

## Research Reports: 1953

(rats, hamsters) was negative. This tumor grows strikingly in the chick. Silver preparations show only few nerves in the graft. Mouse carcinomas (CA-15, C-954) actually block nerve outgrowth. Adjacent ganglia were smaller than corresponding ganglia.

With the exception of Patterson's lymphosarcoma all tumor grafts used in this study showed conspicuous growth at 10-17 days of incubation. Present results indicate that nerve growth stimulating effects observed in sensory and sympathetic ganglia are probably associated with a large number of transplantable mouse sarcomas.

### Excretion in the Lobster, *Homarus*: II.

J. Wendell Burger  
Trinity College

Single injections of inulin, 10-20 mg., followed up to 28 hrs., gave U/P ratios of approximately 1, with both urine and plasma concentrations falling with the same slope. Inulin is not secreted in the lobster as reported for the crayfish (Maluf '41).

Phloridzin produced glucosuria and blocks glucose retention (Burger '52).

Blood-urine NPNs showed no constant relationship to each other, each ranging from 5-32 mg. %. Volatile ammonia and urea were undetectable in the urine (less than 1 mg.%) in analyses kindly made by Xenia Boysen and Claus Brunn. Following injection of urea into lobsters with occluded nephridiopores, blood-sea water values (2-3 liters of sea water) became about equal in 1 hour, indicating a rapid loss of urea through the gills. The NPN values indicate the loss through the nephridia of non-urea, non-volatile nitrogen.

Further investigation with sulphate showed the body and gills were relatively impermeable to this ion, as Krogh found for the crab (*Carcinus*). Sulphate placed in the stomach resulted in elevated blood and urinary sulphate, indicating that this ion is absorbed with feeding and drinking (Burger '52).

Following the injection of centrifuged, hemolyzed dogfish (*Squalus acanthius*) blood a pink protein appeared in the urine. The nephridia seem permeable therefore to very large molecules, but not to the animal's own hemocyanin. Our data add nothing to the problem of how urine is formed. The very thin delicate nature of the bladder would indicate that water and other substances can diffuse directly from the blood to the urine, and vice versa, although small particles such as sulphate, urea, and the larger phenol red are held by the bladder at very unequal concentrations.