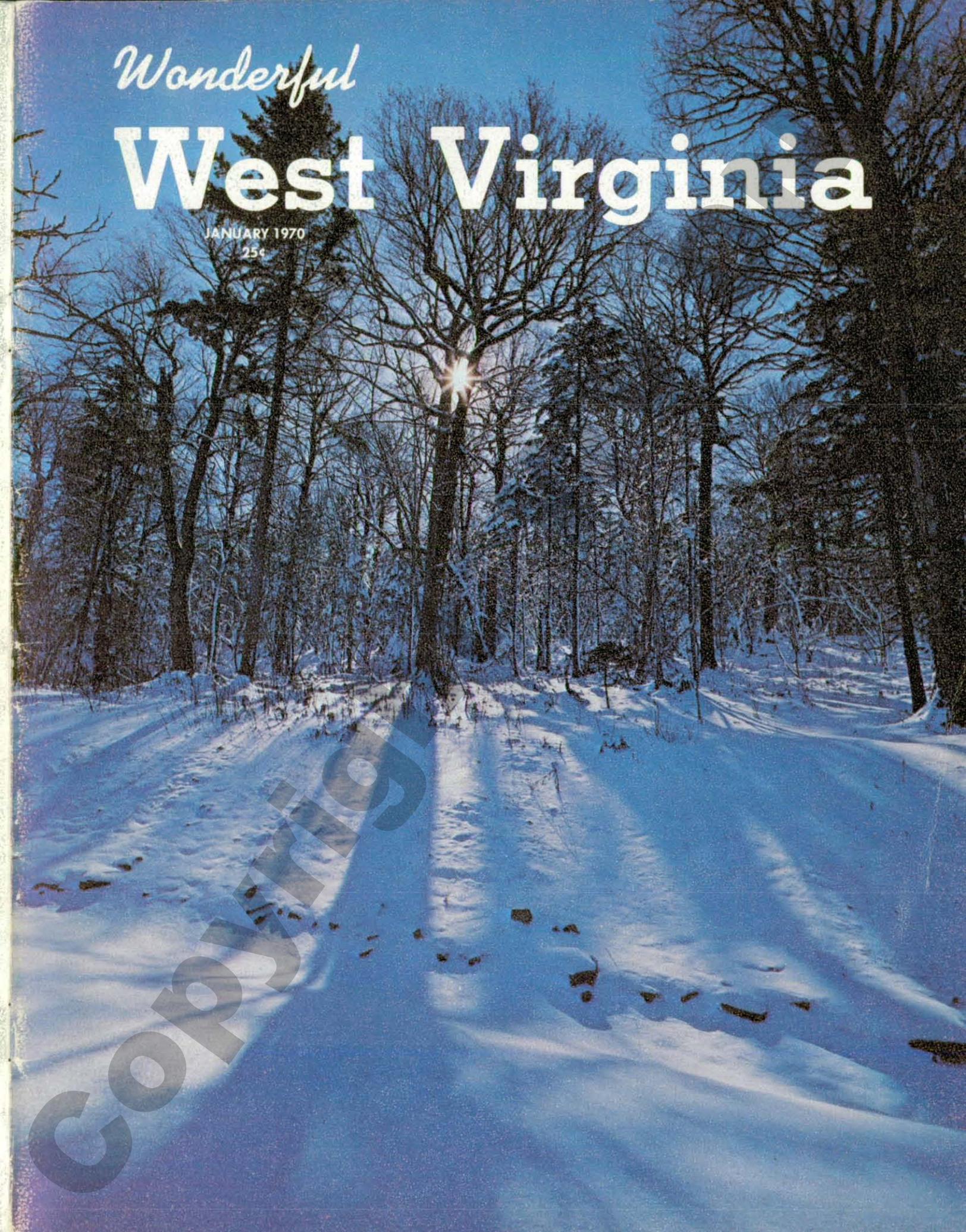


Wonderful

West Virginia

JANUARY 1970

25¢



Copyright



JERRY RATLIFF

Falls of Holly River, (left fork), roar welcome to trout. Near Holly River State Park in Webster County.

State of
WEST VIRGINIA



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Governor

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COVER: One of countless scenic views along the Scenic Highway in Pocahontas County. Arnout Hyde Jr.

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The roots of wild ginseng, once very valuable, have put thousands of dollars in the pockets of Mountaineer 'seng diggers, too

the 'seng diggers

WILBERT N. SAVAGE

Reprinted from Pennsylvania Angler

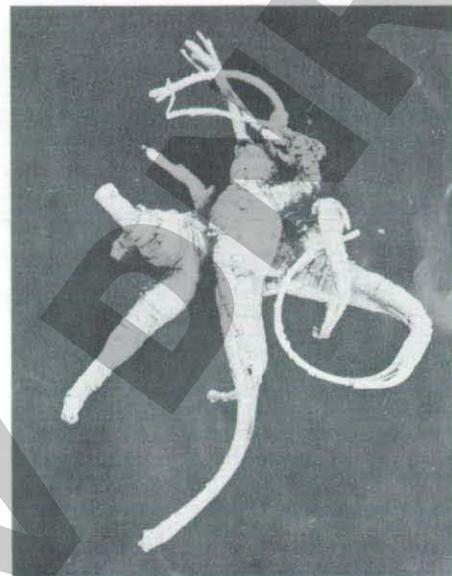
THE STORY OF WILD GINSENG reads like a rousing frontier drama—a yesteryear account of keen rivalry, bonanza discoveries, incredible demand, rapscaillon tradesmen; of lore and romantic facets sparkling historically within one of the strangest multi-million-dollar commercial items on planet Earth.

Unfortunately it is also the disquieting but true story of a natural forest product that man still seeks with such dogged and foolhardy resolution that it continues to become scarcer—and recently more valuable—with each passing year.

Early in the eighteenth century, no resident of the North American continent ever suspected that ginseng, a plain-looking relative of wild sarsaparilla, represented a vast woodland expanse of unclaimed root-crop wealth stretching

from temperate eastern Canada to the Carolinas. This situation of unawareness soon changed to hustle-bustle scenes of bedlam when a Canadian missionary working among Iroquois Indians discovered ginseng near Montreal in 1716. A small test shipment was sent to China—the world's demand center for ginseng. Acknowledgment was slow in coming but finally the word arrived: "Your specimen lot is, indeed, ginseng; and the quality grades out satisfactorily"

This simple message ignited a kind of stampede. Thousands of Canadians, including many Indians, took to the woods in quest of easy-to-dig "amber nuggets." A trading company was formed almost overnight. The export market was hungry for more and more *Panax quinquefolium*—American



Wild ginseng root.

ginseng—and the cash-buying price was .35¢ per pound.

THE YEARS ROLLED BY and tons upon tons of ginseng roots were ripped from Canadian soil. Demand for the root grew greater, and so did greed among shrewd tradesmen who, unscrupulously, often received an average of ten to twelve times as much for ginseng as they paid uncomplaining diggers for it. When, finally, demand could scarcely be met, many 'seng shipments started to yield inferior roots—even force-dried ginseng that was visibly scorched. Any kind of oven or other forced drying was strictly taboo. In 1752 this unprincipled practice all but killed the Canadian 'seng market. Chinese buyers were furious over the attempt to dupe them, and ginseng exports dropped from over \$100,000 a year to \$6,500.

The spark of demand for North American ginseng was to remain dim for a long time, but gradually a limited and exceedingly wary market started once again to open its doors—and the favorable focus was on the United States. Although George Washington wrote in his diary of the ginseng trade in 1784, and Daniel Boone sent a shipment of the valuable roots via Philadelphia in 1788, full recovery from the unfortunate Canadian incident required the healing powers of more than one hundred years!

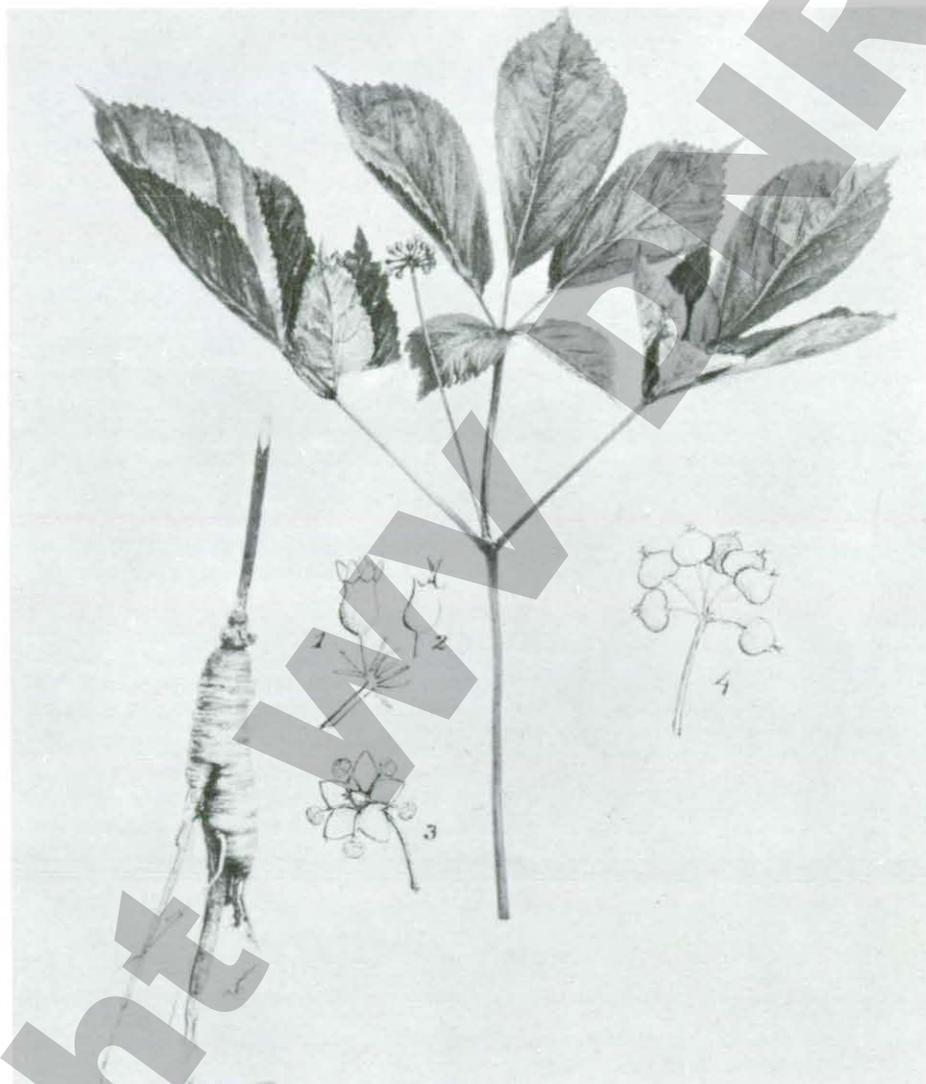
As the spotlight of 'seng demand shifted south, Pennsylvania soon picked up the tempo of enthusiasm echoing down from New England and promptly enjoyed the distinction of supplying some of the finest and largest ginseng roots ever taken from the soil of this nation. In 1858, with trust in the sources pretty well restored, more than 366,000 pounds of ginseng left this country bound for China—and Pennsylvania provided its share.

