

Jeder Raumlage des Präparates entspricht eine bestimmte Erregungsfrequenz der einzelnen Einheiten. Wird der Drehvorgang in einer Winkellage unterbrochen, und verbleibt das System in dieser Stellung, so sinkt die Impulsfrequenz des Einzelelementes – ähnlich wie bei den Summenableitungen bereits beschrieben – je nach Lage der Unterbrechung innerhalb des Reaktionsbereiches mehr oder weniger stark ab. Aus diesem Verhalten ist zu schliessen, dass die Einheiten phasisch-tonisch arbeiten und sowohl Raumlageänderungen als auch Raumpositionen melden. Es wurden weder Einheiten mit voller Adaptation, noch solche, die nicht adaptierten, gefunden. Die bisherigen Ergebnisse liefern noch keine exakten Anhaltspunkte über den rezeptoradäquaten Reiz. Ob er in einer Scherung der Sinneszellfortsätze besteht oder ob auf diese ein Druck ausgeübt wird, soll in weiterführenden Untersuchungen geklärt werden. Abschliessend sei noch erwähnt, dass in den Statonerven auch zentrifugal Impulse geleitet werden⁴.

Summary. Single units of the statocysts of 2 gastropod molluscs were found responding to rotation only in a special range. Since adaptation was observed for each maintained position these units are thought to be of the phasic-tonic type. Efferent impulses have also been recorded from the statocyst nerves.

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⁴ Die Untersuchungen wurden durch eine Sachbeihilfe der Deutschen Forschungsgemeinschaft und ein Stipendium der Stiftung Volkswagenwerk gefördert.

Muelleromyces, a New Member of the Sphaeriales (Ascomycetes)¹

A tar spot fungus parasitizing leaves of *Eugenia jambolana* Lam. was collected by the author from the deciduous forests of Coorg, Mysore State (India) with the following characteristics: non-stromatic perithecia with highly developed clypeus; asci 8-spored, unitunicate, paraphysate, readily gelatinizing at maturity and provided with thick apical canal, ascospores brown and unequally 2-celled.

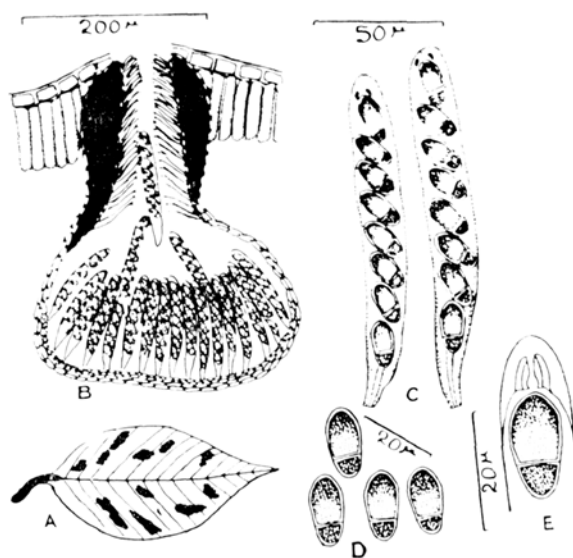
These characters are typically sphaeriaceous with strong diaporthaceous affinities and have not been duplicated in any of the known ascomycetous genera of the Diaporthaceae.

Discussion. A careful search of literature showed that the author's collection had some resemblance to the following 3 genera viz. *Didymosphaeria* Fuckel, *Savulescua* Petrak and *Anisomyces* Theis. and Syd. It differed from *Didymosphaeria jambolana* described by RAMAKRISHNAN et al.² sharply in having highly developed clypeus, non-paraphysate unitunicate asci gelatinizing at maturity. The other 2 genera which admit of consideration and comparison with the author's collection are the mono-typic genus *Savulescua* Petrak established by PETRAK³ and the genus *Anisomyces* Theis. and Syd⁴. The genus *Savulescua* has 4-spored paraphysate asci, and hyaline, equally 2-celled ascospores. The genus *Anisomyces*, on the other hand, is characterized by aggregated uniloculate stromata and paraphysate asci. The Coorg collection thus combines characters which sharply distinguish it from any other known diaporthaceous genera.

