32. *Somatochlora elongata*, Scudd. Two males were taken, one at the marshy bay at the lower end of Smoke Lake, August 17, 1903, the other from a lumber road which runs through the woods close to the North River, August 20, 1903. Many others were seen flying over the river and in the woods, but they are almost hopeless to catch, as they fly very high.

33. *Somatochlora forcipata* (Scudd.). A male of this rare species was taken by Prof. Macoun, July 15, 1900.

34. *Cordulia Shurtleffi*, Scudd. A single nymphal skin was found by Mr. Hahn upon a boat-house on Canoe Lake, August 15, 1904.

35. *Celithemis elisa* (Hagen). A single fresh male was captured at Dwight by Mr. Hahn, August 23, 1903.

36. *Leucoshinia frigida* (Hagen). Two females, taken by Prof. Macoun at Catfish Lake, July 26, 1900.

37. *Sympetrum vicinum* (Hagen). Very common at Dwight on September 2, 1902, and in the cranberry bog at Ragged Lake. Also seen occasionally in other marshy places. Many of the specimens seen were tenerals.

38. *Sympetrum semicinctum* (Say). Four males and one female taken by Prof. Macoun, July 23 and 25, 1900. Three of these are labelled Catfish Lake. I found them quite numerous at one spot on the upper end of Ragged Lake near the timber slide (August 17, 1903). I also saw one on Little Joe Creek. They seem to be local.

39. *Sympetrum rubicundulum* (Say). Very abundant everywhere. A number were taken by Prof. Macoun in July.

40. *Sympetrum obtrusum* (Hagen). Very common everywhere. I took more examples of this species than the preceding, but in Prof. Macoun's series there are more of *rubicundulum*.

41. *Ladona Julia*, Uhler. A male was taken by Prof. Macoun, July 5, 1900.

BUTTERFLY COLLECTING IN CANADA, 1904.

By Mrs. Nicholl, Bridgend, South Wales.

I will not weary you with a long account of my last year's collection of butterflies, because the insects that I brought home do not represent, even tolerably, the Lepidoptera of British Columbia.

I hope to return there next summer and to collect in the south-west corner of the Province, and also, if possible, to explore the north-western part of Washington Territory at the head of Lake Chelan, including a part of the Cascade Range. I believe that the "dry belt" of British Columbia, sometimes known as the Rattlesnake Belt, comprising the district south of Lake Okanagan and Arrow Lake, is perhaps the extreme northern limit of many southern species—which would be met with in typical perfection south of the boundary line. Arriving at Montreal May 22nd, I went direct to Ottawa. Here I had the pleasure of making acquaintance with the well-known Canadian entomologist, Dr. Fletcher, of the Government Central Experimental Farm, whose kind advice and assistance I found invaluable. He provided me with all the maps extant of British Columbia, gave me several introductions, and further, entertained me with a delightful day's collecting in the lovely Canadian woodlands near Ottawa. The season was late and we only took eight species of butterflies on the 24th of May, although the weather was perfect. I next went westwards to Calgary, situated amid the lowest foothills of the Rockies, and Mr. Wolley Dod hospitably entertained me at his ranch, 18 miles south-west of Calgary. Here I spent two days very

agreeably, and was much interested by Mr. Wolley Dod's fine collection of local moths and butterflies. But the weather was unfavorable, and I caught very few insects. I failed to get the local prize, Chionobas (*Œneis*) Alberta, which has, of late years, become very scarce. It formerly swarmed all around Calgary. I took Ch. varuna, E. discoidalis, and a few other insects. My next halt was at Banff, where I had a fine day and secured good specimens of Brenthis Freija and B. frigga, besides one solitary Euchloe creusa which I never met with anywhere else. I also got a last ragged straggler of Thecla eryphon high up among the pines.

June 4th found me at Victoria, where I remained for two days, and had rather indifferent weather. I here took Papilio eurymedon, P. rutulus, and Basilarchia Lorquinii, besides a few less remarkable butterflies. The woods swarmed with Cyaniris pseudargiolus. I took a great number, but all much rubbed.

