as well as the general stratigraphic and paleogeographic relations, make out a good case for the Pennsylvanian age of these beds.

The work is illustrated by many halftones, sketch maps and diagrams and fully measures up to the highest standards. The authors are to be commended on the excellence of their work which, with the liberal policy of their company already referred to, sets a standard that other companies might well imitate to the lasting advantage of geologic science.

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THE STATUS OF TEREDO BEACHI AND TEREDO NAVALIS

I HAVE so far refrained from commenting on the efforts of Professor Kofoid and his students to discredit the validity of my *Teredo beachi*. A review in the *Nautilus* for April, 1923, on page 140 of Robert Cunningham Miller's paper on the "Variations in the shell of Teredo navalis in San Francisco Bay," University of California Publication in Zoology, Vol. 22, No. 2, pp. 293-328, bears the following statement which is a slightly abbreviated rendition of Miller's statement on page 25 (317) "The local varieties, including *T. beachi* Bartsch, have not been found sufficiently differentiated to warrant their being classed as subspecies, much less as species."

This, I feel, makes it necessary for me to protest lest my silence be construed as concurrence in the opinion of my West Coast critics.

The paper in question is a beautiful intensive study of *Teredo beachi* Bartsch and, barring the summary, in which the systematic status of this species is discussed, a splendid piece of work. It is unfortunate that the author in question, as well as Professor Kofoid himself, has not made an equally intensive study of the European *Teredo navalis,* which I have been unable to find in American waters, before publishing this summary, for I am certain that had they so done, they themselves would have become acquainted with the characters that differentiate the *navalis* group from the *Teredo morsei* group, to which *Teredo beachi* belongs.

In *Teredo navalis,* the denticles on the anterior median area have but a single cusp. In the *Teredo morsei* group they are multicuspid. That at once differentiates the two groups and there are hosts of other characters that separate the members of these groups into specific or subspecific elements.

The only member of the *navalis* group that I have found so far in American waters is the New England shipworm, *Teredo novangliae* Bartsch. All the other true *Teredos* seen belong to the *morsei* group, both on the east and the west coast of America.

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NICOTINE AS A POULTRY VERMIFUGE

FOLLOWING the work of Herms and Beach in 1916, the University of California Agricultural Experiment Station has been more or less continuously interested in the use of tobacco and tobacco products as a vermifuge for the intestinal worms of poultry, *Ascaridia galli* Schrank 1788 (= *A. perspicillum*). Work carried on during the past year and a half with hundreds of hens has shown that commercial tobacco dust containing from 1½ to 2 per cent. nicotine if fed in the mash in quantities equalling 2 per cent. by weight of the latter over a period of one month would remove from 98 to 100 per cent. of these worms. The results have also demonstrated that from 80 to 85 per cent. of the cecum worms, *Heterakis gallinæ* Gmelin (=*H. papillosa,* = *H. vesicularis*) are removed by this treatment. The tobacco dust must be mixed with the mash at intervals not exceeding one week on account of the volatility of the nicotine in the presence of air.

Diluted nicotine sulfate administered to the birds directly in quantities sufficient to remove the worms is decidedly toxic. Mixed with the mash or drinking water it renders them so distasteful that the birds will not eat or drink properly. However, by mixing the nicotine sulfate with Lloyd's Alkaloidal Reagent, a selected fuller's earth, perfect elimination of the intestinal worms has been secured, although the cecum worms remained unaffected. The method employed was that of mixing the nicotine sulfate (40 per cent. nicotine) at the rate of 6.6 cc. to 16 grams of the reagent. This mixture was then placed in gelatine capsules (No. 2), one of which when filled weighed