analysis of the mean RNA proportions found in these strains (Table) confirmed that the 5-4S/25S ratio is more than twice as great for A strains than a strains.

Discussion. A number of previous experiments from this laboratory[2-4] gives real confidence in the conclusion that variations in stable RNA components such as those observed between wild type strains S2A and S2a are not due to differences in stability and/or extractability of the various RNA components, but represent a true profile of the ribonucleic populations.

Other factors, such as 1. growth rate or physiological differences related to growth rate; 2. morphogenetic or developmental differences; or 3. specific properties related to mating type, might well be related to these altered RNA profiles. Differences in rate of growth of compatible strains of *Ascobolus*[5,6]. as well as observations about the functional significance of variations in RNA content associated with certain states of cell metabolisms, have been reported in many occasions[7-16]. Since growth conditions and growth responses were identical for both types of cultures, we presume that growth rate has little effect on RNA content in the present case. The second possibility is more difficult to evaluate mainly because the data represent one growth point only. (This alternative is now being investigated in this laboratory). But, the fact that the RNA characteristics observed in the parental strains of opposite mating types are transmitted to the progeny with a certain accuracy, and that sister spores show equivalent RNA content, support well the idea that these altered RNA profiles are, in some way, related to the mating type properties.

The biochemical changes responsible for sexual differentiation in fungi are still far from being completely defined and understood, and numerous wild type asci must be studied before any general tendency in this regard can be established. Nevertheless, there is clearly potential for more extensive search among the fungi for such cause-effect relationships, since they may provide clues about the physiological basis of mating type determination in these organisms.

Résumé. Des variations importantes, au niveau des populations ribonucléiques stables de types 4S et 5S, distinguent les souches sauvages d'*Ascobolus immersus*. Ces populations d'ARN sont nettement plus considérables chez S2A que S2a; et cette relation entre le profil électrophorétique et le signe se retrouve même dans un asque de recombinaison résultant d'un croisement entre ces deux souches sauvages de signes opposés. Cette caractéristique d'importance pourrait probablement être à l'origine de l'hétérothallisme chez ce champignon Ascomycète.

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Mean relative proportions of stable RNA components found in wild type strains of *Ascobolus immersus*

Strains	Mating type	Ratios (%)		
		19S/25S	5-4S/25S	5S/4S
S2	A	91.5 ± 3.7	33.1 ± 5.3	55.3 ± 11.9
S2	a	93.0 ± 3.5	13.8 ± 3.1	56.3 ± 6.7
S2-1-1	A	90.6 ± 2.0	32.5 ± 4.2	47.0 ± 1.5
S2-1-2	a	95.6 ± 1.6	12.3 ± 1.0	61.6 ± 3.8
S2-1-3	A	86.9 ± 1.6	39.9 ± 3.4	42.7 ± 3.6
S2-1-4	a	94.6 ± 1.4	17.5 ± 1.2	49.0 ± 1.4
S2-1-5	a	88.9 ± 2.8	11.6 ± 1.7	58.4 ± 4.1
S2-1-6	a	87.4 ± 5.4	10.4 ± 2.7	54.6 ± 2.5
S2-1-7	A	95.7 ± 1.8	32.6 ± 2.5	64.3 ± 7.5
S2-1-8	A	92.8 ± 2.3	27.4 ± 0.8	67.3 ± 4.0

RNA ratios (%) were obtained using the height of the 25S peak as reference (100%) in 2.4% gels and that of the 4S peak (100%) in 7.5% gels. Such a comparative method has already been used in the past[3,4,7] and facilitates the analysis of electrophoretic profiles. Equality of the means and of the variances was tested at the 5 and 1 percent levels using the t and F distributions respectively. All the 19S/25S and 5S/4S RNA ratios in the strains studied are statistically equivalent. S2-1 is the code number of the 8 spores of the wild type ascus resulting from the crossing S2A × S2a.

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The Karyotype of *Dusicyon griseus* (Carnivora Canidae)

There is little chromosome information today concerning the South American foxes of the genus *Dusicyon*. The only species reported has been *Dusicyon vetulus* ($2N = 74$, $NF = 76$)[1], of which only the chromosomes of a female individual are known. In the present paper, new karyological data about foxes of this genus are given. The chromosomes of *Dusicyon griseus* and additional information about the sex chromosomes of this genus are made known for the first time.

