Species plantarum, Linnæus designated it as *Phaseolus Max.* The description he gave is of itself inadequate. Paclt alluded to the presence in this description of "some specific characters derived from another element, namely *Phaseolus Mungo* L." In the absence of specific details in support of his claim, it is indeed hazardous to accept his contentions and, contrary to his statement, I know of no contemporary botanists who treat the mung bean as conspecific with the soybean. Offsetting this deficiency in his description of 1753, the earlier references cited by Linnæus and the available type specimen of the plant make clear the identity of the soybean. Careful study of them fails to indicate the basonym of *Phaseolus Max* L. to be a *nomen confusum.* The specimen of *Phaseolus Max,* on which Linnæus based his name, was provided him by George Clifford, and is currently reported to be in the Linnæan herbarium. The more ample description by Linnæus in *Hortus Cliffortianus* (1738) is presumed to have been based on the same Clifford specimen, and this earlier account may serve to supplement the inadequate diagnosis in *Species plantarum.*

It is the opinion of Paclt (*loc. cit.*) and, for wholly different reasons, of Hill (*Bot. Mus. Leaflets Harvard Univ.,* 1939, **7**, 107) that the name of the soybean is *Glycine Soja* (L.) Sieb. et Zucc. The name as used contemporarily, and not originally by Siebold and Zuccarini, was based on *Dolichos Soja* L. As was true of *Phaseolus Max,* Linnæus provided only a fragmentary description of *Dolichos Soja* in his *Species plantarum,* but cited his earlier and identical description as given in the *Flora Zeylanica* (1747). This earlier description was based on a specimen collected from cultivation in Ceylon by Paul Herman prior to 1677. After Linnæus' time the wild indigenous prototype or counterpart of the soybean became known to science. Moench (1794) considered it distinct from the cultigen and named it *Soja hispida.* In 1845 Siebold and Zuccarini treated the same plant under the new name of *Glycine Soja.* This is a case involving two different types of specimens collected from two divergent geographic regions: *Dolichos Soja* L. from cultivation and *Glycine Soja* Sieb. et Zucc., an indigen. Other early botanists considered the two plants to be different entities; later botanists have treated them as conspecific. However, by Article 18 of the Rules of Botanical Nomenclature, we are not allowed to take up a name based on a different type from that accepted by the author of the name. Siebold and Zuccarini clearly excluded Linnæus' *Dolichos Soja* from their concept of *Glycine Soja.* It is most unfortunate that they chose the name *Soja* for their plant. Because of these circumstances it is incorrect to cite Linnæus as a parenthetical author of their binomial.

I have attempted to refute Paclt's contention, unsupported by requisite data, that *Glycine Max* (L.) is based on a *nomen confusum* and to show that in no case is the name *Glycine Soja* Sieb. et Zucc. available as a legitimate name for the soybean. It seems clear to me, until such time as the case may be reviewed and an opinion given by more competent authority, that we should continue to designate the soybean as *Glycine Max* (L.) Merrill.

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A Six-Segment Head Regenerate in a Supposedly Refractory Earthworm Species, *Lumbricus castaneus* Savigny 1826

It has been shown (Carpenter, E. *Science,* 1948, **108**, 625), that, contrary to general belief, a head of six segments may be regenerated in the manure worm, *Eisenia foetida* (Savigny) 1826. This species, in proper laboratory conditions, regenerates readily and rapidly. *Lumbricus castaneus,* however, has been thought to have little or no regenerative capacity, presumably because of Hescheler's failure to secure regeneration (*Z. Nat.,* Jena, 1896, **30**, 177).

Material was secured from a pile of old leaves behind a Harvard building. Experimental conditions were the same as for *E. foetida* (Gates, G. E. *Biol. Bull.,* 1949, **96**, 129), except that in this case all regeneration was terminated at 30 days. The species has been found only twice in the U. S., and inability to secure further material ended the experiments.

All posterior substrates with transections at levels from 4/5 to 7/8 inclusive survived and regenerated (no operations behind 7/8). Regenerates at 4/5 or 5/6 had little or no metameric differentiation. Regenerates at the next two levels were normally cephalic, of three (1 specimen) and four segments (1) at 6/7, and at 7/8 of six (1) and 5½ (1) segments. In the latter case the half-segment was wedge-shaped and on the left side. The prostomium of each regenerate, apparently completely differentiated, was epilobic, rather than tanylobic as supposedly characteristic of the genus *Lumbricus.*

Regeneration of a normal head of six segments at 7/8 enables prediction of a species capacity to regenerate equimeric heads at 6/7 and all levels anteriorly.

A six-segment-head regenerate from such a limited number of operations, on a supposedly refractory species, seems to warrant another prediction, namely, that further investigation will show that the capacity for head regeneration, throughout the family Lumbricidae, has been underestimated.

