

# Field Botanists Of Ontario

## Newsletter

Winter 1996/97  
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# FIELD BOTANISTS *of* ONTARIO

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## NEWSLETTER

Published quarterly by the FBO  
ISSN: 1180-1417

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The FBO is a non-profit organization founded in 1984 for those interested in botany and conservation in the province of Ontario.

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The **deadline** for submissions for **Volume 10(1) - Spring 1997** is **February 21, 1997**.

Standar sources for Latin names:

Morton, J.K. and J.M Venn. 1990. A Checklist of the Flora of Ontario: Vascular Plants. University of Waterloo Biology Series Number 34. 218 pp.

Additional source for common names (as needed) and authority abbreviations.

Gleason, H.A. and A. Cronquist. 1991. Manual of Vascular Plants of Northeastern Unities States and Adjacent Canada (2 ed.) New York Botanical Garden, Bronx, NY. 910 pp.

## President's Message:

I hope everyone had pleasant holidays in December, and may good things come to all field botanists in 1997! I would like to take this opportunity to sincerely thank all those people who contributed articles to the newsletter in 1996. A variety of informative articles were written by Wasyl Bakowsky, Erich Haber, Lyn Hanna-Folkes, Allan Harris, Ed Morris, Jim Pringle and Mike Oldham. Field trip reports continue to be an important part of the newsletter, and capture in print the diversity of places that we have to visit in Ontario. Thanks go out to Wasyl Bakowsky, George Bryant, Dan Campbell, Margot Ursic (Kronick), Jeremy Lundholm, Sarah Mainguy, Jeff Matheson, Bill McIlveen, Irene McIlveen, and Christine Wenzler.

So far there has been excellent response to the referendum on which organization should receive a donation for conservation (and it's nice to see so many members re-using envelopes and saving trees). Wherever it goes, we will earmark the monies for a botanically-based acquisition in Ontario, if at all possible, which it is in most cases. One member pointed out that the Nature Conservancy of Canada may have matching monies of up to 3X our donation, and asked that I make this announcement. The deadline for having your say recorded is February 15, 1997.

Happy New Year!  
Claudia Schaefer

## Editor's Message

Apparently you liked the last issue. I got quite a few positive comments about the anagrams and leaf rubbings, as well as the field trip reports and articles. This issue contains a whole range of items as well. I will try to put together something like the leaf identification/trivia of the last issue, but I need to be inspired with a good idea. I originally planned to provide a crossword of botanical terminology words, but Claudia and I decided it was a bit too challenging. Instead, we've put together a last minute crossword of Ontario shrubs which should be less intimidating. I would very much like to receive

some items for the "Botanical Time Wasters" page from you. It can be a puzzle, poem, internet site...whatever you think may be entertaining.

I had a tough time getting appropriate pictures and illustrations together for this issue. I am grateful for those of you who sent illustrations and have found them useful, but I have trouble matching pictures to the subject of articles sometimes, and encourage you to send photos or drawings of the plants you encounter.

Ed Morris

## Anagrams Winner!

And the winner is...Dujith Nojes (a.k.a. Judith Jones) from Manitowaning, Ontario, for being first to successfully unscramble the 5 botanical anagrams in the last newsletter. She wins a free field trip in 1997 (value of \$12 but worth so much more!). Additional congratulations go to Richard Aaron, Steven Aboud, Charles Cecile, Alan Croxall and Sheila Thomson, who also showed their botanical word wizardry and sent in correct answers. There will be another chance to play (and win) in the next newsletter.

And the answers were, to quote one member who wrote in from Ottawa: "Petiole (#2, elopeit) was obvious. White Spruce (#4, perchusewit), well, there are only so many tree species. Try the evergreens first - and voila! This is too easy to be real. Swamp Milkweed (#3, madkelpweswim) - I saw the word 'weed' and then the word 'milk'. By this time I was hooked. What a way to waste a precious hour of time! Bush Clover (#1, verbslouch). I puzzled over this one, I'll admit, until I saw the word 'clover'. Maidenhair Fern (#5, aanhindreefrim). A toughie. But I can't give up now, when I'm so close to demonstrating utter brilliance! O.K. I expended more brain power (and time) trying to untangle this one than I care to admit.

The entire game took an hour and fifteen minutes - and all the while with a mountain of paperwork piled high on my table awaiting my attention!"

Claudia Schaefer

## Prince Edward County

Leader: Mike Oldham

FBO members joined trip leader Mike Oldham for a botanical field trip on Prince Edward County in pleasant weather on June 23<sup>rd</sup>, 1996. Parts of Prince Edward are alvar in character as they have very little soil covering the limestone bedrock. Red Cedar (*Juniperus virginiana* L.) has colonized many of the old pastures, which are very common. The sand dunes on the west side of the island at Sandbanks Provincial Park represent another major habitat.

The first stop for the trip was the vicinity of the sand dunes at the south end of the major sand spit in Sandbanks Provincial Park. Before going onto the dunes, Mike pointed out Marsh Dandelion (*Taraxacum palustre* (Lyons) DC). A casual look would suggest that the species was the common dandelion, however, the leaves are more narrow, the flower bracts are appressed and the plant inhabits damp areas. Thus, dandelions warrant a closer look to ensure that the species is not overlooked.

The dunes had scattered Red Cedar, Eastern White Cedar, and Sand Cherry (*Prunus pumila* L.). The latter was in flower. Heart-leaved Willow (*Salix cordata* Michx.) was also noted. Other sand-loving plant species included:



Red Cedars (*Juniperus virginiana* L.) of Prince Edward County.

Photo by Ed Morris.

*Ammophila breviligulata* Fern.  
Beach Grass

*Artemisia campestris* L.  
Sage Wormwood

*Carex garberi* Fern.

*Carex lanuginosa* Michx.

*Carex viridula* Michx.

*Cladium mariscoides* (Muhl.) Torr.  
Beaked Twig Rush

*Eleocharis elliptica* Kunth  
Spike-rush

*Elymus canadensis* L.  
Canada Wild Rye

*Schizachyrium scoparium* (Michx.) Nees  
Little Bluestem

*Sporobolus cryptandrus* (Torr.) A.Gray  
Sand Dropseed

*Juncus balticus* Willd.

