proposed as compared with Tournefort. Two, —1737 and 1753—are perhaps sufficient to notice; they are practically the only ones that have been used as the basis of serious or systematic efforts to revise our nomenclature. The date of the appearance of the first edition of 'Species Plantarum,' 1753, is very naturally and properly taken as the starting point for specific nomenclature, as this was the first attempt to apply binomials in a systematic manner to a large number of species; but why it should be taken as the date for genera is not so evident. Linnæus's genera were not first described here, but in previous editions of his 'Genera Plantarum.' Hence Kunze's proposition to start with 1737, the date of the first edition of that work, is much more just and logical. But here practical difficulties arise in securing types, as no particular species is mentioned in connection with the generic diagnoses; whereas Tournefort's genera are not only described, but accompanied by lists of described species and excellent illustrations of at least one species of nearly every genus. Why thrust upon Linnæus the honor of founding genera when his most ardent admirers, so far as we are aware, have never claimed it for him?

From the standpoint of the mycologist either 1737 or 1753 is a most absurd date. Linnæus recognized but 11 genera of fungi. These were simply taken from his predecessors and renamed or rearranged. Tournefort described but 7 genera, and from this standpoint alone would have little more claim upon the mycologist than Linnæus. If, however, we have a single starting point for all plant genera, as seems desirable, Tournefort would be far preferable to Linnæus; as it would admit Micheli, one of the greatest mycologists of the eighteenth century, who in 1729, in his great work 'Nova Plantarum Genera,' described 31 genera of fungi, most of which were illustrated with excellent figures. Linnæus himself in his 'Bibliotheca Botanica' pays the following tribute to this acute observer: *Botanicorum vere Lynceus est in examinandis et depingendis minutissimis floribus Muscorum et Fungorum.*

To discard or ignore the work of Micheli, whose only crime was polynomialism, would be a great injustice which we do not believe our posterity would ever uphold. It would be far better to have a separate initial date for fungi than to accept either 1737 or 1753 as a general starting point.

The fact that Tournefort was a polynomialist might suggest itself to some as a possible difficulty. Scarcely any inconvenience need arise from this, however, as whatever species might be selected as the type of the genus, it would bear the oldest specific name it received subsequent to 1753. I fancy the greatest objection of some, however, to 1700 as a starting point, would be the supposed amount of change necessitated. This objection should have very little weight, if future stability and permanency can be secured. No temporary makeshift should be accepted which may involve a minimum of immediate change, but necessitate another revision a few years hence. We should have something which gives reasonable hope of meeting the needs of the present generation at least.

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MOSQUITO DEVELOPMENT AND HIBERNATION.

Dr. Harrison G. Dyar's observations upon 'The Eggs of Mosquitoes of the Genus *Culex*,' as given in Science, Vol. XVI., No. 408, are in line with those made by us during the past season. We doubt, however, the wisdom of the divisions into unbanded legged forms depositing eggs in boat-shaped masses, and banded forms depositing singly. We have failed yet to get boat-shaped masses of eggs from any species other than *pipiens* and *consobrinus*.

The matter of the floating of the eggs of mosquitoes is largely one of circumstance, as those of most species, barring, of course, those of the genus *Anopheles*, sink with slight agitation, unless they become attached to drifting débris, common upon most pools in which mosquitoes breed. The facility with which the majority of eggs sink usually warrants delay in hatching, and renders hibernation more than probable in the case of many species.

Agitation seems, in some way, associated with hatching. Eggs of many species, after remaining upon the surface of water, or upon the bottom of breeding vessels for days, hatch if removed to a phial and shaken, but if left undisturbed, will remain unhatched for months (in the case of *Conchyliates musicus*, shaking eggs is a favorite way of forcing a hatch). Eggs under similar conditions will hatch if placed in a one per cent. or two per cent. solution of formalin. To determine, under natural conditions, the influence of agitation upon hatching, careful observations were made during the past summer where the water in mosquito pools evaporated and the ponds remained dry for months. As soon as sufficient rain fell, and the disturbances of trickling water were present, larvæ of *Conchyliates musicus, Psorophora ciliata, Psorophora howardii,* and a few species of *Culex,* could be found in the pools a few hours after the rain. This led to the conclusion of a very great irregularity in hatching, and to the belief that the species of *Psorophora* are single-brooded in Louisiana. The eggs of one season hatch irregularly the next. The majority, however, hatch in June, July and August when rainfall is sufficient. Hatchings may occur as late as November, but at this time larvæ are scarce. *Conchyliates musicus* is equally irregular in hatching, though more than one brood a year prevails. We have unhatched eggs of *C. musicus* at the time of this writing that were deposited in July. That they are fertile has been proved by taking some of the same brood at different intervals and forcing a hatch by agitation. Eggs of *Psorophora ciliata* and *P. howardii* deposited in July and August have failed to hatch under such treatment, but the single-brood theory may account for the resistance of the eggs of this genus.