'Seng diggers in the States were more canny and drove hard bargains with traders for a fairer share of the real market price. Some families went on ginseng frolics and brought back cartloads of the valuable root. Those who didn't know how to recognize the plant soon learned.

By 1868 the market value of ginseng had doubled, and in that year over 370,000 pounds of U.S. 'seng reached Chinese buyers. Again, a considerable portion of the harvest was taken out of Pennsylvania's woods. The price was even higher in 1878, and by 1888 it once again had multiplied itself by two. By now the inevitable was beginning to happen in Pennsylvania as well as the whole 'seng zone. Wild ginseng was becoming much more difficult to find. Even with the stimulation of higher prices, the year 1888 netted more than 112,000 pounds less than 1878; and in 1889, with prices still higher, export quantities took another sharp drop. Already there was talk of raising cultivated ginseng, with a few actual experiments taking place.

THE YEAR 1896 saw the price of wild ginseng climb to \$3.86 per pound, with only 199,000 pounds harvested. In 1901 the market value for average roots leaped to \$5.38, but only 149,000 pounds could be collected for the eager Chinese market. In 1906 wild ginseng was worth \$7.30 per pound, and already small quantities of cultivated roots, tagged as such, were being shipped—and accepted.

From that time on, more and more cultivated ginseng helped to fill demand for the root and wild ginseng steadily became less plentiful. It simply could not repro-



Stalk of ginseng with seed berries rising on stem at left of center leaves; also the plant's root and part of stem. Figures 1 and 2 show the plant's flower buds; 3 is the open blossom; 4 is the seed berries.

duce itself as rapidly as it was being dug, and increasingly remote and secluded were the areas where searches for wild ginseng were recklessly carried out. Could a good thing—a wondrous gift of nature—be slipping beyond the brink of recovery? An affirmative caution signal was boldly written on the wall, but few paused to read it, and fewer chose to heed it.

The horn of plenty had spoiled many a 'seng digger, and now he seemed bewildered by the fact that where he once was able to find a bushel of roots his tedious search was now rewarded by a handful of scrawny 'seng. The death knell for worthwhile quantities of wild

'seng was ringing; but, curiously, the very circumstance of this plight did one thing to give the root a temporary reprieve: the scarcity of wild 'seng actually caused many devoted and skillful diggers to give up hunting the woodland plant entirely. This was because a considerable number of 'seng hunters expected to, and did, earn a fair average wage by engaging in digging ginseng as a sole occupation.

By 1923 the market value of wild ginseng was \$15 per pound. Top grade large roots were bringing an even better price. Even with cultivated 'seng included, U.S. exports that year totaled only 148,000 pounds. Fondly, but per-

haps not ruefully, veteran 'seng diggers were now remembering the days when country school children could fill their dinner pails with two or three pounds of green 'seng roots on their woods-pathway home from school. They were also thinking of the time when an adult could dig all day in a single huge patch of ginseng that often presented the plant's red berries in a captivating fall scene of forest-shaded splendor.

While root size and weight were highly important to the hey-day 'seng hunter, experienced diggers knew that it was the shape of the root that really counts in the eyes of Chinese buyers. Here's why:

The word "ginseng" means in Chinese "man form" or "likeness of man." Very early Chinese literature tells of the remarkable virtues of ginseng roots that bear some trace of resemblance to the human figure. That belief still survives, undiminished. Straight roots are, of course, good roots. Yet they are prosaic second-raters when compared with a root with forks that extend thigh-like, or arm-like, from the main part of the root. If a really grotesque find turns up, having both "arms" and "legs," plus a bulbous head-like formation at the top, only the wealthy can afford to ponder its price tag. Such roots commonly retail in China for \$200 each, and exceptional ones bring much more. Of course, the sale of these prizes is reserved for tradesmen in the Oriental marketplaces, with exporters rarely getting more than a token bonus for uncommon root specimens.

AS MIGHT BE EXPECTED, 'seng roots with leg-like forks are used to treat leg ailments; arm-like root projections are relied upon to restore vigor to ailing arms; the rounded upper portion of a root is believed to possess special powers over all head troubles. With all parts intact, almost any odd-shaped root is supposed to establish good health through use as a talisman.

Generally, however, ginseng is taken inwardly in some manner by the Chinese. It is made into pills,

powder and cold brew. Sometimes it shows up as a condiment; and sometimes a little pulverized 'seng is carried in a small pouch for occasional "dusting of the tongue." It is made into hot tea, too, and a kind of confection is sometimes prepared by combining ground 'seng with honey and sugar. Very often it is chewed sparingly, and may even be smoked, gargled, or sprinkled in the hair. It has been rubbed on wounds, carried between the toes of troublesome feet, and made into ointment for stiff joints.

Although the Chinese may be thoroughly puzzled by American attitudes toward the magic powers of ginseng, experts in pharmacology have repeatedly defined its medicinal potential as little more than picayune. At least one old-time doctor-book did say that ginseng tea would "encourage the appetite and strengthen digestion; and also serve as a mild nerve tonic and diuretic. . . ."

It is indeed difficult today to find a veteran 'seng digger who engaged in quantity root harvests some 60 years ago—or roughly in the early 1900's. The author was fortunate during the summer of 1969 when he located such a senior individual in a rural section near Ohiopyle, Fayette County. His name: Albert Burnworth.

"MOST PEOPLE who know the stuff and who have dug it call it 'sang'—and that includes me," explained the amiable countryman after we were comfortably seated on his well-shaded front porch. "Almost everywhere hereabouts 'sang was beginning to show the effects of over-digging when I was a boy. Yet there were some nice patches to be found from time to time. I had no idea what the Chinese people did with 'sang. I just knew that it could buy the things that people needed. In many families both girls and boys learned early to distinguish 'sang from other woods plants. Taken to a local country storekeeper the roots could be exchanged for school clothes and household needs. Shipped to the big buyers it brought money that made dreams come true. Many a boy got his first fishing tackle and

his first gun and pocket watch with 'sang money."

Asked if he could think of just one old-timer who had done a great deal of 'seng digging, Burnworth replied: "Not one. They're all gone, almost like the 'sang is gone. There were some good 'sang diggers in this locality. This rich Youghiogheny watershed produced some big old 'sang roots; but personally I can't tell of digging any extremely largeroots, the biggest being just a fraction under half a pound and it was shaped like a parsnip. I reckon maybe the tales of some 'sang roots are like a few of the stories about big fish—stretched a bit. That reminds me that it wasn't uncommon for 'sang diggers of my day to get in some fishing while on a root-hunting jaunt. In fact I had line and hooks with me a good part of the time when I was 'sanging."

"I have dug hundreds of pounds of 'sang and always found the north slopes best suited to its growth. 'Sang likes cold weather and high elevations and it almost never freezes out. I usually aimed to do most of my 'sanging in the fall when the 'sang berries were ripe; and all that I found I'd plant in hard-to-get-to places along the slopes of steep hollows and the like.

"I think that 'sang was struck the biggest blow during the Depression Years. A lot of country people scoured the hills for it, and in a way you couldn't blame them. A pound of dry 'sang would buy a nice lot of groceries for a hungry family, or pay a doctor or buy lots of clothes; and two pounds would buy a good cow. It's sad to think of wild 'sang being just about a thing of the past. Scarcity always does wild things to prices and I guess that's why 'sang is now fetching about \$42 a pound. I know of a couple of nice stalks of wild 'sang in a hard-to-find nook. Some of my memories make them almost sacred, so for now I guess their whereabouts will have to be my secret. . . ."

WILD GINSENG grows to a maximum height of about twenty inches. Its leaves are bright green

in summer, turning yellow in early autumn and are egg-shaped with a saw-tooth margin. They end in an abrupt point, and range in number from three on a first-year plant to twenty or more on an old plant. A stalk of 'seng eight or ten years old may have four or more leaf-stalks branching out from the pencil-size main stem. Each branch almost always has exactly five leaves. A slender flower stem pops up from the center of the plant and puts out a lacy chartreuse bloom in early July. Small green berries soon replace the bloom, and these mature in late August and ripen into bright red seed berries during the last part of September. Each berry contains in its fleshy case from one to three seeds, usually two. Even the largest stalks of wild ginseng seldom produce more than twenty to thirty seed berries—never more than fifty—and only a few of these can be expected to survive and germinate since certain birds are fond of them, as are mice and chipmunks.

Since ginseng can reproduce itself only from seed, all spring and summer 'seng digging represented an incalculable waste. Rarely giving a thought to tomorrow, ginseng by the wagonload was dug before the berries could ripen and drop and thus defeat nature's renewal process. No one knows how many potential tons of 'seng were lost by reason of this unwise practice; but it is known that a kind of "get-it-while-you-can" covetousness existed far and wide among ginseng diggers. Even the spindly immature roots seldom were spared, and this furthered the certainty of near-complete eradication.

Once a ginseng root is established and left undisturbed, it almost always puts up an annual stalk. On occasion, however,—and this habit is something of a mystery—a root will rest for one season and resume growth the following year. The root crown or neck takes on a scar each fall when the stem dies and drops off. From these scars or rings one can arrive at the root's age. Of course, there's no way to work out a plus for

HUNTER—TRADER—TRAPPER.

WILD CULTIVATED LARGE SMALL POOR

GINSENG

We buy all kinds, at the best prices market conditions will warrant. Large or small lots solicited. Write us for prices. We also buy Golden Seal.

NORTHERN FUR SHIPPERS: We are in touch with consumers of all kinds of Northern Furs. Ship or write for quotations.

STRUCK & BOSSAK, Inc.
148 West 28th Street New York City

This type of ginseng advertisement appeared in outdoor magazines half a century ago.

the root's tricky seasons of dormancy, if any.

SUITABLE SOIL and climatic conditions for the growth of wild ginseng extend from Canada to the Carolinas and west to the first tier of states beyond the Mississippi. It seems to prefer soil which favors the growth of butternut, beech, dogwood, poplar, basswood, cucumber, maple and other hardwoods. It must have abundant shade to survive and flourish. Although it does well in the coolness of higher elevations, particularly where there is an abundance of leaf mold, it appears to seek the mid-to-lower portions of hillsides rather than bleak ridges. No matter where his search begins, and even if he is seeking only to study the plant's special environment and growth tendencies, the 'seng hunter of today is apt to find the objects of his quest few and far between. Indeed, an expert in the art of finding wild ginseng may travel all day in traditional 'seng country and never spot a single stalk!

Such is the haunting account of the rise and fall of America's wild root bonanza. Such is the unfortunate manner in which man became the nemesis of an innocent

little woodland plant. Such was the casting of the shadow of doom and the writing of *finis* to the world's royal gem of all roots.