*Rhynchospora capillacea* Torr.  
Beak-rush

Point Petre, our second stop, is a peninsula running into Lake Ontario at the southwestern portion of Prince Edward County. The vegetation cover was dominated by hardwoods, mainly:

*Acer saccharum* Marsh.  
Sugar Maple

*Carya ovata* (Miller) K.Koch  
Shagbark Hickory

*Ostrya virginiana* (Miller) K.Koch  
Ironwood

*Prunus serotina* Ehrh.  
Black Cherry

*Quercus rubra* L.  
Red Oak

Grove Sandwort (*Moehringia lateriflora* (L.) Frenzl) was in flower in the shade of the trees as was Anise-root (*Osmorhiza longistylis* (Torr.) DC.). Twin leaf (*Jeffersonia diphylla* (L.) Pers.) was past flowering.

The following sedges were noted.

*Carex blanda* Dewey

*Carex hitchcockiana* Dewey

*Carex radiata* (Wahlenb.) Small

Other herbaceous species were:

- Arabis divaricarpa* Nels.  
Rock-cress  
*Cardamine douglassi* Britton  
Pink Spring Cress  
*Gallium mollugo* L.  
Bedstraw  
*Stellaria longifolia* Muhl. ex Willd.  
Long-leaved Chickweed

The salt-tolerant Alkalai Grass (*Puccinellia distans* (Jacq.) Parl.) was pointed out in a strip immediately adjacent to the road. Other grasses were Japanese Brome (*Bromus japonicus* Thunb. ex Murray) (still green and flowering), Tall Fescue (*Festuca arundinacea* Schreber), and Nodding Fescue (*Festuca subverticillata* (Pers.) E. Alexev).

The final stop was Massassaga Point, a Conservation Authority property in the northeastern part of Prince Edward County. The site has alvar openings in a forest dominated by Red Cedar.

Other tree species were:

- Carya ovata* (Miller) K.Koch  
Shagbark Hickory  
*Celtis occidentalis* L.  
Hackberry  
*Fraxinus pennsylvanica* Marsh.  
Red Ash  
*Quercus macrocarpa* Michx.  
Bur Oak

Narrow-leaved New Jersey Tea (*Ceanothus herbaceus* Raf.) was in flower and Fragrant Sumac (*Rhus aromatica* Aiton) was noted. Other plants in flower were:

- Corydalis aurea* Willd.  
Golden Corydalis  
*Potentilla arguta* Pursh  
Prairie Cinquefoil  
*Potentilla inclinata* Villars  
Downy Cinquefoil  
*Triodanis perfoliata* (L.) Nieuwl.  
Venus' Looking-glass

The white Forget-me-not (*Myosotis verna* Nutt.) had finished flowering. Almost every flowering Wild

Garlic (*Allium canadense* L.) seen had a flower head consisting of several bulblets and two flowers. A highlight of the trip was finding Yellow Stargrass (*Hypoxis hirsuta* (L.) Cov.). This diminutive plant, which was in flower, was only the second eastern Ontario record for the species.

Typical alvar plants seen included:

- Draba reptans* (Lam.) Fern.  
Carolina Whitlow-grass  
*Dracocephalum parviflorum* Nutt.  
Dragonhead  
*Hedeoma hispidum* Pursh  
Mock Pennyroyal  
*Hedyotis longifolia* (Gaertner) Hook.  
Bluets  
*Minuartia michauxii* (Fenzl) Farw.  
Rock Sandwort  
*Parietaria pennsylvanica* Muhl. ex Willd.  
False Nettle  
*Ranunculus fascicularis* Muhl. ex Bigelow  
Early Buttercup  
*Scutellaria parvula* Michx.  
Skullcap  
*Silene anterrhina* L.  
Sleepy Catchfly  
*Trichostema brachiatum* L.  
Bluecurls; False Pennyroyal.  
*Verbena simplex* Lehm.  
Vervain  
*Veronica peregrina* L. ssp. *xalapensis* (Kunth) Pennell  
Purslane Speedwell

Notable graminoids included:

- Bouteloua curtipendula* (Michx.) Torr.  
Side-oats Gramma  
*Carex brevior* (Dewey) Mack. ex Lunell  
*Carex foenea* Willd.  
*Carex molesta* Mack.  
*Carex umbellata* Schk. ex Willd.  
*Eleocharis compressa* Sullivant  
Flat-stemmed Spike-rush  
*Festuca brevipila* Tracey  
Hard Fescue  
*Sporobolus vaginiflorus* (Torr. ex A.Gray) Torr. ex Wood  
Ensheathed Dropseed

Overall, the day was highly enjoyable and many interesting plants were seen. Based on the wide

variety of plants seen on this trip, it should not be surprising that many more uncommon species await discovery in Prince Edward County. A hearty thank-you to Mike Oldham for leading another fine trip.

W.D. McIlveen

## Ojibway Prairie Trip

Leader: Paul Pratt.

Apologia: Another member should be writing this account, not me--but as he is not, I will do it. My notes are sketchy and my memory dim, so don't expect a full story or an accurate one.

My field trip started the day before (July 26<sup>th</sup>) when I decided to fatten up an anemic bird list with some choice species from the St. Clair Waterfowl and Stoney Creek areas. So I left Friday and decided to visit my son Erik in Waterloo on the way. This was a mistake. I spent a good part of the day carousing with him and didn't reach the St. Clair marshes until late in the afternoon. No egrets;

no Forster's Terns; no Yellow-headed Blackbirds; just one Virginia Rail. Stoney Creek had some swallows...nothing fattening here, so I pushed on to a motel on Highway #3 for the night.

Next morning I was at the Ojibway Nature Centre early: a charming place. The house was surrounded by an attractive garden with a forest nearby. Many birds were singing, and I recognized a Carolina Wren, Warbling Vireo, Scarlet Tanager, and a Catbird among them. Eventually Paul Pratt, our leader, and nine participants arrived and we walked across Matchette Road to the Ojibway Prairie Reserve. The day was scorching hot, around 33 degrees, and cloudless.

Have you ever met *Trombicula alfreddugesi* Oudemans? It has an illustrious pedigree: Phylum Arthropoda, Class Arachnida, Order Acarina, and is commonly called the chigger, or jigger, or \*&\$@#! Paul gave us a lecture on this little menace before we went very far into the roadside grasses. When it meets you, it injects some meat tenderizer into you and then sucks up some of your tissues. We were not likely to see it; it is only 0.2 mm long. We dutifully rolled up our socks and sprayed whatever we had on our ankles, socks, and leggings. I had nothing, so I just lay a heavy curse on all chiggers and left it at that.

