several small flocks at Lake Doré in February, 1948. Presumably, because of absence of females and condition of specimens taken, they may have been nesting.

23. **Spizella arborea arborea** (Wilson). EASTERN TREE SPARROW. Small flocks winter throughout the area.

24. **Zonotrichia leucophrys leucophrys** (Forster). WHITE-CROWNED SPARROW. Migrating flocks observed October 2-20, 1948, at Rankin and Lake Doré by Davis.

25. **Melospiza georgiana georgiana** (Latham). SWAMP SPARROW. A specimen was taken on October 11, 1943, at Combermere, from a large flock congregated in Conroy's Marsh.

ADDITIONAL REFERENCE:

1947—Brown, N. R. Can. Field-Nat. 61:47. Observations on the Birds of the Petawawa Military Reserve and Surrounding District, Renfrew County, Ontario.

ANOTHER PARALLEL MUTATION IN OENOTHERA [1]

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IN going through the large collections of *Oenothera* at the Gray Herbarium I have come across certain forms of more than ordinary interest. The purpose of the present note is to describe two of them as a new species and its variety. Some students of *Oenothera* would doubtless regard the variety as another micro species, for they show many differences; but I am following the plan of attaching one form to another as a variety whenever the relationship is clear. In this case the most striking feature of the variety has clearly originated as a parallel mutation in a local area. This makes it of much taxonomic as well as genetic interest. The description of the species, according to a system adopted a decade ago, is as follows:

O. **perangusta** n. sp.

Stem ca. 50 cm. high, apparently slightly bent, diffuse red, with appressed and crispate puberulence and very scattered long hairs from small red papillae. The remains of the rosette are attached to its base. Stem leaves 10 cm. x 10-12 mm. narrow lanceolate, pointed, red at tip, midribs apparently red, upper surface nearly glabrous, lower surface with fine puberulence, denser on the midrib. Upper part of stem bears numerous red papillae, but the upper bracts are little more pubescent than the leaves. The ovaries and young fruits are densely hairy pubescent, without red papillae. Buds yellow, with few short hairs but no red papillae. Ovary 8-9 mm. long, hairy; hypanthium 30 mm., slender; bud cone 9-13 mm., sepal tips greenish, tipped with red, 1-2 mm., terminal, appressed, somewhat hairy; petals 15-20 mm. long.

The type specimen was collected on a sandy beach of Lake Huron at Stokes Bay, Bruce Peninsula, Ontario, by P. V. Krotkov in 1934, as No. 9252, University of Toronto Herbarium. Another specimen collected by P. V. Krotkov at Dunk's Bay, Bruce Peninsula, 1933, differs only in having less red stem and less hairy fruits. Another by the same collector at Queenleen Lake, 1936, agrees closely with the last. *O. perangusta* is especially characterized by its very narrow leaves, the hairy ovaries and young fruits, and the small flowers (petals *ca.* 10-20 mm.). It differs markedly from *O. strigosa* Rydb. in that the latter has soft gray pubescence on the leaves. The pubescence on the buds is also very different, the leaves are shorter and broader, the stems not red and the flowers frequently smaller. The persistent rosette of *O. perangusta* is another distinguishing feature. Its distribution is generally more northern, and specimens from near Edmonton, Alta., 1941; Milk River, Assiniboia, coll. by John Macoun in 1895 as No. 10644, Herb. Geol. Survey Canada; Leeds, North Dakota; and Idaho 1941 (5,500 ft.) belong here rather than to *O. strigosa.* These all have reddish *(rubrinervis)* buds, but green hypanthia. *O. strigosa* is typical in Nebraska, Wyoming, Colorado, where the hypanthium may be densely pubescent and the petals only 12 mm.

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Diagnosis: Caulis brevis, ad extremum rubro-tuberculatus, et in speciem leviter curvus. Folia caulina angustissime lanceolata, plana, costa in speciem rubra. Sepala et hypanthium virides. Alabastra lutea, ovaria et capsula immatura dense hirsuta, hypanthium tenue; apices sepalorum virides, rubrotincti, 1 mm. longi, appressi, sepala aliquantum pilosa; petala circa 20 mm. longa. Bractae non hirsutae.

To this species is also attached a specimen from a gravelly bank along a stream, at Marie Louise Creek, Sibley Township, Thunder Bay District, Ontario, in Lat. 48° 20'N. Long. 88° 50'W., collected for the Nat. Herb. Canada as No. 830 by Taylor, Losee and Bannan in 1936. It differs from the type in (1) somewhat broader leaves (10 cm. x 14 mm.), (2) the ovary and fruits are not hairy, (3) petals only 10-11 mm., fading pink.

O. perangusta thus extends from the Bruce Peninsula of Lake Huron along the north shore of Lake Superior, westwards to Edmonton, Alberta, and southwards into Montana.