Now that we are starting to explore other worlds in the universe, let us hope that we will permanently adopt an improved behavior, and that we will muster enough backbone to accord the natural resources of other planets a more commendable and rational attitude; that we will replace our active greed and wasteful habits with zealous application of the utmost in responsible administrative metering of the things nature has provided for common sense use, *not abuse* and the inevitable consequence, spelled r-u-i-n. ♣

RAMP FESTIVALS

Ramps will be the subject of an article in *WONDERFUL WEST VIRGINIA* magazine in early spring.

The article will include a listing of dates, times and locations of all Ramp Festivals to be held throughout the state this year.

Organizations planning such festivals are urged to notify the department at once giving complete details in order to be included in the listing. Write or phone Information and Education Division, Department of Natural Resources, State Capitol, Charleston, W. Va. 25305, phone 348-3381.

SOLDIER, statesman, author, naturalist, hunter and conservationist, Teddy Roosevelt was more to America than just a figurehead president. Through his self-discipline, talents and ideas, he became the ideal symbol of the American male of his era.

Born in New York City on October 27, 1858, Teddy Roosevelt was so afflicted with poor health during his early years that he had to be privately tutored at home. Yet, even though he had asthma and weak eyes, Roosevelt made himself physically fit and active through sheer determination. He forced himself to participate in the "strenuous life" and even had fond memories of these occasions.

"As a lad I used to go to the north woods in Maine. There I made lifelong friends of two men, Will Dow and Bill Sewall; I canoed with them and tramped through the woods with them, visiting the winter logging camps on snowshoes," he wrote.

At the age of 14, he also made a trip to the Middle East—one of the first in a series for this peripatetic traveler. The tour led him through Egypt, Syria, Greece and the Holy Land; he hunted on the Nile River and in Palestine.

When he was 18, Teddy entered Harvard University and while he was there, began to write his "Naval History of the War of 1812." Yet, unlike most scholars, he was truly a man of action.

In 1881, he ran for the New York Legislature and was easily elected assemblyman. He served three sessions in the legislature, then after the Republican Convention of 1894, bought a cattle ranch in the Bad Lands of North Dakota where he lived for two years as a hunter and a ranchman.

During this time, his first book on the natural sciences, "Hunting Trips of a Ranchman", was published as well as two biographies on the lives of American Statesmen: Gouverneur Morris and Thomas Hart Benton.

RETURNING TO THE EAST, he was appointed to the Civil Ser-

Teddy The



Teddy Roosevelt—great hunter, renowned conservationist.

Conservationist

vice Commission until 1895, when he was appointed one of the police commissioners of New York City.

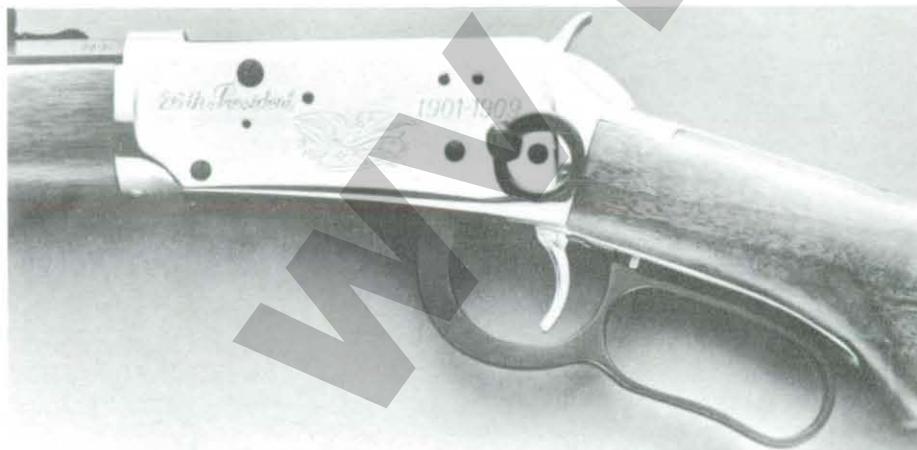
His zeal in prosecuting the crime and corruption of that day quickly brought him to national attention. His name was one of the first to be brought up for the Republican vice-presidential nomination, which he won.

On September 14, 1901, Roosevelt was sworn in as President, at the age of 43, after the death of President McKinley. As he put it, "The first work I took up was the work of reclamation." From his recommendation, trained men were sent into the Appalachian National Forest to study conditions there. The facts about the forests were given to newspapers all over the country. T. R. said, "Without this publicity, the forest service could not have survived the attacks made upon it by the representatives of the great special interests in Congress; nor could forestry in America have made the rapid progress it has."

Each year of his administration saw new and valuable ideas of conservation passed into law. Beginning in 1902, the first game laws for the Territory of Alaska were passed regulating export of heads as trophies and slaughter of deer for hides. In 1902, also, came the first appropriation for preservation of buffalo located in Yellowstone National Park.

In 1903 to 1909, he appointed an Inland Waterways Commission and established 51 national bird reservations, five national parks and four big game refuges.

In recognition of this great conservationist and President, the Theodore Roosevelt Association announced the establishment of a



Commemorative carbine.

new Theodore Roosevelt Chair of Conservation to be established at the American Museum of Natural History in New York.

AS A TRIBUTE TO T. R., "Sportsman of the Century," the Winchester-Western Division of Olin Mathieson Chemical Corporation has issued the Theodore Roosevelt Commemorative Model 94, in both rifle and carbine styles.

The only firearm authorized by the Theodore Roosevelt Association, the new limited edition commemorative will provide a royalty to the association for each unit sold through normal channels of distribution. Designed expressly in honor of the 50th anniversary of T. R.'s death, the traditional 30-30 caliber lever-action repeating firearm is distinctively patterned along the lines of one of the late President's favorite game guns: the Winchester Model 1886.

Rifle and carbine versions of the T. R. Commemorative have a steel

octagon barrel, in 26-inch and 20-inch lengths. The fore-end cap, upper tang and crescent-shaped butt plates match the glossy, white-gold-plated receiver, with its decoratively scrolled border on the right side, and spread-winged American eagle engraved between the inscription: 26th President and dates 1901-1909, signifying Theodore Roosevelt's presidential term of office, on the left side.

The gun's upper tang bears an engraved reproduction of T. R.'s signature and the barrel is inscribed with the identification: Theodore Roosevelt Commemorative.

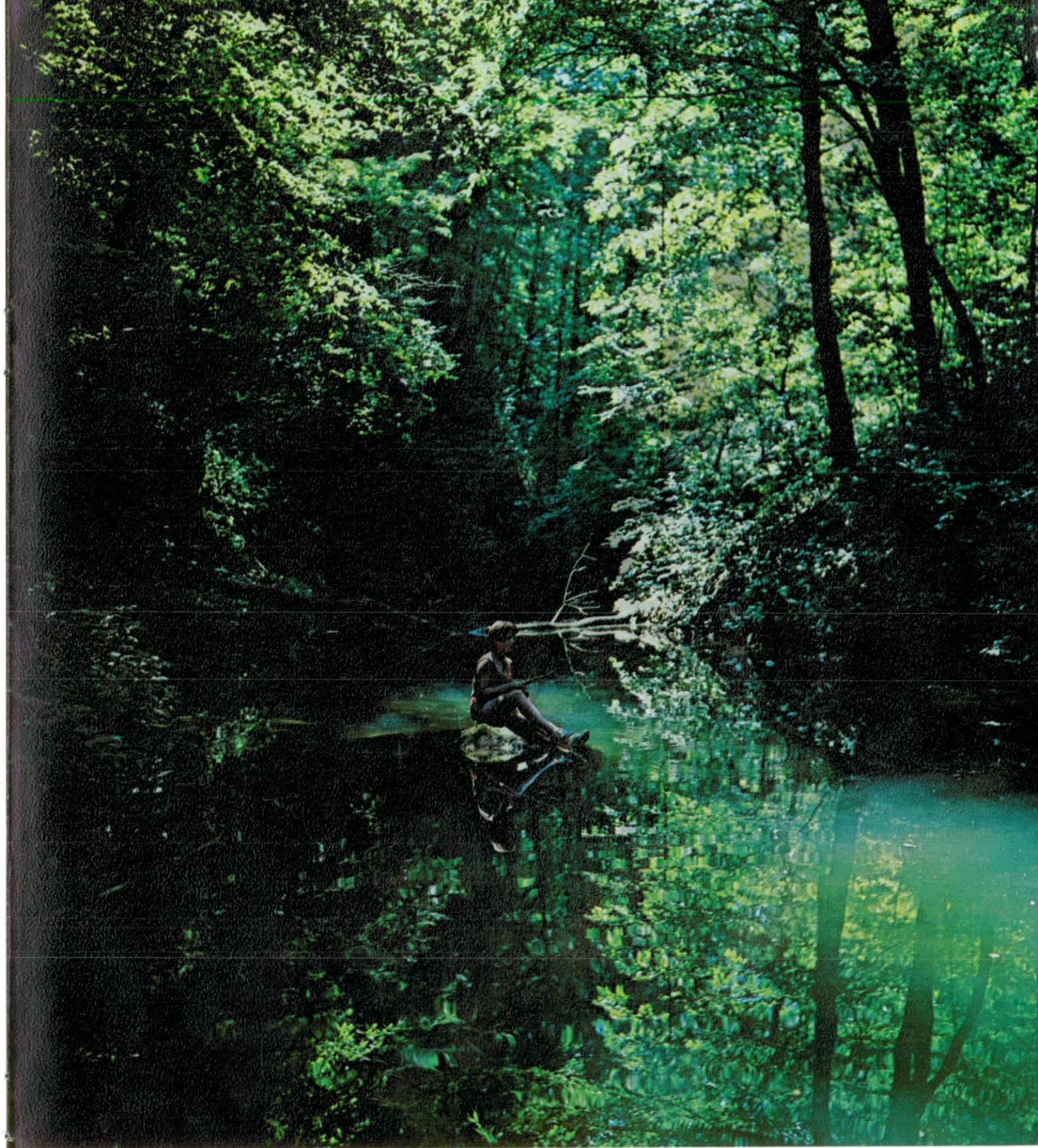
Today, Americans still pay tribute to T. R. in their own way. Every time a citizen visits Yellowstone National Park or the Grand Canyon, he sees the eternal gift that one man's foresight and determination made possible. A half-century after his death, T. R. can still be described by these words: "His force seemed to incarnate the soul of America." ♦



Lonesome spruce shrugs winter's icy grip in Preston County.

ARNOUT HYDE JR.

WONDERFUL WEST VIRGINIA



ARNOU HYDE JR.

Summer at work for angler Pat Jones of Charleston who found fishing good in cove at Sutton Lake.