The roadsides were awash with wildflowers blooming gorgeously. We spent a long time examining them and enjoying them. According to Mike Oldham's list which Paul gave us, 106 provincially rare vascular plants are found in the Ojibway and Windsor area - an astonishingly large number. I was delighted to see such a profusion of:

*Asclepias tuberosa* L.  
Butterfly Milkweed

*Coreopsis tripteris* L.  
Tall Coreopsis

*Liatris spicata* (L.) Willd.  
Dense Blazing-star

*Veronicastrum virginicum* (L.) Farw.  
Culvers-root

*Vernonia gigantea* (Walter) Trel. ex Branner & Cov.  
Tall Ironweed



Culvers-root by Mary Celestino.  
*Veronicastrum virginicum* (L.) Farw.

We walked slowly along the road, making

frequent forays into the grassy verges to look at swathes of:

*Centaurea maculosa* Lam.  
Spotted Knapweed

*Euphorbia corollata* L.  
Flowering Spurge

*Monarda fistulosa* L.  
Wild Bergamot

*Ratibida pinnata* (Vent.) Barnhart  
Gray-headed Coneflower

We smelled the heady aroma of Virginia Mountain-mint (*Pycnanthemum virginianum* (Michx.) Pers.). The typical prairie grasses, Big Bluestem (*Andropogon gerardii* Vitman) and Little Bluestem (*Schizachyrium scoparium* (Michx.) Nees) were there too, but not very prominent yet. Their blaze of glory would come later in August.

I have the very talent for forgetting and not writing down. We did see many more of the 101 wildflowers on the Nature Centre's July-August list. All is now blended into a flowery fog.

Paul constantly amazed us with his skill in recognizing butterflies and dragonflies on the fly, so to speak, just by their jizz - as birders do with birds. Why he might even out-bowl Bob Bowles with the dragonflies. Just a white dot or a flight pattern observed at a distance and Paul had the dragonfly pinned down...metaphorically speaking. We spent quite some time looking at and admiring insects. One colourful milkweed beetle squeaked when Paul squeezed it. Several mantids were examined, and Organ-pipe wasps were observed in the ceiling of the picnic shelter. While Leopard Frogs leaped all about, butterflies were seen everywhere: Black Swallowtail, Viceroy, Dusky Wing, Sulphurs, Blue, Fritillaries, and Skippers.

After lunch at the Nature Centre we drove over to Spring Garden Road nearby and took a loop trail through some attractive forest. We saw four species of ferns, names all forgotten. Branched Centaury (*Centaureium pulchellum* (Sw.) Druce) grew profusely along the trail. Here and there we saw Common Hedge Nettle (*Stachys tenuifolia* Willd.), Smooth Sumac (*Rhus glabra* L.) and the locally rare Winged Sumac (*Rhus copallina* L.). Despite the hot day

some birds were singing: Towhee, Yellowthroat, Indigo Bunting, Willow Flycatcher. I also saw Kingbirds, Phoebe, and to my surprise two Tufted Titmice.

We finished the day with a tour of the Nature Centre gardens. I was pleased to see an enormous sized Prairie Dock (*Silphium terebinthinaceum* Jacq.) just beginning to bloom, and Cup-plant (*Silphium perfoliatum* L.). Some of the plants grow in my own garden: Anise Hyssop (*Agastache foeniculum* (Pursh) Kuntze) and Lamb's Ears (*Stachys byzantina* K. Koch) both spread rampantly as they are wont to do. A heroic sized Butterfly-bush (*Buddleja davidi* Franchet) and the dazzling Cardinal Climber (*Ipomoea quamoclit* L.) were also here. Perhaps the best of all was the chance to see three Carolinian trees growing together all in a row: Pawpaw (*Asimina triloba* (L.) Dunal), Sassafras (*Sassafras albidum* (Nutt.) Nees), and the Kentucky Coffee-tree (*Gymnocladus dioica* (L.) K.Koch).

After a visit indoors to see the displays, pick up plant lists, say "hello" to the Cottontail rabbit hopping about on the floor, we left for home. It was four o'clock. I was thoroughly cooked by the sun, but happy, happy to report that Windsor is not just cars, salt, and a casino. There is still beauty and wilderness here and a vision of what it might have looked like once upon a time when prairies covered this corner of the earth.

Postscript: My curse on the chiggers didn't do much good. Two days later I broke out into four angry red itching pustules which developed into small



The Chigger  
*Trombicula alfreddugesi* Oudemans

skydomes of clear liquid which I poked with a needle until they turned into red scabs and finally faded away...but not quite. Even today there is dull red spot near my left knee. A mighty creature is the chigger, by jigger.

Acanthus Fennicus

## Petroglyphs Provincial Park

(AGM, September 1996)

Leader: Lisa Roach

The Petroglyphs trip was definitely not your typical FBO field trip. For starters, most people at the AGM had already signed up for one of the other full day trips (Presqu'ile or the Kaladar Barrens) so only 4 of us were supposed to be in attendance. That number dropped to 3 when the FBO representative ended up spending the afternoon at Speedy having his car brakes fixed, and then to 2 when Elaine McShane and I failed to meet up with the other registrant at the park entrance (sorry again Dallas!).

Despite these misfortunes, the sun was shining when we finally got out of the car and went in search of our trip leader, Lisa Roach. We found her at what the front gate attendant referred to cryptically as "the site". This turned out to be the huge glass and steel, temperature controlled structure in which the petroglyphs are enclosed. The petroglyphs (petro = rock, glyphs = carvings) in this park are one of the largest known concentrations of prehistoric rock carvings in Canada. Most experts believe that these intriguing images of animals (snakes, birds, turtles) and other undeciphered figures were carved into the marble outcrop by Algonkian Indians between 600 and 1400 A.D.. Today, many of the local natives consider it a sacred place. Although there is some debate about the meanings of the individual carvings and the significance of the site as a whole, the art is impressive and is definitely worth a visit.

