1. Fruit of parthenocarpic varieties is sterile until the loosening of the scales and the opening of the eye, when they remain sterile unless visited by insects (*Carpophilus hemipterus* L., *Notoxus constrictus* Casey, *Drosophila ampelophaga* Loew., etc.).

2. Fruit of caprified varieties is sterile previous to caprification. Fruit of caprifigs is sterile until caprified.

3. A definite flora, as mentioned previously, has been persistently found in caprified edible figs and caprifigs, irrespective of the kind of the crop (Mamme, Profichi, Mammone.).

4. The spores of the fungus have been obtained from Blastophaga caught under sterile conditions as they were issuing from caprifigs.

A microscopic examination of the wings and other appendages of Blastophaga showed the spores of the fungus lodged in considerable numbers among the spines of the wings, where they germinated under proper conditions. The question then arose as to where the fungus vegetates and where it grows from the time it is introduced into the fig cavity until the signs of the rot begin. Cultural and microscopical examinations of individual gall flowers taken from caprifigs show that the spores of the fungus germinate readily and grow on the stigma and the style of the flowers and on the body of the dead insect until the new generation of Blastophaga is ready to emerge. At that time there are enough spores in the cavity and these adhere to the bodies of the female insects which carry them into the cavity of the edible figs. As a rule, a number of spores are carried on the body of the Blastophaga and are deposited by it on the stigma of the flowers as the insect wanders among them in a vain attempt to oviposit. The spores germinate there and grow slowly on the stigma until the fig begins to ripen and soften. The fungus is then able to invade the tissues rapidly, producing the symptoms described previously. In some cases, when the spores of the fungus are carried on the wings, a dry rot is produced on the eye end of the fig, because usually the wings of the Blastophaga are caught among the scales of the eye. A similar rot results when a number of insects are lodged among these scales in instances of overcaprification, because under these circumstances the fungus is able to grow on the bodies of the Blastophaga until the fig tissues are invaded.

This investigation is a part of the general study of fig diseases carried on in this laboratory under the direction of Professor R. E. Smith.

PANOS D. CALDIS

UNIVERSITY OF CALIFORNIA
LABORATORY OF PLANT PATHOLOGY

THE ROYAL SOCIETY OF CANADA

SECTION V—BIOLOGICAL SCIENCES

THE annual meeting of the Royal Society of Canada was held in Ottawa on May 18, 19, 20 and 21. The following papers were presented in Section V:

Presidential Address

Proteolysis and the structure of proteins: ANDREW HUNTER.

Zoological

Marine wood borers in British Columbia waters: C. MCLEAN FRASER.

The histology of the "colon" and its contained spiral valve of the Pacific dogfish (Squalus sucklii) with an investigation of the phylogeny of intestinal valves: A. R. FEE (presented by C. McLean Fraser).

Observations on the spruce budworm, Cacoecia fumiferana Clem: ARTHUR GIBSON.

The Ephemeroptera of Covey Hill, Quebec: J. MCDUNNOUGH (presented by Arthur Gibson).

Revision of the American species of the Tachinid Genus Peleteria (Diptera): C. H. CURRAN (presented by Arthur Gibson).

A preliminary revision of some Charopsinae, a subfamily of Ichneumonoidea of Ichneumon flies: HENRY L. VIERECK (presented by Arthur Gibson).

Losses in trout fry after distribution in streams: A. P. KNIGHT and H. C. WHITE (presented by A. P. Knight).

A preliminary study of the respiratory exchange in Grylloblatta campodeiformis E. Walker: NORMA FORD (presented by E. Walker).

Northern Cyclopidae and Canthocaptidae: ARTHUR WILLEY.

A new gill-parasite of pike-perches in northern lakes: JEAN T. HENDERSON (presented by Arthur Willey).

Medical

The action of Collip's parathyroid extract on blood and cerebrospinal fluid calcium: A. T. CAMERON and V. H. K. MOOREHOUSE.

Note on the action of parathyroid extracts on Guanidine: F. D. WHITE and A. T. CAMERON.

A note on tetany in thyroid-fed rats and the supposed antagonism between thymus and parathyroid: A. T. CAMERON and J. CARMICHAEL.

The excretion of water and of gas by frogs submerged in water: A. T. CAMERON and D. ROY MCCULLAGH.

The cranio-facial axis of Huxley: JOHN CAMERON.

Skin susceptibility to toxic filtrates of S. Haemolyticus in convalescents, actively immunized and normal individuals: D. T. FRASER and A. H. GRAHAM (presented by J. G. Fitzgerald).

Some factors concerned in the preparation of diphtheria toxoid: P. J. MOLONEY and C. B. WELD (presented by J. G. Fitzgerald).

The Ramon test. Diphtheria toxin—antitoxin—flocculation: P. J. MOLONEY and C. B. WELD (presented by J. G. Fitzgerald).

Some chemical properties of diphtheria toxoid: P. J.

MOLONEY and C. B. WELD (presented by J. F. Fitzgerald).

Technique of fractional analysis in bacterial fermentations: E. GORDON YOUNG (presented by A. B. Macallum).

