precise morphological caracteristics? This paper analyses the taxonomic impact of the variations occuring in presently recognized species.

Up to recently the data available on chromosome numbers in the genus *Leptothorax* (s.s.) were rare and pertaining only to *L. acervorum* which has $n=13$ (CROZIER 1975; HAUSCHTECK-JUNGEN and JUNGEN 1983). FISCHER in 1987 added a whole set of new data. They are compared and evaluated with our results gained from different series in order to provide a basis for morphological interpretation and to establish taxonomic decisions.

MATERIALS AND METHODS

Colonies were kept in growth chambers with controlled climate. More than 75 colonies produced the male pupae or female prepupae used for the chromosome enumeration. From North America were available different forms traditionally allied to *Leptothorax muscorum*, and also the species *acervorum, crassipilis, sphagnicolus* and *retractus* (see FRANCOEUR 1986 for the description of the last two species). These colonies were collected between 1978 and 1984, in different region of Québec and in Alberta for Canada, in New Hampshire and Utah for USA (Table 1). European colonies of *L. acervorum, gredleri* and *muscorum* were reared as well for comparason.

Enumeration of chromosomes was made on more than 250 slides of testes (male pupae) or brain (female prepupae) preparations. In all cases the Imai technique (IMAI *et al.* 1977) was applied. One slide for each specimen, pupa or prepupa, were prepared. The second step of this technique was modified as follows: once removed the testes were transfered directly in 2 or 3 drops of the hypotonic solution already applied on a microscope slide (instead of a second depression slide). This minor modification eliminates an often risky transfer of the organs from a depression slide to another. Step six produces a better fixation by adding 5 drops of freshly-prepared fixative II instead of only 2 as indicated.

RESULTS AND DISCUSSION

Results are examined in two folds: first those obtained with the *muscorum* complex and second those dealing with the other species of *Leptothorax*.

The «muscorum» complex.

Table 1 shows the chromosome numbers of 161 males (+1 female prepupa) produced by 63 colonies identified as *L. «muscorum»*. Individuals from these colonies showed various phenotypes handily named: «small brown», «big black», «small yellow», etc. The observed haploid numbers in this survey were 16 (Fig. 1a). 17, 18, 22 and 23. Number of slides used for enumeration and number of slides with less than 10 metaphases corresponding to the