Although the "glyphs" are considered the park's main attraction, there is also an impressive diversity of plant life easily accessed along more than 30 km of trails. Located in the transitional zone between the Great Lakes-St. Lawrence Lowlands forest region and the Boreal forest region, the park contains stands of White and Red Pine

(*Pinus strobus* L. and *P. resinosa* Sol. ex Aiton) as well as patches of Sugar Maple (*Acer saccharum* Marsh.) and Red Oak (*Quercus rubra* L.). We were given a fairly extensive checklist of the park's wildflowers, but many of these were past their prime and not easily identified by novices (Elaine and I are no experts and Lisa's background was, it turned out, in archeology and not botany!).

We did spot:

*Andropogon gerardii* Vitman  
Big Bluestem

*Aster novae-angliae* L.  
New England Aster

*Comptonia perigrina* (L.) Coulter  
Sweet Fern

*Coreopsis lanceolata* L.  
Lance-leaved Coreopsis

*Lonicera hirsuta* Eaton  
Hairy Honeysuckle

*Solidago caesia* L.  
Blue-stemmed Goldenrod

*Symphoricarpos albus* (L.) S.F.Blake  
Snowberry

The park also includes two beaver-made marshes, one which we reached during our short hike. Here we discovered an abundance of Virgin's Bower (*Clematis virginiana* L.) along the edges of the



Virgin's Bower (*Clematis virginiana* L.)  
by Ed Morris



boardwalk as well as some Butterfly Milkweed (*Asclepias tuberosa* L.), Sensitive Fern (*Onoclea sensibilis* L.) and many other species which we could not name.

While we could have used an experienced botanist (especially in the marsh!), the trip was very pleasant and I think we all learnt something from each other over the course of the afternoon.

Margot Ursic

## What was "Cow-cabbage?"

Among the responses to my inquiry "What is cow-cabbage?" in the Field Botanists of Ontario Newsletter 9(1):7-8, I was greatly pleased to receive one that referred specifically to the known, routine use of this plant name by long-time residents of Ontario. Mr. Joseph W. Johnson of Warton, Ontario (well known to some readers of the Newsletter for his explorations of the Bruce County flora), informed me that several older people of his acquaintance living in Warton in the 1970s were familiar with this name for an edible wild plant. He specifically mentioned a senior citizen named Ed Mole who showed him a bag of "cow-cabbage" that

he had gathered for his eating pleasure one May, probably in 1974. Mr. Johnson recognized these plants as *Hydrophyllum virginianum* L., a species more commonly (or at least pedantically) called Virginia Waterleaf. Accordingly, he included the vernacular name cow-cabbage for *H. virginianum* in the recently published Checklist of Vascular Plants for Bruce and Grey County (Bruce-Grey Plant Committee, 1995).

*Hydrophyllum* species are widely known as edible greens. For example, in one of the more widely available of many such publications, Peterson (1978) says: "The young leaves are excellent boiled 5-10 min. in 1 or 2 changes of water and served with vinegar." Mr. Johnson, like Mr. Mole, finds Virginia Waterleaf sufficiently enjoyable that he usually gathers some each spring, but notes that for good eating it must be harvested early; if it is picked too near flowering time the veins will be too tough. He also suggested that the use of the name cow-cabbage might have encompassed *Hydrophyllum canadense* L., Canada Waterleaf, as well as *H. virginianum*, because *H. canadense*, although much less common in Ontario, is abundant in at least some localities near Holland Centre.



Virginia Waterleaf, *Hydrophyllum virginianum* L., from the Laurentian University Herbarium (SLU).



Canada Waterleaf, *Hydrophyllum canadense* L., from the Laurentian University Herbarium (SLU).

I am also grateful to the editor, Ed Morris, for his inquiries among members of his family, who are descendants of the Williamses mentioned in my query.<sup>1</sup> Although no one definitely associated the name with any one species, family members were quite certain that Marsh-marigold and trilliums could be ruled out, as their progenitors would already have known those species by more familiar names.

J. Pringle

Bruce-Grey Plant Committee. 1995. A Checklist of Vascular Plants for Bruce and Grey Counties, Ontario. Owen Sound: Published by the Committee.

Fee, F.A. 1984. *Pioneers in the Queen's Bush* (4 ed). Conestoga Press, Thornbury, Ontario.

Peterson, L. 1978. *A Field Guide to Edible Wild Plants of Eastern and Central North America*. Boston: Houghton Mifflin Company.

## Making Your Own Botanical Stereograms.

Stereograms are pairs of photographs taken at slightly different points, and when viewed using special viewers will allow your brain to reconstruct a three dimensional image. Air photos used by geographers and foresters are examples of stereograms. I highly recommend trying to make your own stereograms, especially if you want reference pictures for making paintings or drawings.

I use slide film to make my stereograms. Taking the photos is quite easy: snap your first shot, then move a little to the right and snap a second one, but make sure you direct the camera so that the same object is in the centre of the field of view. You need to move only a cm or less for closeups, and maybe 30 cm for landscape photos. If

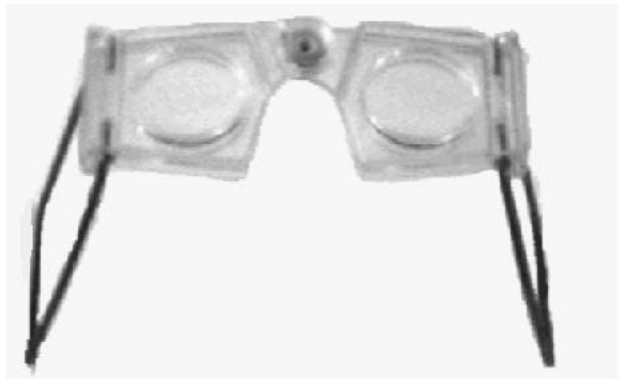
<sup>1</sup> Florence A. Fee, who wrote "*Pioneers in the Queen's Bush*," and started this whole business was my great aunt. My uncle Dave Morris and spouse Elizabeth MacKinlay made inquiries in their part of Grey County (Markdale to Ravenna), and encountered a few elderly people who recalled stories of 'old-timers' collecting and eating this plant, but none could identify the plant in question.-Ed

you're like me, you probably take two pictures of most things, just to be on the safe side.

To view the 3D image from two slides you will need a light table, some bristol-board, and a pair of stereogram viewers (see below). I expect they can be found in university bookstores. If you don't have a light table, try a window...it's not as comfortable, but will work...at least during the day.