Another sheet, from the Thunder Bay District on the north shore of Lake Superior, resembles the species in certain features and the variety to be described in certain others. It was also collected by Messrs. Taylor, Losee and Bannan in 1936, as No. 831, at Sleeping Giant, Ontario, for the National Herbarium of Canada. The sheet bears two small plants (height only 20-25 cm.) which have no mature flowers but very young buds. The stems show little diffuse red but the leaves are even narrower (midleaf 6.5-7.5 cm. x 7-9 mm.). Other features of these two plants, which come from the same area as the "variety" to be described, will be referred to later.

O. perangusta var. **rubricalyx** n. var.

Unlike most Oenotheras, the rosette is persistent [2] after a stem is formed. The stem is short (30-35 cm.) but stout and has abundant red papillae. It is also intensely red from diffuse pigmentation, especially in the upper part (*ca.* 5 cm.) which is also strongly bent in both specimens. The rosette leaves are *ca.* 12 cm. x 11-12 mm., oblanceolate, tapering to long, ± margined petioles; stem leaves very narrow, a midleaf measuring *ca.* 9 cm. x 9 mm., narrow-lanceolate, subentire, acuminate, tipped with red, both surfaces having a fine puberulence, midrib evidently red. Upper bracts hirsute on both surfaces, the very long, white hairs not arising from a papilla. The bracts also show much diffuse red on their lower surface. Inflorescence relatively dense, ovary 11-13 mm. in length, hypanthium 30 mm., bud cone 18 mm.; sepal tips 4 mm., green, hairy, terminal, appressed, tipped with red. Petals 15-19 mm. long, filaments 8 mm., anthers 9 mm.; stigma lobes *ca.* 6 mm. base of lobes *ca.* 5 mm. above hypanthium, so the flower is self-pollinated before anthesis. The ovaries and young fruits bear a dense hirsute pubescence arising from red papillae, as well as fine puberulence, the sepals and hypanthium having scattered long hairs from mostly white papillae.

The pigmentation of the sepals is deep red, corresponding with the extreme condition (No. 5) found in *rubrinervis* (Gates 1911), the anthocyanin extending practically to the margins but the midvein remaining green. In the *rubricalyx* mutation, to which this is a parallel, the midvein is darker red than the rest of the sepal. The variety here described agrees, however, with the *rubricalyx* mutation in having the unique feature of a deep red hypanthium.

Diagnosis: Folia radicalia anguste oblanceolata, persistens. Caulis brevis, apice declinato, praecipue ad extremum rubro-tuberculatus etiam rubro-tinctus. Inflorescentia comparate condensa. Folia caulina angustissime lanceolata, plana, costa rubra. Sepala et hypanthium valde rubra, hypanthium crassum; apices sepalorum virides, 4 mm. longi, appressi, pilosi; petala 15-19 mm. longa, bractae et ovaria hirsuta, bractae infra rubrae.

This striking form is represented by a single sheet in the Gray Herbarium, containing two specimens which were collected by A. S. Pease and R. C. Bean in 1933 by the Canadian Pacific Railway track at Jackfish Station in the Thunder Bay District on the north shore of Lake Superior, Ontario. As representing a variety of *O. perangusta*, it differs from the species in (1) *rubricalyx* pigmentation of sepals and hypanthium, (2) bracts and fruits much more hairy, (3) hypanthium stout not slender, (4) stem tip strongly bent, (5) stem tip very red, (6) upper bracts hairy and red on their lower surface, (7) rosette persistent.

[2] The fact that in the species the remains of the rosette were still attached helps further to connect these two forms.

The sheet from Sleeping Giant, in the same general area, contains, as already mentioned, two small, rather depauperate plants with extremely narrow leaves. The bracts and young fruits are hairy, as in the variety, but the bracts are not red below. From the general lack of pigmentation, the indications are clear that this form would have green, not red, hypanthia. These depauperate specimens therefore probably represent the green-budded species from which the variety must have been derived.

Two other sheets in the Gray Herbarium apparently represent independent developments of deep red buds and hypanthium, and are therefore included in var. *rubricalyx*. One of these was collected near Pony, Montana (alt. 7000 ft.) as No. 4584 by P. A. Rydberg and E. A. Bessey under the name of *O. strigosa*. The stem is diffuse red and has red papillae, midleaf 8 cm. x 11-12 mm., hypanthium and bud cone red, but paler than the type; petals 15 mm., ovary and fruits less hairy. The other sheet was collected at Suksdorf Gulch, Montana, 1916. It has a red hypanthium, and many red papillae on the sepals and fruits as well as the stem. It differs from the type in having (1) fruits and bracts less hirsute, (2) shorter stem leaves, 5.5-6 cm. x 11 mm. Other plants from Montana have green buds. Occasional sheets are seen in which the hypanthia have become pale reddish in drying, and the same frequently occurs to the petals of Western species, but this is another matter.

