the worm has been seen to pass through two complete cycles of development. In one subculture the worms have multiplied and remained actively viable for 23 days, without transplantation.

A striking peculiarity of the growth on the agar cultures is the tendency of the worms to crawl up on the side of the test-tube opposite the slant and there clump themselves into macroscopic groups. Under the low power, these groups are seen to consist of an immense number of very actively motile nematodes in all stages of development.

As yet, we have not determined the exact species of this nematode, but in all probability it belongs to the Anguillulidæ.

N. B.—Since the above was written we have learned from Professor Henry B. Ward of similar cultivation experiments carried out in his laboratory by H. Metcalf.[2]

WADE W. OLIVER

RECENTLY PROPOSED SPECIES OF THE GENUS DICERATHERIUM

SINCE the opening of the Agate Spring fossil quarries in the Miocene formation of Sioux County, Nebraska, by the Carnegie Museum field parties some eight or nine years ago, there has been great activity by many institutions and private parties in this general field. As a consequence much material of fossil remains has been gathered, of which the greater portion, especially in the Agate Spring fossil quarries, consists of bones pertaining to the Rhinocerotidæ.

Pending the publication of a more extended work on the American Diceratheres, now in progress, the purpose of this note is to avoid the recurrence of certain interpretations on the part of students interested in the question of deciduous and permanent teeth.

In recent years there have been a number of new species described of Professor Marsh's genus *Diceratherium* which will be duly considered later. In 1908 Professor Loomis, of Amherst, proposed a number of new forms.[1] One of these (*D. aberrans,* p. 59) is established on a second deciduous cheek-tooth of the left side. Very recently Mr. Harold J. Cook has unfortunately used deciduous teeth as a type of still an additional species *D. loomisi.*[2] The type of this latest species consists of a portion of the right upper maxilla, containing not P^4, M^1 and M^2, as Cook states, but the second, the third and the fourth deciduous cheek-teeth. This is abundantly demonstrated in the large collection from the Agate Spring fossil quarries now under study in the Carnegie Museum.

In this connection it is well to state that the formation of the permanent premolars 2, 3, 4 of *Diceratherium* starts comparatively late. I have excavated maxillæ (Nos. 2464, 2476, Carnegie Museum) of young specimens and often find that while the deciduous 2, 3 and 4 are considerably worn the germ of P^2, which is located immediately above the roots of D^2, is only very slightly and more often not at all indicated. At the same time P^1, which is erupted in an early stage, is on an even grinding plane with the milk teeth and has received considerable wear; more than half of the grinding surface of M^1 appears through the alveolar border, while M^2 is represented by a large excavation immediately back of M^2. In comparing Mr. Cook's figures (*l. c.,* p. 31) I judge that he has described a young specimen of *D. cooki* in the stage of development described above. In a later stage of development (specimen No. 1848) the formation of the permanent premolars is well advanced, especially in 2 and 3. M^1 is completely erupted, M^2 appears in a large triangular opening of the alveolar border, while M^3 is represented by a similar excavation to that of Nos. 2464 and 2476 above described. Thus it is repeatedly demonstrated that a large collection of a genus or species is extremely useful as a safeguard against the misinterpretations of which the systematists are surrounded.

O. A. PETERSON

[1] *American Journal of Science,* Vol. XXVI., pp. 51–64, 1908.

[2] Nebraska Geological Survey, Vol. VII., Part 4, pp. 29–32.

[2] "Cultural Studies of a Nematode Associated with Plant Decay," *Trans. Amer. Microscop. Soc.,* 1903, 24, p. 89.