The Northern Hemisphere genera *Ichthyomyzon*, *Petromyzon* and *Lampetra* have very similar karyotypes[9]. The higher DNA value for *Petromyzon* is therefore not the result of an increase in chromosome number or size. The proposed intermediate taxonomic position of *Petromyzon* between *Ichthyomyzon* and *Lampetra*[12] requires that DNA increase in *Petromyzon* was a somewhat isolated event and occurred during or after the evolutionary differentiation of *Petromyzon*. There is no palaeontological evidence to suggest when this actually took place, nor is there any cytochemical evidence that the extra DNA is of a particular type such as repetitive or spacer DNA[4,13].

Since the Southern Hemisphere genus *Geotria* possesses a chromosome number[9] and DNA content typical of those of other Holarctic genera, it is karyologically similar to Holarctic forms. However, the other Southern Hemisphere genus, *Mordacia* has a much lower chromosome number[14] and karyotype size than other lamprey genera but retains a similar DNA value. Centric fusions may have occurred in the evolution of *Mordacia* but fusions alone cannot account for the distinctly different karyotypes. Although the *Mordacia* karyotype has been described as the most distinct of the lamprey genera[9], this distinctness clearly does not extend to the amount of DNA present in nuclei.

Our results confirm the suggestion (based on the DNA value for a single species, *Lampetra planeri*) that lampreys typically possess DNA values of approximately 40% of that found in man. However, an examination of the chromosomes of a variety of lampreys reveals that close similarity of karyotype may be accompanied by differences in DNA content (e.g. *Petromyzon*) and, conversely, marked differences in karyotype may be accompanied by similarity in DNA value (e.g. *Mordacia*). Since parallel examples have been recorded for insects[15] and mammals[12], they emphasise the need for restraint when predicting relationships based solely on a few exact DNA values.

Résumé. Nous avons trouvé que le contenu en ADN nucléaire varie peu chez les lamproies. Dans les 3 familles principales ce contenu représente en moyenne le 40% de celui de l'homme. Il existe une corrélation entre le contenu en ADN et le caryotype dans presque tous les genres.

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Juvenomimetic Activity in some Plants

It was reported that topical application of acetone extracts of stem or saw dust of certain plants to newly moulted 5th instar nymphs of the red cotton bug *Dysdercus cingulatus* resulted in retention of varying degrees of nymphal characters. Based on this bioassay, it was found that out of 9 plants investigated 6 had considerable juvenile hormone activity[1]. The juvenile hormone activity in the plants studied was represented as FME equivalents, i.e. juvenile hormone activity shown by the extract from 1 g of dried plant stem, equivalent to the quantity of farnesly methyl ether in µg. The present report summarizes the results of our investigations covering more plants.

Dried stem was Soxhlet extracted with acetone, and the acetone extract was studied on newly moulted 5th instar nymphs of *Dysdercus cingulatus* as reported previously[1]. 16 plants were collected locally, of which 12 showed presence of juvenomimetic activity in the extract by the method employed for the study, whereas the remaining 4 did not give any positive indication of this activity in their extracts. The plants studied, and the juvenomimetic activity present in them in terms of FME equivalents is given below: *Erythrina indica* Lam. (48 FME eqs); *Auracaria excelsa* R. Br. (77 FME eqs.); *Anona reticulata* L. (65 FME eqs.); *Peltoforum inerme* Benth. (46 FME eqs.); *Tamarindus indica* L. (11 FME eqs.); *Manihot esculenta* Pohl. (56 FME eqs.); *Phyllanthus emblica* L. (80 FME eqs.); *Eupatorium* sp. (23 FME eqs.); *Mangifera indica* L. (47 FME eqs.); *Tabernaemontana dichotoma* Roxb. (97 FME eqs.); *Macaranga peltata* Muell. (10 FME eqs.) and *Psidium gaujava* L. (5 FME eqs.). The following plants were found not to possess any appreciable juvenile hormone activity: *Millingtonia hortensis* L. f., *Careya arborea* Roxb., *Anacardium occidentale* L. and *Dalbergia latifolia* Roxb.

The present study supports our earlier presumption that juvenomimetic activity is wide-spread in plants[1]. This juvenomimetic activity may be due to the juvenile hormone-like substances in the extracts, or may be synergistic rather than intrinsically hormonal[2].

Zusammenfassung. Es wurde bei 12 von 16 untersuchten Pflanzen die juvenomimetische Wirkung in den Acetonextrakten festgestellt; die restlichen 4 zeigten keinerlei Effekte. Die juvenomimetische Wirkung wird auf juvenilhormonartige Stoffe in den Extrakten oder auf einen Synergismus zurückgeführt.

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