The genetic significance of this find will emerge more clearly from a brief account of the origin of the *rubricalyx* mutation from *O. rubrinervis*. Over forty years ago a single plant with red sepals and hypanthium appeared in a culture of *Oenothera rubrinervis* from the sand dunes on the Lancashire coast of England, north of Liverpool (see Gates, 1914), where introduced Oenotheras had flourished for over a century. Among my cultures from this source at the University of Chicago in 1907 (the seeds having reached me through Dr. D. T. MacDougal) were several of the mutant *rubrinervis* from *O. Lamarckiana*. In one of these *rubrinervis* cultures a single plant appeared having deep red sepals and hypanthium. This was called *O. rubricalyx*. Many pure seeds were obtained by self-pollinating the flowers, but through an accident only four plants survived and were grown at Woods Hole, Massachusetts, in 1908. These were all *rubricalyx*. Selfed seeds of two of these plants produced at the Missouri Botanical Garden in 1909 *rubricalyx* and *rubrinervis* in the ratios respectively of 14:6 and 33:11. More seeds sown in 1910 produced 70 plants, but only 15 of them came into bloom, 10 with red buds; 5 with green buds.

These three ratios give a total of 57:22, thus providing clear evidence that the *rubricalyx* mutation was a simple Mendelian dominant. This and other evidence of pigment variation was described in detail, with a colored plate (Gates 1911). Much subsequent evidence of Shull (1926), Catcheside (1940) and others has confirmed the status of mut. *rubricalyx*, but it has never appeared in cultures again and is thus perhaps the rarest of the mutations. The characteristic feature of intensely red buds is hitherto unknown in any wild Oenothera, although certain forms from Nantucket and the Magdalen Islands with a pale pink hypanthium approach it. The *rubricalyx* character has no known advantage in relation to natural selection, and as the plants here described were growing in a ruderal condition along the railway lines it may have been exterminated, but no doubt specimens from the same collection were distributed to other herbaria.

The origin of this red-budded variety in one locality fits precisely my conception of how new characters in any genus arise and spread. I know of no other case in which a mutation has first arisen in cultures of one species and afterwards been found wild in a different species of the same genus. One would like to know whether all the plants in this Thunder Bay locality had the deep red buds or whether some had *rubrinervis* buds with a green hypanthium. This question receives a partial answer from the two plants in collection No. 831 at Sleeping Giant, which showed no evidence of the *rubricalyx* pigmentation.

It is hoped that visitors to the Jackfish locality will observe the present state of the Oenothera population, to determine whether this character is spreading or is being exterminated, and whether the usual

green-budded type also occurs intermingled in the population. If both occur, it would be of much interest to determine the relative numbers and how they change from year to year.

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Catcheside, D. G. 1940. Structural analysis of Oenothera complexes. *Proc. Roy. Soc.* 128B: 509-535.

ADDITIONS TO THE BIRDS OF SIMCOE COUNTY, ONTARIO [1]

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SINCE THE ACCOUNT of the Birds of Simcoe County, Ontario, was published (Trans. Royal Canadian Institute, Vol. XXIV, part 2, 1943 and Vol. XXV, part 1, 1944), considerable valuable information has come to the writer's attention. It was thought advisable to place it on record at this time and bring the list of birds up to date.

To the original list of 257 species, ten new birds have been added, making the present total 267. The number of breeding species has been increased by two with the addition of the Wilson's Phalarope and the Philadelphia Vireo, the total now standing at 138 species which have been known to nest and rear their young in the county. Other birds of which increased distributional data have been gained are also included.

I am indebted to the many correspondents who have contributed information pertaining to Simcoe birds. Particularly valuable have been the records of the late Dr. E. L. Brereton, Dr. J. Murray Speirs and Messrs. R. D. Ussher and A. J. Mitchener.

WESTERN GREBE.

Aechmophorus occidentalis. — An individual of this species was observed on October 25, 1944, at the head of Kempenfelt Bay, Lake Simcoe, by Dr. E. L. Brereton, and a note to this effect appeared in the Canadian Field-Naturalist (Vol. 59, p. 68, 1945). The grebe was studied for an hour at various distances up to within 30 yards of the shore and pertinent details as to plumage and behaviour noted. This is the only record for the county.

GREAT WHITE EGRET.

Casmerodius albus. — Two additional observations of this southern visitor are now available. One was seen on Batteaux Creek, near Batteaux Station, on July 27, 1946, by Dr. E. L. Brereton; and another was noted at New Lowell during the week of August 11, 1946 by Mr. Lawrence Davis.

The writer is now able to report that the fine specimen of Great White Egret collected by the late Mr. W. Sutherland at Orillia, April 30, 1908, and previously recorded, has been donated by his son, Gordon, to the Royal Ontario Museum of Zoology for permanent preservation.

COMMON GLOSSY IBIS.

Plegadis falcinellus. — The writer is indebted to Mr. J. L. Baillie of the Royal Ontario Museum of Zoology for calling his attention to a Simcoe County occurrence of this unusual species as recorded in one of Charles Fothergill's manuscripts ("Memoirs and Illustrations of Natural History", in the Royal Ontario Museum of Zoology) of 100 and more years ago. Fothergill's detailed description leaves no doubt as to the identity of the birds concerned. He states: "They were shot in what are called the Narrows of Lake Simcoe, near where the river runs out of and leaves that lake towards Lake Huron. An Indian returning homewards to his camp in the evening during the fall of 1828, late in October or early November, observed a pair of strange-

[1] Received for publication March 6, 1950