

in the *Hemiptera* by Fabricius ("Systema Rhynogotorum," 1803, p. 124). Fabricius named a number of genera in the *Hemiptera* employing ancient Greek names of cities, from which the insects which he was describing had, no doubt, come. *Tingis* is the Greek name of Tangiers in Morocco. It is also spelled by classic authors *Tingi* and sometimes *Tinge*. Strabo in his Geography, Part 1, 3, 1, § 140, speaks of Τίγγος and uses the genitive form Τίγγιος. This shows that the root or stem of the word is Τίγγι = *Tingi*. The adjectival form derived from the noun *Tingis* in Latin is *Tingitanus*. (Cf. Valpy's edition of the Delphin Classics, Vol. No. LXXXIX, p. 882, where comment is made upon the passage in Pliny's *Historia Naturalis*, Lib. V, 1, 1: "*Tingitana pertinet a freto Gaditano ad fines usque Marocani regni*." This adjectival form plainly indicates that the Latin root of the noun is *Tingit*.

In forming family names the fixed rule is to suffix "*idæ*" to the stem, and it is the rule that the Latinized form of Greek words should be employed. The Latin stem, as shown above, of the ancient name of Tangiers is "*Tingit*." Adding "*idæ*" to this we have the word *Tingitidæ*. The Greek stem, if the Latin is overlooked, is Τίγγι = *Tingi*. Suffixing "*idæ*" to this we should have form *Tingiidæ*, which has never been used.

The first time that a family name was given to the Lace-bugs was in 1833 when Laporte employed the term *Tingidites* (*Galicism*). Westwood in 1840 used the word "*Tingidæ*." Amyot and Serville in 1843 employed the Gallicized form *Tingides*; Stål in 1873 employed the form *Tingitidæ* and was followed by Uhler, Champion, Horvath, Oshanin, Osborn, Drake and a number of others. Then Duzee in 1917 in his "Catalogue of the Hemiptera of America North of Mexico" employed "*Tingididæ*" as the family name, citing Laporte as his authority.

The writer of these lines having regard to etymology and the rules governing the construction of family-names is decidedly of the opinion that "*Tingitidæ*" is the correct form of the word, formed as it is by suffixing "*idæ*" to the Latin stem *Tingit*. Westwood's

"*Tingidæ*" is in error, first because had he studied the classic Greek he would have discovered that the root is not *Ting* but *Tingi*; and secondly, because he did not follow the rule which calls for the employment of the Latinized form of the word. *Tingididæ* as used by Van Duzee is wholly in error, based, as it is, upon the mistake of Laporte who imagined that the genitive of *Tingis* was Τίγγιδος, instead of Τίγγιος as given by Strabo.

The conclusion of the matter in the mind of the writer is that the word *Tingitidæ* is not merely formed according to the requirements of scientific nomenclature, but according to classic use. It furthermore has in its favor the weight of authority, having been used by a number of eminent gentlemen, distinguished not merely for their entomological but for their philological attainments. They have already been mentioned. The question of priority can not be invoked as against the correct structure of language.

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#### THE GLACIATION OF THE CORDILLERAN REGION

TO THE EDITOR OF SCIENCE: Because of general interest in the subject of glaciation in the Cordilleran region and of recent discussion in SCIENCE of the origin of the Palouse soils the investigation of the writer in the twelve-months past in the region about Spokane, Washington, may merit the attention of your readers.

The investigation began with discovery of evidence of glaciation on the basalt plateau about Spokane some four or five hundred feet above the train of the valley glacier in Spokane Valley (described and mapped by Campbell, N. P. R. R. Guide-book of the U. S. Geol. Survey, 1916). Examination proved that all of these "prairies" (Pleasant Prairie, Five Mile Prairie, Sunset Prairie, Moran Prairie and Paradise Prairie) occupying this plateau bore evidence in the form of erratic boulders, gravel, sand and clay, of depths varying from nothing to fifteen feet or more, of ground ice on the level tops of the plateaux. In the valley of

Hangman Creek (Latah Cr.) in the southwest part of the city deposits are five or six hundred feet deep, the valley having been filled (as, presumably, was also the valley of Spokane River). As no evidence was found of the glacier having crossed the Spokane River to the east of the city limits and as what appeared to be a marginal moraine was found on the south side of the valley at the southeast corner of the corporation boundary (Pantops) it seemed that the valley of the Spokane must have been completely dammed, impounding the waters of the entire Columbia drainage basin. It was believed that such a volume of water even in a brief time must have cut an outlet which would be readily found. Such was found to be the case. In the gap between Mica Peak and Moran Peak, at the village of Mica, on the O. W. R. & N. Railway, twelve miles southeast of Spokane, at an elevation of about 2,460 feet, two outlets may be easily seen in the field or by examination of the topographic sheet of Spokane Quadrangle of the U. S. Geological map. These two streams join California Creek a short distance south of Mica and follow it to Hangman Creek (Latah Cr.). Apparently Hangman Creek was obstructed here also for the stream followed up Hangman Creek (Oakesdale Quadrangle) until it reached what is now the low land between Hangman Creek and the head of North Pine Creek, where it cut a channel some 200 feet in depth in the Palouse soil of that region, reaching and scouring the basalt beneath, thus opening an outlet to the southwest.

This glaciation was followed by a period when stream erosion cleared the valleys of Spokane River and Hangman Creek and perhaps eroded Spokane Valley almost 200 feet below the present floor (left at the time of the Wisconsin period of glaciation) as shown by the depth of Lake Cœur d'Alene and other lakes which occupy side branches of Spokane Valley. There is also some evidence collected of a glacier having almost reached Spokane from the north by way of the valley of the Little Spokane River. As this is about 400 feet lower than the glaciation on the "prairies" and extends some twenty miles south of what seems to be the terminal moraine of the Wisconsin period (the Wisconsin glaciation reach-

ing Spokane came from the east), it will be seen that we have evidence of three periods of glaciation here. The earliest of these is responsible for "Lake Spokane"<sup>1</sup> and its Mica outlet by way of California, Hangman and North Pine Creeks.

It will be seen from this that a long period has elapsed since the cutting of this great trench through this soil and as yet the æolian deposits have not covered the bare rocks of its floor, though for eight miles between North Pine Creek and Hangman Creek there is no stream sufficient to account for removal of deposits.

(Mr. J. T. Pardee of the U. S. Geological Survey spent six weeks of May and June of this year making a careful study of glaciation and related subjects in northeast Washington and has secured data for what promises to be the most interesting of all recent reports on this subject. The appearance of his report is awaited with great interest. The writer is collecting further material on the shore line of L. Spokane and on the glaciation in Little Spokane Valley.)

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#### A SUGGESTION TO ZOOGEOGRAPHERS

Ranges of animals are most easily defined in terms of political divisions, cities near the limit of range, and such readily determinable points. This eminently practical method will doubtless always be used.

But ordinarily zoogeographers have not been content to use only this method, which, from its nature, explains nothing, and questions nothing.

There has been a constant search for some sort of scheme whereby ranges of animals might be reduced to a common denominator. Various schemes of this kind are in use at present and hereinafter shall be commented upon.

<sup>1</sup> The name "Lake Spokane" was given by the writer in a paper on "Glaciation and Vulcanism in the Spokane Region" read on November 3, 1921, before the Columbia Section of the American Institute of Mining and Metallurgical Engineers.