

tinguished only with great difficulty. The surface of the body of *kühniella* is almost perfectly smooth, while that of *interpunctella* is somewhat granulate." *Insect Life*, V. ii., p. 171.

E. interpunctella appears to be a much more general feeder than *kühniella* for while I only have actual record of the latter feeding on the following substances, preparations of maize, wheat, barley, and rice, Prof. Riley gives the following list for *interpunctella*, wheat, meal, corn, dandelion roots, chickasaw plums, sugar, dry opuntia, old books, Pecan nuts, cinnamon bark and English walnuts. Prof. Cook also mentions it as a pest in bee-hives, and I have myself bred it in numbers from European almonds, of which the larvæ had eaten both the soft shells and the kernels.

DR. CHRISTIAN ZIMMERMANN.

BY H. A. HAGEN, CAMBRIDGE, MASS.

There exists no biology nor necrology of this excellent entomologist as far as known to me, though he lived for thirty-nine years in the United States. I am much indebted to Dr. George C. Horn for Zimmermann's note book, which, with his library, came into the hands of the late Dr. J. L. Leconte.

Only a very short abstract of the contents, which are written wholly in German, can be given. The entries begin with Zimmermann's earliest boyhood and end in 1843, followed by a few pages for 1865. The narrow pages contain only the substances of events in short phrases, often very cutting both for Europe and for America. If the whole could be published it would give a very interesting picture of the life of an excellent naturalist, always kept down and hindered by want and ill-luck but always ready to "begin again." It is sad that such a life akin to the remarkable histories of former ages, published by the masterhand of G. Freytag, should have been possible in the nineteenth century—a continuous struggle of a noble soul with continuous misfortune.

Christian Zimmermann was born in Quedlinburg, Prussia, September 6th, 1800. His father and three generations before him were carpenters as the name indicates; all were born and died in Quedlinburg. Christian entered the gymnasium in 1811 and graduated in 1821. The note book May 26th, 1814, says: "I am to-day 5,000 days old." (He always counts his life both in Europe and here by the 1,000 days.) The collection of beetles begins and the study of music. His talent for music must have been obvious, as one year later he played the organ for the church service and studied thorough bass. When he graduated he writes:—"Up to this time my money was made by keeping score for target shooting, teaching children, giving music lessons, organ playing, copying music, furnishing music at funerals, stuffing birds."

His parents, who were poor, proposed that he should choose a profession, but determined to study he went to Halle, where he stayed as student from 1821 to 1825. He passed his examination after having attended the lectures in theology, philology and philosophy, but his entomological studies were never neglected.

In 1827 he published his first music, a Polonaise. When he left Halle in 1828 he was already acquainted with a large number of eminent zoologists. He went to Berlin and writes:—"Great expectations, small success, a load of cares, experience of the world." He worked with Professor Klug in the museum and gave Latin lessons to barbers' apprentices. March, 1829, working up the genus *Amara*, of which some sheets were printed. 1830. Very bad times begin; want of money. 1831. Monograph of the genus *Zabrus* finished; printed in June.

During this time he had become acquainted with many prominent entomologists and with a large number of students, who later became famous, but the constant want of means was so depressing that he decided to try his fortune as a collector in Mexico. He sold his collection of 2,400 species of beetles and his books. To enable him to fulfil his intentions twenty-four naturalists of prominence from Germany, England and Russia subscribed