June 7th, I went to pay a visit at a ranch on the mainland two miles north of the boundary line and about three miles from the sea. Here, again, weather was indifferent, but I was lucky enough to take Parnassius clodius, Papilio zolicaon (the only one I ever met with), and Phyciodes pratensis var Orseis.

Taking the C.P.R. eastwards from New Westminster, I went to Sicamous, and thence by rail and steamer down the hundred-mile-long Lake Okanagan to Penticton, where I came into the "dry belt," and found glorious weather. South of the Okanagan, Arrow and Kootenay Lakes, I spent the remainder of June, and caught a great many butterflies; of which the best is Erebia Vidleri—hitherto supposed to be peculiar to Mt. Cheam, on the Fraser—appearing in August. I did not know what it was when I took it in the valley of the Upper Keremeos, about twenty miles south-west of Penticton and over one hundred miles south-east from Mt. Cheam, at an elevation of 4,000 feet, in mid-June.

Holland does not mention the species at all, and I did not appreciate my good fortune and wait for the female to appear, as I expected to find it again elsewhere. In the Upper Keremeos I also took Chrys, zeroe, Lycæna sagittigera, and one ragged specimen of Thecla spinetorum, whilst higher up Brenthis frigga and B. freija were abundant. Close to the boundary, south of the mining town of Greenwood, Colias Alexandra v. Emilia was very common, and the same grassy slopes produced numbers of the lovely L. Acmon, L. heteronea and Melitæa chalcedon. On the mountain above Greenwood I again took P. clodius—perhaps at its most eastern limit. Near Nelson I took V. California, Thecla sæpium, and other interesting butterflies. From Nelson I went up Lake Kootenay to Kaslo, where I arrived June 30th, and found good quarters in the excellent hotel of a very keen entomologist—Mr. Cockle. I remained in this district for a week. Colias interior was probably my best catch. I also got a great many Argynnis, all of three species, Monticola, Atlantis, Eurynome and var. Clio, showing considerable variation; 2 specimens of Lycæna anna, and one high mountain Lycæna, which Mr. Cockle considered to be Podarce, but I fail to see any difference between that specimen and the series which I took, later on, at Lake Louise, and which Mr. Elwes pronounces to be Aquilo.

Mr. Cockle has a good collection of local Lepidoptera, and sent home by me some rare and interesting insects for the collection at the British Natural History Museum.

On July 11th, I went to Glacier, in the Selkirks, 4,000 feet above the sea. The weather was tolerable, but there were very few butterflies about, a few Brenthis epithore and Pamphila mandan—the American name for C. Palæmon), being all that I saw in two days.

On the 14th July I met Mr. Wolley Dod at Lake Louise, where there is a beautifully situated mountain hotel (altitude 6,000 feet) two miles from Laggan. Here we spent a week, of which the first four days were dull, cold, and miserable, with very occasional gleams of sun and frequent storms of hail and sleet; then came three days of perfect weather, such as the mountaineer and butterfly hunter dreams of for years afterwards. We made the best of our luck. B. astarte, B. alberta, Ch. Beani, Chrys. Snowi, Lycæna aquilo (Orbitulus var Franklini), Colias elis, C. nastes, and others, filled our boxes to overflowing.

On the 25th, Mr. Wolley Dod returned home, and I went into camp at Hector, just at the summit of Kicking Horse Pass (5,190 feet). I spent the remainder of the summer camping in the Rockies.

