Grout under the title "A Botanist's Vacation in North Carolina." The lecture was of a semi-popular character and the numerous lantern-slides from photographs taken by the speaker illustrated the scenery and fauna as well as the flora of the mountains of western North Carolina. The speaker's abstract follows:

Seven weeks of last summer's vacation were passed in the "Pink Beds" on the estate of Geo. W. Vanderbilt about forty miles west of Asheville and twelve miles from Brevard. Our visit was made possible and profitable through the assistant director of the Biltmore Forest School, Dr. Clifton D. Howe. The Pink Beds is a mountain valley over 3,000 feet above sea-level and derives its name from the color given to the whole valley in spring by the innumerable blossoms of *Azalea, Rhododendron* and *Kalmia*. The climate is cool, like that of Vermont and New Hampshire, but the almost daily thunderstorms, often almost torrential in character, are an inconvenience to the botanist. The fauna as well as the flora is an interesting mixture of northern and southern forms. Many of the forms which at first seem identical with northern species on closer examination are found to have good varietal or even specific differences. The chipmunk, for instance, is undoubtedly a chipmunk but so dark in color as to be scarcely recognizable when first seen. Of our familiar northern flowers, the daisy, evening-primrose, trailing arbutus, Indian pipe, *Clintonia borealis,* two species of *Trillium,* bluets, Indian turnip and many others are common; of the shrubs, witch-hazel, *Kalmia, Rhododendron maximum,* the pink, and the white, azalea are noticeable; of the trees, the chestnut, several species of oak, hickory, a few sugar maples, a few white and pitch pines, some ash, and the sassafras, all seem to give the country a familiar look. But on the other hand two additional species of *Rhododendron,* the flame-colored *Azalea,* chinquapin, the great number of tulip-trees and magnolias, the *Nyssa, Oxydendron,* Carolina hemlock and other unfamiliar trees, the open forest filled with innumerable unfamiliar flowers or unfamiliar species of familiar genera, such as *Phlox, Lilium, Listera, Habenaria,* etc., emphasizes the difference in one's latitude and keep one's interest awake.

Miss Gertrude S. Burlingham found about the same number of species of *Lactaria* in Vermont and in North Carolina, *i. e.,* 30–35, and about half of this number were common to both.

About 130 species of mosses were collected; of these about 100 are found in Vermont, but many of these 100 differ appreciably from northern forms.

Hookeria Sullivantii, Entodon Sullivantii, Raphidostigium Novæ-Cesareæ, Pylaisia subdenticulata, Campylopus introflexus, Campylostelium saxicola, and three species of *Zygodon* were some of the interesting species collected. The moss flora was found to be essentially like that recorded by Mrs. Britton from southwest Virginia, but fifteen to twenty species that she did not find were collected and several common northern forms which she recorded were not met with. The absence of *Polytrichum commune* and *Harpidium* and the abundance of *Entodon, Thuidium* and *Fissidens subbasilans* were very notable.

The open pasture-like mountain summits covered with herbs and some low trees contrasted strongly with the rocky barren ridges of the northern Appalachians, and spruces and firs (*Abies Fraseri*) hardly appear under 5,000 feet altitude.

Marshall A. Howe,
Secretary pro tem.

Discussion and Correspondence

The Status of the Japanese Soft-shelled Turtle

In my "Herpetology of Japan"[1] I raised the question whether the Japanese soft-shelled turtle had been properly united with *Amyda sinensis.* The question had not previously been discussed in any detail by competent authority and based upon adequate material. As the specimens at my command seemed to indicate that these turtles in China and Japan have split up into forms corresponding to the

[1] Bull. 58, U. S. Nat. Mus., 1907, pp. 515–519.

different zoogeographical areas, I considered it the wisest course for the present to keep the synonymies and descriptions of these forms separate, and not being able to make up my mind as to their exact status I left them the usual binominal names by which previous writers have designated them.

My friend, Professor F. Siebenrock, curator in the Naturhistorische Hofmuseum in Vienna, and foremost among students of the Testudinata, has recently, in an article, "Ueber einige, zum Theil seltene Schildkröten aus Südchina,"[2] attempted to show that I did so erroneously ("irrigerweise"). To those unfamiliar with the literature it would appear that I am the first to subdivide the species in question, while, as a matter of fact, I have only doubted the wisdom of some recent authors to lump the forms previously recognized without giving sufficient reasons for so doing. From the way Siebenrock emphasizes that I have separated them into "four distinct species [vier selbständige Arten]," while in his opinion they can not be distinguished even as subspecies, it might be supposed, moreover, that I had been very dogmatic and insistent upon their *specific* distinctness, and it is against this misconception that I pen this protest.

Here is what I said:[3]

> The status of the soft-shelled turtles inhabiting China and Formosa (*A. sinensis* and *schlegelii*), Japan (*A. japonica*) and Amurland (*A. maackii*) has not been worked out for lack of material.

Hereby I indicated that I had not taken any stand as to their specific or subspecific rank, and also that my material was inconclusive and consequently my opinion undecided. I stated, also, further on (p. 516):

> The absence of specimens from the drainage of the Yangtse River, which may be supposed to represent the true *Amyda sinensis*, is particularly to be regretted, as it prevents me from arriving at any but the most inconclusive and preliminary results. That my specimens represent three [not four] separable forms, however, I have but little doubt.

[2] *Sitz. Ber. Akad. Wiss. Wien, Math. Naturw. Kl.*, CXVI., Pt. I., December, 1907, pp. 1741–1776.

