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# An Extension of the Ranges of the Burnsi and Kandiyohi Variants of *Rana pipiens*<sup>1</sup>

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ABSTRACT—Kandiyohi and burnsi frogs were collected in counties not previously reported to have these variants of *R. pipiens*.

We have been conducting a survey of the incidence and distribution of a renal neoplasm of the common leopard frog, *Rana pipiens*. In our collections of frogs for the survey, we have found individuals of the two principal genetic variants of *R. pipiens* in counties where they have not previously been reported. Merrell (1965) recently prepared maps showing the distribution of burnsi and kandiyohi frogs in Minnesota, the Dakotas, Wisconsin, and Iowa.

Five burnsi frogs were taken in a collection of 114 *R. pipiens* during 9 and 10 July 1965 in Pine County, Minnesota. There were four female and one male burnsi frogs. The male frog measured 72 mm. head-body length and was immaculate on all four limbs and the dorsal body surface. The female frogs varied from 51 to 70 mm. head-body length. One was immaculate. The other three had lightly spotted limbs with immaculate dorsal bodies. Burnsi frogs were found in three localities in Pine County. One was taken near the junction of county roads 6 and 7; another near county road 53 1.3 miles north of junction with county road 7. Three burnsi frogs were taken adjacent to county road 11 0.7 miles east of junction with county road 13. Pine County is contiguous to two counties (Kanabec and Chisago) with known burnsi populations.

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A kandiyohi female frog measuring 52 mm. head-body length was taken 16 August 1965 in Brookings County, South Dakota in a roadside ditch on U. S. Highway 14 0.7 miles east of junction with U.S. Highway 81. The collection consisted of 109 *R. pipiens* which contained, in addition to the kandiyohi frog, three small burnsi frogs. Brookings County borders Kingsbury and Deuel Counties where kandiyohi frogs have previously been collected.

A male burnsi frog measuring 67 mm. head-body length was taken in a collection of 16 leopard frogs 4 August 1966 south of junction county road 67 and U.S. Highway 75 in Clay County, Minnesota. Clay County is bordered to the east and south by counties with known burnsi populations.

A 62 mm. head-body length male kandiyohi frog was collected 15 August 1967 in a meadow between Bock Lake and Hanson Lake northeast of Dalton, Otter Tail County, Minnesota. The collection consisted of 125 *R. pipiens*, which included in addition to the kandiyohi frog, 4 burnsi frogs. We have collected 475 leopard frogs from various sites in Otter Tail County and this is the first kandiyohi frog that we have found. Otter Tail County is contiguous to Wilkin and Douglas Counties with previously reported kandiyohi frogs.

## References

- MERRELL, D. J. 1965. The distribution of the dominant burnsi gene in the leopard frog, *Rana pipiens*. *Evolution* 19:69-85.