



ENTOMOLOGICAL SOCIETY OF AMERICA

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Proposal Form for new Common Name or Change of ESA-Approved Common Name

Complete this form and send or e-mail to the above address.

Submissions will not be considered unless this form is filled out completely.

The proposer is expected to be familiar with the rules, recommendations, and procedures outlined in the "Use and Submission of Common Names" on the ESA website and with the discussion by A.B. Gurney, 1953, *Journal of Economic Entomology* 46:207-211.

December 9, 2005

Esteemed ESA Common Names Committee members,

As the Chair for the Western Forest Insect Work Conference (WFIWC) Common Names Committee (CNC), I am pleased to present the following insect for your consideration. This proposal is part of our project to formalize common names of insects not yet recognized by ESA but found in the important publication [Western Forest Insects](#).

Our committee also works with the Entomological Society of Canada and so you will find entries in our form that are in addition to those you require (any numbers accompanied by a letter). All ESA questions are numbered and worded as found on your form.

If you have any questions or concerns about this or other submissions from our organization, please feel free to contact me.

Sincerely,

/s/ Brytten Steed

Brytten Steed
WFIWC-CNC Chair
bsteed@fs.fed.us

WFIWC Proposal Form for New Common Name or Change of ESA or ESC-Approved Common Name

The proposer is expected to be familiar with the rules, recommendations, and procedures outlined in the introduction to the current list of names and with the discussion by A.B. Gurney, 1953, *Journal of Economic Entomology* 46:207–211.

NOTE: SUBMISSIONS WILL NOT BE CONSIDERED UNLESS THIS FORM IS FILLED OUT COMPLETELY.

I ask that the WFIWC Standing Committee on Common Names of Insects facilitate the submission of the following common name or name change to ESA and ESC.

1. Proposed new common name (English): [Pinyon needle scale](#)
 - 1b. Proposed new common name in French (optional): [\(none\)](#)
2. Previously approved ESA common name (if any): [\(none\)](#)
 - 2b. Previously approved English ESC common name (if any): [\(none\)](#)
 - 2c. Previously approved French ESC common name (if any)-include direct translation to English: [\(none\)](#)
3. Scientific name (genus, species, author): [Matsucoccus acalyptus \(Herbert\)](#)
Order: [Homoptera](#)
Family: [Margarodidea](#)
- 3b. List important previous scientific names (esp. note if this scientific name is different from that noted in Western Forest Insects or in the literature cited). [\(none found\)](#)

Supporting Information

4. Reasons supporting the need for the proposed new or changed common name:
[Names commonly used are 'pinyon needle scale', 'piñon needle scale', and occasionally piñon pine needle scale, and pinon \(minus the ~\) needle scale. One approved common name is desired to help standardize its use for wildland managers, horticultural practitioners, and the interested public. Since 'pinyon needle scale' is more commonly found in literature, abandoning the other names would eliminate confusion.](#)
5. Stage or characteristic to which the proposed common name refers:
[Typical flattened, waxy, scale-like cover of the immobile crawler on pinyon pine needles.](#)
6. Distribution (include citations):
[Native: Arizona, California, Colorado, Idaho, New Mexico, and Utah \(Furniss and Carolin 1977\)](#)
7. Principal hosts (include citations):
[Pinyon pine \(*Pinus edulis*\), single-leaf pinyon pine \(*Pinus monophylla*\), and foxtail pine \(*Pinus balfouriana*\), \(Furniss and Carolin 1977\).](#)