I thoroughly worked the Lake O'Hara district, on the south-western side of the great mountains whose northern precipices enshrine Lake Louise and her sister lakes. Then, returning eastwards to Banff, I went three days' march (about fifty miles) south-westwards to Mt. Assiniboine, a splendid peak 11,800 feet high, just west of the Divide, and the southernmost outlier of the glacier fields of the northern Rockies. Here I spent five days, in fine weather, though the nights were frosty, and then a week's march brought me to Field, and I encamped at Emerald Lake, about eight miles north of Field, and well on the western slope of the Divide. Here we were close to the Yoho Valley, where there is a National Park reserve and splendid scenery. It was August 19th, when three days of bad weather set in, which delayed me, and killed the butterflies. For although we afterwards had five splendid days in the Yoho, and made excursions right on to the great Wahputek glacier, I caught very little. A battered B. astarte, a much-worn B. alberta, a few Colias minismi, and several fresh Grapta zephyrus were all my captures.

I greatly regret my late arrival in the Yoho, as I believe that earlier in the season I might have found different insects to those I caught on the summit and eastern side of the Divide. Prof. Macoun, the celebrated botanist, told me that during two days' plant collecting around Field he gathered no less than forty-two species of plants which do not grow east of the Kicking Horse Pass, and the same variety might probably occur among the Lepidoptera.

Around Lake Louise, Lake O'Hara, and Lake McArthur, all high Alpine lakes, surrounded by glacier mountains, I took much the same butterflies, more or less commonly. Mt. Assiniboine afforded some variety. I took Parnassus smintheus var. Behri only at Simpson's River, about twenty miles north of Assiniboine, in a steep gorge with rock faces, above tree level. B. amphirape (or myrina) swarmed on the wet ground near Lake Assiniboine. Everywhere Brenthis astarte was to be seen (though not generally to be caught) on every rocky peak over 8,000 feet, and Brenthis alberta was equally well distributed at a rather lower level. With Astarte, on the highest summits, Ch. Beani was invariably abundant, and Chrys. Snowi shared the haunts of Alberta, only it was rather less common. Ly. aquilo was to be had still lower down, rather local, but very common where it occurred. It fairly swarmed on the damp path at the head of Lake Louise, and on a warm and very steep slope above Lake O'Hara. Colias minismi was very common everywhere on grassy slopes from 5,500 feet to 6,500 feet, whilst the beautiful orange Elis was less abundant and flew at a higher level. C. nastes was very common, on all the highest grass, and varied a good deal. The specimens I took on Mt. Assiniboine were generally paler than those from the more northern mountains. Melitea anicia var Beani and a small mountain form of probably M. rubicunda, occurred on all the higher slopes of Lake

Louise and Hector district. Chionobas Chryxus was also plentiful everywhere. Ch. jutta only at Lake Louise and in Lake O'Hara valley, half way down.

On the 29th of August I left camp and started homewards. I had one day at Banff, where I got V. antiopa, just out of chrysalis, and Colias christina—very common, but considerably the worse for wear. Then I had one day at Ottawa, and half a day at Montreal, which concluded a most agreeable expedition. But the only district that I thoroughly worked, and where I got most of the insects that were to be had, is the central chain of the Rockies, on both sides of the Kicking Horse Pass.

I cannot conclude without expressing my acknowledgments to Dr. Fletcher of Ottawa, Mr. Wolley Dod of Calgary, Mr. Wheeler (C.P.R. Survey), and Mr. Cockle of Kaslo, for the great kindness and attention they showed me. And I must also make mention of James Simpson, my guide and packer, who ran my camp, took care of me, and helped me to catch butterflies. I never saw a better man with the net nor one with a quicker eye for any variation in an insect, and I can honestly recommend him to any entomologist wishing to collect in the Rockies.

Catalogue of Butterflies Taken in Canada During 1904.

1. *Parnassius clodius*. Common on the Island of Vancouver, where I was too early for it. I took it first on the Pacific coast early in June at sea level, or but little above, and at Greenwood, about 200 miles inland, at the end of June.

2. *P. smintheus*. This is the common representative of the genus throughout the Rocky Mountains. It was common at low elevations all through June, at Nelson and Greenwood, and at Kaslo in July. I took two or three specimens of the fine dark female variety *Hermodur*. In August, in a mountain gorge near Mt. Assiniboine, at a height of 7,000 feet, at least, well above tree level, I found var. *Behri* just appearing (August 13th). No females were then out, and I never met with the insect at Lake O'Hara, or in the Yoho valley later in the month.