JANUARY, 1970

Summer Comes Late to Dolly Sods

MAURICE BROOKS

PART II

SUMMER COMES LATE and hesitantly to the Dolly Sods highlands. The season may be lush and full-blown in valleys below, but warmth and growth are oft-interrupted and uncertain at 4000-foot summits. Long after dwellers along the South Branch of the Potomac have seen plants bloom and fade, they may recapture full blossoming by climbing the slopes. There is realization that the calendar does make sense—at least in some northern areas—summer does not arrive until past the middle of June.

Spring visits to Dolly Sods are likely to hold other surprises for visitors from the lowlands. Snows of winter may have melted and gone weeks before, so far as their experiences go, but among the spruces on the Roaring Plains there will be drifts, often several feet in depth. Those of an observant nature are likely also to note that the familiar and friendly little juncos, so much in evidence at lowland feeders during the winter, but now gone for the summer, are settled on their summer breeding grounds here at the heights. Not until October will they be in the valleys again.

The original spruce and pine forests of Dolly Sods held no notable complement of spring wildflowers; sun never penetrated the closed crown of the conifers, so there could be no burst of opening blossoms as the first warm rays struck the earth. Down slope, or where there were stands of

northern hardwoods—birches, beech and maples—the spring wildflower show, with its hepaticas, trilliums, anemones, violets and phloxes, was often opulent, a few days later in opening than in the valleys, but rich and rewarding for all that. Not so among the conifers, nor within areas which they formerly covered. In most cases spring wildflowers have not yet found their way to these areas.

If there is a shortage of herbaceous wildflowers, the lack is more than made up by showy flowering shrubs and trees, a parade of blooming woody plants that begins in late spring and lasts with few interruptions until witch hazel opens its yellow strap-like flowers in October. As the colors of summer flowers wither and fade, new color is supplied by a wealth of bright berries.

Among very early-blooming woody plants are the services—"sarvices" in the old English pronunciation which is still current—trees and shrubs of the rosefamily whose flowers are snowy white, and whose small apple-like red fruits ripening in late June and July are eagerly eaten by game birds and mammals and by a wide variety of songbirds. They are also relished by the human visitors, who will have to compete with the birds to get their share. Services of several species, some of them low shrubs and some small trees, are abundant on Dolly Sods, objects of beauty in early-season,

important to wildlife in mid-summer.

Two other early-blooming and handsome shrubs are present, but not abundant. While snow still lingers in sheltered places, red-fruited elder opens its panicles of white blossoms. This is not the familiar black-fruited elderberry, but a northern cousin whose fruits ripening in July are brilliant scarlet. Like its more common relative, these berries are eaten by song birds and game animals, although I have not heard of anyone locally using them for wine or jelly. Red-fruited elder grows in open, exposed places, but back in heavier shelter a handsome viburnum blooms at the same season. This plant has a variety of names—wayfarer's bush, hobble-rod, or alder-leaved viburnum—and it is attractive in all seasons. Its white blooms, amazingly white in fact, are like small snowball bushes, largely sterile but hiding enough functional flowers to produce bright and attractive fruits. One of the glories of wayfarer's bush comes in early fall when its leaves turn clear pink. Its fruits are first green, then whitish, then pink, and finally dark blue, a range of colors which it shares with some other members of the viburnums. In Maine and New Brunswick, wayfarer's bush is a key plant in the food of moose.

MOST PEOPLE visiting Dolly Sods to see flower displays will go to see one or another species



ARNOUT HYDE JR.

Fine secondary road sweeps through vast expanse of Dolly Sods to accomodate visitors.

JANUARY, 1970

of the heath family, hardy mountaineers which include azaleas, mountain laurel, rhododendrons, blueberries, cranberries and a host of others, all interesting and many of them showy. Heaths are characteristic of mountain regions throughout the earth; they take as their types the Scottish heathers, and West Virginia mountains are blessed with a great wealth of them.

One of the earliest heaths to bloom will be missed by most people simply because it opens too early for visitors. It is the famous creeping woody plant, trailing arbutus, surely one of the most delicately fragrant wildflowers in the world. Arbutus is abundant along the main axis road, Forest Service 75, through the Dolly Sods plateau. Its pale pink and white flowers, almost concealed by the foliage, are open in May, often while snow is still nearby. Lower on the mountain, and opening earlier, are many colonies of this plant along Jordan Run road.

Blueberries and huckleberries, shrubby heaths which make up the most abundant and characteristic plant cover in the Dolly Sods region, are spread over thousands of acres, in places the only woody plants of any abundance. Their small bell-shaped blossoms are whitish, pale pink, or reddish in color, not display plants perhaps, but attractive in mass. It isn't blossoms which attract human visitors, but the blue or blackish-blue fruits which ripen in July and August. Then the huckleberry plains come alive, visitors by the hundreds come to harvest the crop, some for home use but a surprising number to sell the results of their labors. I have no idea how many thousands of gallons are picked in a good year, but the figure must be impressive. Anyone who wishes to save himself the task of picking, a slow job at best, can purchase all the berries he needs for canning and freezing.

One might as well dispose of the matter here; most of these fruits are blueberries, not huckleberries. Both are present, but the blueberry plants probably outnumber the huckleberries in the order of a hundred to one. Blue-

berries have an abundance of small seeds, too tiny to be noticed as you eat them. You'll know the huckleberries; they have ten seeds which are large enough to get between your teeth.

THE BLUEBERRY SEASON is a long one, various species ripening throughout July and August; there are lingering late berries, and some harvesting going on in early September. They constitute a major food source for turkeys, grouse, foxes, raccoons, and the occasional black bear still found in these mountains. I have never been lucky enough to meet a bear on Dolly Sods, but others have, with mixed emotions.

I am about to reveal one of the trade secrets of local blueberry pickers, a disclosure which will win me no friends among the local people. Some of the commercial harvesters resent the hordes of visitors, especially as these are likely to gather the most available berries. They are not above using a little practical psychology. They have been known to kill a rattlesnake (they do exist here) and to hang it beside one of the roads leading to the mountain. It's said that this usually produces the desired results.

Finest of heath displays in the Dolly Sods region are provided by the azaleas, and by mountain laurel and rhododendron. Azaleas come first, some of them open along the roads to the summit in late May. Earliest are the pale pinks, "honeysuckles" in local terminology. With them, particularly toward the south end of the plateau and its approaches, are flame azaleas in a bewildering variety of shades, from palest lemon yellow to dark brick red. This shrub has been called, with some justification, the finest flowering plant in the temperate portions of the world. Superlatives are not necessary; it stands on its own. It is restricted to the south end of Dolly Sods, and many of the bushes along the roads have been collected by over-enthusiastic horticulturists.

THE REAL AZALEA DISPLAY on Dolly Sods comes in mid-June, from the 10th to the 20th being

good average dates. This is provided by the intensely-pink rosy azaleas, close relatives to the lowland pinks, but handsomer and significantly different. They have broader corolla segments, they are much more deeply colored, and they are intensely fragrant, the aroma being spicy and clove-like.

There are scattered rosy azaleas throughout the length of the main Dolly Sods road, but their numbers increase northward, and the real display, the genuine "pink beds", occur between the Red Creek campground and the road's terminus at Bear Rocks. There are thousands of the bushes and their blooming constitutes one of the finest floral displays which West Virginia has to offer.

Just as rosy azaleas begin to fade, mountain laurel provides the floral attraction. This fine native plant, the state flower of Pennsylvania, was for far too long unappreciated by American gardeners, although our relatives in Europe have valued it as the splendid ornamental it is. Mountain laurel is abundant along many portions of the Forest Service Route 75. It has a long season, but before its blossoms have dropped it is replaced by great rhododendron, West Virginia's state flower. Rhododendron, "rose tree" as its name translates, grows in places to small tree size, but is usually a shrub. It blooms heavily some years, more lightly in others, but at its best it is an impressive plant. Its dark green evergreen foliage is fine at all seasons, and rhododendron beds afford fine cover for deer.

In some of the sphagnum moss bogs that fill low places on Dolly Sods, another heath forms mats, these being the plants of native cranberries. Actually, there are two species, with differences in size of leaves and berries, but both have pretty pink shooting-star flowers in late June and July, and both produce highly edible berries. We have harvested native cranberries and have sent them to city friends familiar only with commercial berries. They regard these mountain-grown fruits as a select delicacy, quite different from the ordinary berries

of commerce. Cranberries ripen in late September and October.

AN INTERESTING, and often amazing, facet of blooming in a mountain country is the rapidity of change from week to week. From early spring to killing frost there are flowers along Dolly Sods roads; I have tried to point out a few of the superlatives. For those with eyesight keen enough to find them, there are in most of the mossy bogs little round-leaved sundews, one of those amazing plants which reverses the normal order by trapping and eating insects. Later, in September, open meadows and swampy places have an abundance of bright blue gentians, plants that would seem at home in alpine places everywhere. There are wide fields of golden-rod and aster, but those too are properly autumn blossoms.

It is a temptation to linger with the flowers in summer, but other things happen then, too. Snowshoe hares bear their young, and toward evening they often feed along the road. Turkeys and grouse bring their coveys to the roads for dusting and to their mar-

gins for foraging. Deer lead their spotted fawns into openings, especially when these have been seeded to legumes, grasses, and other wildlife foods.

Warblers and other songbirds have raised their broods, and suddenly there is a demand for a greater food supply, a need that is met by abundant fruits and berries, and frequent insect hatches. Since a dozen or more species of warblers nest on Dolly Sods, you may wish to refer to that section of your birdbook called "confusing fall warblers", and you will wish that those you are seeing were less confusing. At such times you thank goodness for the juncos and other easily identified birds.