8. Cite references containing previous use of the proposed common name:

- Burns, R.M, and B.H. Honkala. 1990. *Silvics of North America, Vol. 1, Conifers*. Agriculture Handbook 654. Forest Service, United States Department of Agriculture. 334 pp.
- Cain, R.D., and C. Ward. 1995. *Conifer pests in New Mexico*. New Mexico State University – Cooperative Extension Service. 3pp.
- Cooper, D., and W.S. Cranshaw. 2004. *Scale Insects Affecting Conifers*. Colorado State University Cooperative Extension-Horticulture Fact Sheet 5.514.
<http://www.ext.colostate.edu/pubs/garden/02948.html>
- Cranshaw, W., D. Leatherman, W. Jacobi and L. Mannix (coordinators). 2000. *Insects and Diseases of Woody Plants of the Central Rockies*. Colorado State University-Cooperative Extension Bulletin 506A. 283 pp.
- Flake, H.W., Jr.; D. T. Jennings. 1974. *A cultural control method for pinyon needle scale*. USDA Forest Service, Rocky Mtn. Research Sta. Research Note RM-270.
- Herbert, F.B. 1921. *The genus Matsucoccus with a new species*. (Hemip-Homop.) Proc. Entomol. Soc. Washington 23:15-22.
- Johnson, W.T., and H.H. Lyon. 1991. *Insects That Feed on Trees and Shrubs*. Cornell University Press, Ithaca, NY. 94 pp.
- McCambridge, William F. and D.A. Pierce. 1964. *Matsucoccus acalyptus* (Homoptera, Coccoidea, Margarodidae). Ann. Entomol. Soc. Am. 57:197-200
- McCambridge, William F. 1974. *Pinyon needle scale*. Forest Insect and Disease Leaflet 148, US Department of Agriculture, Forest Service.
<http://www.na.fs.fed.us/spfo/pubs/fidles/pinyon/pinyon.htm>
- Schalau, J., and D. Young. 2003. *Pinyon Needle Scale*. The University of Arizona Cooperative Extension, publication AZ1315.
<http://cals.arizona.edu/pubs/insects/az1315.pdf>
- Skelly, J., and Christopherson, J. 2002. *Pinyon Pine: Management Guidelines for Common Pests*. University of Nevada Cooperative Extension and Nevada Division of Forestry, pub no. EB 03-02. 20-21 pp.
- Trotter, T. T. III, N. S. Cobb, and T.G. Whitham. 2002. *Herbivory, plant resistance, and climate in the tree ring record: interactions distort climatic reconstructions*. Proceedings of the National Academy of Sciences of the United States of America (USA) 99:10197-10202.
<http://www.pubmedcentral.nih.gov/tocrender.fcgi?iid=3506>

9. Cite references using English common names (provide names) other than that proposed:

- 'piñon needle scale' is used by Furniss and Carolin 1977, Hagle et al. 2003, and Keen 1952
'piñon pine needle scale' is used by Rogers 1993
'pinon needle scale' is used by Coulson and Witter 1984

9b. References using common names in a non-English language (give the common name in the non-English language and give the direct translation to English, if possible)

Piñon needle scale, piñon pine needle scale, and pinon needle scale are a combination of Spanish and English words. The translation of the Spanish word "piñon" to English is "pine nut", according to the free on-line dictionary WordReference.com.

<http://www.wordreference.com/es/en/translation.asp?spen=pinon>

10. Other insects or organisms to which the proposed common name might apply (give scientific name and include citations, if possible): None

10 b. List references cited in questions 6-10:

Burns, R.M, and B.H. Honkala. 1990. Silvics of North America, Vol. 1, Conifers. Agriculture Handbook 654. Forest Service, United States Department of Agriculture. 334 pp.

Cain, R.D., and C. Ward. 1995. Conifer pests in New Mexico. New Mexico State University – Cooperative Extension Service. 3 pp.

Cooper, D., and W.S. Cranshaw. 2004. Scale Insects Affecting Conifers. Colorado State University Cooperative Extension-Horticulture Fact Sheet 5.514.
<http://www.ext.colostate.edu/pubs/garden/02948.html>

Coulson, R.N., and J.A. Witter. 1984. Forest Entomology. John Wiley & Sons, New York, NY. 429 pp.

Cranshaw, W., D. Leatherman, W. Jacobi and L. Mannix (coordinators). 2000. Insects and Diseases of Woody Plants of the Central Rockies. Colorado State University-Cooperative Extension Bulletin 506A. 283 pp.

Flake, H. W., Jr.; D. T. Jennings. 1974. A cultural control method for pinyon needle scale. USDA Forest Service, Rocky Mtn. Research Sta. Research Note RM-270.

Furniss, R.L., and V.M. Carolin. 1977. Western Forest Insects. Forest Service Miscellaneous Publication No. 1339. Washington, DC: US Department of Agriculture, Forest Service. 120-121 pp.

