. Returning to the nest, I sat and worked at a table near it
for more than an hour, and inspected it at intervals through that day, but
the Enmenus never returned, and next morning the cell was still open and
unsealed. I tried to take it off with care but it broke to pieces. Inside was
one green caterpillar, and two semi-transparent white eggs, one much
smaller than the other; of these eggs the larger one was stuck against
the wall of the cell, the other deposited on the caterpillar. I may mention
that the caterpillar was quite dead.
to the half-finished cell and trying on to one side of it and needling it, so far as I could seize her, with both jaws and a view of her work, and in mud. It was easy enough to molest the Fonsorial wasps while the nest was being conical shell, somewhat smaller in size, yet the greatest one was stuck against the bamboo. Inside was a never-ending supply of eggs, one much the larger one was stuck against the caterpillar. I may mention the caterpillar. I may mention it broke to pieces in size, but its head out of the hollow end threatened. Poor Megachile had peaceful possession of her nest again, but what became of the Parewaspis or how she was ejected I have no idea. Next day the Megachile had finished her nest and I took the bamboo as it stood, I kept it for over six months, but nothing hatched out, and when I opened the hollow, I found ants had got at the nest and entirely destroyed it.

C. T. BINGHAM, Colonel,
Conservator of Forests,

WRESTLING WITH A SPOTTED STAG.

Kawkareik, June 11th.—A bundle of bamboo, collected as specimens, stands in the corner of the centre room of the Forest bungalow. A leaf-cutter bee (Megachile disjuncta, Fabr.) has been industriously carrying in, for the last two hours, little circular pieces cut off from the leaves of a rose bush in the garden. Of course she is constructing a nest in the hollow end of one of the bamboos aforesaid. I watched her as she flew in with her load to the corner and saw her disappear down the hollow end of one of the othermost bamboos in the bundle. When she flew out again, I approached to see whether I could examine the nest. As I neared the corner I noticed another bee (Parewaspis abdominalis, Smith) walking up the identical bamboo in which the Megachile had her nest. It scrambled up the bamboo, looked in at the hollow and disappeared. Expectinguctions when the Megachile returned, I watched Mrs. Parewaspis remained out of sight for some time, then put her great head out, gave a look round and again retreated. Presently, the Megachile returned carrying building material as before, and alighted on the very edge of the hollow in the bamboo preparatory to descending inside. The hollow was small, just big enough perhaps to let an insect slip through, about twice the Megachile's size, but not sufficiently large for the Parewaspis to get past the Megachile, because of the former's huge head. As I said the Megachile halted on the edge of the hollow in the bamboo. Suddenly the bit of leaf she was carrying was knocked out of her hold, and she herself pushed off the edge of the bamboo. It was Mrs. Parewaspis, of course, who had punched up and thrust her great head out of the hollow. And there she stayed on the defensive with her jaws widely expanded and threatened. Poor Megachile, she seemed greatly taken aback, buzzed around angrily, but could not make up her mind to attack and dispossess the intruder of her nest. For about an hour affairs remained in this condition, then I was obliged to go out on work, and when I returned in the afternoon the Megachile had peaceful possession of her nest again, but what became of the Parewaspis or how she was ejected I have no idea.

CAMP MAYMYO, UPPER BURMA, 24th May, 1889.

No. XX.—JUNGLE NOTES.

CHITAL.—On the 24th of March last I had just beaten out and killed a tiger when a spotted stag with fairly good antlers was galloping along the bank of a nullah. I shot the animal as it was descending the bank, and it dropped dead into a pool of water. I was then surprised to find that both the horns had fallen off, and were lying beside the dead stag. This would not have...
been remarkable but for the fact that at this season of the year the horns of the chital are just mature, and not ready for casting.

Although as a rule a shy animal, the spotted deer is sometimes very bold, or rather, I should say perhaps, foolish. A few days before the occurrence described above I came across a herd of chital, and at once sat down to try and distinguish the stag. The herd, however, consisted entirely of hinds, one of which saw me, and came walking in my direction, gazng intently, and barking at intervals, until within about 40 yards. I then moved on, and the herd followed me for some time, some of its members barking continuously. No wonder these animals fall an easy prey to tigers.

Bison.—I have frequently heard it said, and seen it stated in books, that bison never feed in cultivation. I know a village, however, surrounded by jungle, in the vicinity of which is a considerable area of rice fields, where bison are in the habit of feeding every night during the hot weather. The Gond shikaris take advantage of this and pot the animals from trees on moonlight nights, or when they are leaving the cultivation at dawn. Last year an old Gond shikari whom I used to employ was killed by a bison which he had wounded in this manner. I have always found the bison to be a very mild animal, but this old Gond had had a different experience, for he had been tossed by a wounded bull some years before, and I saw the scars of the injuries he had received on that occasion. Another Gond, a veritable wild man of the woods, who was with me this year, told me of an encounter he had seen between a tiger and a great solitary bison, in which the latter managed to beat off his antagonist. In a similar encounter, of which I heard some years ago, the bison, a very large bull whose head was shown to me, was killed and partly devoured. His assailant, however, did not escape scot-free, for when subsequently killed by a friend of mine (who, by the way, met him one morning, and shot him with a single-barrelled 450 express rifle) he was found to have sustained considerable injuries about the head, and I think had one eye gouged out.

Wild Dogs.—These pests appear to be growing more numerous every year. This year two of my buffaloes, tied up for tigers, were killed by them. On another occasion one of my buffaloes was killed by a panther. After passing the kill next morning, my shikaries saw the panther going off over the hills with a pack of about thirty wild dogs in full cry after him. In the evening I found a wild dog with a small pup feeding on the carcass of the buffalo, but unfortunately made a bad shot and missed the vermin. The same pack of dogs had cleared the whole valley of game, including three tigers which I had hoped to have brought to bag. They kept to the lower end of the valley where the tigers had previously been living and not a mark was to be found, but after some days the biggest of the tigers fortunately came down to the head of the valley, eight miles off, beyond the range of the red dogs, and there I shot him.

Another year I shall certainly take a poison some of these destructive animals of deer, but drive away game of all kin...