[3] "Herpet. Japan," p. 515 seq.

As for the fourth "*form*"[4] I had no personal opinion to offer, never having seen a specimen, and I took great pains to state this plainly (p. 527):

> It is *quite likely* that eventually *A. maackii* may turn out to be the same thing as the Peking form [*A. schlegelii*], in which case that name will take precedence.

Altogether Siebenrock in his rendering of my treatment of these forms makes me use expressions much more positive than the very careful and hesitating words really employed by me. Thus he says: "Stejneger, *l. c.*, p. 518, thinks it is impossible [meint es sei *unmöglich*]" that the two figures quoted "can belong to individuals of the same species [Individuen derselben Art angehören können]," while what I said was simply that "it is not easy to believe that Gray's and Siebenrock's figures represent the same species." Now that Siebenrock has explained the matter by stating that the apparent difference is due to an error of the artist, it is of course "easy to believe."

Siebenrock also states that I "placed the chief weight in distinguishing between my three species [legt das Hauptgewicht bei der Untersuchung seiner drei Arten]" on certain characters, which he then proceeds to contrast in a table of three parallel columns. One who has not seen my book would naturally think that these characters are such as were particularly selected by me to represent constant differences. This is far from being the case. The characters contrasted in the table are culled from my detailed descriptions of three *individuals*, one a four-year-old *male* from Japan, No. 21,179, U. S. N. M.; the other a four-year-old *female* from Formosa, No. 34,055, U. S. N. M.; the third a male in the third year from Tientsin, No. 29,700, U. S. N. M. Siebenrock has evidently taken these descriptions of mine for *diagnoses*, a mistake he could hardly have made if he had studied my book carefully. He would then have seen that they are merely minute descriptions of

[4] I took particular pains in my treatment of these turtles to avoid the terms "species" and "subspecies" as far as possible, and instead used the word "form" in order to particularly emphasize the preliminary character of the whole proceeding.

individuals, and that the weight attributable to the differences shown is discussed elsewhere, viz., pp. 516–519. The "Hauptgewicht," it will then be seen, is placed in my table of comparative measurements on page 516, and even in this case with considerable diffidence, as shown by the following qualification: "Although the series is small, the figures probably deserve some confidence, because of their remarkable uniformity and harmony."

As said above, my material was scant and my conclusions, therefore, preliminary and inconclusive. I have received no *authentic* material since and I am at present as undecided about the real status of these *forms* as I was when I wrote my book. Unfortunately, Siebenrock's treatment has not helped much to clear the matter up. True, he is very positive that there is only one *species* and not even another subspecies ("Selbständige Unterarten," p. 1742, whatever that may mean), and with the great respect I have for him as an authority on the Testudinata and my own inferiority in this field, I would gladly have accepted his dictum, were it not that apparently his and my views as to what constitutes "species and subspecies" are so radically at variance that a discussion would be fruitless.[5]

That Siebenrock completely fails to understand my point of view is plainly shown in the last two paragraphs of his article in which he contrasts *A. sinensis* with *A. cartilaginea* and *A. steindachneri* by the young of the former having symmetrical black marks on the plastron which are lacking in the latter, concluding that inasmuch as there are symmetrical black marks in all of my "four species" ("die vier Arten im Sinne Stejneger's") these can only be individuals of the same original form ("nur Individuen der selben Stammform sein können"). As if I ever had denied that the "forms" I preliminarily recognized by name belong to the same "Stammform"! Of course they do. The question is only, has this "Stammform" in its various geographical areas split up into "separable forms," and this I claim Dr. Siebenrock has failed to disprove. I have shown clearly that the black plastral pattern in the Japanese specimens differs essentially from that described by Dr. Siebenrock himself in Annamese specimens, and yet he maintains that these juvenile markings prove ("beweist") the *identity* of these forms.

That I have used a binominal designation for these, in my opinion, "separable forms" does not mean that I regard them as "selbständige" species. Were I to employ for them trinominals I would thereby have indicated that I knew them to intergrade, but that I did not and do not yet know. Maybe they do. Maybe only 75 per cent. of the specimens from each geographical area can be told apart. But if 75 per cent. of the Japanese specimens can be shown to be different from 75 per cent. of the Chinese specimens I shall be satisfied for my zoogeographical purposes to regard them as "separable forms" and to recognize them nomenclatorially. Whether that be binominally or trinominally is at present immaterial.

Leonhard Stejneger
U. S. National Museum,
Washington, D. C.,
April 2, 1908

[5] This is pretty well illustrated by the way in which he takes me to task for not recognizing *Geoclemys reevesii unicolor* (*l. c.*, p. 1760), as a subspecies ("Unterart"), claiming that I regard the "more or less uniform black specimens" as "individuelle Aberrationen." I have not committed myself on that point. To me these specimens represent either a color phase of a dichromatic species, or they are simply more or less melanistic individuals, but I do not know which, and for my purpose it matters little whichever they are. It is admitted that these specimens are found wherever the typically colored *G. reevesii* is found, and color varieties not geographically separated I do not recognize *nomenclatorially*. At any rate, they are not *subspecies* in the modern and commonly accepted meaning of the word.

AN OLD STORY

We are still struggling with variations of the old discussion with which some of our teachers tormented our boyhood days. Did Niagara Falls roar before the country near it was inhabited? We still hear it asserted that space would not exist if we were so situated that we were ignorant of its properties. Space