most marked between 105 and 115 mm., and in animals above this length the gonad is relatively larger than in the corresponding brook lamprey ammocœtes. This increased size is due to the larger number of oocytes ; a single transverse section often containing as many as 200 oocytes compared with an average of about 30 in the brook lamprey, while the oocytes themselves are smaller than those of *planeri* (mean diameter in the largest ammocœtes 0·3–0·4 mm. compared with 0·12 mm.). Judging from the size of the gonad in metamorphosing animals, a marked acceleration of growth must occur in both ovary and testis at this time.

Although the duration of the larval period and the linear growth-rate appear to be similar in the two species there are thus very marked differences in gonad development, both sex differentiation and oocyte growth occurring at a much earlier stage in *planeri* ammocœtes. In considering the relevance of these findings to the question of speciation in lampreys it must, however, be recognized that, except for its earlier differentiation in the brook lamprey, there are no obvious indications that the testes of those animals are in a more advanced state of development and it may perhaps be significant that all the cases of neoteny reported by Zanandrea[4] occurred in female ammocœtes.

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An Acid-tolerant and Non-sporulating Yeast from Passion Fruit Juice

During the course of studies in the preservation of passion fruit juice (*Passiflora edulis*, Sims.)[1,2], a survey of literature revealed little published information on the nature of spoilage organisms present in the juice.

Passion fruit juice normally has 14·4–21·9 °Brix, 2·4–4·8 per cent acidity (as anhydrous citric acid), 2·60–3·22 *p*H, 3·6–8·3 per cent reducing sugars and 7·4–13·3 per cent total sugars (as invert)[3]. The juice, though acidic, is fairly rich in sugars and is easily fermentable[1]. A fermenting sample of the juice, when examined microscopically, revealed the presence of yeast cells only. No bacteria were noted.

The spoilage organisms were isolated by plating them out on potato–dextrose–agar[4] and transferring the well-defined colonies to slants of the same medium. Taxonomic studies[4,5] revealed the presence of two strains of yeast, one of which was identified as *Candida krusei*[6]. The summary of morphological and physiological studies on the other organism (*Passiflora* strain) is given below.

Cells small, oval (1·8–4·5) × (1·8–8·8) μ ; no formation of pseudomycelium ; a sediment after a week and a ring after a month in liquid media ; no sporulation on carrot, Gorodkowa agar, potato malt-extract agar, etc.

Only glucose is fermented and assimilated. The following compounds are not assimilated by this *Passiflora* strain : galactose, sucrose, maltose, lactose, L-sorbose, cellobiose, trehalose, melibiose, raffinose, melezitose, D-xylose, L-arabinose, D-arabinose, D-ribose, rhamnose, erythritol, adonitol, dulcitol, mannitol, sorbitol and methyl glycoside, salicin, lactic acid, succinic acid and citric acid. Ethanol may be weakly assimilated. Nitrate is not used, and arbutin is not split.

The *Passiflora* strain resembles *Torulopsis glabrata* (Anderson) Lodder and de Vries, but differs from this species in that the latter ferments trehalose.

Comparing the strain to sporogenous species, it bears resemblance, in fermenting dextrose only, to : *Sacch. bisporus* (Naganishi) Lodder and van Rij, *Sacch. mellis* (Fabian and Quinet) Lodder and van Rij, *Pichia pastori* (Guilliermond) Phaff and *Sacch. delphensis* van der Walt and Tscheuschner[7].

The cells of *Sacch. mellis* and *Sacch. bisporus* are somewhat bigger than those of the *Passiflora* strain, though the difference with *Sacch. bisporus* is not great. However, *Sacch. bisporus*, *Sacch. mellis* and also *Pichia pastori* can assimilate mannitol and sorbitol, which compounds are not used by the *Passiflora* strain.

On the other hand, the assimilation tests of the *Passiflora* strain and *Sacch. delphensis* show much correspondence, differing only by a weak assimilation of succinic acid found in the latter. For growth, both strains need the addition of vitamins to the medium. They grow at 37° C. Also in the morphological properties, there is similarity, apart from the formation of kidney-shaped spores after isogamous conjugation in *Sacch. delphensis*. This species has been isolated from the sugary efflorescense on dried figs (Kregar-van Rij, N. J. W., private communication).

Based on the above observations, we are inclined to consider the *Passiflora* strain provisionally as a non-sporulating strain of *Sacch. delphensis*.

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Ensete berryi: Revised Name for *Musa enseteformis* Berry

Working on some petrified plants from the Deccan Intertrappean Series of India, I have found certain well-preserved specimens of fossil bananas to be described in detail elsewhere. Looking into the geological history of the genus *Musa*, I find that *Musa enseteformis* Berry[1] is the only definite palæobotanical record of the old genus *Musa* L. This species was based on some carbonized seeds recovered