## Notes on a Digger Wasp

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It is with pleasure that I meet all the brother Bug Hunters again, and have the pleasure of adding my small contribution to the list of papers to be read to you. Not that mine is of any scientific value nor that I expect it to be published in the Proceedings, for alas, I never do write anything worth while printing.

I will, however, tell you of an amusing half hour I spent one hot summer day on the railway track near Goldstream, V. I. Not a likely location for amusement, a railway track, you will say, but wait.

While sitting on the platform, waiting for a train one day, I noticed a big blue wasp—probably Sphex, or Chlorion, scampering about the gravelly road-bed, in apparently a high state of excitement, her actions reminding me of those of a hen, dying to lay an egg, but afraid to go to her hidden nest because of onlookers. Keeping quite still, and watching closely, I presently saw the insect dive into a hole in the middle of the track. Presently she emerged, and seeming to take a good look about, she ran around in a sort of circle, wings, legs, and antennae all moving nervously at once. After apparently satisfied that all was fair, she took flight. Still watching, I was shortly rewarded by seeing a movement in the weeds some feet away, from which presently appeared the wasp dragging a caterpillar as big, and much heavier than herself. It was, of course, in a quiet state, having been evidently paralysed by stinging before I saw it. The wasp, in getting it along, sometimes straddled the worm, then, after a slow progress of a few inches, would reverse ends, and travel backwards, dragging her prey. Finally, after prodigious labour, the mouth of the hole was reached. Letting go of the worm, the wasp quickly disappeared in the hole. A second later, the big head appeared at the opening, showing that at the bottom of the tunnel, there was somewhere a chamber big enough for her to turn round in, she having gone in head first. After a bit, with antennae flicking like lightning, she seized the caterpillar by the head and backed down the hole, slowly dragging the corpse after her. Then elapsed a wait of several seconds, probably nearly a minute, then the big head again appeared. Another look about and the insect emerged. A quick, nervous run all around the hole-while I could almost hear the old hen cackling-and she began to fill in the hole, scratching the sand and gravel of the road-bed like a terrier. I noticed that in spite of the quick, nervous movements, she carefully separated the finer portions from the coarse, and filled first with the fine, gradually increasing the size until near the top were quite large bits of stone, as big as a pea perhaps.

When the hole was filled, I saw for the first time the use of the great, mallet-like head, for this was used as a tamping bar, the fore part of the body moving up and down on the outspread legs like a trip-

hammer, with the convex part of the head frontal thumping down on the stones in the mouth of the hole.

Peckham, in "Solitary Wasps of Wisconsin," tells of Ammophila using a small stone, held in the mandibles, to pound down the earth on the top of the hole. This wasp, however, did not do this, but used her head alone, though little pebbles were picked up in the mandibles and dropped into the hole during filling.

After the hole was filled, fine sand was again scratched over the spot, and infinite pains were taken in levelling off the surface, so that at last, when the work was done, the human eye could not detect any sign of disturbance in the arid, gravelly surface of the road-bed.

Mistress Wasp, having finished her labours, strutted about for a bit, antennae quivering, wings twinkling, feet stroking off bits of sand from parts of her anatomy. Then, after a last look about, with all apparently to her satisfaction, she took wing and flew away, probably to dig another caterpillar grave farther up the road.

Here the train whistled and I soon climbed aboard for home.