Hagle, S.K., K.E. Gibson, and S.T. Tunnock. 2003. Field guide to diseases and insect pests of northern and central Rocky Mountain conifers. Forest Health Protection Report Number R1-03-08. Missoula, MT: US Department of Agriculture, Forest Service. 140 pp.

Herbert, F.B. 1921. The genus *Matsucoccus* with a new species. (Homip-Homop.) Proc. Entomol. Soc. Washington 23:15-22.

Keen, F.P. 1938, rev. 1952. Insect Enemies of Western Forests. Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine. USDA Misc. Pub. 273. United States Government Printing Office. Washington, D.C. 280 pp.

McCambridge, W.F. 1974. Pinyon needle scale. Forest Insect and Disease Leaflet 148, US Department of Agriculture, Forest Service. <http://www.na.fs.fed.us/spfo/pubs/fidles/pinyon/pinyon.htm>

McCambridge, W.F. and D.A. Pierce. 1964. *Matsucoccus acalyptus* (Homoptera, Coccoidea, Margarodidae). Ann. Entomol. Soc. Am. 57:197-200

Rogers, T.J. 1993. Insect and disease associates of the piñon-juniper woodlands. In *Proceedings: Managing piñon-juniper ecosystems for sustainability and social needs.*, comps E.F. Aldon and D.W. Shaw. Rocky Mountain Research Station General Technical Report RM-236. Fort Collins, CO: US Department of Agriculture, Forest Service. 124-125 pp.

Schalau, J., and D. Young. 2003. Pinyon Needle Scale. The University of Arizona Cooperative Extension, publication AZ1315.
<http://cals.arizona.edu/pubs/insects/az1315.pdf>

Skelly, J., and Christopherson, J. 2002. Pinyon Pine Management Guidelines for Common Pests. University of Nevada Cooperative Extension and Nevada Division of Forestry.

Trotter R.T. III, Neil S. Cobb, and Thomas G. Whitham. 2002. Herbivory, plant resistance, and climate in the tree ring record: Interactions distort climatic reconstructions. Proceedings of the National Academy of Sciences of the United States of America (USA) 99:10197-10202.
<http://www.pubmedcentral.nih.gov/tocrender.fcgi?iid=3506>

11. Steps you have taken to consult with other workers who are familiar with the insect or organism as to suitability of and need for the proposed common name:

The following specialists have commented on the proposal:

- Brytten E. Steed, Entomologist, USDA Forest Service, Forest Health Protection, Ogden Field office, Ogden, UT 84403 (bsteed@fs.fed.us)
- Liz Hebertson, Forest Health Specialist, USDA Forest Service, Forest Health Protection, Ogden Field office, Ogden, UT 84403 (lhebertson@fs.fed.us)
- Sheri Smith, Supervisory Entomologist, USDA Forest Service, Forest Health Protection, Lassen National Forest Supervisor's Office, Susanville, CA (ssmith@fs.fed.us)
- Joel McMillin, Entomologist, USDA Forest Service, Forest Health Protection, Flagstaff, AZ (jmcmillin@fs.fed.us)
- Terry Rogers, Entomologist, USDA Forest Service, Forest Health Protection, Albuquerque, NM, (trogers@fs.fed.us).
- Ann M. Lynch, Research Entomologist, USDA Forest Service, Wildland-Urban Interface Fuels Management & Forest Health Restoration, Rocky Mountain Research Station, Flagstaff, AZ (alynch@fs.fed.us)
- Jim LaBonte, Insect Program Specialist, Oregon Department of Agriculture, Salem OR
- Gail Durham, Nevada Division of Forestry, Carson City NV (gdurham@forestry.nv.gov)

11b. What type of literature searches/checks did you conduct (e.g. CABI, ESA and ESC web pages, USDA FS library, formal library search engine- list, etc.)

* Search on ESA Common Names site (http://www.entsoc.org/Pubs/Books/Common_Names/search.asp) to determine if this species had a common name, if the common name belonged to another species – negative on both accounts.

* Review of the ESC Common Names publication (pdf at http://www.esc-sec.org/common_names_2005.pdf) to determine if this species had a common name in either English or French, or if the English common name proposed belonged to another species – negative on both accounts.