Diagnosis and taxonomy. Family: Diaporthaceae, order: Sphaeriales, series: Ascohymeniales. *Muelleromyces* M. N. KAMAT and K. H. ANAHOSUR gen. nov. Perithecia non-stromatica, separata, innata, eminenter rostrata, clypeo alte evoluto, ostiolata, nigra. Asci unitunicati, canali apicali crasso, pedicello gelatinizato ad maturitatem, octospori, paraphysati. Ascosporae crasse parietatae, fusco-brunneae, inaequaliter bicellulares. Paraphyses nullae. Periphyses plures.

Species typica sequens. *Muelleromyces indicus* M. N. KAMAT and K. H. ANAHOSUR sp. nov. Infectionis maculae nigrae, primo circulares, tandem irregulares, epiphyllae, 1–1.5 × 0.5 mm, perithecia nigra, separata, innata, rostro

bene evoluto et alte evoluto clypeo ornata, ostiolata, globosa vel conica, 210–260 μ . Parietes peritheciae pallide brunnei, bis terve seriati, constantes e cellulis polygonali-



(A) Habit. (B) Section through the ascocarp. (C) Asci. (D) Ascospores. (E) Apical apparatus of the ascus.

¹ The fungus is named after Dr. E. MÜLLER of The Institute of Special Botany, Zürich (Switzerland), in recognition of his outstanding contributions to Fungi in general and Ascomycetes in particular. The material of this new fungus is deposited at M.A.C.S. Herb. Poona (India), C.M.I., Kew, Surrey (England) and Herb. Orientalis, New Delhi (India).

² T. S. RAMAKRISHNAN, Proc. Indian Acad. Sci. B. 37, 84 (1953).

³ I. PETRAK, Omagiu Lui Traian Savulescu, Cu Orilejul implinirii (Editura Academia Republicii Populare Romine 1959), p. 591.

⁴ E. MÜLLER and J. A. ARX, Beitr. KryptogFlora Schweiz 11, 992 (1962).

bus graciliter parietatis, 8–12 μ crassis. Clypeus ater, alte evolutus, constans cellulis, crasse parietatis, 20–30 μ crassus. Rostrum 100–130 μ , longum. Asci cylindrici, parietibus crassis, alte incrassati ad apicem, canali alto apicali, tumescentes ad basin, unitunicati in series parietales dispositi, pedicellis brevibus, gelatinizatis ad maturitatem, et menentes liberi in cavitate peritheciali, octospori, hyalini, non-paraphysati, $145.4\text{--}170.8 \times 16\text{--}20$ μ . Ascosporeae oblongae, fusco-brunneae ad apices, subhyalinae ad medium, inaequaliter bicellulares (super 12 to $14 \times 7\text{--}8$ μ and infer. $4\text{--}6 \times 4\text{--}5$ μ), non constrictae ad septa, rotundatae ad utrumque apicem, uniseriatae, 16 to $20 \times 4\text{--}8$ μ , paraphyses nullae. Periphyses plures, filiformes, graciles, hyalinae, sursum directae.

In foliis viventibus *Eugenia jambolanae* Lam. e fam. Myrtaceae. leg. K. H. ANAHOSUR in Coorg, in statu Mysore in India, die 7 februarii 1967, M.A.C.S. Herb. No. 494, Typus⁵.

Zusammenfassung. Ein auf Blättern von *Eugenia jambolana* Lam. in Indien Blattflecken verursachender

Ascomycet gehört zu einer neuen Gattung, *Muelleromyces* KAMAT und ANAHOSUR; Typus ist *Muelleromyces indicus* KAMAT und ANAHOSUR. Der Pilz hat dem Blattgewebe eingesenkte, einzelstehende und von einem mächtig entwickelten Klypeus überdeckte Perithezien, verschleimende Asci und ungleich zweizellige, hyaline Ascosporen; Paraphysen fehlen.