### 1. Arranging the photographs.

Cut out a template from the bristol-board as shown in the figure on the next page. If distance between your pupils is significantly different from 60 mm, then you may want to increase or decrease this distance. Place the slides face down over the cut-outs, and tape the edges of the slides to the bristol-board mat with a bit of masking tape, and then flip the mat over and lay it on the light table. The purpose 'mat' is to block light from around the edges



Inexpensive Stereogram Viewer

of the slides. Using this mat is optional, but it does help you set the slides at the appropriate distance.

### 2. Viewing the slides.

Place the mat on the light table, and then arrange the air-photo viewers above the slides so that the distance between optical centres is 60 mm, and each lens is directly over each picture. When you look through the viewer, one of three possibilities will happen.

- a) If you will see two different images. Your brain is not forming a 3D image from the two images you see. Try centring the viewers again, look at a far away object and try again. Also, perhaps the pictures are not in the proper order (see possibility b).
- b). Perhaps the distance between photos is not correct for you. Get someone to measure the

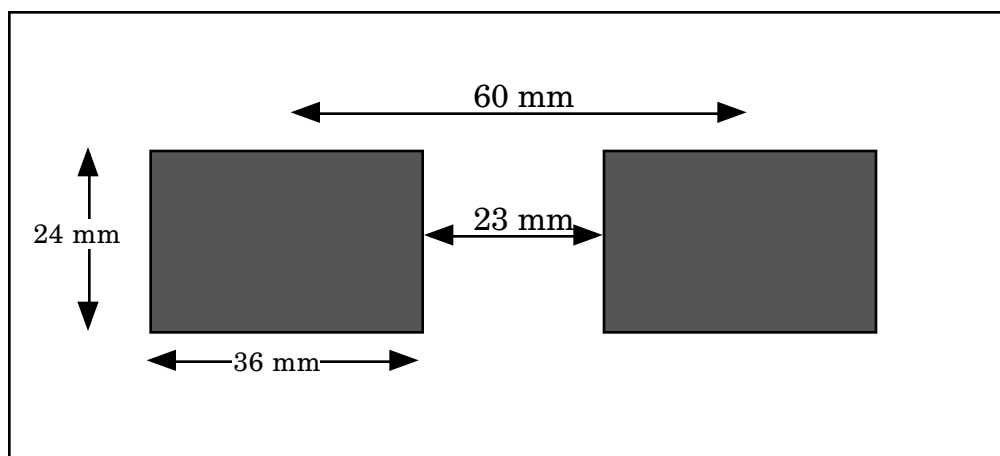


Figure 1. Template for viewing stereograms.

distance between your pupils, and then adjust the design of the bristol board mat to match your anatomy. Note that a few people have real trouble using these viewers, just as some people can't see the hidden pictures in "Magic Eye" posters.

b) If you see a 3D image, but everything looks goofy, then you've got the two photos backwards: your right eye is looking at what your left eye should be seeing, and *vice versa*. Go back to step 1, and switch the photos.

c) Tadah! You see the image, and it's just like being there isn't it? Well it isn't actually: there are no insects biting you, you're not cold or damp, nor are you scorching hot. On the other hand, there are no frogs peeping or birds singing, no noise of wind rustling in the trees, and no smells.

The 3D photos can't replace the experience of being outdoors, but from now on all other pictures will seem flat by comparison. (Sorry, but I couldn't resist the pun). There are some limitations if you are using only one camera. Avoid including moving items in the photograph...such as waves on lakes. If you have a zoom/telephoto lens, don't change the zoom level while photographing stereo pairs.

The previous description illustrates how I look at a few stereogram pairs of slides. If one was really ambitious, one could design something similar to the children's toy called a "View-Master", in which all you would have to do was drop in the slides and then look through the apparatus towards a light source. As an alternative, you could design an apparatus which allowed you to use prints, also

eliminating the need for a light table.

Ed Morris

## **Review: A Descriptive Forest Inventory of Canada's Forest Regions.**

In late 1995, a report containing summary data on the forests of Canada was released by the Canadian Forest Service. The report was prepared by Steven Gray, a former member of the FBO Executive.

The text of the report is limited to about five pages, the rest of the report is simply filled with data and illustrations. The report covers the whole of Canada including the Yukon and the Northwest Territories. The data is broken down into the ten major forest regions in the country and by the ninety Forest Sections recognized by Rowe (1972). In the case of Ontario, three major forest regions are represented including Boreal, Deciduous and the Great Lakes–St. Lawrence. The Deciduous Region



Replanted clearcut near Sultan, Ontario.  
Photo by Ed Morris (1992).

Table 1. Summary of area and age distribution of trees in the forest regions of Ontario based on data provided by Gray, 1995.

Code	Area	Ont. Area x 1000 ha	Forested Area*	% Ont. Forest **	Weighted Mean Age (Yr)	Age Class (Years)***			
						<100	100-140	> 140	Undefined
B. 4	Northern Clay	5379	4963	6.0	80	31.5	17.9	1.4	49.2
B. 5	Hudson Bay Lowland	24528	21403	26.0	114	13.8	26.9	14.3	45.1
B. 7	Missinabi-Cabonga	4490	3977	4.8	63	57.3	6.0	0.6	36.0
B. 8	Central Plateau	10181	9146	11.1	82	67.7	30.0	2.3	0.0
B. 9	Superior	3796	3383	4.4	66	84.7	15.1	0.3	0.0
B. 10	Nipigon	873	548	0.7	64	75.4	22.0	2.3	0.0
B. 11	Upper English River	3995	3298	4.0	66	81.5	17.7	0.9	0.0
B. 14	Lower English River	1384	1127	1.4	62	54.0	8.0	1.7	36.3
B. 22a	Northern Coniferous	18634	15077	18.3	69	26.3	6.2	0.6	66.9
B. 32	Forest Tundra	884	285	0.3	71	2.2	0.0	0.0	97.8
D. 1	Niagara	5184	797	1.0	47	97.5	1.2	0.2	1.2
L. 1	Huron Ontario	7610	2625	3.2	54	95.1	3.9	0.3	0.6
L.2	Upper St. Lawrence	1419	553	0.7	48	89.8	1.5	0.3	6.8
L. 4b	Algonquin Pontiac	1350	1201	1.5	80	73.1	15.8	3.4	7.6
L. 4c	Middle Ottawa	1635	1310	1.6	61	89.1	3.1	0.1	7.1
L. 4d	Georgian Bay	2949	2453	3.0	79	78.7	17.3	4.0	0.0
L. 4e	Sudbury-North Bay	1608	1234	1.5	66	88.2	5.6	3.5	2.7
L. 8	Haileybury Clay	364	259	0.3	47	99.2	0.8	0.0	0.0
L. 9	Timagami	2681	2326	2.8	66	84.7	9.5	3.9	1.9
L. 10	Algoma	2668	2342	2.8	101	46.8	32.1	20.1	1.1
L. 11	Quetico	4880	3655	4.4	59	93.2	6.1	0.5	0.2
L. 12	Rainy River	357	269	0.3	44	35.0	0.6	0.0	64.4
Total/Mean		106850	82232	100.0	0	66.6	11.2	102.4	19.3

\* The forested area includes productive and non-productive land, but excludes cleared land, water, and unspecified forest.

