to distinguish one genus from another The abdomen in many insects ends in a tube which holds either a sting, as in the Bee, or an ovipositor, as in the Ichneumons. The sexes and distinct, and the larvæ are hatched from eggs. In those of social habits, as Ants and Bees, the workers are neutral, neither ·sex characteristics being developed.

The classification of Orton is as follows :---

Lower SERIES - Body usually flattened; prothorax large and squarish ; mouth parts usually adapted for biting; metamorphosis often incomplete; pupa often active; larva flattened, often resembling the adult-Neuroptera, Orthoptera, Hemiptera, Coleoptera.

HIGHER SERIES - Body usually cylindrical ; prothorax small ; mouth parts formed for sucking ; larva usually cylindrical, very unlike the adult -- Diptera, Lopidoptera, Hymenoptera.

Mineralogy.

By Prof. S. K. HITCHINGS.

No. III.

BERYL.

This mineral occurs in six-sided for polishing purposes. prisms, usually without regularly formed ends; color, green, sometimes shading into blue or yellow. Cleavage, across the end, but not distinct. tre vitreous, streak white. 7-5 to 8. Transparent to subtrinslucent. and unacted upon by acids Occurs lateral in granite, gneiss, dolomite, etc.

Emerald is the bright green transparent variety.

Aquamarine is of a clear sea-green color. as gems. from New Grenada, aquamarines from found rel within and green without, Siberia and Brazil. are found in the United States. measuring four feet in length and thir- rent, but usually translucent to opique; Grafton, N. H.

GARNET.

This mineral occurs in crystals, with 12 or 24 faces, but sometimes massive ; color, dark red to brown, or einnamon : transparent to opaque; lustre vitreous; hardness, 6.5 to 7.5; before the blowpipe, most varieties fuse easily to a dark glass; not affected by acids. composition it is a silicate of various oxides, the most common being alumina and calcium. Clear varieties are used much in jewelry. The opaque and brittle garnets are quite common in mica schist and gneiss. They are usually quite small, but are sometimes found from one to two inches in diamater. Precious garnets are rarely found half-an-inch in diameter. The first garnets discovered, of much value were found on the Syrian River. in the country called Pegu, in Asia, from whence some are brought now. Ceylon, Brazil, New Hampshire, and several other places, produce fine stones. The carbuncle and the hyacinth of the ancients are supposed to have been the garnet. Pulverized garnet is sometimes used instead of emery

TOURMALINE.

Tourmaline occurs primarily in three-Lus-sided prisms, terminating in a low Hardness pyramid, but is usually found with the edges bevelled or truncited, thus giv-Infusible before the blowpipe, ing 6, 9, or 12 sides to the crystal. The faces are often cylindrically convex. It rarely occurs massive, and is always found imbedded usually in granite, gneiss, schists, or limestone; Jolor commonly Both of these are highly valued black or dark brown, but frequently The finest emeralds come green, red, yellow, or white, sumstimes The largest beryls or of one color at one end, and ano-One ther at the other; sometimes transpaty-two inches in diameter was found at lustre vitreous, inclined to resinous ; very brittle, fracturing across easily;