3. *Papilio eurymedon*. Common on the Pacific coast and eastwards as far as Kaslo. In Vancouver Island it is very abundant.

4. *P. rutulus*. Common all through the west of British Columbia. Mr. Wolley Dod does not appear to have taken it at Calgary.

5. *P. glaucus* var. *turnus*. Not so common as *Rutulus*, but more widely distributed. It was very common at Greenwood, near the boundary, in June.

6. *P. zolicaon*. One specimen only, close to the Pacific coast at the boundary. It very nearly resembles *Machaon*, but Dr. Dyar gives *Machaon* as a different species, represented in America by var. *Aliaska*, taken in Alaska only.

7. *Pontia occidentalis*. Very common all through British Columbia on the western slope of the Divide right down to the coast.

8. Var. *calyce* is the high mountain form of *occidentalis*, and is much paler on the under side, and the veins yellower.

9. *P. rapæ* is an emigrant from Europe, and not a welcome one. This was the first butterfly I caught on landing at Quebec in May. It is common all through Canada to the Pacific.

10. *P. napi*. Another European emigrant, universally common but nowhere destructive.

11. *Synchloe creusa.* Of this insect I only took a solitary specimen at Banff, June 2nd. It was probably nearly over, and I saw no more of it. It is taken on the Pacific coast and crosses the Divide at Banff. Mr. Wolley Dod inclines to think that it merges into *ausonides* at Calgary. I consider my specimen from Banff to be quite distinct.

12. *S. ausonides.* Widely distributed but nowhere common. I took one or two specimens at Penticton, Greenwood, Kaslo, and Nelson, but never found it plentiful anywhere. It is common at Calgary.

13. *S. sara.* Common all through the south-western districts of British Columbia. I did not get either of its varieties. It does not occur at Calgary and probably does not cross the Divide.

14. *Eurymus (Colias) Meadii* var. *Elis.* Scattered rather sparingly over all the high mountains of the main chain of the Rockies at an elevation of 6,500 to 7,500 feet. I took the greatest number on the steep slopes of a mountain above Hector Lake. It also occurred at Lake Louise, Mt. Assiniboine and mountains above Simpson River.

15. *E. eurytheme var Keewaydin.* Of this butterfly I only took two specimens at Victoria, June 6th.

16. Var. *eriphyle* is the commonest *Colias* all through Western Canada. I took it everywhere, and without any great variation. The beautiful orange type of the species and var *Ariadne* I did not meet with. I also took two in the Fraser Canyon in May, and a fine fresh one at Banff August 30th.

17. *C. philodice* is also very common and widely distributed. I never took it at a high level, but it is the commonest butterfly at Montreal and Ottawa in September. At Ottawa (September) a fine white female variety was common.

18. *E. christina.* At Banff only, where it was flying in plenty August 30th, but in very bad order, and the females far worse than the males. It is common at Calgary.

19. *E. alexandra.* One specimen only, from Greenwood, near the boundary.

20. ——. Very plentiful in the valley from Greenwood to Midway. It also occurs through the whole of British Columbia south of Lake Okanagan. The color of the under side is much yellower than in the type (*Alexandra*), in which the under side is greenish and very pale. Dr. Rebel pronounces the specimens I sent him to be *Behri* (Edwards), but in this opinion Mr. Elwes does not agree (nor do I).

21. *E. interior.* I took it only at Kaslo, where it is not very common. Mr. Wolley Dod takes it in some numbers at Calgary, where it flies among the spruce in July, which is just where and when I took it at Kaslo.

22. *E. pelidne* var. *Minismi* (Elwes). This a very common butterfly over the whole of the higher Rockies, flying from 5,000 to about 6,000 feet. The females vary considerably, the white ones being commoner than the yellow. It flies all through August. (Dr. Rebel pronounces this insect to be not *Pelidne*, but *Skinneri* (Barnes), which he considers to be a good species.)