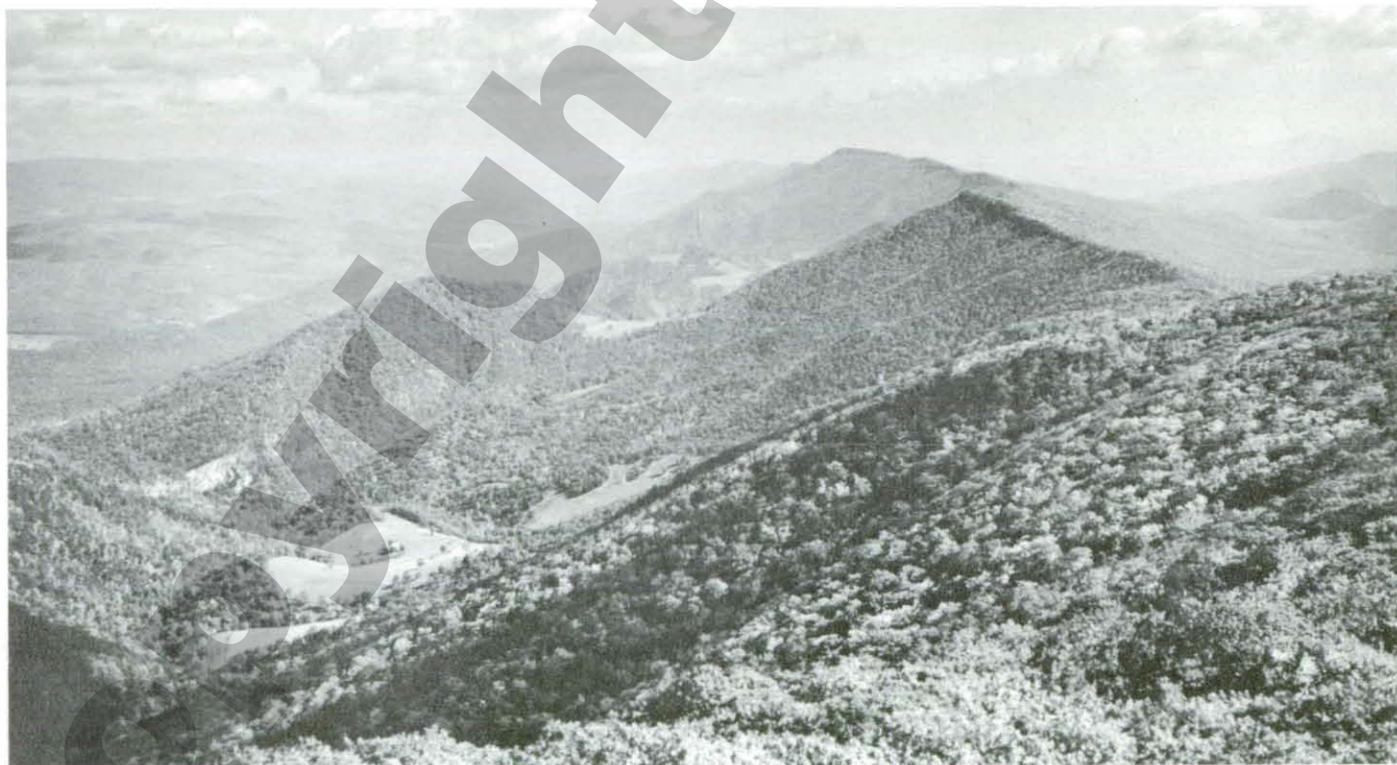
DURING SUMMER the beaver are actively strengthening their dams, cutting trees for winter food, and carrying forward their family affairs. There are a lot of beaver dams on Dolly Sods, in fact, you need to fly over the area to appreciate how many. Some of them are convenient to roads and trails, and a trip to one is rewarding, particularly if children can see these mammals at work.

Beaver dams often shelter wood ducks, particularly where nesting boxes are provided as they have been by interested conservationists. A mother duck, with her convoy of ducklings, is a delightful thing to see. Occasionally there are other nesting ducks, principally blacks and mallards.

Some beaver dams also contain trout, and the fishermen have this supplement to the rather infrequent streams of the region. Red Creek, which drains much of the south end of the plateau is famous among sportsmen as having a population of native brook trout; not too many of the state's streams can make that boast.

Summer is a favorite season for camping and hiking; the Forest Service is clearing and marking more back-pack trails every year. There will be more on these in a later article.

In brief, summer is a full and rewarding season for persons of almost any outdoor interest. It behooves everyone who values these things to work for the preservation of Dolly Sods, this year, the next, and forever. ♣



Vista from North Mountain in Grant County. Gerald Ratliff.





Remote in wilderness area of Randolph County, the High Falls of Cheat River are a scenic delight, not to mention superb trout fishing.

ARNOUT HYDE JR.

They Ain't Game Wardens!

HOWARD SIGLER

"THERE goes the game warden," piped the small voice, tinged with a suggestion of contempt. "Wonder who he's tryin' to ketch?"

"He ain't a game warden—he's a conservation officer!" retorted the other youngster. "Besides he prob'ly ain't tryin' to ketch anybody. He does all kinda things besides ketchin' people."

The rest of the conversation would have been interesting, but as the two eight-or-nine-year-olds passed beyond hearing it was a satisfaction to know, firsthand, that was **one** member of the coming generation who was on the right track. Somewhere along the line, someone had helped him with his homework—and his number is becoming legion in West Virginia.

Some states still call their law enforcement officers game wardens, and there is no implication of disrespect, while others have their rangers, game protectors and the like. In West Virginia, the term, game warden, is on its way out; not exactly having become a dirty word, but generally having taken on many of the aspects of such.

From far back among the centuries until comparatively recent years, these men were essentially that, however. Back in 1259-1294 A.D., Marco Polo wrote of the game laws of the Great Khan:

"There is an order which prohibits every person throughout all the countries subject to the Great Khan, from daring to kill hares, roebucks, fallow deer, stags, other animals of that kind, or any large birds between the months of March and October. This is that they may increase and multiply;

as this order was attended by great punishment, game of every description increases prodigiously.

"Near to this (city) is a great valley frequented by a vast number of these birds (cranes, partridges, pheasants, etc.) and the Great Khan causes millet and other grains suitable to such birds to be sown along its sides every season, and gives strict command that no person shall dare reap the seed; in order that the birds may not be in want of nourishment. Many **Keepers** likewise were stationed there for the preservation of the game that it may not be taken or destroyed as well as to feed the birds during the winter. He even had a number of small buildings erected for cover at night and during the winter."

IN ALL PROBABILITY these keepers were our first known game wardens; this also was the first known effort at game management.

Our first law enforcement officer in the conservation field came into being in 1897 through laws enacted by the legislature, 34 years after West Virginia became a state. It was a case of one man, one state. George W. Atkinson was governor at the time and, being an advocate of improvement of public schools, roads and road-building, conditions of labor and the like, it might be assumed that he could also have advocated this first game warden. Prior to that time, enforcement of "certain regulations for the protection of the deer herd" was sketchily performed by citizens and town marshals.

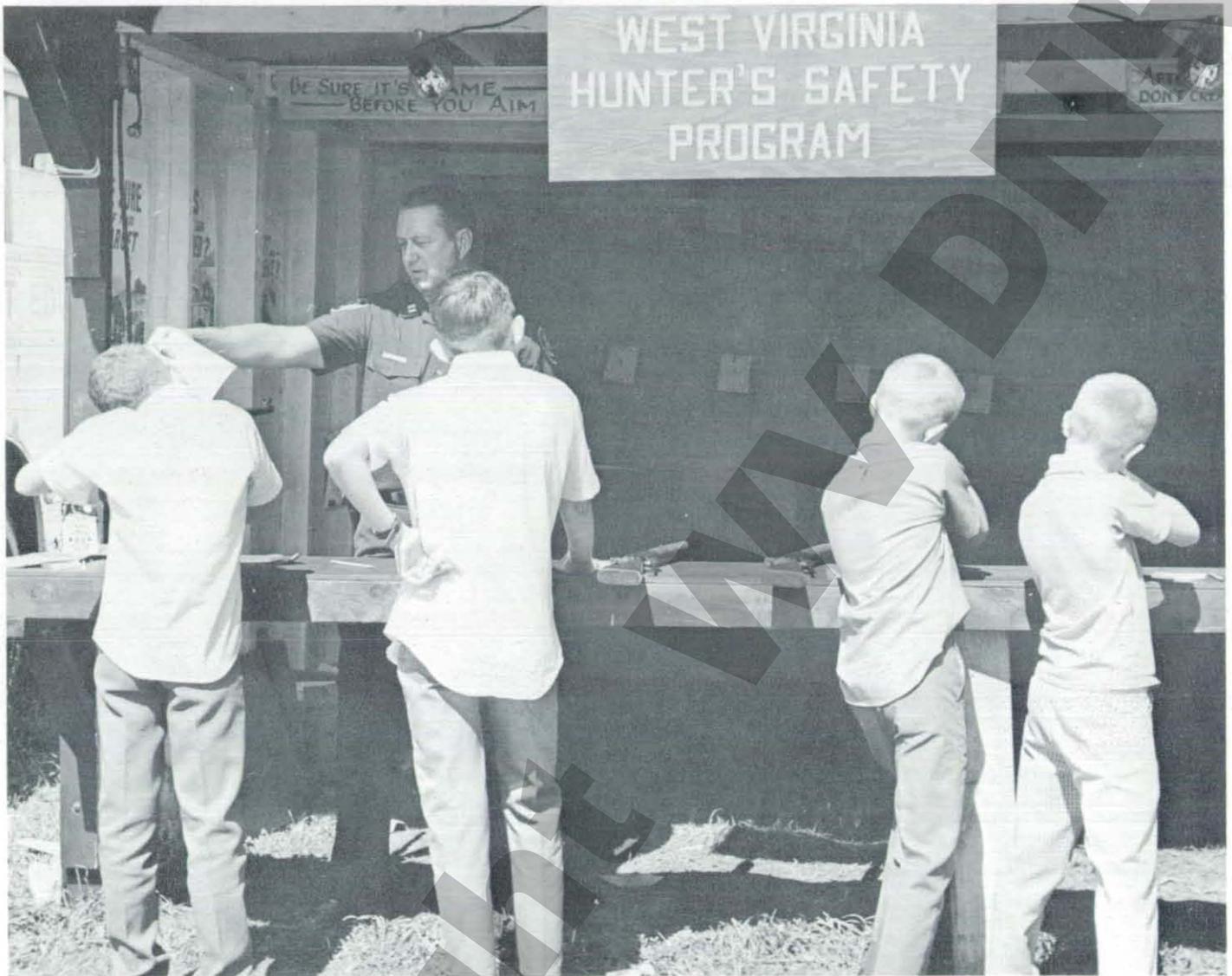
While the primary duty of today's conservation officer is still

law enforcement, public awareness of the need having increased the demand for protection of fish, game, forests and streams, his job has gradually taken on new meaning, duties, responsibilities and facets. He is a game warden no more, long since replaced by the carefully selected and trained conservation officer, the multi-purpose public representative of the Department of Natural Resources who, tonight, may "ketch" a poacher spotlighting deer and tomorrow be removing a splinter from the same kid's finger who wondered who he was "tryin' to ketch."

In constant contact with the public, he is the man in uniform; conspicuous by his mere presence, he is the public relations representative of the Department. He will always have enemies—even distinct lack of cooperation by some—those who believe in disregard of the very laws which now give them game to hunt and fish to catch. The game and fish biologists and management specialists could never have given us what we have today alone.

IN THIS FIELD of game and fish management, the conservation officer has an invaluable role in selling the programs and assisting in carrying them out. Stocking fish and game; checking damages to crops by deer, bear, beaver, raccoons and other animals; making fish and game surveys, and feeding wildlife are but a few of his routine duties in the field.

He also has an important part in the conservation education field. Each year West Virginia officers reach thousands upon thou-



Capt. Harry Shaver instructed youngsters in basics of safe gun handling during State Fair last year.

sands of youngsters in camps throughout the state. They must be acutely aware of the complete conservation program in order that they may pass this vital information along to these citizens of tomorrow. These young people come to know, firsthand, that the conservation officer is their friend; just as he is yours and mine if we will but permit him.

