

argument, since my paper on "Fundamental Distinctions Special to the Process of Transmission of Terrestrial Radiation by the Atmosphere, and the Value which is obtained for the Coefficient of Transmission when these are considered" will appear in full in the *American Journal of Science*. [The paper has since been published in the issue for June, 1916, Vol. XLI., pp. 513-521.] FRANK W. VERY

WESTWOOD ASTROPHYSICAL OBSERVATORY,

February 22, 1916

SOME NOTES ON THE OLYMPIC PENINSULA,
WASHINGTON. A REPLY TO CRITICISMS
BY ARNOLD AND HANNIBAL

IN "The Marine Tertiary Stratigraphy of the North Pacific Coast" by Ralph Arnold and Harold Hannibal, page 604,¹ is this paragraph:

A. B. Reagan, 1908, "Some Notes on the Olympic Peninsula." Most of the geological data in this paper are adopted from one by the senior writer (Arnold) mentioned. . . . The description of the Quillayute formation is based on the glacial filling of the valley of the Quillayute River. If Reagan had visited the locality from which the fossils described from the Quillayute (formation) were brought by Indians, he would have found it to be about two miles from Devil's Club Swamp where he says they occur, and the formation lithologically very different from what he describes. It is typical Empire formation.

Mr. Arnold's article that he says my work was adopted from is "Geological Reconnaissance of the Coast of the Olympic Peninsula, Washington,"² totalling 18 pages; my cited article, "Some Notes on the Olympic Peninsula," covers 108 pages besides plates.

I visited the region and collected the fossils described myself, with the exception of the fossil *Ranella marshalli*, which was given me by Mr. Marshall, as is stated in the article. I made a good many trips to the place both with Indians and whites. We went both by canoe up the river and also on foot in from Quillayute Prairie. James Clark, now county commissioner of Clallam County, Washington, accompanied me on my first trip; George Woodrough, now of Ilwaco, Washington, was with

¹ Reprint from *Proceedings of the American Philosophical Society*, Volume LII., No. 212, November-December, 1913.

² *Bull. Geol. Soc. America*, Vol. 17, pp. 451-462.

me on another trip. On practically all the trips I crossed the Devil's Club Swamp from the bend in the river to the bluffs adjacent and north of where Maxfield Creek entered Quillayute River when that river ran against the western bluffs, instead of about a half mile eastward as it does now (at the old mouth of Maxfield Creek—not a later mouth of that creek). No fossils were collected in the Devil's Club Swamp; the article is very plain on this point, that the fossils were collected in the bluffs west of the old mouth of Maxfield Creek (that is, from near the present mouth northward along the bluffs).

I will now quote from page 203 of my cited article:

Quillayute Formation.—(This is under the general heading "Pliocene," on page 202.) This formation occupies the valley of the Quillayute River and the country drained by its western tributaries at least to their respective middle courses. . . . The boundaries of the formation were not determined. In the interior region, where exposed along the Bogachiel River, it is composed of *sandstone and bluish shale*; the coast exposures are all conglomerates or a coarse, gravelly rock resting unconformably upon the older rocks exposed there. The base of the formation was not seen, consequently was not ascertained. The sandstone series was found to be extremely fossiliferous, and in it the fossils are beautifully preserved. Fossils were found in two horizons—in the north bank of the Bogachiel River in a bluish gray rock in section 22, township 28 north, range 14 west of the Willamette meridian, and in the *bluff south of the abandoned channel of Maxfield Creek on the south side of the Bogachiel River*, in sections 28 and 29 of the township and range above. But fossils were obtained only from the latter location, as the former was below the surface of the water at the time visited. Below is a description of the fossils obtained.

Fossils of the Quillayute Formation—Lower? Pliocene, exposed in the Vicinity of Quillayute, Washington:

Here follows a two-page comparison of the Quillayute-formation fossils with the fossils of other regions, with the final conclusion (page 206) that:

Consequently, this (the comparison results) would seem to place the formation at the bottom

of the Pliocene. Following is a description of the fossils:

Here follow twenty-two pages, pages from 205 to 226, describing the fossils of the Quillayute formation. I will add that I described no fossils whatever from the glacial deposits, or Quaternary deposits of the Olympic Peninsula. Furthermore in describing each fossil I gave a notation after it telling where it had been found; for example, take *Yoldia cooperi*, fossil number 34, described on page 206 of the article. The notation following the description is as follows:

Living: Half Moon Bay, California (Arnold);
San Diego to Santa Cruz (Cooper).

Pleistocene: Ventura, San Diego, Cal. (Arnold);
San Pedro (Arnold; Cooper).

Pliocene: San Fernando (Cooper); Portata Valley, California (Arnold).

?Pliocene: Mouth of Quinalt River, Granville, Wash. (Arnold), Quillayute, Wash. (Reagan).

Again take number 35, *Cardium meekianum* Gabb, on the same page. The notation is:

This is quite a numerous species of the Pliocene at Quillayute, Wash.

Pliocene: Humboldt county, California (Gabb);
Quillayute, Wash. (Reagan).

In correlation, the sandstone and bluish shale of the Quillayute formation, which I definitely described in my article as composing the formation, is typical Empire sandstone and shale.

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NOMENCLATORIAL FACTS

Two cases have been recently cited in the present journal by Mr. A. N. Caudell as showing nomenclatorial inconsistency in the attitude of the present writer. That this is true, or that, as Mr. Caudell infers, unanimity among systematists is hopeless, we are entirely unprepared to admit.

In the first case we have claimed that *Pedeticum* of McNeill is preoccupied by *Pedeticus* of Laporte.¹ As the International Code has as yet *not* acted on this matter, we are led to this decision by Canon 20, page lviii, 1898, of the

¹ *Ent. News*, XXVII., p. 17 (1916).

A. O. U. Code. Mr. Caudell refers to Article 36 of the International Code, but indirectly quotes only a recommendation there found. Such recommendations have been admitted, by the secretary of the International Commission, to have no force of law. Furthermore, Opinion 25 of the International Commission, also cited by Mr. Caudell, does not bear on the subject, as in the present case the matter involved is simply a case of different gender termination, while in the case of *Damesella* and *Damesiella* the Commission, in Opinion 25, is obliged to fall back on Section K of Recommendation of Article 8, "a name composed of arbitrary combinations of letters." The results obtained were the International Code to disagree with the A. O. U. Code would create such difficulties that we feel confident that the International Code will be found to agree with that of the A. O. U., when this matter is finally acted upon. As an instance, in the case of *Aplodontia*, twenty-four emendations have already been found and cited by Palmer,² the confusion possible, were each of these eligible for distinct generic rank, is evident.

In regard to *Libell[ula] americanus*, Drury nowhere in his work suggests a different generic position for this name. The use of *Libellula* may constitute a lapsus calami, but it would seem an assumption that *Gryllus* is the intended genus, where *Locusta* or *Acrydium* might have been intended. We regret that we feel obliged to criticize the quoted opinion of Dr. Stiles and concurrence in the same of Dr. Stejneger. Drury's index, in which *Libell[ula] americanus* is found is *not* known to be of a later date than his first volume; it is Westwood, in his edition of Drury, who first suggests *Gryllus* to replace *Libellula* for this species, and the "obvious" lapsus calami is not as obvious or as easily disposed of when the original edition of Drury is considered. It appears probable that Dr. Stiles's unofficial opinion is based rather upon second-hand information than upon examination of the original edition of Drury.

We are strongly in favor of both of these cases being brought before the Commission

² "N. A. Fauna," XXIII., p. 25 (1904).