23. *E. nastes.* Common at very high levels on every mountain I went up in the whole chain of the Rockies. It varies considerably and I think that those from Mt. Assiniboine, the most southern point at which I found them, are paler and yellower than more northern specimens.

24. *Euptoieta Claudia.* One specimen only taken at Mt. Assiniboine in August, close to the lake, at 5,000 feet or more. It is a southern butterfly,

but a wanderer. Mr. Wolley Dod has taken two at Calgary, and there is one in the Banff museum.

25. *Argynis cybele.* Common all through the Atlantic States. Mine were taken at Ottawa, in September. Mr. Wolley Dod gets it at Calgary, but not commonly.

26. *A. atlantis.* Very common and widely distributed all through British Columbia. I took it at Kaslo, Greenwood and in the high Rockies below tree level. *Atlantis* is very like *Electa*, which Mr. Wolley Dod takes, though not commonly. I have no specimens of *Atlantis* from Calgary.

27. *A. monticola.* Widely distributed and common. I took it at every place I visited from the third week in June till the end of August. The high mountain specimens differ little from those at lower levels. It is a variable species as to color and the silvering of the spots of the under side, but the markings are the same in all that I have taken.

28. Var. *purpurascens*, which I took only near Greenwood and Nelson at low levels. It is given by Holland as a variety of *Zerene*. Dyar gives it as a variety of *Monticola*, with which its markings exactly coincide. I do not possess *Zerene*.

29. *A. coronis.* I never took this species at all on the western side of the Divide, but I believe that I got a battered individual at Banff, August 30th. Those I have were all taken by Mr. Wolley Dod near Calgary, where it is not uncommon. Very like *Halcyone*.

30. *A. nevadensis.* Widely distributed through the Rocky Mountains, but I never saw it common except at Banff, where there were many, much worn, August 30th. It ranges as high as tree level, but I never took it west of the Divide. Common at Calgary.

31. *A. nevadensis* var. *Meadii.* One, June 18th, in the Upper Keremeos, and one, much battered, at Mt. Assiniboine, August.

32. *A. eurynome.* Widely distributed, nowhere common. I took a fine dark form in the Selkirks at about 8,000 feet. I also took a paler form at Kaslo.

33. *A. eurynome* var. *Clio.* Also widely distributed and not common. My high mountain specimens are all much paler than the Kaslo insects.

34. *Brenthis myrina* is the *amphirape* of the Eastern Hemisphere. I found it in swarms at Mt. Assiniboine in August, flying over the marshy ground near the lake, which was formerly the basin of a great glacier. I also took it by Lake Louise in July. Mr. Wolley Dod takes it commonly at Calgary.

35. *Brenthis chariclea.* Very common everywhere in the Rockies among brushwood. Common at Calgary.

36. *Brenthis chariclea* var. *Boisduvalii*, is apparently undistinguishable from *Chariclea*, though Holland gives it as a separate species.

37. *B. chariclea* var. *obscurata.* I have so called a remarkably dark female taken near Lake Assiniboine, very high up.

38. *Brenthis freija.* Common in May at Calgary and Banff. Also took it in mountain bogs near Lake Okanagan in June at 5,000 feet or more.

39. *B. frigga.* Common in bogs at Banff and Calgary, also took it near Lake Okanagan in mountain bogs.

40. *B. bellona.* Common at Calgary, Ottawa, and generally west of the Divide.

41. *B. epithore.* The Pacific form of *Bellona.* Common and generally distributed. Flies at high elevations.

42. *Brenthis alberta.* Nowhere in great numbers, but widely distributed over the higher peaks of the Rockies end of July and August. All the peaks round Lake Louise and Lake O'Hara, Hector, Mt. Assiniboine, and head of Yoho valley, produced a few specimens (not always captured). I never saw it below 7,500 feet.

