With regard to v. Körösy's supposition (pp. 172 and 173) that my preparations of frog's stomach muscle were contaminated with acid, I can only say that it is incorrect. I took particular pains to avoid contamination of the muscle with the stomach contents; the preparations were decidedly alkaline to litmus at the beginnings of the experiments and remained so for at least twenty-four hours.

It seems to me that any further attempt to show that the smooth and striated muscle of the frog and the adductor muscle of the clam are all equally subject to the "law of Avogadro-van't Hoff" should be based on experiments on all three kinds of muscle and on careful consideration of the data already at hand, rather than on experiments confined to striated muscle and backed up only by experimentally unfounded suppositions.

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ON THE TAXONOMY OF THE PROCYONIDÆ

WITHIN recent time I have, through the courtesy of the United States National Museum and the Academy of Natural Sciences of Philadelphia, enjoyed the opportunity of making a comparative study of the skeletons of the procyonine mammals of America, and that of the panda of the Old World. These researches have resulted in the production of a memoir setting forth in full complete and comparative accounts of the osteology of all these species and genera, as well as thorough studies of their several dental armatures. This memoir carries with it thirteen quarto plates, upon which are to be found eighty-seven photographic figures, giving all the skulls and many other bones of the skeletons of these procyonine species, together with the skull of *Ailurus fulgens*. In all cases the figures are given natural size.

As there is usually some little delay in the publication of memoirs of this class, I have thought best to publish here an advance abstract, setting forth some of my findings with respect to this group in the matter of their classification. All descriptive details, as well as the large number of osteological figures of the Procyonidæ, will be available to mammalogists later on—that is, at such time as I can arrange for the publication of this work in its entirety.

As to the panda, I have said: "Judging from the characters presented on the part of its teeth; its skull, with the presence of the alisphenoid canal, and its Asiatic habitat, it is clear that *Ailurus fulgens*, the panda, is but remotely related to such forms as the raccoons, the coatis, or the kinkajous. Wherever it belongs, it does *not* belong in there. Having studied only the teeth and skull of a single individual, I am not prepared to say much in regard to its affinities; but I am of the opinion that it belongs, as a superfamily, Ailuroidea, between the bears and the procyonine forms. Possibly *Ailuropus* may be the connecting type here—that is, with the ursine series.

Apart from their special character differences, which have been given in detail above, the dental formulæ agree in *Bassariscus*, *Nasua* and *Bassaricyon*, while in *Potos* the formula is different. This fact alone is sufficient evidence to convince a mammalogist that the Kinkajous are, at least to this extent, more or less removed from the more typical raccoon group. In *Bassaricyon*, although the formula is the same as in a raccoon, the teeth differ markedly in their special characters. Especially is this the case with respect to their morphology and extremely feeble tuberculation.

In not a few particulars its cranium and mandible agree with that part of the skeleton in *Bassariscus*, though the curvature of the superior cranial line is more as we find it in *Procyon*—that is, in *Bassaricyon* it is not so flat and straight as it is in the ring-tailed bassaris.

Not having examined the entire skeleton, my opinion is given tentatively in so far as the taxonomical position of *Bassaricyon* is concerned; but with the morphology of its teeth and skull before us, it is clear that it possesses characters common to both the true

raccoons as well as to *Bassariscus,* and therefore belongs in some subdivisional group by itself. This is likewise true of *Nasua,* for, although the morphology and characters of its skull, axial skeleton and limbs are procyonine, it nevertheless departs very decidedly from the true raccoons in not a few of its osteological characters. This is seen in the elongate form of the skull in *Nasua* with its relatively smaller bullæ; the mesial foramen between the anterior palatine foramina; the upturned nasals, but more particularly the great differences to be found in the long bones of its skeleton; their proportional lengths and their characters, as well as the difference in form of the scapula and pelvis. These *constant* differences in the skeleton among *Bassariscus, Procyon* and *Nasua* are supergeneric and must be so considered.

Coming to *Potos,* we not only find the radical difference in the dental armature as compared with all the other genera; but its skull, although exhibiting certain general procyonine characters, is, in its form, entirely different from the skull of *Procyon,* or of *Nasua,* or the bassaris, or of *Bassaricyon.* The skull of a kinkajou is as short as the skull in a domestic cat; the mastoid process is entirely aborted; the paroccipital stands away from the bulla on the same side; tympanics short; frontal sinuses extremely small; and in the mandible the complete coossification of the horizontal rami at the symphysis, with the lower border of the bone concave. There are likewise numerous differences in the axial skeleton which have been fully enumerated above. In short, *Potos,* with its short skull; prehensile tail; different vertebral column; and other departures in its skeleton from the more closely related genera noted above, belongs strictly in a group by itself—that is, the several species do, and, while evidently procyonine in its characters and relationships, it is nevertheless well removed from the more typical raccoons, and the further we study its habits and anatomy, the more evident does this fact become.

In short, this group of mammals constitutes a superfamily Procyonoidea, divisible into two families—the Procyonidæ and the Potosidæ, with the former family divided into three subfamilies, Bassarisinæ, Bassaricyoninæ and Nasuinæ, thus:

Superfamily	Families	Subfamilies
Procyonoidea	Procyonidæ	Bassarisinæ
		Bassaricyoninæ
		Nasuinæ
	Potosidæ	Protosinæ

and this I believe to be their true relationships in nature.

R. W. Shufeldt

Washington, D. C.,
December 24, 1914

The National Academy of Sciences

The sessions of the annual meeting of the academy were held in the Oak Room of the Raleigh Hotel and in the United States National Museum, Washington, D. C., on April 19, 20 and 21, 1915.

Sixty-one members were present, as follows: Abel, Becker, Bell, Boltwood, Britton, Bumstead, Cattell, Chamberlin, Chittenden, Clark (W. B.), Clarke (F. W.), Clarke (J. M.), Conklin, Coulter, Cross, Dall, Davenport, Davis, Day, Donaldson, Fewkes, Frost, Hague, Hale, Harper, Harrison, Hayford, Hillebrand, Holmes, Howell, Jennings, Loeb, Mall, Meltzer, Mendel, Merriam, Michelson, Moore, Morgan, Morley, Nichols (E. L.), Noyes (A. A.), Noyes (W. A.), Osborn (H. F.), Osborne (T. B.), Parker, Pickering, Pirsson, Ransome, Reid, Remsen, Schuchert, Scott, Smith (Erwin F.), Walcott, Webster, Welch, Wheeler, White, Wood (R. W.), Woodward.

The following scientific program was carried out in full:

"Localization of the Hereditary Material in Germ Cells," by Thomas H. Morgan.

Problems of Nutrition and Growth:

"Stimulation of Growth," by Jacques Loeb.

"Specific Chemical Aspects of Growth," by Lafayette B. Mendel.

"Basal Metabolism during the Period of Growth," by Eugene F. Du Bois, medical director, Russell Sage Institute of Pathology (by invitation of the Program Committee).

"Retention in the Circulation of Injected Dextrose in Depancreatized Animals and the Effect of an Intravenous Injection of an Emulsion of Pancreas upon this Retention," by I. S. Kleiner and S. J. Meltzer.

"The Electrical Photometry of Stars," by Joel Stebbins, Draper Medallist.