

where the same description under Osten Sacken's name he would feel certain did not apply. Doubt of the right generic location of a specimen may often be surest dissipated by attempting to refer to some species. In fact the only way that the present writer was enabled to generically determine the larger part of his species in his earlier studies was by first ascertaining the species. Until the student has acquired a sort of intuitive acquaintance with the different families, the work will often be tedious, but, by perseverance, he can not fail to overcome whatever obstacles families and genera may present. He will be very much aided, at the beginning, however, by having a tolerably large collection at his command—already named by some one else if convenient—by which to make comparisons. Difficulties to the inexperienced will often disappear, with positive evidence before him, where negative characters are puzzling.

To determine his species the student will need a large series of papers, a list of which up to 1878, will be found in Osten Sacken's Catalogue, and from that time to the present in the concluding pages of this work. But, very much can be done with a much smaller and more accessible list. After he has become acquainted with the order in general, he can select any particular group and procure the papers for systematic work in that group at comparatively small expense. Much the larger part of the descriptions, it is true, will be found in foreign languages, but that need not deter him; descriptive phraseology is very simple, and it needs but a little exertion to become sufficiently acquainted with the four or five languages to read descriptions in them with ease or even to write them, if need be. A thorough knowledge of the German, however, is absolutely essential before much headway can be made. As in many other branches of biology, German literature is by far the most important and abundant—indeed it is almost a matter of doubt whether the balance between the bad and good in dipterological literature by the French, English and Italian authors is not almost equal, and this without intimating anything against the really good authors these countries have produced: Walker, Desvoidy and Liroy make a combination hard to match in any branch of science.

The following works are to be commended for the use of the beginner

- ✓ OSTEN SACKEN. Catalogue of Diptera, 2d edition, Smithsonian Institution, 1878.