43. *Brenthis astarte* is another very common butterfly, if you seek it on the highest points not entirely snow-covered. It is very hard to catch, but very unmistakable to the eye. It has an even wider range than *Alberta,* for I saw it, without securing one, at Glacier Crest in the Selkirks. The males haunt the summits, the females are to be found on the highest grassy slopes, and are not very hard to stalk, when feasting on a flower.

44. *Lemonias (Melitæa) chalcedon.* I took this fine insect only at Greenwood and in the district south-west of Lake Okanagan.

45. *L. anicia.* The commonest of the family. I took it at nearly every place I visited. Penticton, Kaslo, Lake Louise and the Selkirks all produced it in plenty; but Mr. Wolley Dod finds it rare at Calgary.

46. *L. anicia* var. *Beani.* A small and dusky high mountain form of *Anicia,* not uncommon on the highest grass slopes about Lake Louise, Hector and Lake O'Hara. I never saw it under 7,000 feet.

47. *Lemonias nubigena.* Two specimens only, from Revelstoke, a very hot place, 1,400 feet.

48. *L. rubicunda.* Another Californian insect, which extends into the Rockies as far north as Hector and Lake Louise. I never took it commonly. It may be so around Lake Okanagan in July.

49. *L. palla.* Common about Lake Okanagan, Greenwood and Kaslo in June. I never took it in the Rockies, but Mr. Wolley Dod gave me a specimen from Red Deer, 100 miles north of Calgary. There the winter is remarkably mild.

50. *Phyciodes tharos.* Very common at Nelson, Kaslo and Calgary. Did not find it in the mountains.

51. *Phyciodes pratensis.* Universally common. A small mountain form occurs at Hector, at 5,000 feet.

52. *Phyciodes pratensis* var. *Orseis.* Ranked as a species by Holland. Probably the south-western form of type. I took mine on the Pacific coast.

53. *Phyciodes camillus.* Common at Greenwood and Penticton in June, and I took one at Hector, at 5,500 feet, in July.

54. *Psyciodes mylitta.* In the Okanagan country in June. I took none in the mountains or further eastwards.

55. *Polygonia satyrus.* At Victoria in June, and at Calgary in May, all hibernated specimens.

56. *Polygonia faunus.* At Victoria only in June. Mr. Wolley Dod reports it from Calgary and Banff, but not commonly.

57. *P. zephyrus.* At Field, common in August, and at Banff.

58. *P. gracilis.* At Ottawa and Montreal only. It does not appear to occur in British Columbia.

59. *Polygonia oreas* var. *silenus.* Two specimens at Banff, August 30.

60. *P. progne.* One at Calgary, 31st May, one at Ottawa in May, and several at Ottawa in September.

61. *Eugonia californica.* Two fine fresh specimens at Bonnington Falls, near Nelson, end of June.

62. *Euvanessa antiopa.* Just appearing at Banff in August. It is common all through Canada and I took worn specimens in June in the Upper Keremeos.

63. *Aglais milberti.* Very common all along the Pacific side of the Selkirks, and I took it high up, 8,000 feet, above Glacier. I never saw it in the Rockies, but it is common at Calgary.

64. *Vanessa atalanta.* One specimen only, in July, above Kaslo. I saw one other at the same place; no others. It is very rare at Calgary.

65. *Basilarchia archippus.* One specimen only at Penticton, near the river. I saw one other at the same place. It is an occasional visitor at Calgary.

66. *B. Lorquinii.* Very common all through the western slopes of the Divide and flies at Glacier. Not seen by me in the Rockies and not found at Calgary.

67. *Cercyonis charon.* Common at Penticton, Nelson, and Banff, at low levels throughout the summer.

68. *Erebia discoidalis.* Very common at Calgary and Banff in May at moderate elevations. I never saw it west of the Divide.

69. *Erebia Vidleri.* Plentiful in the open woodlands of the upper Keremeos, in mid-June at an elevation of from 3,000 to 4,000 feet. Only males had then appeared. I did not take it on similar ground at Nelson and Greenwood a week later.