\*\* Percentage is based on total forested area in Ontario.

\*\*\* Age classes presented were derived by adding several age classes.

is essentially the area known as the Carolinian Zone and is not further divided. The other Regions are subdivided into smaller units resulting in a total of twenty-two Forest Sections.

Each of the Forest Sections serve as the base units for recording the forest inventory data. The author presents the data for each Forest Section in tables and in a series of figures. The figures include histograms covering breakdowns by land class, stocking class, site class, age class, maturity class of productive forest, forest type, predominant genus, age by predominant genus, wood volume by age class and percent volume by species group. There is also a pie chart showing the proportion of the forest

inventoried and a short table concerning growth and access. The data listed above is also presented in a series of 119 black and white maps. The maps are remarkably clear considering that they are placed four per page, each covering the whole of Canada and while still showing the boundaries of the Forest Sections.

Unfortunately, nature fails to recognize the niceties of political boundaries and the data therefore overlaps different jurisdictions. A weakness of the report is that those who are interested in summaries for a specific province have to do their own mathematical calculations. The author has provided data that allows the calculation

Table 2: Summary of forest composition\* by major species groups within the forest regions in Ontario based on data provided by Gray, 1995.

Code	Area	Spruce	Pine	Fir	Hemlock	Larch	Cedar	Poplar	Birch
B. 4	Northern Clay	33.5	2.5	2.2	0.0	0.2	0.3	10.9	1.1
B. 5	Hudson Bay Lowland	49.7	1.8	0.9	0.0	1.2	0.1	1.2	0.1
B. 7	Missinabi-Cabonga	17.3	8.9	3.7	0.0	0.1	1.5	10.8	20.6
B. 8	Central Plateau	62.4	12.3	4.2	0.0	0.2	0.5	15.3	5.2
B. 9	Superior	34.1	6.8	14.4	0.0	0.1	0.8	15.4	28.5
B. 10	Nipigon	42.5	5.0	17.5	0.0	0.1	2.2	14.6	18.1
B. 11	Upper English River	49.8	26.2	8.9	0.0	0.0	0.3	10.3	4.3
B. 14	Lower English River	31.3	28.1	11.5	0.0	2.1	0.1	26.2	0.8
B. 22a	Northern Coniferous	38.1	39.4	0.3	0.0	0.1	0.0	2.7	0.6
B. 32	Forest Tundra	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0
D. 1	Niagara	0.5	7.9	0.0	1.5	0.2	8.0	4.7	1.2
L. 1	Huron Ontario	1.8	6.4	1.1	0.9	0.4	23.7	14.4	3.3
L. 2	Upper St. Lawrence	2.1	7.5	2.3	2.3	1.1	10.5	10.1	2.6
L. 4b	Algonquin Pontiac	6.9	10.0	3.2	2.7	0.0	5.4	11.1	23.0
L. 4c	Middle Ottawa	2.1	11.8	2.8	1.8	0.1	6.0	17.4	6.0
L. 4d	Georgian Bay	3.9	11.2	5.3	2.5	0.3	2.5	11.7	5.0
L. 4e	Sudbury-North Bay	6.8	17.6	5.2	2.0	0.1	1.4	25.2	24.1
L. 8	Haileybury Clay	14.5	11.6	6.0	0.1	0.6	54.3	11.2	0.0
L. 9	Timagami	14.0	25.8	8.2	0.4	0.0	2.8	15.0	27.9
L. 10	Algoma	7.8	4.4	5.8	0.3	0.0	3.8	5.8	25.0
L. 11	Quetico	20.2	31.1	8.4	0.0	0.0	1.8	30.1	7.9
L. 12	Rainy River	25.7	10.6	0.9	0.0	7.9	2.3	49.2	1.3

\* Percentages are based only on completed inventories.

to be performed. For example, the Northern Clay Belt (Code B.4) is shown to have a total of 11,954,000 ha. Of this 55% lies in Quebec and 45% falls within Ontario. From this information, I have calculated some of the values for Ontario. These and some highlights are presented in the following tables for the convenience of FBO members.

Overall, the report is relatively easy to understand but some some readers may not be familiar with the meaning of some forestry terms such as "site class", "age class" or "stocking." The document is a useful reference document that brings a lot of information together in one place. It would be most useful to foresters, consultants, or environmental planners or managers. The report is **free from Publications Distribution Centre, Petawawa National Forestry Institute, Chalk River, Ontario, K0J 1J0 (Phone 613-589-3086)**. I hope that the Institute will continue to produce additional reports of this nature and calibre. It is very important that such information is made

readily available to members of the public if support for the forestry industry is to be maintained.

W.D. McIlveen

Gray, Steven L. 1995. A descriptive forest inventory of Canada's Forest Regions. Information Report PI-X-122. Petawawa National Forestry Institute. 192 pp.

Rowe, J.S. 1972. Forest Regions of Canada. Department of the Environment, Canadian Forestry Service, Publication No. 1300. 172 pp.