At a recent resource conservation meeting, Jim Butcher of Parkersburg gave an excellent example of how one officer injected conscientious education and public relations into routine duty.

Some years ago, when their son was quite young, Jim and his wife took the boy fishing up in the

Wirt County section of the Little Kanawha. They were fishing away, rather disconsolately, when Conservation Officer Ralph Smith came along on routine patrol. Although speaking to the older folk, he did not ask for their licenses, but went straight to the boy. "Are you catching anything?" he asked. The boy shook his head, "No."

"You come with me," Smith suggested. "Maybe we can find a better place." He took the boy a little farther upstream to where an old log protruded from the bank, showing him where to drop the baited hook. Almost immediately he had a whopping bluegill on the other end of his line! From then on, he knew that the conser-

vation officer—any conservation officer—was his friend.

An anti-climax came years later when Jim and the now-grown boy were squirrel hunting. Meeting at noon for lunch together, Jim had one squirrel and boy had four. Upon starting out their separate ways for the afternoon hunt, the son observed that he would only have to get two more. "You can always get five more for me," suggested Jim. "Nope! Six is the limit," returned the boy. "You can get the other five yourself, dad."

One can always wonder what the answer would have been, had not Sgt. Smith taken that bit of extra time, on that day long years



Pretty Judy Shoup, Miss West Virginia of 1969, is an archery enthusiast.

ARNOUT HYDE JR.

WONDERFUL WEST VIRGINIA

before, to show a small boy where to catch a fish.

NO SEGMENT of state government is looked to with more demands by the public than the Department of Natural Resources; and in the majority of cases, particularly those involving individuals, those demands are initially directed to the man in the uniform—the conservation officer. With the major interests over the state having changed from strictly hunting and fishing to encompass environmental problems, these contacts with the public run the gamut from perhaps settling an argument of when rabbit season ends into forest fire problems, littering, boating regulations, laws pertaining to water pollution, giving directions to hunters, fishermen and tourists—yes, and even getting the splinter out of a kid's finger.

These are the reasons he is not the game warden of yesteryear; but the conservation officer of today, the public servant of the people of West Virginia and our visitors—with the weight of all facets of the Department's conservation program on his shoulders, at least to some degree. His road will never be smooth, for it has been authoritatively suggested that outdoor recreation and the recreation industry will far outstrip industrial expansion in West Virginia.

Therefore, let us remember that when we see this man in the brown uniform pass in his car, he isn't just out trying to "ketch" somebody or merely riding around. He has things to do—even as you and I—but his ability to perform his duties in an efficient manner is in direct proportion to the cooperation and goodwill of each and every one of us. He is our friend.

His is the Conservation Pledge: "I give my pledge as an American to save and faithfully to defend from waste the natural resources of my country—its soil and minerals, its forests, waters, and wildlife."

Let it be ours, as well! ♦

The field mouse consumes the equivalent of its own weight in food every 24 hours.



Well-versed in Indian lore, particularly in the Wheeling-Moundsville area, Sgt. Herbert J. Moore of Ohio County conducted the fire-lighting ceremony at the 1969 Conservation Camp at Camp Caesar.



Basic duty: Sgt. Ralph Smith (Wirt County) impartially checks the hunting license of a friend, Charlie Wilson of Parkersburg, at the Hughes River Public Hunting Area.

NOTHING NEW?

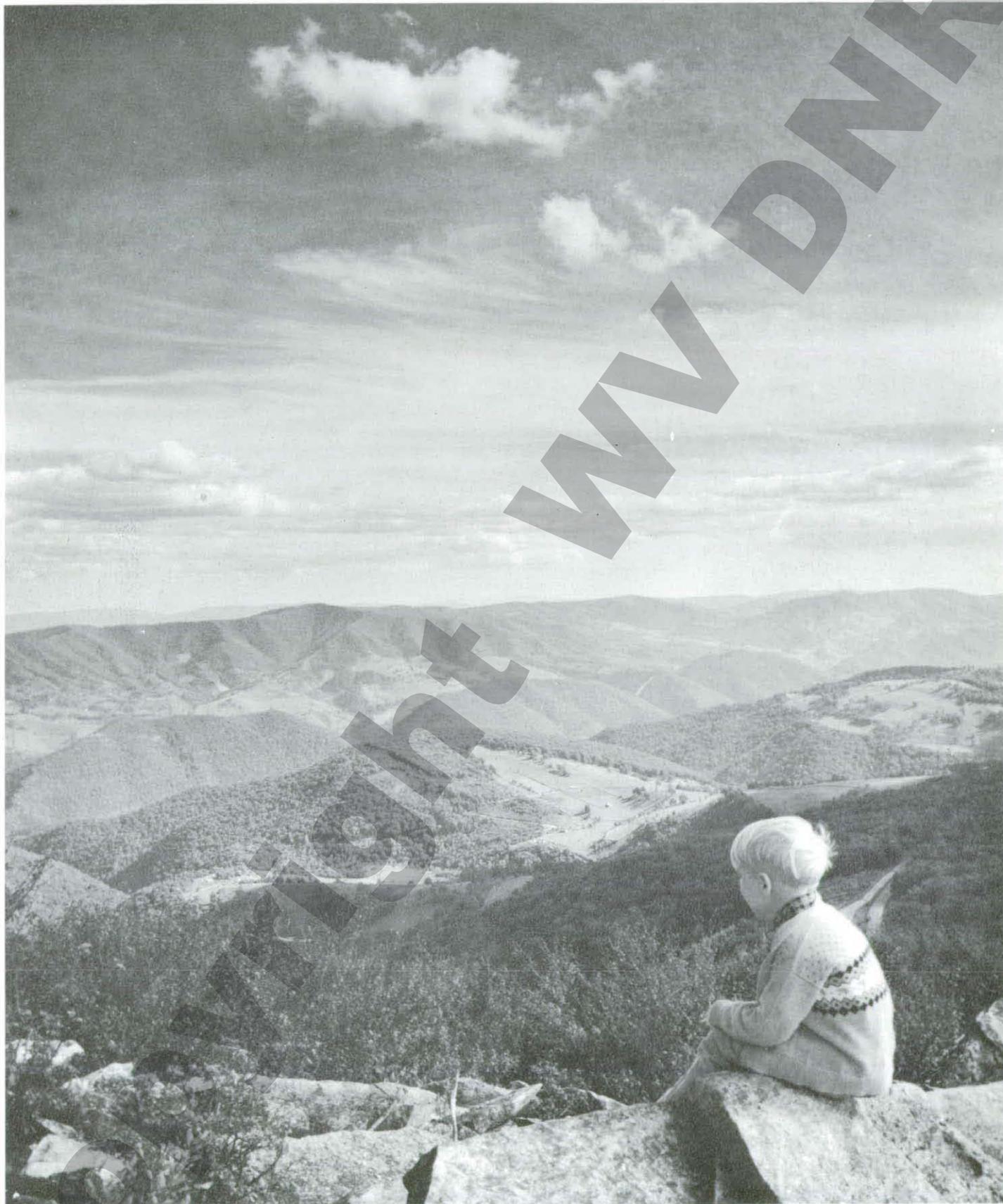
Many there are who feel there is nothing new under the sun, that everything has been seen, done or said in West Virginia. Not so. There are still discoveries for those pioneer-of-spirit individuals who persist in searching.

A new species of wildflower has been discovered by Robert G. Johnson as reported in *CASTANEA*, the journal of the Southern Appalachian Botanical Club published by West Virginia University.

A common trillium has white petals which turn pink with age. After studying

some 10,000 sheets of dried specimens from throughout the southeastern US, Johnson discovered a new species which is somewhat smaller in size than the common variety, and having pink petals when in bud that turn white later. Subsequently Elizabeth Stonestreet discovered some in bloom along the Highland Scenic Drive near Cranberry Glades.

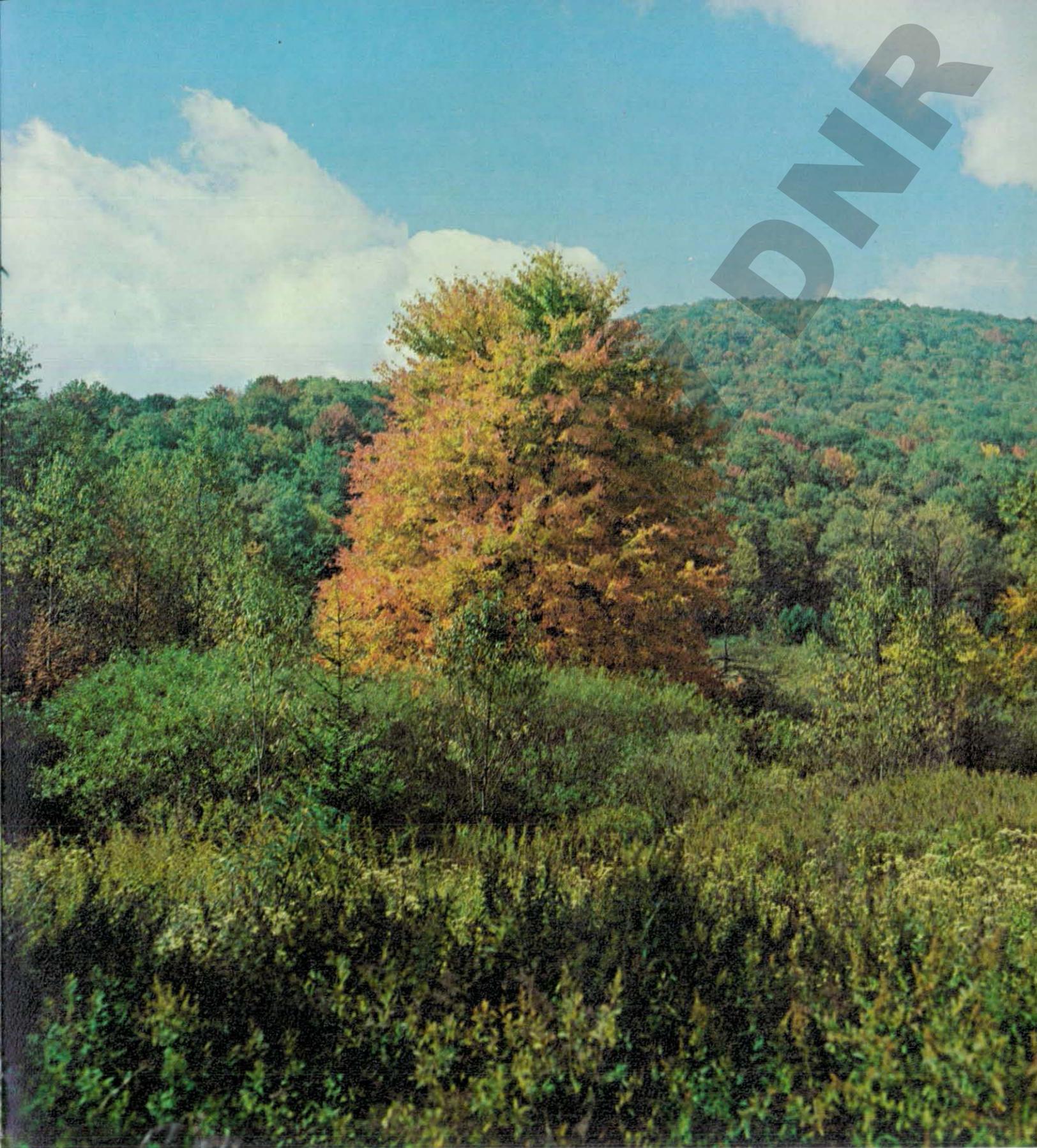
In honor of the discoverer, the species has been named *Trillium grandiflorum* f. *rhodanthum* Johnson.