* Search in CAB2004 data base.

* See list of citations in #10.

12. Proposed by (your name): Western Forest Insect Work Conference group (WFIWC), Common Names Committee (CNC) Chair – Brytten Steed

Proposal prepared and submitted to the WFIWC CNC by Lee Pederson, Entomologist, USDA Forest Service-Forest Health Protection, Coeur d'Alene, ID.

pinyon needle scale
1008-10-05

Matsucoccus acalyptus

12/9/2005

E-mail: bsteed@fs.fed.us

Telephone: 801-476-9732

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Address:

[Brytten Steed / USDA FS – Forest Health Protection / 4746 S. 1900 E. / Ogden UT 84403](#)

Date: [December 9, 2005](#)

pinyon needle scale
1008-10-05

Matsucoccus acalyptus

12/9/2005

November 9, 2005

To those interested in what to call the 'P' in PJ:

I thank you all for your comments and participation in the WFIWC Common Name's Committee's efforts to assist in getting formally (ESA) accepted common names for a number of the insects in the Western Forest Insects publication. This is particularly important as we hope this book will be revised and republished in the next ~18 months.

We have received a fair amount of discussion concerning the use of 'piñon' or 'pinyon' as the common names of insects that use these various species. This concern was brought up during the review process of the common names proposal for *Matsucoccus acalyptus*, or 'pinyon needle scale' (but did not surface when I sent out the proposal for 'pinyon ips' or during the 30 days 'pinyon ips' was up for review on the WFIWC web page). I wanted to share with you what the exploratory processes we do as part of the CNC for determining common names has found. I have also added comments from you and/or others to try to cover all the points that have been brought forward.

The preponderance of information points to use of 'pinyon'. The principle point made for use of 'piñon' related to its use in the common names in WFI and cultural pretext (a much 'greyer' area - see notes below). Based largely on precedent in the literature, the WFIWC will submit the common name of 'pinyon needle scale' for *M. acalyptus*.

As usual, we will send announcement of this posting (along with several others) to the list of people noted as WFIWC members on the web page. The announcement will have 30-days for review. If, after reviewing our reasoning behind using 'pinyon', you are still strongly against this common name, you may make additional comments. Any and all comments are considered in another evaluation before the proposal is either changed and placed on the web for another 30-day consideration period, or is tabled for vote during the WFIWC meeting (actually the NAWFIWC in NC in May).

Again, thanks for your review of the proposal.

Sincerely,

/s/ Brytten Steed

Brytten Steed
WFIWC Common Names Committee Chair
bsteed@fs.fed.us

DISCUSSION OF PINYON vs PIÑON: points and comments made on this topic

1. Suggest that the most commonly used word for the trees be the same word used in the common name to avoid confusion. See information in 'precedent in literature'.
2. Also suggest that usage correspond with other common names for insects inhabiting these trees (e.g. 'pinyon spindlegall midge' has been ESA approved, as has 'pinyon ips'; 'pinon [sans tilde] cone beetle' is the only other related name found in the database). See information in 'precedent with other common names'.
3. Precedent in literature
 - a. The PLANTS database refers to *P. edulis* and *P. monophylla* as pinyons. (see www.fs.fed.us/database/feis/plants/tree/pinmon/introductory.html). However, for the Mexican species *P. juarezensis* they refer to it as the Sierra Juárez piñon.
 - b. Only *P. monophylla* appears to carry the piñon common name (per PLANTS database and Silvics of North America):
 - The common names provided for *P. edulis* include: Colorado pinyon pinyon pine, Rocky Mountain pinyon, nut pine, two-needle pinyon
 - The common names provided for *P. monophylla* include: singleleaf pinyon, nut pine, and piñon.
 - c. See the reference list used by the Plants Database lit cite (at the end of this doc.) that shows how often both words are used in titles of literature. (*Note, that when I copied these from the HTML, the ~ did not come with the n so there does appear to be some limitations is using a letter that is not on the keyboard but rather, is considered a symbol in English computer programs.*)
 - d. Silvics of North America, Ag Handbook # 654 give *P. edulis* the common name of 'pinyon' and *P. monophylla* the common name of 'singleleaf pinyon'. They list other common names as found in the PLANTS database (e.g. piñon only under *P. monophylla*).
 - e. Robbin Tausch, Neil West, and Paul Tueller, some of the people most involved with research on these tree species use 'pinyon' in their publications.
 - f. Over 75% of the literature I've gathered on the tree species and associated insects and diseases uses the 'pinyon' spelling. If we give past usage precedence, then pinyon shows the clearest precedence.
4. Precedent with other common names:
 - a. pinyon spindlegall midge- *Pinyonia edulicola*: found in ESA database
 - b. pinon cone beetle - *Conophthorus edulis* Hopkins: found in ESA database (Note that no tilde is over the n. I'm not sure why. Perhaps the database can't handle symbols? If all common names are to use the same word for the host, this would need to be updated one way or another. I'll check with ESA to see if piñon can be entered with the tilde in their database.)
 - c. pinyon ips: just accepted by WFIWC and ESA, not yet on the database

