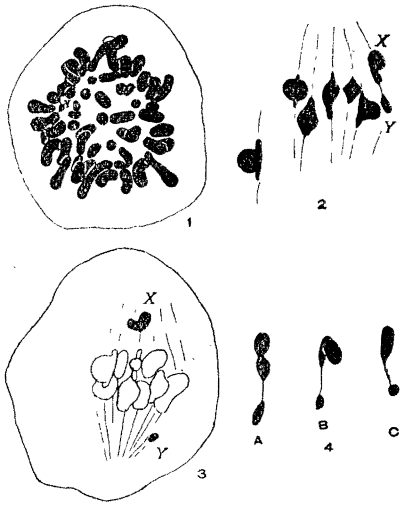
shown that both of these mammals possess the X-Y type of sex chromosome. The spermatogenesis of the "ring-tail" monkey (exact species not yet determined) shows essentially the same conditions as were found in the opossum and in man.

In dividing spermatogonia (fig. 1) one counts 54 chromosomes. It is to be noted that the smallest element has no mate of like size and shape. It is the "male determining," or "Y" chromosome.



During the first maturation division one finds among the tetrads an element the two components of which are very unequal in size (fig. 2). This is the X-Y sex chromosome complex. The X and the Y components go undivided to opposite poles of the cell, so that the secondary spermatocytes have either an X or a Y chromosome. In the second maturation division the sex chromosome (either X or Y) divides equationally. 27 chromosomes have been counted in the late telophase of the second maturation division. (In figs. 2 and 3 only part of the tetrads are shown).

In figure 4 the sex chromosomes—as seen in the first maturation division—are given for A opossum, B monkey, C man. It is interesting to note that recent work on the genetics of man (Schoenfield—See Castle, SCIENCE, Vol. 55, p. 703) confirms the results of my cytological studies.

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A SIMPLE GAS GENERATOR FOR LABORATORY USE

IT is frequently necessary to prepare small quantities of carbon dioxide, hydrogen, hydrogen sulfide, chlorine, hydrochloric acid gas, oxygen, etc., in the general laboratory work and in many laboratories it is not practicable nor desirable to maintain a lot of elaborate equipment for the generation of these various gases, especially for the small quantities intermittently needed.

To prepare a special flask each time occasion arises to generate a gas is at least bothersome and time consuming and involves a waste of reagents. On the other hand, a simple piece of apparatus, taking no more room on the shelf than a reagent bottle, adaptable to the preparation of any of several gases at a moment's notice without waste of reagent, commends itself.

The apparatus here presented developed from such a need and can be easily prepared out of ordinary laboratory equipment; a large wide-mouthed bottle, two test tubes, two cocks, rubber stoppers and glass tubing are all that is required.

An examination of the diagram will show the simplicity and convenience of construction and operation.

CONSTRUCTION

Into the wide mouthed bottle *A* is fitted a large rubber stopper *D-D* containing one small hole for the tube *H* terminating in stopcock *N*, and a large hole for the large test tube B. At

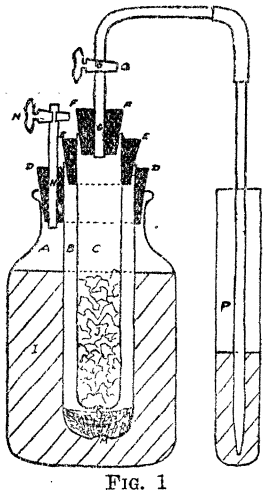

FIG. 1

the bottom of the large test tube is a hole *M* and over it is snugly fitted a layer of glass wool *L*. Into *B* the stopper *E-E* is placed, through which passes a smaller test tube *C*. This tube also has a small hole at the bottom *K*, and is fitted at the top with a stopper *F-F* through which passes a delivery tube fitted with stopcock *O*.

The large test tube *B* in stopper *D-D* should fit especially tight as it is not to be removed from the stopper. *E-E* should fit more loosely as it may be removed at will.

The bottle *A* is the reservoir for the acid *I*.

The tube *B* is a chamber for holding tube *C*.

C contains the zinc, iron sulfide, marble, peroxide, bleaching lime or fused ammonium chloride, etc. (which should, of course, be in lumps) with which the acid acts. A rack of tubes filled with different reagents and fitted with stoppers the same size as *E-E* afford a ready source for each gas, or tube *C* may be dumped and filled with a different reagent as desired.

Pinch cocks may be used instead of glass, or nearly any preferable type might be substituted.

OPERATION

Tube *C*, containing marble, zinc or whatever substance is required, *J*, and fitted with stoppers *E-E* and *F-F* and tube *G*, cock *O* of which is closed, is introduced into the chamber *B*. The air or gas in *C* prevents the acid from entering.

To operate, open *N* and *O*. Close *N* after acid has run into *C* through *M* and *K* so that the acid will not be forced out of *C*. Pass the delivery tube into the test tube *P* or collect in any other fashion.

To stop the generation, see that *N* is open. Close *O*. The gas will force the acid out of *C*, and out of *B*. The apparatus may then be set away for another time, or if preferred *C* may be removed in a comparatively dry condition both inside and outside after closing *N* so that the chamber *B* will remain empty while *C* is being removed.

The acid need not be changed except when any impurities it contains might interfere with the test to be run, or when it has eventually become exhausted. To supply new acid simply remove the stopper *D-D* which takes with it all the fixtures, empty the jar *A* and refill. Replace the stopper, and all is ready for use.

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THE OHIO ACADEMY OF SCIENCE

THE thirty-second annual meeting of the Ohio Academy of Science was held at Ohio State University, Columbus, April 14 and 15, 1922, under the presidency of Professor Raymond C. Osburn, of Ohio State University. Eighty-seven members were registered as in attendance; forty-six new members were elected.

The usual geological excursion was postponed until June 3 and 4, and took the form of a joint field meeting, on invitation of the geologists of the Michigan Academy of Science, for the study of the glacial geology and Silurian rocks of southeastern Michigan and adjoining portions of Ontario. The party was under the leadership of Mr. Frank Leverett, of the University of Michigan, and Professor W. H. Sherzer, of the Michigan State Normal College. Professor J. E. Carman, of the Ohio State University, collaborated in directing the investigations at certain localities.

The Committee on State Parks and Conservation reported progress in the listing of areas suitable for preservation. Director Taber, of the State Department of Agriculture, addressed the academy on the game preserves owned or leased by the state. The academy expressed its formal approval of the establishment of a state commission, including scientific representation, to advise in the acquisition of state parks and preserves and in their regulation to secure the maximum recreational, scenic and scientific returns.

The trustees reported the twenty-fifth annual gift of two hundred and fifty dollars from Mr. Emerson McMillin, of New York City, in furtherance of the research work of the academy. A resolution of thanks and the birthday greetings of the academy were sent to Mr. McMillin by night letter, to reach him on April 16, his seventy-eighth birthday. (The death of Mr. McMillin on May 31 has already been reported in SCIENCE. He was a member