

## Notes and News in Entomology

Under this heading we present, from time to time, notes, news, and comments. Contributions from readers are earnestly solicited and will be acknowledged when used.

**The Number of Species in a Genus.** Wm. T. M. Forbes in this journal (vol. 56, p. 279, Dec., 1945) arrives mathematically at the conclusion that "the ideal number would appear to be about 20 or 30" species in a genus, and then states "Actually, of course, the numbers in a proper classification would not be definite, but would vary enormously." The latter is true.

If we plot the numbers of species in the genera of any larger group against the number of genera including those numbers of species, we find on one end of our graph a large number of monotypical genera and on the other end a few very large genera. We furthermore find that the intermediates are distributed in a characteristic "hollow curve." This phenomenon was discovered by J. C. Willis in 1922,<sup>1</sup> recently extended by the same author,<sup>2</sup> and discussed by Sewall Wright,<sup>3</sup> Ernst Mayr,<sup>4</sup> and Stanley Cain.<sup>5</sup>

In Hampson's revision of the moths of the family Arctiidae (Cat. Lepidoptera Phalaenae Brit. Mus., vol. 3, 1901) the numbers of species in the genera are as follows, the number of species in a genus being followed in parentheses by the number of genera including that number of species. 1 (69), 2 (14), 3 (14), 4 (8), 5 (4), 6 (3), 7 (4), 8 (4), 9 (4), 10 (4), 12 (2), 13 (1), 15 (2), 17 (3), 18, 21 (1 each), 22 (2), 24, 25 (1 each), 29 (2), 34, 58, 61, 126 (1 each) = 934 species in 148 genera. This results in an average of 6.3 species to a genus, but as a

<sup>1</sup> Willis, J. C. 1922. Age and area. Cambridge Univ. Press.

<sup>2</sup> ———. 1940. The course of evolution by differentiation or divergent mutation rather than by selection. Cambridge Univ. Press.

<sup>3</sup> Wright, S. 1941. The "Age and Area" concept extended. Ecology 22 (3) : 345-347.

<sup>4</sup> Mayr, E. 1942. Systematics and the origin of species. Columbia Univ. Press. See p. 288.

<sup>5</sup> Cain, S. 1944. Foundations of plant geography. Harper Bros. See pp. 224, 310, 315.



matter of fact there are only 3 genera of 6 species and 4 genera of 7 species. The "ideal" number of species per genus would seem to depend upon the phylogenetic nature of the genus.

The Diptera of the subfamily Ulidiinae (Hendel, Gen. Ins., Fasc. 106, 1910) are comprised in 156 species distributed among 26 genera, as follows. 1 (17), 2 (6), 3 (1), 4 (1), 8 (1), 9 (2), 11 (1), 29 (1), 54 (1). This is an average of exactly 6 species per genus, but there is no genus with 6 species and only one each with the nearest numbers to 6.

The family Carabidae in Blackwelder's checklist of the Coleoptera of Central and South America (U. S. Nat. Mus. Bull. 185, 1944) includes 3939 species in 307 genera, as follows. 1 (104), 2 (45), 3 (17), 4 (19), 5 (11), 6 (12), 7 (6), 8 (11), 9 (6), 10 (7), 11 (7), 12 (3), 14 (3), 16 (2), 17 (2), 19 (4), 20 (2), 22 (2), 23 (1), 24 (4), 25 (3), 26 (2), 27 (1), 29 (3), 32, 33, 35, 38, 40 (1 each), 43 (3), 46, 47, 51, 54, 55 (1 each), 57 (2), 74, 80, 101, 112, 115, 124, 141, 167, 221, 330, 332 (1 each). This time the average is 12.8 species per genus.—  
GEORGE C. STEYSKAL.

## Current Entomological Literature

COMPILED BY CHARLES HODGE IV, EDWIN T. MOUL,  
MAURICE E. PHILLIPS AND HENRY K. TOWNES JR.

Under the above head it is intended to note papers received at the Academy of Natural Sciences of Philadelphia and the University of Pennsylvania, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species will be recorded.

This list gives references of the current or preceding year unless otherwise noted. Continued papers, with few exceptions, are recorded only at their first installment.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London. For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

NOTE: The figures within brackets [ ] refer to the journal in which the paper appeared, as numbered in the List of Journals given at the end of the literature. The number of the volume, and in some cases, the part, heft, &c. is followed by a colon (:). References to papers containing new forms or names not so stated in titles are followed by (\*); if containing keys are followed by (k); papers pertaining exclusively to Neotropical species, and not so indicated in the title, have the symbol (S).

Papers published in ENTOMOLOGICAL NEWS are not listed.

**GENERAL**—Beaumont, J. de.—Système et croissance dysharmonique. [14] 19: 45–52. Bornebusch, C. H.—Animal life in relation to vegetation and soil. [7] 23:



Steyskal, George C. 1946. "The number of species in a genus." *Entomological news* 57, 57–58.

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