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Determination of Condition of Oysters

It is difficult to devise a method of evaluating the condition of an organism by making analyses of only a few of the factors concerned. A recent publication by Robert M. Ingle (*Science,* 1949, **109**, 593) illustrates the nature of this problem in the extensive researches now being made on oysters.

Ingle mentioned that "later workers have adopted the measurement of glycogen content as a supplementary method of evaluation," meaning supplementary to the "index" method, as explained herein, which was developed by the writer and published in brief form in 1938 (in Higgins, E. *Rep. Commis. of Fish,* 1937). The glycogen method is the traditional one and has been employed by various investigators—P. H. Mitchell (*Bull. U. S. Bur. Fisheries,* 1917, **35**, 151), P. S. Galtsoff *et al.* (*Bull. U. S. Bur. Fisheries,* 1935, No. 18), and others.

It was because of the apparent unreliability of the glycogen method that the more recent index procedure was put into use.

Ingle objected to the index method because his graph, in which he plotted index values against percent of glycogen, did not indicate a uniform relationship. The figure clearly proves his point, and in doing so should suggest the obvious conclusion that there is no reason for expecting the two methods to give comparable results. It would be very surprising should they do so, in which case the need for the index method would not have arisen.

In applying this method, calculations are also made of the ratio of meats undrained and drained to the volume of the shell cavity. However, it has been found consistently that, because of osmotic effects from changes in salinity, the condition of an oyster, or of a group of oysters, as usually employed, may well be expressed by the equation referred to by Ingle, namely,

$$\text{Index} = \frac{100 \times \text{Dry weight (g)}}{\text{Volume shell cavity (cc)}}$$

The index method was specifically designed to give a picture, not of the glycogen cycle throughout the year, but of the actual quality of meat when reduced to a dry basis, in order to eliminate errors due to osmotic effects, maturation of gonads, and spawning.

In further support of this point it is of interest to mention the following figures on analyses of oyster meats (Chatfield, C., and Adams, G. *U. S. Dept. Agr. Circular No. 549*, 1940): "protein, 9.8%; fat, 2.0%; carbohydrate (glycogen), 5.9%." These figures definitely refer to drained oysters during the winter season as used commercially, but they indicate that glycogen constitutes only about one-third of the tissue substance. The method of glycogen analysis ignores proteins completely, though they are nearly double the glycogen; while the index method measures the entire amount of meat.

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Effect of Dioxane and Sodium Hydroxide upon Lens Capsule and Cortex (*Squalus* sp.)

The use of these chemicals in conjunction with the study of the lens may complement certain laboratory activities in physiology and comparative anatomy. To demonstrate specific peculiarities of the lens the following procedures can be followed during the regularly scheduled laboratory periods without interrupting the prescribed requirements.

A certified grade of dioxane should be used for optimum clearing of the lens structures. Appreciably fine results may be obtained from salvaged dioxane, if it is dehydrated with CaO and filtered before using. Dioxane and water are miscible in all proportions, but a more uniform infiltration occurs if the lenses are suspended in the medium rather than allowed to rest on the base of the vial. This caution should be observed if reclaimed dioxane is used.

The type of lens utilized in these procedures may be obtained from the commercially preserved dogfish. The lens must be carefully removed from the eye to avoid injuring the lens capsule. It is then immersed in the dioxane for 10 min, removed, and air-dried.

A lens so treated will appear as a clear, pale amber, uniformly homogenous structure. In this condition it is impossible to distinguish the capsular, cortical, or nuclear components because of their uniform transparency. Very faint striations and suture lines may, however, be observed on the surface of the capsule with the aid of a hand lens. This preparation, because of its clarity, serves most efficiently for the demonstration of the refracting and focusing powers peculiar to lenses.

If the capsule is mechanically scratched or broken, and the specimen again immersed in dioxane for 25 min, white opacities, comparable to cataracts, appear upon the cortical surface. Excessive exposure to dioxane will render the entire specimen white.

Further observations pertaining to the cortex may be facilitated by the use of 20% NaOH solution. The lens should be placed in the alkali for 15 min, then washed and dried. This treatment will clearly reveal the capsular suture lines.

If the alkaline-treated lens is observed before drying, the lamellated character of the slightly swollen cortex is readily seen; and it may easily be peeled. The removal of the cortical strata will expose the nucleus, which is a transparent, amber, homogenous unit, free of striations and lamellations.

By holding the moist lens against the light before removing the cortex, the shiny nucleus may be seen almost centrally located within the gelatinous cortical envelope.

Prolonged exposure of the lens to the alkali, 24 hr, will cause a gross swelling of the cortex and of the nucleus, and a change from the clear state to a uniformly hazy condition.

This procedure provides a means of more completely utilizing the lens when the structure of the eye is studied in comparative anatomy; and a means, also, of demonstrating the refractive powers, cataracts, and other lens characteristics in physiological applications.

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