## Notes on Cattails with Split Heads

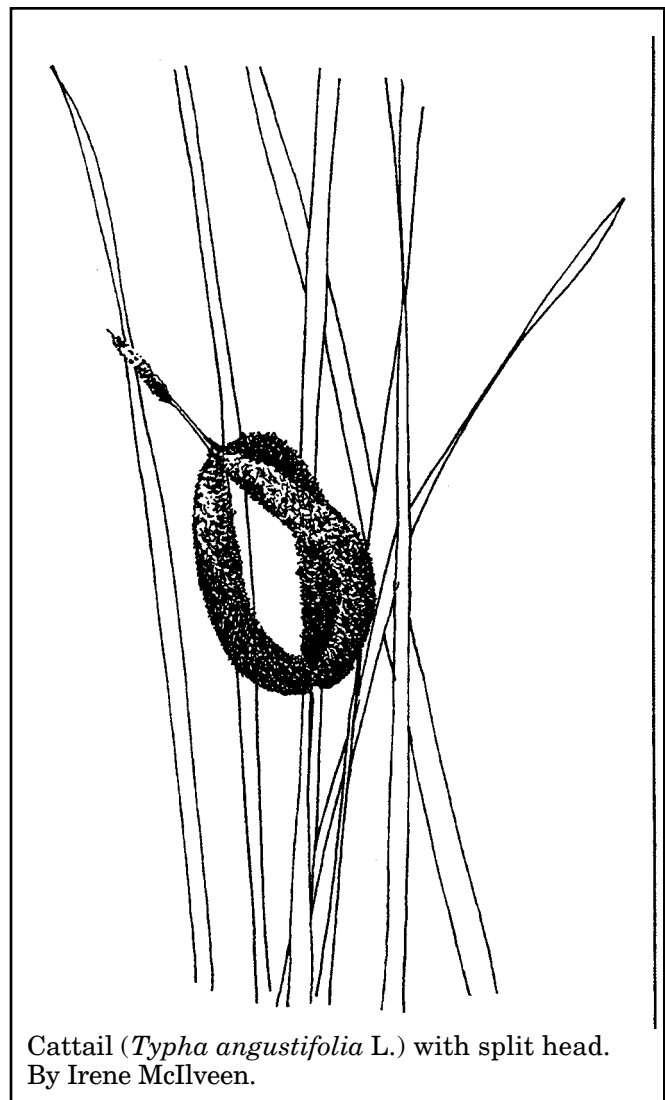
On August 24<sup>th</sup>, 1996, while compiling lists of plants and other organisms in the north Halton area, we noted a concentration of abnormal cattails. The affected plants appeared normal in every way except for the flowering heads which were split. Since that date, we have noted the occurrence of similarly affected plants at other locations. This has prompted us to prepare this note to make other

Summary of observed deformities in Narrow-leaved Cattail flower heads in 1996.			
Date	Location	UTM	Comment
Aug. 24, 1996	5th Line, Halton Hills, north of railroad crossing at Plaikner Tract	17-5858-48282	Twenty-one plants split in 3, two split into 2.
Aug. 28, 1996	Trafalgar Road, 1100 metres north of Steeles Ave. at Hornby.	17-5930-48254	Single plant, split in 3.
Sep. 1, 1996	Marsh on east side of access road, north of south entrance to Luther Lake Marsh.	17-5465-48615	Single plant, split in 3.
Sep. 25, 1996	3rd Line, Halton Hills, north side of Sideroad10 near railroad.	17-5854-48240	Single plant, split in 2.
Oct. 7, 1996	Steeles Ave., 300 metres west of Winston Churchill Blvd.	17-5968-48286	Single plant, split in 2.
Oct. 27, 1996	5th Line, Nassagaweya (Milton), at 500 metres north of Blue Springs Creek.	17-5728-48281	Single plant, split in 2.
Nov. 2, 1996	Sideroad 22, 0.8 km west of Hwy 25, south of Acton.	17-5792-48280	Forty-eight plants split in 3, six plants split in 2.

members aware of the condition.

In every case, all of the affected plants were Narrow-leaved Cattails (*Typha angustifolia* L.). The female portion of the flower head was split longitudinally along the complete length of the flowering head. The male portion was not affected. Except in one case, the parts of the flower head remained united at the top of the female portion and at the base (see illustration). The splitting formed either two or three sections although, in at least one instance, there was a fourth partial section. Each portion, regardless of the number of segments involved, appeared very uniform in size. The sections were generally round in cross section. With care, a flat area representing the inner part of the split could be found and this surface lacked florets. With the splitting of the flower head, the florets were less constrained by their neighbours and expanded to form nearly a full circle rather than a semi-circle.

No obvious cause (ie. insect feeding) of the condition could be determined. The presence of a toxic contaminant in the water in which the plants were growing is considered unlikely in view of the widespread occurrence of the symptoms. Other nearby vegetation was considered normal. Based on appearance, the deformity would likely have occurred relatively early in the formation of the



Cattail (*Typha angustifolia* L.) with split head.  
By Irene McIlveen.

flower head. Splitting of vegetation is known to occur as the result of unequal rates of growth of different tissues. A good example of this occurs in the roots of carrots. If the carrots suddenly receive high amounts of rain, the water is taken up by the roots and the core tissue expands rapidly creating high internal pressure. If the outer tissue can not expand rapidly enough to combat the internal pressures, the outer tissues will split and deformed carrots will be produced. A similar problem can occur in tree trunks but this usually also involves a temperature differential between the interior (warmer) and exterior (cooler) of the tree trunk.

The former mechanism is unlikely to explain the deformity in the cattails because the water supply is typically quite constant in the marshy conditions under which the plants grow. A temperature differential between the inside and outside of the developing flower head sufficient to play a role seems unlikely because the diameter of the flower head is relatively small. We have no hard data on which to base this assessment, however. One may speculate that a sudden cooling could have occurred during a particularly critical period in the growth and expansion of the flower head. The weather in the spring of 1996 was unusually cool over a prolonged period. On the otherhand, similar combinations in weather conditions must have occurred in the past and it is possible that abnormal flower heads have developed under those conditions.

We are not aware of any other reports of abnormal flower heads in cattails. We would be interested in learning about any similar abnormal flower heads from other FBO members. Members can still look for this abnormality for some time as the flower heads formed in 1996 will likely still be visible throughout the winter. We will revisit the sites in future years to determine whether the character is genetically based. If indeed this is the case, it should appear as the plants are perennial.

W.D. and Irene McIlveen,  
R.R. #1, Acton, Ontario.

## Update on "The Aquatic and Wetland Plants of Northeastern North America."

*I recently contacted Dr. C. Barre Hellquist, who was rumoured to have co-authored (with Garrett Crow) a revision to Fassett's (1940) Manual of Aquatic Plants. Here, in his own words, is the status of the book.*

"As far as the revision to Fassett, it is still going slow. The title is The Aquatic and Wetland Plants of Northeastern North America. It is at the Univ. of Wisconsin Press where it has been since 1990. They have supposedly finished shooting the figures for the plates. There will be 606 pages of plates. They are in the process of getting someone to typeset it. They hope to have it by fall 1997 (ha ha!!!). We will see."

