men were avoided, and the difference in the two types of pH determinations was maintained within 0.5 unit.

The accompanying Fig. 1 shows the accuracy of the method. The fasting contents of an anesthetized dog were diluted to 100 cc with distilled water and a control recording made. The introduction of 1 gram of sodium bicarbonate in 100 cc of distilled water followed by rinsing through the Levine tube with 50 cc of water caused a prompt increase in the pH value. The peak of this rise is conditioned by the pH of the alkaline solution, whereas the plateau level immediately following is the pH of the alkali and gastric content mixture. The duration of the plateau, shown by the gently sloping curve which is terminated by the sudden drop to a low level, is controlled by the amount of alkali added, the rate of acid secretion and the intermittent emptying of the stomach. The amount of emptying can be calculated if the gastric contents are measured after the pH has returned to the low level. By controlling the variables interesting data may be obtained on the efficacy of antacids and the rate of gastric secretion. Information pertaining to these experiments as well as further details concerning the method will be published elsewhere.

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JAMES FLEXNER
MICHAEL KNIAZUK
THE MERCK ISTITUTE OF THERAPEUTIC RESEARCH,
RAHWAY, N. J.

JAN NYBOER
NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL,
NEW YORK, N. Y.

CHROMOSOMES FROM LEAVES

A MODIFICATION of Warmke's[1] method for making root-tip smears has been found by the writer to be effective for studying chromosomes in the leaves of certain plants: place young leaves in Carnoy's solution (3 parts chloroform, 2 parts absolute alcohol and 1 part glacial acetic acid) for five or more minutes; transfer momentarily to a solution of equal parts of 95 per cent. alcohol and concentrated hydrochloric acid; put the leaves back into Carnoy's, and, after several minutes, smear in iron aceto-carmine.

By this method the chromosomes of a number of genera have been investigated: *Smilax* L. (Liliaceae), *Sedum* L. (Crassulaceae), *Cercis* L. (Leguminosae), *Punica* L. (Punicaceae), *Sanicula* L. (Umbelliferae), *Pyxidanthera* Michx., *Diapensia* L., *Shortia* Torr. and Gray, *Schizocodon* Sieb. and Zucc., and *Galax* L. (Diapensiaceae), *Chimaphila* Pursh (Ericaceae), and *Plantago* L. (Plantaginaceae). Metaphase drawings of two species are shown here for purposes of illustration: Fig. 1, *Sedum pusillum* Michx., from Stone Mountain

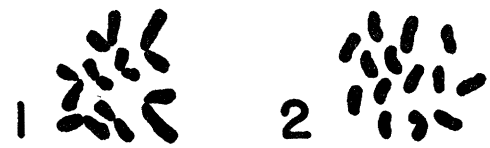

FIG. 1. *Sedum pusillum* Michx., $2n = 8$, *ca.* 3800 ×.
FIG. 2. *Cercis canadensis* L., $2n = 14$, *ca.* 4500 ×.

in Georgia, with 8 somatic chromosomes, the lowest number known for the extremely varied family; and Fig. 2, *Cercis canadensis* L., four trees on the grounds of the College of William and Mary, with 14 somatic chromosomes. Senn[2] reported a $2n$-number of 12, n-number of 6, for this species; his drawing of meiotic chromosomes suggests an interpretation of two bivalents in contact to be a single bivalent; his somatic number (not figured) was determined from an anther-wall division. The only other investigated species of *Cercis* has 14 and 7 chromosomes, respectively.[3]

J. T. BALDWIN, JR.
COLLEGE OF WILLIAM AND MARY

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[2] H. A. Senn, *Bibliogr. Genetica*, 12: 175–336, 1938.

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