View from the top—Spruce Knob in Pendleton County, West Virginia's highest peak.

ARNOUT HYDE JR.

WONDERFUL WEST VIRGINIA



Lone maple was harbinger of fall in Putnam County

ARNOUT HYDE JR.

INVISIBLE POLLUTION FIGHTERS

ARNY HYDE

E. I. du Pont de Nemours Co.

MANY of us have heard about the invisible world of life in a drop of water. It is a busy, teeming and savage world where most everything is preying on something else for food. These countless creatures are nature's ingenious workers who strive to control water pollution. Nature is a polluter too, although to a far lesser degree than man.

We are all too familiar with visible pollution such as oils, scums, siltation, discoloration and junk. We are less apt to notice or fully understand the role of invisible pollutants. There are several types which are of concern in many of West Virginia's streams. Some of the more common ones are sulfuric acid from coal mining, salt brines, and organic materials from industrial and domestic sewage. This will be limited to organic pollution.

Some amount of organic matter is a necessary part of the food chain which supports the aquatic life cycle. It is considered pollution when the quantity becomes excessive and upsets nature's balance. Let's consider a normal stream and then what happens to it when it is polluted with excessive amounts of organic material.

FIRST, we should consider the chain of life of a normal stream. The lowest, and probably most important, members are the bacteria. These are not the undesirable species which cause disease, but are scavengers who use organic material as food. In this respect they are similar to higher forms of life; our food is mainly organic. Bacteria digest their organic food in the same manner as we do, the main difference being that they take oxygen from the water for the oxidation process while we take it from the air. This may vitally affect the water quality and use of a stream.

A number of various species of microscopic animals prey on the bacteria and each other. The life chain increases in complexity up to the fishes, with an interdependence, one on the other, as sources of food. This eating and being eaten also consumes oxygen from the stream. We see then that all life (aerobes) in a healthy or normal stream is dependent upon an adequate supply of dissolved oxygen in the water. The oxygen consumed from the water is replenished in two ways: absorption from the air and respiration of aquatic plants. The aquatic plants perform in the same manner as

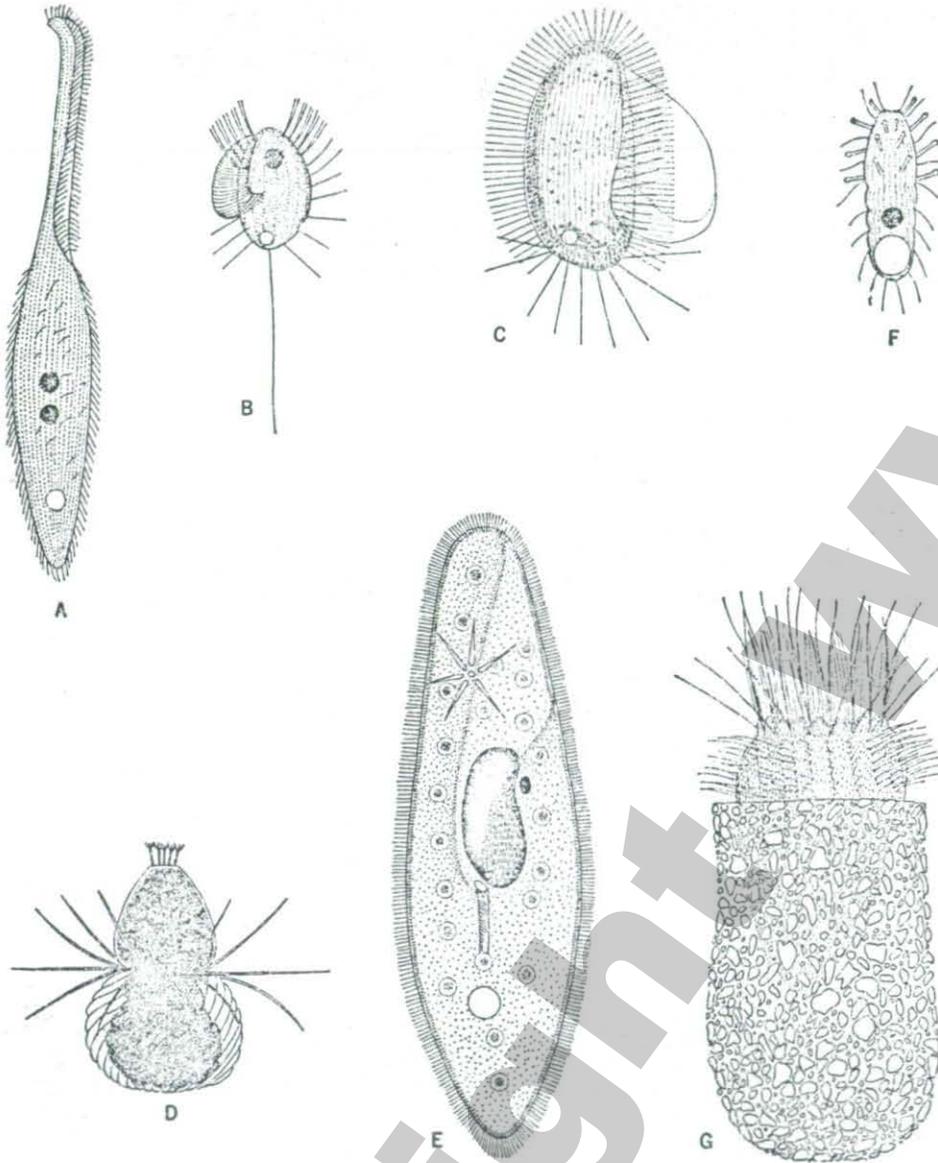
land-based vegetation by taking in carbon dioxide, excreted by animals, and releasing oxygen.

When an excessive amount of organic matter enters a stream, we then speak of it as pollution because the normal life cycle of the water is unbalanced. The bacteria will increase in number to cope with the increased food supply. They literally eat themselves out of existence by consuming dissolved oxygen from the water faster than it can be replaced. Eventually, all forms of life that are dependent on dissolved oxygen are suffocated and a whole new regime of undesirable organisms take over.

IN THIS INSTANCE bacteria are still the basic organisms consuming organic matter, but they are of a type which does not require dissolved oxygen (anaerobes). Instead of excreting harmless carbon dioxide (the fizz in a soft drink) as the aerobes do, they literally become "little stinkers." They excrete noxious gases such as hydrogen sulfide, same as the aroma from a rotten egg. An ordinary household septic tank is an example of an anaerobic system.

A stream that has lost its dissolved oxygen becomes septic and

COMMON AQUATIC ORGANISMS



XIX. Ciliates

- A—*Lionotus* sp.
- B—*Cyclidium glaucoma*
- C—*Pleuronema marinum*
- D—*Mesodinium rubra*
- E—*Paramecium caudatum*
- F—*Enchelyomorpha vermicularis*
- G—*Codonella cratera*

all desirable forms of life perish. This includes green plants and fish. The "underworld" elements that have taken over will include, in addition to anaerobic bacteria, sludge worms, maggots, and slimy plants.

Despite the fact that the anaerobes offend our aesthetic senses they have an important role in

helping correct pollution. Like the aerobic bacteria, the anaerobes also eat themselves into oblivion. When the food supply (organic pollution) has been reduced to normal levels, dissolved oxygen is slowly reestablished in the water and life begins to return to normal. A stream may have to flow many miles below its source of gross

pollution before it fully returns again to normal health.

I have dealt only with the relationship of dissolved oxygen and pollution because space does not permit detailed discussion of other forms of pollution. Acids, alkalis and various poisons are also invisible pollutants and can destroy normal aquatic life even though adequate dissolved oxygen is present in the water.

The next time you look at a body of natural water try to visualize the intricate pattern of life taking place there. It is far more populous than our busiest cities and like the higher forms of animal life, each of these microscopic creatures has a purpose in life and works very hard to fulfill it. ➤

BENEFICIAL WILDLIFE SWAPS

Wildlife exchanges between states are both common and beneficial. West Virginia in past years has received deer, raccoons, geese, snowshoe hares and various species of fish and fish eggs in exchange for wildlife.

New Hampshire is attempting to re-establish the eastern wild turkey after its disappearance there almost 100 years ago. To help them, West Virginia agreed to swap 25 wild turkeys for 25 fishers, a valuable fur-bearing animal unseen here since 1863.

Hopefully, New Hampshire sportsmen in a few years will once again enjoy the sport of turkey hunting as their forefathers did so many years ago.

West Virginia trappers may once again find the fisher sufficiently abundant to add to their annual income. The fisher became extinct here because of habitat changes and excessive trapping (see OUT-DOOR WEST VIRGINIA, June, 1969).

The removal of a few turkeys each year by trapping has little effect on the total turkey population. Harvest figures indicate West Virginia enjoyed its highest turkey kill during the 1969 season. Through trapping and transplanting, turkey populations have been reestablished in several areas of our own state.

—Dan Cantner, Game Biologist

WHO IS GUILTY?

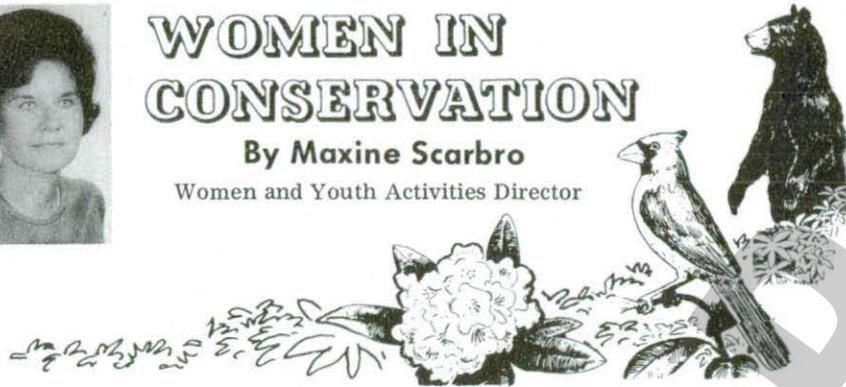
A recent study shows that young people litter more than old people, men litter more than women, people living in small communities litter more than their city and suburban cousins, and local residents of an area litter more than passing tourists.