Recent observations, by X-rays, on the functional form-changes of the human bronchial tree: CHARLES C. MACKLIN.

The family tree of a case of peroneal atrophy: M. THURLOW MACKLIN and J. THORNLEY BOWMAN (presented by Charles C. Macklin).

The oestrus cycle in the mare and some associated phenomena: E. SEABORN (presented by Charles C. Macklin).

The sugar of the blood and the glycogen of the liver and muscles in standard white rats: LADISLAV KARCZAG, J. J. R. MACLEOD and M. D. ORR.

Some factors influencing the action of insulin and the effects of its daily injections in normal animals: J. MARKOWITZ, M. K. O'BRIEN and M. D. ORR (presented by J. J. R. Macleod).

The time relationship of the changes which occur in the blood as the result of the injection of insulin in depancreatized animals: I. L. CHAIKOFF, J. J. R. MACLEOD and J. MARKOWITZ.

Metabolism during pregnancy in a depancreatized dog kept alive with insulin: J. MARKOWITZ and W. W. SIMPSON (presented by J. J. R. Macleod).

Insulin and tissue reductase: J. MARKOWITZ (presented by J. J. R. Macleod).

The preparation, physiological properties and method of standardization of a parathyroid hormone: J. B. COLLIP and E. P. CLARK (presented by J. J. R. Macleod).

The effects of parathyrin on dogs and other animals and the influence of diet on these effects: J. J. R. MACLEOD and N. B. TAYLOR.

The action of insulin on the blood sugar of the fowl: J. MARKOWITZ (presented by J. J. R. Macleod).

The influence of insulin on asphyxial glycogenolysis: I. L. CHAIKOFF (presented by J. J. R. Macleod).

Lymphatics of the heart: S. G. CHALK (presented by Paul S. McKibben).

Viscero-motor reflexes III: FREDERICK R. MILLER and R. A. WAUD.

Decerebrate rigidity in young mammals: N. B. LAUGHTON (presented by Frederick R. Miller).

Natural arrest of hemorrhage from a wound: JOHN TAIT.

The spindle-cells in relation to coagulation of frog's blood: F. GREEN and JOHN TAIT.

The rôle of platelets in mammalian blood coagulation: H. E. BURKE and JOHN TAIT.

The injection of quartz particles into the blood stream: A. R. ELVIDGE and JOHN TAIT.

Some points in relation to the structure and function of the spleen: M. F. CASHIN and JOHN TAIT.

Immunity technique applied to the intergraftability of plants: F. GREEN (presented by John Tait).

Experiments on the labyrinth of frogs: W. J. MCNALLY and JOHN TAIT.

Cause of death in mammals by lowering of body temperature: G. L. CASSIDY (presented by John Tait).

Relation between volume and diameter of mammalian red blood corpuscles: W. F. EMMONS (presented by John Tait).

The effect of temperature upon the rate of action of insulin in mammals: C. J. CASSIDY, S. DWORKIN and W. H. FINNEY (presented by John Tait).

Thermotactic action of insulin: C. J. CASSIDY, S. DWORKIN and W. H. FINNEY (presented by John Tait).

Botanical

Experiments on sex with mushrooms and toadstools: A report on the work of Irene Mounce, William F. Hanna and Dorothy E. Newton: A. H. REGINALD BULLER.

Fern Rusts. I. The genus Milesina: J. H. FAULL, E. H. MOSS, L. M. HUNTER and W. R. WATSON.

Bacterial content of salt water fish: F. C. HARRISON.

Further studies on the saltation of the black dot organism: B. T. DICKSON (presented by F. C. Harrison).

Vermicularia v. Colletotrichum: B. T. DICKSON (presented by F. G. Harrison).

Tomato streak: B. T. DICKSON and T. C. VANTERPOOL (presented by F. C. Harrison).

A comparative study of lateral and scaliform conjugation in spirogyra: FRANCIS E. LLOYD.

Chromosome numbers and plant characters in hybrids between durum and bread wheats: W. P. THOMPSON.

Cytological conditions in wheat-rye hybrids: W. B. THOMPSON.

The uredinales of the prairie provinces of Canada: W. P. FRAZER and I. L. CONNERS (presented by W. P. Thompson).

Net blotch of barley—Helminthosporium teres Sacc: MARGARET NEWTON (presented by W. P. Thompson).

Some features of the primary resin canals of the conifers: CHARLES S. HANES (presented by R. B. Thomson).

PAUL S. MCKIBBEN
UNIVERSITY OF WESTERN ONTARIO

THE WESTERN PSYCHOLOGICAL ASSOCIATION

THE fifth annual meeting of the Western Psychological Association was held at University of California, Berkeley, on July 24 and 25. The Association officers for 1924–25 are: Arthur H. Sutherland, president, Los Angeles; Raymond H. Franzen, vice-president, University of California; Walter R. Miles, secretary-treasurer, Stanford University; Edward C. Tolman, local committeeman, University of California. The following papers were presented:

FRIDAY, JULY 24

9:30 A. M.

Ideomotor action and dynamogenesis: HERBERT S. LANGFELD, Princeton University.