indicates that the POA as well as the VMH influence prolactin secretion.

Zusammenfassung. Prolaktin wurde mittels Radioimmunbestimmung in Seren gemessen, die 30 und 60 min nach elektrischer Stimulation des Gehirns abgenommen wurden. Ähnliche Ergebnisse wurden in Kontrolltieren

und elektrisch stimulierten Tieren erhalten. Die Serumprolaktinspiegel sanken, wenn die Elektroden in der präoptischen Region lagen. Ein vorübergehender Abfall wurde gemessen, wenn die Elektroden im ventralen, medialen Hypothalamus lagen. Keine Änderung im Prolaktinspiegel wurde gefunden, wenn die Elektroden im Neocortex lagen.

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Juvenile Hormone-Initiated Sexual Maturity in Males of *Pterostichus nigrita* F. (Col. Carab.)

The formation of spermiozeugma (bundling of sperma) in *P. nigrita*¹ only takes place under short-day conditions (SD) (critical photoperiod 15.0 h), but spermiogenesis is almost independent of the applied photoperiods. To examine the hormonal processes underlying the effect of short-day conditions, 6-week-old males, enclosed in continuous light (LL), were given an injection of a juvenile-hormonomimetic substance [10.11-epoxy-farnesylmethyl-ester (FSME) Ro 8-4314, Hoffmann-La Roche, Basel, Switzerland] or a synthetic juvenile hormone (JH) (mixture of 8 possible isomeres, AY-22,342, Ayerst Research Laboratories, Montreal, Canada) dissolved in

olive oil (5 µg per injection). After another 6 weeks under continuous illumination, the beetles were dissected.

The Figure shows that 1 injection of JH induces maturity in 65% of the males, a second injection does so in 83%. FSME has a weaker influence: 5 µg only stimulates growth and secretion in the accessory glands; with 10 µg the results are similar to those with JH.

Conclusion. It can be shown that JH initiates the formation of spermiozeugma in males of *P. nigrita*. Short-day conditions apparently stimulate the synthesis of JH within the organism. Inducing previtellogenesis was successful in females of *P. nigrita* by replacing the short day by injection of a juvenile-hormonomimetic substance². Histological investigations show an increased activity of the corpora allata in females under short-day illumination³. Further studies on the influence of the c.allata during short-day conditions on the formation of the spermiozeugma will be conducted.

Recent results show clearly that the c.allata and c.cardiaca are probably the hormone-producing organs: by transplantation of these organs from mature into immature beetles, sexual maturity of the immature males can be induced.

Résumé. Les journées courtes (short-day) induisent la maturité sexuelle chez les mâles de *Pterostichus nigrita*. L'influence de la journée courte peut être remplacée par une injection d'un hormone juvénile synthétique.

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Formation of spermiozeugma (a) and contents of accessory glands (b) in correlation with continuous light (12 W LL), the change of continuous light to short day (6 W LL → 6 W SD), and the injection of olive oil, 10,11-epoxy-farnesylmethyl-ester (FSME) and juvenile hormone (JH); I, 1 injection; II, 2 injections spaced 2 weeks apart.

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