WOMEN IN CONSERVATION

By Maxine Scarbro

Women and Youth Activities Director



MOON LITTER UNEARTHLY

Neil Armstrong and Edwin Aldrin not only became the first men on the moon, they are also the first lunar litterbugs! At NASA's direction, the astronauts discarded more than \$1-million worth of gear, adding to the 16-tons of refuse already on the moon. The previous junk is mostly unmanned Soviet and American spacecraft which crashed or soft-landed on the lunar surface. Moon litter is still miniscule compared to the earth's. In New York City alone some 8,000 tons of refuse is discarded each day.

Litter cleanup costs U.S. Taxpayers an estimated \$500-million annually. Urban communities spend nearly \$300-million of that amount for street cleaning. Another \$100-million goes for litter removal from highways. Additional millions are spent de-littering forests, parks, beaches, waterways and other public areas.

Why do people litter? The basic reason is individual thoughtlessness. People have been littering since the dawn of history, but today we find the problem a more serious one because almost everything we buy comes in a separate disposable container. We throw away things our forefathers might have saved to use again. In our present-day affluent society everyone is a potential litterbug.

There are many things we, as individuals and clubs, can do to make West Virginia clean and beautiful. While public agencies and private owners can maintain a high quality of community upkeep, litter can be prevented in only one way. Each individual must develop the habit of depositing in a proper receptacle every scrap of waste paper, bottle, can or other trash discarded. Litter prevention calls for education at an early age, and a continuing campaign of public education. Litter is wrong, harmful and costly, and only individuals can prevent it. For a beginner, try these:

*Homeowners should keep their own homes and property clean. Leave campsites, picnic grounds, beaches, hunting and fishing areas litter-free.

*Carry a litterbag in cars and boats.

*Urge public officials to provide adequate collection and disposal facilities

including a sufficient number of receptacles for street trash.

*Cooperate with others working to eliminate litter in the community. If there is no litter-prevention program, start one.

Keep America Beautiful, Inc., a national public-service organization for the prevention of litter, was formed in 1953 by a group of business and civic leaders. Its purpose is the preservation and improvement of America's scenic and man-made beauty, both urban and rural. It conducts a year-round program of public education to stimulate pride in clean surroundings, and a feeling of personal responsibility for the proper disposal of litter. The effort is backed by a national campaign sponsored by the Advertising Council.

Representing the Department of Natural Resources at the 16th annual meeting of Keep America Beautiful, Inc., I appeared on the Water-Litter Panel and told the story of our successful clean up of 100-miles of Elk River. Others on the panel told of similar cleanups in other states. I have also had the honor of being appointed as representative of the State of West Virginia on the National Advisory Council of the National Clean Up—Paint Up—Fix Up Bureau with similar aims to those of Keep America Beautiful, Inc.

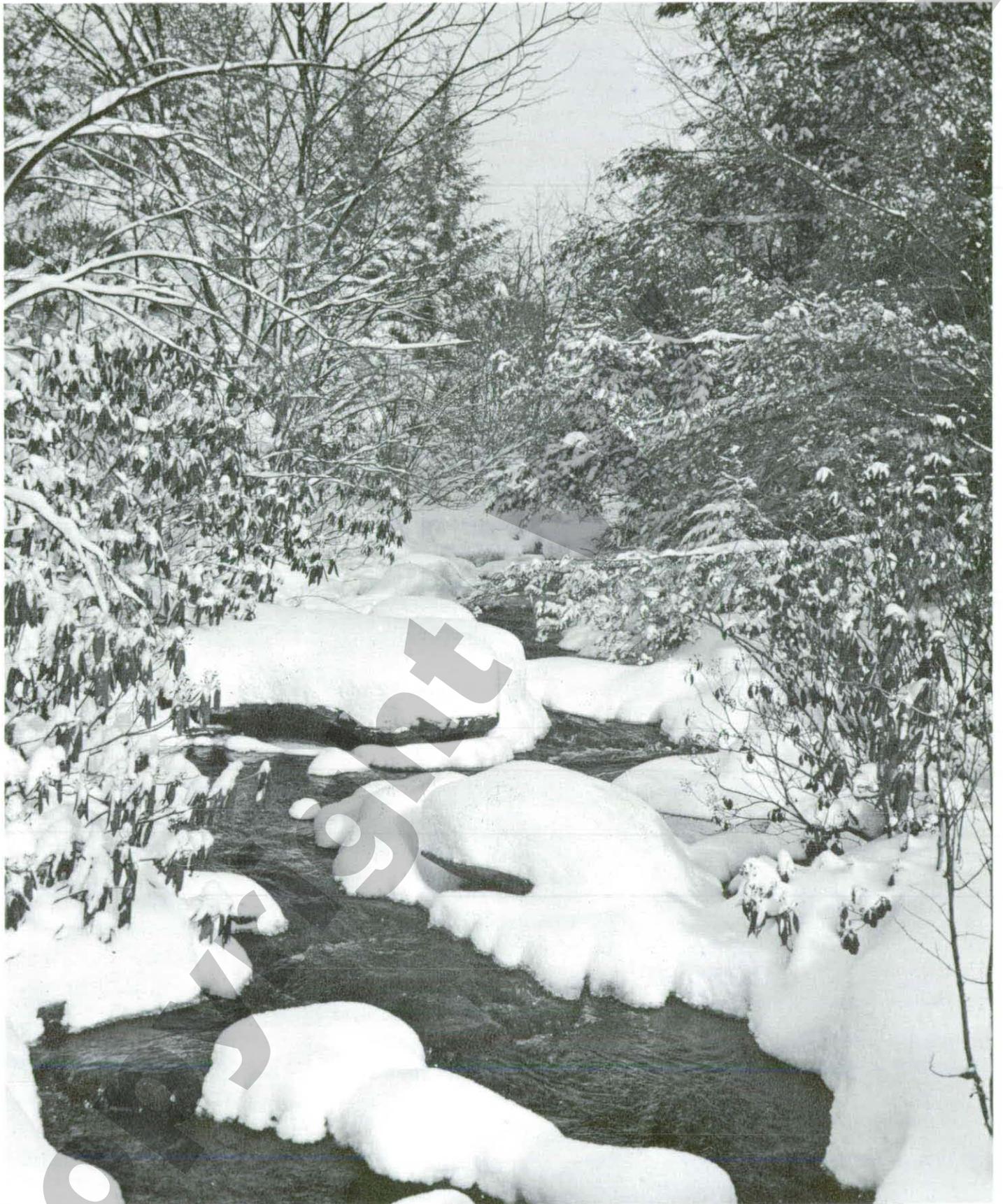
Those interested in additional information and materials for cleanup projects may write to Keep America Beautiful, Inc., 99 Park Avenue, New York, N. Y. 10016, or to National Clean Up—Paint Up—Fix Up Bureau, 1500 Rhode Island Avenue, N. W., Washington, D. C. 20005.



Making their roadside park more beautiful in Leon, Mason County, are these local 4-H members. It is their project in the West Virginia Youth Conservation Program.



Black bear—the State Animal. Leonard Lee Rue



The cloak of winter slows a Preston County brook trout stream.

ARNOUT HYDE JR.

WONDERFUL WEST VIRGINIA



Wildcat failed to read "NO HUNTING" sign.—Bob Combs

**ABOUT THE COLOR PAGES
ARNOUT HYDE JR.**

As always, we use only 4 x 5 color transparencies for the magazine.

Camera was Crown Graphic with normal lens, wide angle and telephoto.

Inside back cover: It takes a mile walk, from Rt. 39, to reach the Falls of Hills Creek, between Richwood and Marlinton.

Inside front cover: The left fork of Holly River is reached from a dirt road off Rt. 20, five miles up the stream, a walk of 1/4 mile puts you to these falls.

Center spread: Probably the least seen big falls in the state, the High Falls of the Shavers Fork of Cheat River, requires a walk of five miles from Bemis, Randolph County, via the Western Maryland Railroad tracks.



A bear? Nope. Cavity in a red oak on Knobbly road between Short Gap and 220 South—J. Marshall Porter

PLEASE INCLUDE THE EXPIRATION DATE IN ANY CORRESPONDENCE CONCERNING YOUR SUBSCRIPTION.

Great horned owls are attentive parents and are able to protect their young successfully against larger creatures, including humans who venture too close to their nests.

When in pursuit of prey, bats can twist, turn, and dodge in full flight with greater agility than most birds.

A beaver is half grown at one year old and mates and establishes its own lodge at two.

To the casual observer, a snake seems to travel at a terrific speed, but in reality seldom goes more than five miles an hour.

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EDITORIAL

YEAR OF OPTIMISM



T. R. Samsell

With the January issue of your magazine, you will note that four more full color pages have been added to your magazine. We feel that editorially we have reached the proper balance with stories in the basic promotion of West Virginia. The constant and dramatic increase in circulation humbly suggests we must be on the right track.

A lot of other good things in natural resource management suggest a growing optimism for 1970. Often in promotion circles it is overlooked that fishing and hunting are BIG business; any way you catch or shoot it, these two great sports are tremendous revenue winners aside from the tangible recreational values.

The concluded deer season recorded the largest harvest of bucks in the history of the Mountain State. The small game kill was exceptional, and certainly must have been satisfactory to the sportsmen who largely pay the bill. These results factually show your Department's game professionals are doing their job.

Thousands of striped bass—one of the world's great saltwater game fish that adapts and thrives in freshwater—were stocked last year in the Ohio River. The fish division also has and is expanding its program of planting muskellunge. During 1970, trout will again be stocked by the tons in state waters.

In the field of reclamation, we feel we are reaching a new era in our combined efforts with the extractive industries. Last year the surface mining industry reclaimed 20,000 acres of denuded land. Many lumber firms in the state are using sound forestry practices both in cutting and replanting.

While the Department's Water Resources Division is strictly enforcing present water pollution laws, it is plain we are getting greater cooperation from industry and municipalities. Significantly, the water quality of our two biggest rivers—the Kanawha and Ohio—continue to show improvement. An intensified new program of clean-up has begun on the Kanawha River that is expected to make a major improvement in water quality.

In our multimillion dollar new park-building program, the huge Pipestem State Park, with sophisticated tourist-luring facilities, is scheduled to open this spring. Twin Falls State Park in Wyoming County is scheduled for a similar opening. Construction will be in full swing in the big Canaan Valley State Park. The aerial tramway and marina will be in operation at popular Hawks Nest State Park this summer, and this will round out this fine state park complex.

If we seem to be optimistic for the new year, we are.

A handwritten signature in dark ink, appearing to read "T. R. Samsell". The signature is fluid and cursive, written in a professional style.

Director



ARNOUT HYDE JR.

Winter stills the Falls of Hills Creek. Monongahela National Forest, Pocahontas County.



From: The Department of Natural Resources, Charleston, West Virginia 25305
Return Requested

Sundown slips in to Ohio County.

ARNOUT HYDE JR.

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