70. *Erebia epipsodea.* The commonest *Erebia* from Penticton to Calgary and flies as low as 2,500 feet.

71. *Cœnonympha ampelos,* or *ochracea,* or *inornata.* Very common everywhere at moderate elevations from Victoria to Calgary. Mr. Wolley Dod cannot separate the species.

72. *Cœnonympha elko.* One specimen only, near Lake O'Hara, in August. Evidently a wanderer.

73. *Œneis Macounii.* Taken by Mr. Wolley Dod near Calgary. He took this rare butterfly in some numbers in June last, on the summits of grassy hills, about 4,000 feet.

74. *Œneis chryxus.* Very common everywhere from the warm slopes of Okanagan and Nelson right up to the high glens of the Rockies, even above tree level. It varies little. Mr. Wolley Dod has never taken it at Calgary, but it flies at Banff.

75. *Œneis varuna.* At Calgary only, where it is common in May and June. I never saw it at Banff, or in the Rockies.

76. *Œneis jutta.* Not uncommon in mountain marshes. I took mine at Lake Louise in July. It is common at Calgary.

77. *Œneis norna* var. *Beanii.* This active butterfly is common on all the high rocky summits of the Rockies. It haunts lichen-covered rocks, which it exactly resembles in color. I never found the female lower down, as was the case with the *Astarte* female.

78. *Uranotes melinus.* At Kaslo and at Bonnington Falls in June.

79. *Thecla sæpium.* At Bonnington Falls, just out, third week of June. I was too late for it at Kaslo.

79½. *Thecla augustus.* Banff, May.

80. *Thecla spinetorum.* One much worn female, upper Keremeos, June 18th.

81. *Thecla acadica.* One at Kaslo, where it is common. I was too late for it.

82. *Callicista eryphon.* Banff, in May, high up among pines.

83. *Callophrys dumetorum.* Several wretched specimens at about 5,000 feet in June, above upper Keremeos. Probably common earlier.

84. *Chrysophanus thoe.* At Ottawa along the railway banks in September, rather common, but worn. It also occurs at Calgary.

85. *Epidemia mariposa.* Very common everywhere in the Rockies, and flies up to 6,000 feet.

86. *Epidemia zeroe.* Not uncommon in the south Okanagan country, and at Greenwood. I never found it in high mountains.

87. *Epidemia helloides.* Very common everywhere in the west at low elevations.

88. *Heodes hypophleas.* Not common. I took several at Ottawa. Mr. Wolley Dod takes it sometimes near Calgary.

89. *Chalceria Snowi.* The most beautiful of the coppers. A high mountaineer, never seen below 7,000 feet. Widely distributed over the high Rockies, but seldom plentiful.

90. *Cupido heteronea.* At Greenwood and in the lower Keremeos in June. I met with it nowhere else.

91. *Cupido fulla.* I have this butterfly from Calgary only, where Mr. Wolley Dod takes it commonly. Mr. Elwes considers it to be identical with *pheres*, which it closely resembles.

92. *Cupido sæpiolus.* Very common everywhere and flies up to 6,000 feet at Hector. Very common at Calgary. Dr. Rebel calls it *L. antiacis.*

93. *Cupido pheres.* Common in the south-west of British Columbia, Penticton, Greenwood and Vancouver. Not taken at Calgary. It is very near to *C. fulla.* Dr. Rebel calls my specimens *L. lycea* (Edw.).

94. *Nomiades Couperi.* Very common on both sides of the Divide, but not high up. Very like *Antiacis.*

95. *Phœdrotes sagittigera.* Not common. I only took three at Greenwood and upper Keremeos. It is taken occasionally at Calgary and Kaslo.

96. *Agriades aquilo.* A high mountaineer, locally abundant at Lake Louise, Hector and Lake O'Hara.

97. *Agriades rustica.* Very common at Calgary. I never took it at all.