Dr. John B. Smith's conclusions upon the egg-laying habits of *Culex sollicitans,* that of depositing upon marsh grass, certainly must be considered as exceptional, as also his observation of dark (black) eggs in the bodies of dissected specimens. In not a single instance, *sollicitans* included, have we observed a form to deposit dark eggs, nor have we found any to oviposit upon anything but water. Eggs floating about become attached to floating débris just as they do to the sides of vessels in which the water has been allowed to evaporate. Injured specimens will make desperate efforts to reach vessels of water to oviposit, but failing to do so, refuse to lay. We have not found a single species to deposit eggs without water, save a few specimens subjected to the abnormal conditions of mounting for the cabinet, or for study.

From our studies we draw the following conclusions:

1. That boat-shaped masses of eggs are not general.

2. That eggs of most species sink when slightly agitated. Even the eggs of *Culex pipiens* will sink (and hatch) when separated and shaken.

3. That the hatching of the eggs of many species is not at all regular. Pools upon which eggs are laid may dry up and remain so for months, and the fertility of the eggs is in no way impaired. With *Psorophora,* the eggs of one season hatch the next; while with *Conchyliates musicus,* and with many species of *Culex,* eggs laid in the fall remain unhatched all winter. Thus many of our species hibernate in the egg condition. (Eggs of *Stegomyia fasciata,* left high and dry by evaporation, have remained unhatched sixty-one days, and when moistened and agitated, soon hatched.)

4. That the period of larval life may be greatly prolonged by insufficient food and low temperature, and that pupal and adult stages are very much longer late in the season than in midsummer. It is possible for a few adults to hibernate, even of the same species as the hibernating eggs.

5. That it is exceptional for mosquitoes, including *Culex sollicitans,* to deposit eggs upon substances other than water.

6. That it is exceptional for black eggs to be deposited, or for mosquitoes to use their hind legs during egg deposition.

7. That the common breeding places of mosquitoes are transient pools (due as much to the enemies in permanent pools and waterways as anything else), in consequence of which

many species develop rapidly. *Psorophora* and *Conchyliates* may reach maturity in five or six days after hatching.

The above is based upon observation made upon as many as nineteen species.

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THE CONVOCATION OF SCIENTIFIC SOCIETIES.

It seems scarcely necessary to call attention once more to the meetings of the American Association for the Advancement of Science, the American Society of Naturalists and the special societies which are about to open their sessions at Washington. We have published the announcement of the local committee, and there will be found above some details in regard to the meetings of the societies. We have so often laid stress on the supreme importance of our societies as a factor in the advancement and diffusion of science that it is scarcely possible to say more than has already been said. All our readers know that the national scientific societies have hitherto met in two groups—the American Association and its affiliated societies in the summer and the American Society of Naturalists, with most of the societies devoted to the biological sciences, in the winter. These two great groups of scientific societies will this year meet together during convocation week at the chief scientific center of the country. Under these circumstances the meetings will be the largest and most important ever held on this continent.

SCIENTIFIC NOTES AND NEWS.

Dr. George W. Hill, of Nyack, N. Y., and Professor A. A. Michelson, of the University of Chicago, have been elected foreign members of the Royal Society. The other foreign members elected at the recent annual meeting are: Professor W. C. Brögger, Professor Gaston Darboux, Professor Ewald Hering, Baron Ferdinand von Richthofen, Graf H. zu Solms-Laubach and Professor Julius Thomsen.

M. Deslandres, of the astrophysical observatory at Meudon, has been elected a member of the Paris Academy of Sciences in succession to the late M. Faye.

Sir Michael Foster has offered his resignation as member of parliament for the University of London.

Sir Oliver Lodge has been appointed the next Romanes lecturer at Oxford University.

The German Emperor has conferred the Royal Order of the Crown of Prussia, third class, upon Mr. A. Lawrence Rotch, founder and director of the Blue Hill Observatory, in recognition of his participation in the international work of exploring the atmosphere.

The subject for the annual discussion before the American Society of Naturalists, which will be held on the afternoon of January 1, is 'How can Endowments be used most Effectively for Scientific Research?' The speakers are Professors T. C. Chamberlin, W. H. Welch, W. M. Wheeler, Franz Boas, J. C. Coulter and Hugo Münsterberg. The public lecture will be given on Tuesday evening by Dr. C. Hart Merriam, his subject being 'Protective and Directive Coloration of Animals, especially in Birds and Mammals.'

Dr. Arthur W. Goodspeed, professor of physics at the University of Pennsylvania, has been elected president of the Röntgen Ray Society.

Dr. A. H. Smith has been elected president of the New York Academy of Medicine and and Dr. M. Allen Starr, vice-president.

Dr. Pearce Bailey has been elected president of the New York Neurological Society.

Mr. H. C. Russell, F.R.S., is at present president of the Royal Society of New South Wales, having succeeded Professor A. Liversidge, F.R.S.