

PROCEEDINGS OF THE UNITED STATES NATIONAL MUSEUM



SMITHSONIAN INSTITUTION
U. S. NATIONAL MUSEUM

Vol. 84

Washington : 1937

No. 3013

A NEW SUBSPECIES OF THE NYMPHALID BUTTERFLY
POLYGONIA FAUNUS

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WILLIAM H. EDWARDS, in April 1862, described the butterfly *Grapta faunus*, which he said "is found abundantly in certain localities on the Catskill Mountains, New York. It is also found at Fort Simpson, at Albany River, and Lake Winnipeg." The type locality of *faunus* is therefore the Catskill Mountains. In his description of *Argynnis atlantis* Mr. Edwards mentioned that in 1861 he had found that species abundant near the Mountain House, and it was presumably at the same time and place that he secured his type series of *faunus*.

Polygonia faunus is one of the commonest and most characteristic butterflies of the Canadian Zone, from the highlands of New York and New England westward. In addition to many records of this insect from these northern regions, there are a few records from the southern extension of the Canadian Zone along the mountains from West Virginia to Georgia.

Among the watercolor drawings of the insects of Georgia by John Abbot in the British Museum dated 1792-1804, there is a figure identified by Samuel H. Scudder as *Polygonia faunus* that bears the manuscript note in Abbot's handwriting "met with by Mr. Elliot in his tour to the mountains."

Some time after publishing the original description, Edwards recorded a single individual of *faunus* that had been captured in

West Virginia by Meyer. In 1887 he mentioned *faunus* from Virginia, probably in error for West Virginia.

In 1892 Theodore L. Mead wrote that *faunus* is "abundant all along the roadsides from 4,000 to 5,000 feet" on Grandfather Mountain in Mitchell (now Avery) County, N. C., and in 1893 Dr. Henry Skinner recorded *faunus* from Cranberry, Avery County, at an elevation of 3,250 feet.

In 1905 F. E. Brooks recorded *faunus* from central West Virginia at an altitude of 3,500 feet.

C. S. Brimley and Franklin Sherman, Jr., in 1907 recorded *faunus* from Blowing Rock, Watauga County, N. C., at an altitude of 4,000 feet, and mentioned Dr. Skinner's record from Cranberry.

Dr. A. Glenn Richards, Jr., in 1931 recorded *faunus* from Andrews Bald in Swain County, N. C., where he found it on August 21-23, 1928, and noted that Henry K. Townes, Jr., had taken it on Cedar Mountain in southern North Carolina, very near the South Carolina line, on July 24, 1929.

Prof. Franklin Sherman has been so kind as to send us unpublished records of this species from North Carolina, South Carolina, and Georgia. His record from South Carolina is the first from that State, and the two from Georgia are an interesting supplement to the single previous record by Abbot more than 130 years ago.

We are also greatly indebted to C. S. Brimley, of Raleigh, N. C., who has sent us the records from North Carolina in the files of the State Department of Agriculture, and to Henry K. Townes, Jr., of Greenville, S. C., who has sent us his records from South and North Carolina.

There is no published record of the occurrence of this butterfly in Virginia. We wrote to our friend Prof. Ellison A. Smyth, Jr., of the Virginia Polytechnic Institute at Blacksburg, Montgomery County, now retired and living at Salem, and asked him if he knew of any specimens from the State. He replied that in 1896 he had raised five individuals from larvae that he had found on gooseberry bushes in his garden at Blacksburg. His identification of these had been confirmed by William H. Edwards.

As the butterfly is common on Grandfather Mountain, a few miles south of the Virginia border, we assumed that it would be equally common in and about the spruce forests on White Top and Balsam Mountain (Mount Rogers), the highest mountains in Virginia, not far to the northward. We therefore visited these mountains on July 9-15, 1936, and as we had expected found it in considerable numbers, all the individuals being freshly emerged.

On July 21 we visited the Biological Station of the University of Virginia at Mountain Lake, in Giles County, Va., where we were told by Prof. Lorande Loss Woodruff that he had captured it there.



1-6. *Polygonia faunus smythi*, new subspecies: 1, Male, Mount Rogers (Balsam Mountain), Grayson County, Va., A. H. Clark, July 15, 1936, type (U. S. N. M. no. 51846); 2, same, under side; 3, female, White Top Mountain, Grayson County, Va., L. F. Clark, July 10, 1936; 4, same, under side; 5, male, White Top Mountain, Va., A. H. Clark, July 10, 1936; 6, same, under side.

7, 8. *P. f. faunus* (W. H. Edwards): 7, Male, Mount Washington, N. H., 4,000 feet, August 1-7; 8, same, under side.

Later Professor Woodruff was so kind as to send us his specimens for examination.