- d. no insect in the ESA database carries 'piñon' as part of it's common name
- e. no insect common name with either spelling was found in ESC
- f. Common names in WFI of insects that use *P. monophylla* (blue), *P. edulis* (red) or both species (green) are listed below.

Interestingly, WFI refers to both tree species as 'pinyon' while using 'piñon' in all the common names for related insects:

i. <i>Frankliniella occidentalis</i>	n/a	(pg 78)
ii. <i>Oxythrips pinicola</i>	n/a	(pg 79)
iii. <i>Dendrocoris pini</i>	n/a	(pg 86)
iv. <i>Pineus coloradensis</i>	n/a	(pg109)
v. <i>Matsucoccus monophylla</i>	n/a	(pg121)
vi. <i>M. acalyptus</i>	piñon needle scale	(pg 120) *
vii. <i>M. eduli</i>	n/a	(pg 121)
viii. <i>Pityococcus ferrisi</i>	n/a	(pg 124)
ix. <i>P. rugulosus</i>	n/a	(pg 124)
x. <i>Desmococcus pativus</i>	n/a	(pg 124)
xi. <i>D. sedentarius</i>	n/a	(pg 124)
xii. <i>Eucosoma bobana</i>	n/a	(pg 146)
xiii. <i>Petrova monophylliana</i>	n/a	(pg 152)
xiv. <i>P. albicapitana arizonensis</i>	piñon pitch nodule moth	(pg 152) *
xv. <i>Chionodes periculella</i>	n/a	(pg 177)
xvi. <i>Dioryctria albovittella</i>	n/a	(pg182)
xvii. <i>Halisidota ingens</i>	n/a	(pg218)
xxviii. <i>H. argentata subalpina</i>	(<i>H. argentata</i> is silver spotted tiger moth)	(pg218)
xix. <i>Chrysobothris trinervia</i>	n/a	(pg 260)
xx. <i>Melanophila pini-edulis</i>	flatheaded piñon borer	(pg 264) *
xxi. <i>Ernobius montanus</i>	n/a	(pg 269)
xxii. <i>Tricorynus conophilus</i>	n/a/	(pg272)
xxiii. <i>Stephanopachys sobrinus</i>	n/a	(pg 275)
xxiv. <i>Haplidus testaceus</i>	n/a	(pg 300)
xxv. <i>Oeme costata</i>	n/a	(pg 303)
xxvi. <i>Glyptoscelis aridis</i>	n/a	(pg 318)
xxvii. <i>Carphoborus pinicolens</i>	n/a	(pg 345)
xxviii. <i>Conophthorus monophylla</i>	singleleaf piñon cone beetle	(pg 377) *
xxix. <i>C. edulis</i>	piñon cone beetle	(pg 377)
	(ESA approved name is pinon cone beetle– sans tilde)	
xxx. <i>Ips confusus</i>	piñon ips	(pg 394)
	(Name submitted to ESA by WFIWC is pinyon ips)	
xxxi. <i>Contarinia cockerelli</i>	n/a	(pg 417)
xxxii. <i>Janetiella coloradensis</i>	piñon stunt needle midge	(pg 419) *
xxxiii. <i>Pinyonia edulicola</i>	piñon spindle gall midge	(pg420)
	(ESA approved name is pinyon spindlegall midge)	
xxxiv. <i>Xyela concave</i>	n/a	(pg 437)
xxxv. <i>Xyela deserti</i>	n/a	(pg 437)
xxxvi. <i>Neodiprion edulicolus</i>	piñon sawfly	(pg 442) *
xxxvii. <i>Zadiprion rohweri</i>	n/a	(pg 444)

The six species denoted by (*) are on the WFIWC list of 200+ species for common name proposals (reference to EXCEL sheet on web page).

