The same constancy in the composition of the offspring could be observed in all colonies collected in summer, 1985, and kept in captivity during two laboratory breeding cycles.

These observations clearly demonstrate that the production of gynomorphs and/or intermorphs is not due to laboratory conditions or environmental influences.

Like several other leptothoracine species (BUSCHINGER *et al.*, 1980), the intermorphic young females exhibit a sexual calling behavior when ready to mate. With the gaster somewhat erect and the stinger extruded they offer a sexual pheromone from the poison gland, which attracts and stimulates the alate males for copulation. Alate gynomorphs of *species A* exhibit an identical behavior, and male offspring of intermorphic queens is attracted both by calling intermorphs and gynomorphs. Mating occurs in laboratory. conditions. Thus, " crossbreeding " of sexual offspring of gynomorphs and intermorphs was possible.

In control experiments we observed that *species A-* ♂♂ were much less attracted by *species B* poison gland secretion than by the secretion of *species A* poison glands. European *L. muscorum* (Nyl.) females also have a sexual calling behavior (BUSCHINGER & ALLOWAY, 1978), but *species A-* ♂♂ again do not react to their pheromone.

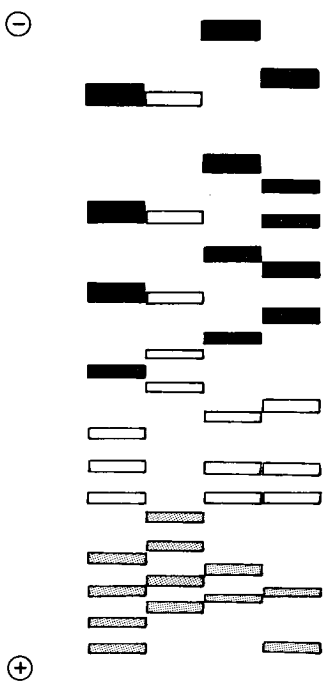

Fig. 4. — Schematic and simplified pattern of isoenzymes of nonspecific esterases in different *Leptothorax* species. Samples were applied near the cathode ; pH-gradient is 4 to 8. Black bands indicate greater enzyme activity. Dotted bands correspond to allozymes on one locus in each species (see text). From left to right : *L. species A., L. species B, L. acervorum, L. muscorum* from Europe.

Abb. 4. — Vereinfachtes Schema der Isoenzyme unspezifischer Esterasen verschiedener Lepthorax-Arten. Die Proben wurden nahe der Kathode aufgetragen ; pH-Gradient 4 bis 8. Schwarze Banden zeigen stärkere Enzymaktivität an. Gerasterte Banden entsprechen verschiedenen Allozymen eines Locus innerhalb einer Art (vgl. Text). Von links nach rechts : *L. species A, L. species B, L. acervorum, L. muscorum* aus Europa.