

continually enlarged by the addition of concentric rings of cells, and new layers are built, each suspended by a strong stalk from the layer above; until the nest may consist of a casing of eight or nine sheets of paper a foot or more in diameter, containing half a dozen layers of comb, and sheltering thousands of wasps. Apparently only the younger wasps (distinguished by their smooth perfect wings from the older workers whose wings have become frayed) are capable of paper-making, they alone secreting the necessary mucus in sufficient quantity. Unlike the slothful drones of the honey bee, the male wasps, who appear with the young queens in the later broods, take an active part in the affairs of the colony, and gather food and care for the young as industriously as their sisters, the professional workers.

Our wasps cannot be accused of food-hoarding. They use their comb as a nursery only, and never lay up supplies in it, like the honey bees. They take no thought for the morrow, but trust to Providence every morning for their daily bread. And a remarkably comprehensive taste in victuals must make

it comparatively easy for Providence to cater for them, their bill of fare ranging from flower nectar—that most ethereal of foods—to the gross corruption of rotten fish.

The colony's activities diminish with the cooler weather of autumn, but the routine of the nest continues to the last. Winter always seems to surprise them, as death does mankind; and frozen larvæ and pupæ as well as the bodies of the last few faithful workers are generally to be found in the nests in the winter. Before the cold weather, the young queens mate with the males, presumably from other nests, and crawl away into crevices to wait for the spring. But the courageous tireless paper-makers and foragers, who wrought, single-thoughted for the community's good, from dawn to dark the summer through, all perish with the first severe frost. And now the craven naturalist, who did not dare to approach within many yards of the nest while its fearless defenders were alive, can carry it home in a cheap triumph, as a trophy for his room.

TOURMALINE FROM MACDONALD ISLAND, BAFFIN LAND.

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A small crystal of tourmaline was associated with the minerals from Baffin Land described by Prof. T. L. Walker.* This crystal is about six mm. long and four mm. wide. It is dark bottle-green by transmitted light, black by reflected light. The antilogous pole is broken, the other one shows some very fine faces. Following Dana's orientation, they correspond to the upper half forms of: the positive rhombohedron of the first order, p , (1011); the negative rhombohedrons of the first order, o , (2201) and e , (1102); the positive scalenohedrons u , (3251) and q , (11.5.16.2). In the vertical zone there are several prisms, the one most developed being a positive trigonal prism of the first order, m , (1010); the edges of this prism are replaced by other small prism faces, belonging to the negative trigonal prism of the first order m' , (1010); the hexagonal prism of the second order a , (1120); the positive ditrigonal prism k , (3120). The unequal development of the various prism faces gives to the crystal the appearance of a trigonal prism with rounded edges.

*Minerals from Baffin Land. The Ottawa Naturalist, 1915, p. 65.

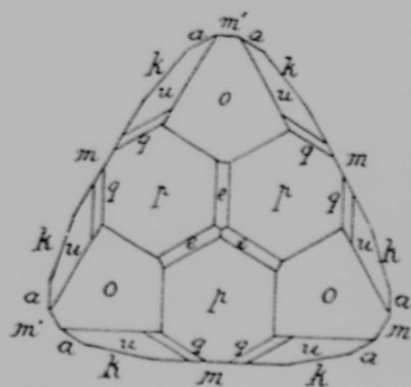


FIG. 1.

A projection of the crystal on the plane 0001 is given on Fig. 1. The measurements were made by a two-circle reflecting goniometer: they are indicated in the following table and may be compared with the calculated angles ϕ and ρ as given by Goldschmidt in his Winkeltabellen.