The chromosomes were obtained from the bone marrow and testes of young animals previously injected with colchicine 0.1%. The chromosome preparations were made with a modified technique of Ford and Hamerton[2] and were later stained with Giemsa solution. The skin and

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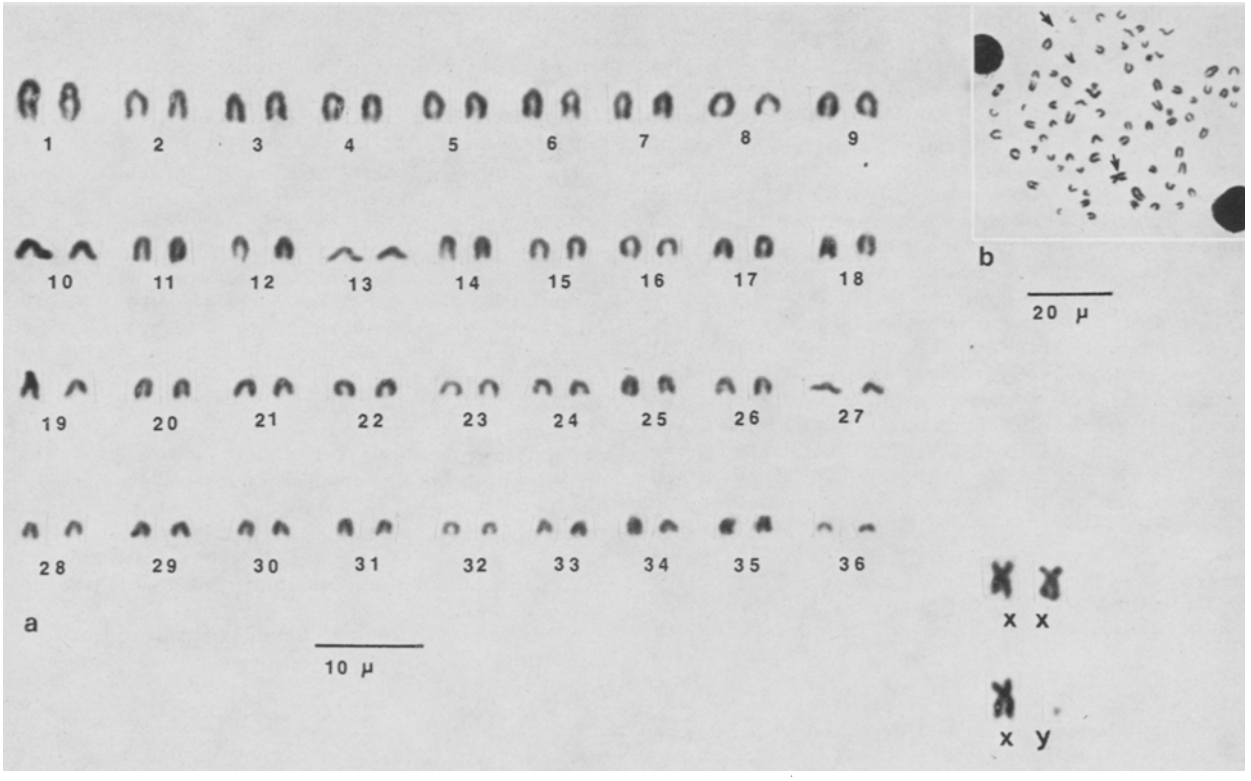

a) The karyotype ($2n = 74$) of *Dusicyon griseus*. b) Bone marrow metaphase plate of the male IZUA 284. The arrows indicate the sex chromosomes.

skull of the foxes analyses were deposited in the collection of mammals at the Institute of Zoology of the Universidad Austral (IZUA). The following is the number of register, sex and places in the province of Valdivia (Chile), where the foxes studied were collected; IZUA 163 female, Punucapa; IZUA 284 male, La Unión; IZUA 312 female, Llifén; IZUA 316 female, Curiñanco; IZUA 317 male, Curiñanco; IZUA 318 male, Curiñanco; IZUA 320 male, Llifén.

The classification of *Dusicyon griseus* was made according to OSGOOD[3]. The chromosomes were named according to the nomenclature of LEVAN et al.[4].

Dusicyon griseus presents a diploid number of $2N = 74$ and a fundamental number of $NF = 76$ (Figure a). The somatic karyotype of the male is constituted by 36 pairs of acrocentric autosomes. Even though the sex chromosomes could not be identified in gonadal material, the X chromosome is metacentric and the Y is a microchromosome (Figure b). The X chromosomes are the largest in the set, and slightly different in size in the female.

The karyotype of female *Dusicyon griseus* is similar to that of *Dusicyon vetulus* of the same sex. This fact corroborates the hypothesis of WURSTER and BENIRSCHKE[1] who assume that the X chromosomes of *Dusicyon vetulus* are metacentric. The Y chromosome of *Dusicyon vetulus* remains unknown; nevertheless the presence of a Y microchromosome in *Dusicyon griseus* is ground for us to assume that it may be morphologically similar in *Dusicyon vetulus*.

Besides *Dusicyon griseus*, within the family *Canidae* tiny Y chromosomes have been reported in the following species: *Urocyon cinereoargentatus*[5], *Fennecus zerda*[1], *Nyctereutes procyonoides*[6].

Resumen. Se describe el cariotipo de *Dusicyon griseus* el cual posee una fórmula cromosómica de $2N = 74$ y un número fundamental (NF) de 76. Por otra parte, se entrega por primera vez información acerca de los cromosomas sexuales de una especie de este género. Desde este punto de vista llama la atención que el cromosoma y es un microcromosoma.

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