

the cells opening downward, within the protecting oval coverings. As the summer draws to a close, larger cells are constructed and males and perfect females are developed. After mating the males gradually perish, and the whole colony succumbs to cold and starvation, with the exception of such females as may find suitable hibernating quarters and survive to found new colonies next year. Notwithstanding their fierce dispositions and venomous stings, the wasps cannot protect their nests from parasitic intruders. Forty years ago Mr. W. Couper, who then resided in Ottawa, bred from a nest of *V. maculata* a tryphonid which was sent by Mr. Billings to Mr. Cresson, who described it in the Canadian Entomologist, Vol. I, page 104, under the name *Euceros burrus*. The species has been redescribed by Rev. J. L. Zabriskie as *Sphecophagus* (?) *predator*, and more recently has been referred to the genus *Cacotropa* by Mr. Davis. Dr. Fletcher has found apparently the same species, though varying somewhat in coloration, abundant in nests of *V. diabolica*. *Polistes* belongs also to the social wasps, but its colonies are small. The nest consists of only one layer of cells, without any covering, and is attached to the under side of a stone, or occasionally in buildings or in some other sheltered situation. A nest recently found (19th April, 1908), under a flat stone in a sandy field, consists of 98 cells and was attached by a large central pedicel and several small ones around the edge. Between the nest and the stone a lively female wasp was found which had apparently hibernated there and which might possibly have used the nest again instead of starting a new one.

The Eumenidæ have longitudinally folded wings like the Vespidæ, but are smaller wasps which are solitary in their habits and are not paper-makers. All our species are black, with yellowish or whitish markings, and are abundant at the end of summer on Spiræa, golden rod, etc., in common with many of our other wasps which may then be easily captured. Eumenes has a petiolated abdomen and constructs of clay a curious little vase-shaped nest attached to twigs. The cell is provisioned with small caterpillars, of which those called loopers or measuring-worms seem to be preferred, and the egg is suspended from the top of the cell by a slender thread so that it may not be crushed by the moving about of the caterpillars. The rest of our Eumenidæ are included in the extensive genus *Odynerus* which contains according to the Genera Insectorum 796 described species. The twelve Ottawa species are divided equally between the three subgenera *Leionotus* (Nos. 37-40), *Ancistrocerus* (Nos. 41-44) and *Symmorphus* (Nos. 45-48). Their nesting habits are varied; some building clay cells under stones or in