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⁵ Acknowledgments. The author is grateful to Prof. M. N. KAMAT for his deep interest and guidance and to Dr. E. MÜLLER of Zürich, Dr. F. PETRAK of Austria and Dr. M. JONES of C.M.I., Kew, for helpful suggestions, and to Dr. Rev. Father H. SANTAPAU for Latin rendering.

Adrenal Weight in Relation to Duration of Pregnancy in the Indian Desert Hare *Lepus nigricollis dayanus* Blanford

In accordance with the classical concept of stress as pronounced by SELYE¹, HERRICK² concluded on the basis of the greater mean adrenal weights in pregnant adult female black-tailed jack rabbits, *Lepus californicus melanotis*, compared with those of non-pregnant females, that pregnancy is a stress factor for this species. This author also reported that the lengths of embryos were significantly correlated ($r = 0.434$) with the adrenal weights of the mother jack rabbits indicating that the latter increase with the progress of pregnancy. Increase in adrenal weights associated with pregnancy was also reported in the vole, *Microtus agrestis* (CHITTY and CLARKE³), the increase being mainly attributed to the enlargement of the X zone of the adrenal cortex; guinea-pigs (HEWITT and VAN LIERE⁴), rabbit (RANDALL and GRAUBARD⁵) and squirrel (ZALESKY⁶). CHRISTIAN⁷ has, however, argued that the increase in relative adrenal weights in woodchuck, *Marmota monax*, during the reproductive season cannot be attributed to reproduction per se, although its effects on behaviour, especially aggressiveness, must contribute to it indirectly.

In view of the lack of information on the adrenal weight response to the state of pregnancy in the Indian desert hare, the adrenal glands were dissected out from both non-pregnant and gravid females and preserved in 10% formaldehyde soon after shooting the animals during 1966. Likewise, the gravid uteri were also preserved and the crown-rump length of the individual embryos was measured subsequently. The preserved adrenals were weighed up to the nearest $1/10$ mg in a Mettler semi-micro balance.

Adrenal weight of non-pregnant and pregnant hares. The mean paired adrenal weight of adult pregnant hare (33) was significantly (at 5% level) heavier than that of adult non-pregnant hares (18). After adjusting for the unequal body weights of the animals, the difference, however, disappeared ($F < 1$).

Adrenal weight in relation to duration of pregnancy. The correlation between the adrenal weight² and the

crown-rump length of the embryos⁹ which is indicative of the duration of pregnancy was not significant even when the characters were adjusted for unequal body weights² ($r_{xy} = + 0.1099$, $r_{xy.z} = - 0.1214$).

The data presented here clearly shows that (1) pregnancy does not directly influence the weight of adrenals in *Lepus nigricollis dayanus* and that (2) the weights of adrenals are independent of the duration of pregnancy in this lagomorph species. These observations are contrary to the findings of HERRICK² and support the views of CHRISTIAN⁷ that reproduction plays no direct part in influencing the adrenal weights.

Résumé. La grossesse dans le lièvre, *Lepus nigricollis dayanus* Blanford, n'a pas d'influence directe sur le poids des glandes surrénales. Le poids surrénal n'augmente pas la grossesse.

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¹ H. SELYE, Br. J. exp. Path. 17, 234 (1936).

² E. H. HERRICK, Kansas Univ. Sci. Bull. 140, 73 (1965).

³ HELEN CHITTY and J. R. CLARKE, Can. J. Zool. 41, 1025 (1963).

⁴ W. F. HEWITT and E. J. VAN LIERE, Endocrinology 28, 62 (1941).

⁵ L. O. RANDALL and M. GRAUBARD, Am. J. Physiol. 131, 291 (1940) (as quoted by PARKES⁸).

⁶ M. ZALESKY, Anat. Rec. 60, 291 (1934).

⁷ J. J. CHRISTIAN, Endocrinology 77, 431 (1962).

⁸ A. S. PARKES, Physiol. Rev. 25, 203 (1945).

⁹ Thanks are due to the retired Director C. P. BHIMAYA for his keen interest in the work and for providing facilities, and to Dr. P. K. GHOSH, Animal Physiologist, for suggestions.