L. sp. A, only *Myrafant* species were collected, and no species of the subgenus *Lepthorax* at all. Numerous *Leptothorax* colonies were sampled by one of us (A.B.) near Rouyn-Noranda in northern Quebec, around Mississauga, Ontario, and farther to the West including the Canadian and American Rocky Mountains. With the exception of one intermorphic female in a nest quite surely belonging to *L. sp. A* from Sioux Narrows (Ontario ; the site is not indicated on the map), no other intermorphic females were found in these places, but whether or not one of the forms observed there is identical with *L. sp. A* cannot yet be determined.

On the other hand, in some localities along St. Lawrence River, *L. sp. A* is by far the most common *Leptothorax* species. Thus, we found 126 colonies of *L. sp. A*, 20 of *L. sp. B*, and 8 colonies of *Harpagoxenus canadensis*, in the comparatively open, rocky areas around Tadoussac.

The frequencies of *L. sp. A* colonies with gynomorphic and intermorphic queens apparently vary in different localities (*table IV*). Populations with a particularly high percentage of colonies with intermorphic queens were mainly found along the shores of St. Lawrence and Saguenay Rivers, whereas the gynomorphic queens apparently dominate in some distance from the shores, e.g. in the Laurentides Park.

DISCUSSION

The *Leptothorax* species treated in this paper and provisionally named *L. sp. A* clearly represents a good species, living in sympatry with at least one related species (*L. sp. B*) from which it is told apart by morphological and biochemical means. A comparatively high numer of subspecies and varieties of *Lepthorax canadensis* Provancher have been described from North America (CREIGHTON, 1950). All these forms later on were synonymized under *L. muscorum* (Nyl.) by BROWN (1955), which surely does not match the actual situation. A systematical revision of all the group is urgently needed. Due to apparently widely overlapping morphological characters, a biosystematical approach using behavioral studies (sexual behavior and pheromones), karyological and biochemical cues will be most promising.

Within our *L. sp. A* we could demonstrate a queen polymorphism in that the reproductive function may be taken over by intermorphic specimens morphologically standing in between the usual dealate female and the worker (ergatomorph), as well as by normal dealate females.

So-called intercastes have been frequently reported to occur in many *Leptothorax* (subgenus *Leptothorax* sensu SMITH, 1950 = *Mychothorax* Ruzsky) species, however, *L. sp. A* is the first exemple where a fully reproductive function, i.e. presence of a spermatheca full of sperm and egg-laying, of such intermorphs has been demonstrated in an independent leptothoracine.