All the individuals of *Polygonia faunus* that we captured, the two in the National Museum collection from Grandfather Mountain and Andrews Bald, and those sent us by Professor Woodruff differ markedly from the large number at hand from New York and New England and northward and northwestward. It is therefore clear that there is a distinct southeastern race of this butterfly confined to the narrow and more or less discontinuous southern extension of the Canadian Zone. This may be known as

POLYGONIA FAUNUS SMYTHI, new subspecies

PLATE 10, FIGURES 1-6

Description.—Resembling *Polygonia faunus faunus*, but slightly larger; *above*, darker, the ground color slightly more reddish, the dark markings blackish brown, and the submarginal spots in the dark border of the hind wings usually smaller, often obsolescent; *below*, darker, usually much darker, the light and dark markings, especially on the hind wings, less contrasting.

Type specimen.—From Mount Rogers (Balsam Mountain), Grayson County, Va., about 4,000 feet, male, July 15, 1936; A. H. Clark. U.S.N.M. no. 51846.

Specimens examined.—VIRGINIA: White Top Mountain, Grayson County, July 10, 11, 1936, A. H. and L. F. Clark (five); Mount Rogers, Grayson County, July 15, 1936, A. H. and L. F. Clark (one); Mountain Lake, Giles County, July 7, 9, 15, 24, 1936, L. L. Woodruff (four). NORTH CAROLINA: Grandfather Mountain, Avery County, about 6,000 feet, August 1892, T. L. Mead (one); Andrews Bald, Smoky Mountain Park, Swain County, 5,750 feet, August 22, 1928, A. G. Richards, Jr. (one).

Range.—WEST VIRGINIA: No further data (W. H. Edwards); central West Virginia, about 3,500 feet (F. E. Brooks). VIRGINIA: Blacksburg, Montgomery County (E. A. Smyth, Jr.); Mountain Lake, Giles County (L. L. Woodruff); White Top Mountain and Mount Rogers, above 4,000 feet (A. H. and L. F. Clark). NORTH CAROLINA: Grandfather Mountain, Avery County, 4,000 to 5,000 feet (T. L. Mead); Cranberry, Avery County, 3,250 feet (H. Skinner); Blowing Rock, Watauga County, 4,000 feet (Brimley and Sherman); Mount Mitchell, Yancey County, 6,000 feet, August 20, 1926, J. C. Crawford (C. S. Brimley, *in litt.*); Big Pisgah Mountain, Haywood County, 4,800 feet, July 19, 1932, common (Henry K. Townes, Jr., *in litt.*); Andrews Bald, Smoky Mountain Park, Swain County, 5,950 feet (A. G. Richards, Jr.); Smokemont, Swain County, June 30, 1934, T. B. Mitchell (C. S. Brimley, *in litt.*); Cedar Mountain, Transylvania County, 2,700 feet, Henry K. Townes, Jr. (A. G. Rich-

ards, Jr.); Cedar Mountain, 2,900 feet, June 29, 1933, July 24, 1929, and July 22, 1931 (Henry K. Townes, Jr., *in litt.*); Highlands, Macon County (Franklin Sherman, *in litt.*). SOUTH CAROLINA: Greenville County, Henry K. Townes, Jr. (Franklin Sherman, *in litt.*); River Falls, Greenville County, 3,000 feet, not rare (Henry K. Townes, Jr., *in litt.*). GEORGIA: In the mountains (John Abbot, according to S. H. Scudder); Satolah, Rabun County (Franklin Sherman, *in litt.*); Rabun Bald Mountain, Rabun County (Franklin Sherman, *in litt.*).

Season.—This butterfly appears locally from the end of June to the middle of July and flies until September. Mr. Townes writes that where he has collected it it is commonest in its prime in the first half of July. On White Top and Balsam Mountains it does not appear until the second week in July. There is only a single brood.

Occurrence.—The butterfly is common wherever it occurs regularly, frequenting especially roads through the woods, clearings, and the borders of wooded areas.

Food plant.—Gooseberry (Ellison A. Smyth, Jr.).

Remarks.—Three other species of *Polygonia* occur in Virginia. One of these, *P. progne*, is confined to the mountainous region in the western part of the State, where it is very common in the Transition Zone, at the higher altitudes overlapping the lower portion of the range of *P. faunus smythi*. The two other species, *P. interrogationis* and *P. comma*, occur at all points in the State, though they are generally less numerous on the Coastal Plain than elsewhere; *P. interrogationis* is frequent or rather common almost everywhere, but *P. comma* is less numerous and is nowhere found in any great numbers. Neither *P. interrogationis* nor *P. comma* is at any point so common as are *P. faunus smythi* and *P. progne* in the regions where the two latter occur.

On the lower borders of the range of *P. faunus smythi* all four species are found, *P. progne* far outnumbering the others. At one place on White Top Mountain where a small stream crosses the road up the mountainside we took *P. faunus smythi*, *P. progne*, and *P. comma* within a few minutes on the same square foot of moist earth.

Although in *Polygonia faunus* the individuals from Virginia and southward represent a local race quite distinct from the typical northern form, we fail to detect any corresponding differences between southern and northern specimens of *P. progne*, *P. comma*, or *P. interrogationis*. Southern individuals of these three species are frequently somewhat larger and darker than individuals from farther north, but the differences are slight and inconstant and are confined to relatively few specimens.