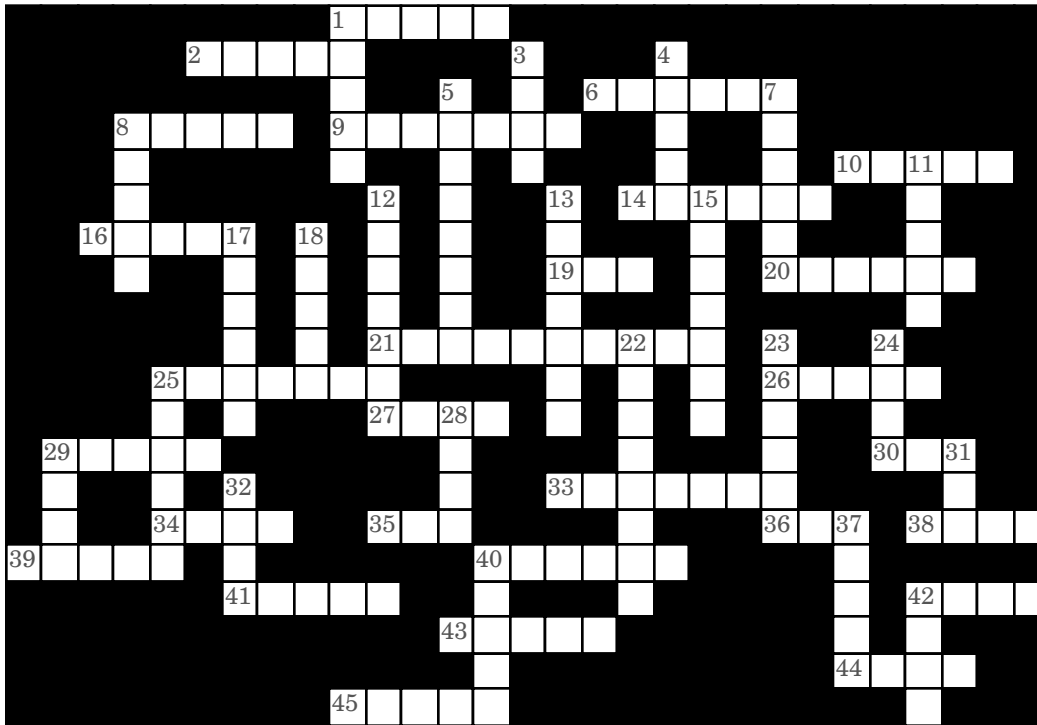
*I believe this indicates that the book will be published, since they (U of Wisc. Press) have prepared 606 pages of iilustration plates. I doubt that they would cancel the publication after such a huge investment. They are certainly taking their time, however.-Ed*

## Volume 3 Of Michigan Flora Now In Print!

The long awaited third and final volume of Ed Voss' "Michigan Flora" is now in print. This is an indispensable flora for people wishing to identify Ontario plants. Copies are available for U.S. \$18.50 from the **University of Michigan Herbarium, North University Building, Ann Arbor, Michigan 48109-1057, U.S.A.** (313-764-2407).

Mike Oldham

# Botanical Time Wasters!



*How many different shrub names can you make by combining the words from the puzzle?*

*A big thanks to Claudia Schaefer and Jeff Matheson for helping with clues at the last minute.*

*-Ed.*

Across

- 1. Bananas come in this.
- 2. A waterfowl.
- 6 Field.
- 8 Sugar, honey, and syrup.
- 9 Black, Red, or Golden, to name a few.
- 10 Treed wetland.
- 14 What one does if one has a sore leg.
- 16 An eye-colour.
- 19 A place to obtain products made from barley, grapes, rye, and apples, to name a few.

- 20 Our longest season.
- 21 A large genus, but most of ours are herbs, not shrubs. The flowers are usually yellow, with 5 petals.
- 25 Found on a church.
- 26 Bees make it, not do it.
- 27 Prairie or Swamp, fruits are used in herbal teas.
- 29 A genus mainly of trees, but 10A + \_\_\_ is a shrub (common name).
- 30 Beech \_\_\_, Wal\_\_\_, or Butter\_\_\_, to name a few.
- 33 Animal skin.
- 34 Photosynthetic organ.
- 35 Wetland dominated by non-vascular plants.
- 36 This shrub may contain minute quantities of cancer-fighting compounds.
- 38 Hail \_\_\_.
- 39 What happens when something gets stuck

- in your throat.
- 40 Once made of wood, brass, or mother-of-pearl; most are now made of plastic.
- 41 The pith of this wood is spongy; this shrub should be respected.
- 42 A colour.
- 43 It's not that easy, bein' \_\_\_.
- 44 You lean on it to reprimand, warn, or show support.
- 45 Festive shrub.

Down

- 1 Alias for Musclewood: 42A + \_\_\_.
- 3 The first part of the common name for *Physocarpus opulifolius*.
- 4 A fun name for a native *Euonymous*.
- 5 Odiferous.
- 7 Includes types Hoary, Shining, and Sandbar.
- 8 5D + \_\_\_, and 28D + 44A \_\_\_ are shrubs. The first is quite small, the second

- large.
- 11 Black, Green, Speckled, or Mountain.
- 12 Gin is flavoured with it's 'berries.'
- 13 Prostrate or trailing evergreen shrub with alternate, oval, leathery leaves and spicy-aromatic pinkish or white flowers.
- 15 Once common on the plains, but later was hunted to near extinction.
- 17 Name applied to members of *Kalmia*.
- 18 A farm animal alleged to be dim-witted. If it ate \_\_\_ + 17D, it would likely get sick.
- 22 Found North of "The Rock."
- 23 An excellent example of a drupe for your sundae.
- 24 8A + \_\_\_, a nitrogen fixing shrub with a misleading name.
- 25 Young mammals do this.
- 28 Another word for buck, or a prenuptial party.
- 29 Spice, Shad, and Running-Strawberry \_\_\_.
- 31 22D + \_\_\_, is an ericaceous shrub.
- 32 A wind storm, or a shrub when following 8A.
- 37 Derogatory word for a woman who practised medicine and delivered babies.
- 40 Fleshy fruit of a compound ovary.
- 41 Outermost layer of a woody plant.