98. *Agriades podarce.* One specimen only, taken July 5th, on Bear Mountain, behind Kaslo, which is a locality for *Podarce.* I was too early to get a series and have no female, which is said to be distinct. The male is exactly like *Aquilo.*

99. *Rusticus melissa.* Very common everywhere up to 6,000 feet. (*Argus.*)

100. *Rusticus acmon.* Common near Greenwood. A southern insect.

101. *Rusticus anna.* Two from Bear Lake, which is a locality for it, and one female from Penticton. A southern insect.

102. *Everes amyntula.* Common everywhere in the West, also at Calgary.

103. *Everes comyntas.* Not common. My specimens are from Penticton. It is taken at Kaslo and at Victoria.

104. *Cyaniris pseudargiolus.* Very common and variable.

105. *Amblyscirtes vialis.* Only taken by me at Greenwood, June. Reported from Vancouver and Kaslo.

106. *Pamphila palæmon.* Very common and flies as high as Glacier.

107. *Erynnis comma.* Very common and widely distributed.

108. *Polites peckius.* Only one at Nelson, June. Reported from Calgary.

109. *Anthomaster leonardus.* Only at Ottawa, in September.

110. *Thymelicus cernes.* Common at Penticton, June. Reported from Coldstream (Pacific coast) and Calgary.

111. *Thorybes pylades.* At Penticton, much worn, in June. Reported from Kaslo and Calgary.

112. *Pholisora catullus.* Common at Penticton.

113. *Thanaos juvenalis.* At Ottawa only. An eastern insect.

114. *Thanaos persius.* Very common at Greenwood, Penticton, Vancouver and Calgary.

115. *Thanaos icelus.* Common and widely distributed.

116. *Hesperia centaureæ.* One only, very high up, above Lake Louise. None reported from other places.

117. *Hesperia cæspitalis.* Common in upper Keremeos, but nearly over. Common near Victoria (May). Not common at Kaslo and Calgary.

NOTES ON THE ABOVE PAPER BY DR. JAMES FLETCHER.

The above extremely interesting paper by Mrs. Nicholl was kindly given to us for publication last summer. Unfortunately, Mrs Nicholl's absence exploring in the Rocky Mountains during the summer, my own subsequent absence from Ottawa, and the early call for the manuscript for the Report, made correspondence with Mrs. Nicholl, about some of the above named species, impossible. As it is important that the paper should be published without delay, I add a few notes concerning some of the species, with regard to which there was some doubt, thinking that as I have collected in most of the localities mentioned, these might be of use to lepidopterists.

6. *Papilio zolicaon* is a black swallow-tail with yellow markings, *machaon* on the other hand is yellow with black markings. *Oregonia*, which flies in the interior of British Columbia, is much more like the European *machaon* but is larger. It is easily separated from *zolicaon* by its larger size, broader areas of yellow, particularly on the lower side, and by the characters of the large red ocellus at anal angle, which is much more like that of *machaon* than of *zolicaon*, not being pupilled, as a rule, but with the margin running round into the lower part of the ocellus and ending in a club-shaped expansion, with or without a short spur at the extreme anal angle. The characters are best seen on the lower side.

11. *Synchloe creusa* is smaller than *S. ausonides*, is greener beneath, with the spots smaller and silvery pearly. The black discal spot on the primaries beneath is cut off square at the bottom, where it runs along the vein. In *ausonides* this spot tapers.

20. This was probably *Colias emilia* which flies in the Okanagan valley just at the time Mrs. Nicholl was there. The male is like a large *interior* but sometimes has an orange flush. The female is very much like some females of *christina*. Both sexes have beautiful red fringes. *Alexandra* has a white fringe and a silvery white spot beneath on the lower wings. In *emilia* the spot is white but is more or less conspicuously ringed with pink. *Edwardsii*, as I understand that species, is like *alexandra*, but has pink in the fringe, and some of the females are marked as in *christina* female. *Behrii* in no way resembles the species above referred to. It is a small, very dark green thing. There must have been some mistake about the specimens examined by Dr. Rebel.