

The Baltimore oriole mutilating flowers.

The interesting note of J. Schneck in regard to the oriole piercing the flowers of the trumpet-vine for the nectar reminds me of a note which I sent the *American Naturalist*, and printed in 1869, on p. 380. In that case the Missouri currant (*Ribes aureum*) was the plant. The fact of their piercing large numbers of flowers for at least two seasons in the village of Union Springs, Cayuga county, was well established. Honey bees gleaned freely of the honey through these holes, as the corolla is too long for them to reach it through the tube.—W. J. BEAL, *Agricultural College, Michigan*.

Misconceptions of botanical homologies.

I had occasion in the June number of the GAZETTE, last year, to call attention, on pp. 178, 179, to the vicious confusion in the terminology of the spermatophytic flower. Two melancholy examples of this confusion have just come to my notice and I cannot forbear referring to them. One is on pp. 162, 163 of Warming's *Haandbog i den systematiske Botanik* (German translation), where under the bold headline *Die ungeschlechtliche Generation der Kormophyten* occurs considerable talk about "eingeschlechtig," "zweigeschlechtig" and "hermaphrodite" flowers, thus affording an exquisite illustration of how easy it is to classify black, blue and green under the generic head of pale yellow.

The other example is sadder, for it is the cause of a serious blunder. It is in Geddes and Thompson's "Significance of Sex," a very suggestive and admirable work, after reading which one can not but regret that it apparently did not occur to the authors to give particular attention to botany as one of the biological sciences. But this is an ordinary oversight. On p. 48, where the discussion of nutrition as influencing sex is going on, we have a couple of tolerable pictures of the declinuous, asexual, pollinar and ovular plants of *Lychnis diurna* figuring as the "male and female flowers;" and, basing their remarks upon such a failure to comprehend plant homologies, the authors observe that "the botanical evidence, though by no means very strong, certainly corroborates the general result that good nourishment produces a preponderance of females." It is just here that Geddes and Thompson, misled by the false terminology which botanists, to their discredit, still suffer to continue, lose the opportunity of making a strong point along their line of research.

Let us see what the condition really is in plants of the type of *Lychnis*. The pollen grain or microspore produces a one or two-celled male plant—the pollen-tube: the megaspore or embryo-sac produces a seven-celled female plant. What was the origin of the two sizes of spores? In short this: spore-mother-cells in certain sporangia divided internally into four spore-cells, each of which developed to maturity and was a pollen-spore. In other sporangia the spore-mother-cell formed four nuclei and the potentially four-spored contents produced only *one* spore—the embryo-sac—because *one of the cell-nuclei reabsorbed the others, and one cell united to itself the three sister cells*. Where could there be found a more instructive example of high spore-nutrition tending to develop a female plant? It is superb. One might challenge the zoölogist to bring forward any evidence