

Recombinant R 20D is homozygous for *bif-1*, *efr* and a gene for long internodes. The plants are tall and repeatedly bifurcated. They begin flowering very early due to the presence of *efr* but seed ripening is considerably delayed. The high yield of this genotype is mainly due to the completely stabilized penetrance of *bif-1* in this combination. Plants of recombinant R 20E likewise were early and repeatedly bifurcated, with full penetrance of *bif-1*, but their internodes were strongly shortened. This may be the main reason for their relatively low seed production.

The opposite effect was noted in recombinant R 836, homozygous for *bif-1* and a gene for waxlessness. In this combination, the penetrance of gene *bif-1* was very low, demonstrating thereby a negative influence of the gene for waxlessness on the penetrance of *bif-1*. Correspondingly, the seed yield of this genotype was lower than that of mutant 1201A and of the initial line. Some mutant genes, which suppress the action of *bif-1* completely or reduce its penetrance markedly, are under study.

#### SDS-ELECTROPHORETIC INVESTIGATION ON SEED ALBUMINS IN PISUM

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The electrophoretic analyses of seed albumins in *Pisum* are of interest in taxonomic identification (1). In this genus, however, scanty data are available on variation of albumin subunit molecular weights.

The seed albumins of three taxa were investigated by SDS-electrophoresis; six lines of *P. abyssinicum*, seven of *P. fulvum* obtained from John Innes Institute, and one of *P. sativum* (cultivar 'Proteo') were analyzed.

Albumin extracts were obtained from cotyledons of mature seeds (2) and submitted to SDS-polyacrilamide gel electrophoresis on slab gels with 15% running and 4% stacking, according to Laemmli (3).

Two major bands, ranging in the 28 Kd and 18 Kd zones, were always present (Fig. 1a and 1b). Slight differences were found among *P. abyssinicum* lines, mainly regarding bands falling in the 18 Kd zone. Larger differences were found among *P. fulvum* lines, particularly for the bands in the 15-20 Kd area; line JI 1010 (Fig. 1b) showed a specific pattern characterized by the presence of an additional band of molecular weight around 23 Kd. The *P. sativum* patterns were less different from the *P. abyssinicum* than from the *P. fulvum* profiles.

1. Przybylska, J., S. Blixt, J. Hurich, and Z. Zimniak-Przybylska. 1977. *Genetica Polonica* 18:27-38.
2. Grillo, S. and R. Rao. 1982. *Ann. Fac. Agraria, University of Naples Serie IV XVI*:1-5.
3. Laemmli, U. K. 1970. *Nature* 227:680-685.

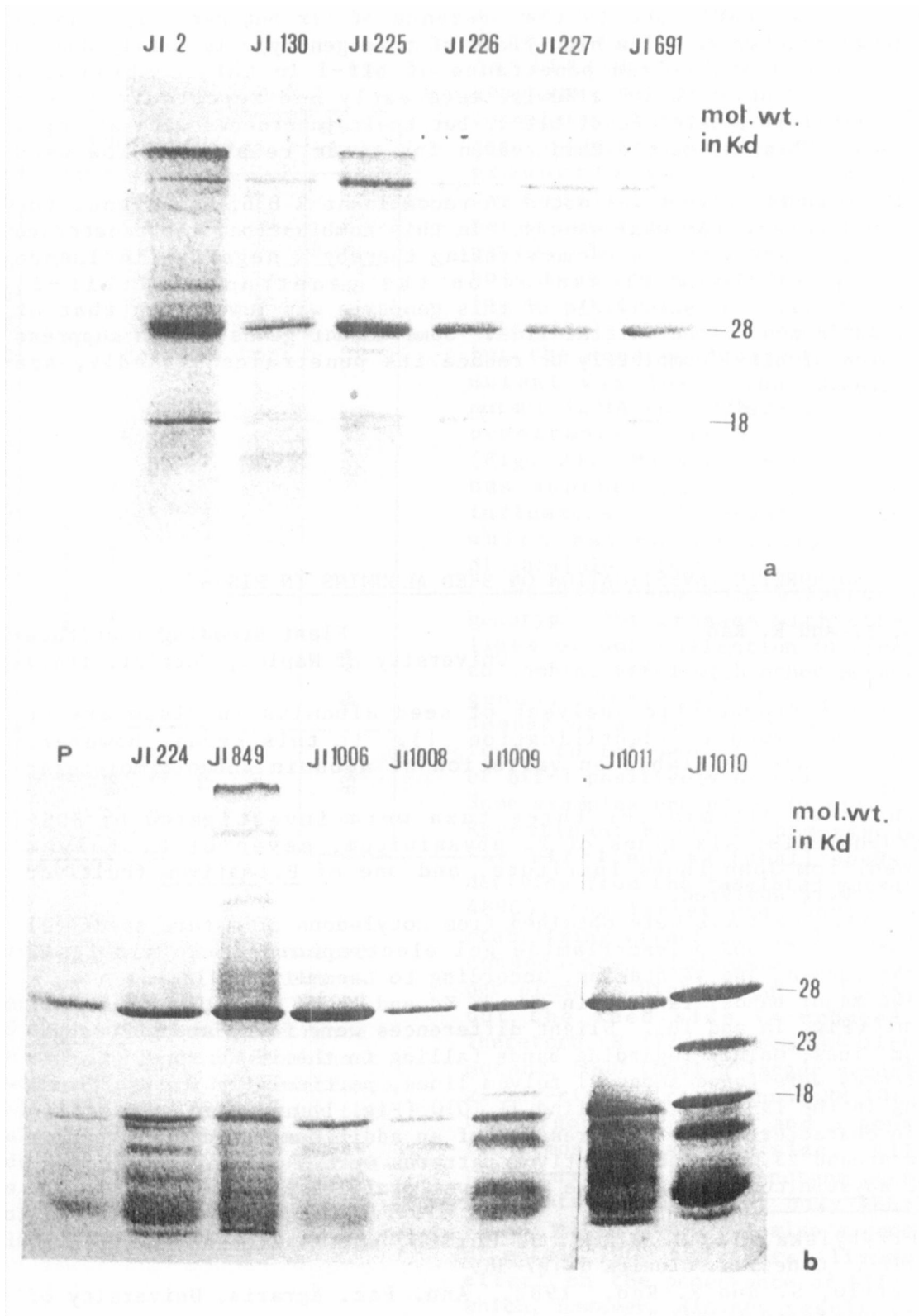


Fig. 1 - SDS-electrophoregram of seed Albumins in *P. abyssinicum* (a), in *P. sativum* (P) and in *P. fulvum* (b).