5. Cultural sensitivity (comments made to the CNC):

- a. Piñon is the Spanish word for the tree and is the basis for pinyon. We should go back to using the original word for the host plant. However, the Spanish were invaders to the area, as well, and we should actually use the Navaho, Hopi, Ute, Goshute, Paiute, ... name for the tree.
- b. The English language is made up of a wide range of words borrowed from other languages/cultures and adapted to our spelling and pronunciation, thus becoming an 'English' word. HOWEVER, in the Websters 3rd New International Dictionary, they show both piñon and pinyon, and in the definitions related to all-things piñon, they use 'piñon'.
- c. Bilingual (Spanish-English) speakers have expressed a strong feeling against the mixing of the two languages or the use of 'spanglish'. Since we are not using the Spanish words for 'ips' or 'needle scale', it could be considered an improper mixing of the two languages to use the piñon spelling.

Pinus monophylla: References

(showing only those with pinyon/piñon in the title)

<http://www.fs.fed.us/database/feis/plants/tree/pinmon/references.html#247>

4. Balda, Russell P.; Masters, Nancy. 1980. Avian communities in the pinyon-juniper woodland: a descriptive analysis. In: DeGraaf, Richard M., technical coordinator. Management of western forests and grasslands for nongame birds: Workshop proceedings; 1980 February 11-14; Salt Lake City, UT. Gen. Tech. Rep. INT-86. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station: 146-169. [17903]
5. Barney, Milo A.; Frischknecht, Neil C. 1974. Vegetation changes following fire in the pinyon-juniper type of west-central Utah. Journal of Range Management. 27(2): 91-96. [397]
10. Betancourt, Julio L. 1987. Paleoecology of pinyon-juniper woodlands: summary. In: Everett, Richard L., compiler. Proceedings--pinyon-juniper conference; 1986 January 13-16; Reno, NV. Gen. Tech. Rep. INT-215. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station: 129-139. [29488]
11. Betancourt, Julio L.; Schuster, William S.; Mitton, Jeffrey B.; Anderson, R. Scott. 1991. Fossil and genetic history of a pinyon pine (*Pinus edulis*) isolate. Ecology. 72(5): 1685-1697. [35919]
13. Blackburn, Wilbert H.; Bruner, Allen D. 1975. Use of fire in manipulation of the pinyon-juniper ecosystem. In: The pinyon-juniper ecosystem: a symposium: Proceedings; 1975 May; Logan, UT. Logan, UT: Utah State University, College of Natural Resources, Utah Agricultural Experiment Station; 1975: 91-96. [454]
15. Blackburn, Wilbert H.; Tueller, Paul T. 1970. Pinyon and juniper invasion in black sagebrush communities in east-central Nevada. Ecology. 51(5): 841-848. [459]
21. Bolsinger, Charles L. 1989. California's western juniper and pinyon-juniper woodlands: area, stand characteristics, wood volume, and fenceposts. Res. Bull. PNW-RB-166. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 37 p. [10365]
25. Bruner, Allen D.; Klebenow, Donald A. 1979. Predicting success of prescribed fires in pinyon-juniper woodland in Nevada. Res. Pap. INT-219. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station. 11 p. [3254]
26. Bunting, Stephen C. 1990. Prescribed fire effects in sagebrush-grasslands and pinyon-juniper woodlands. In: Alexander, M. E.; Bisgrove, G. F., technical coordinator. The art and science of fire management: Proceedings of the 1st Interior West Fire Council annual meeting and workshop; 1988 October 24-27; Kananaskis Village, AB. Information Rep. NOR-X-309. Edmonton, AB: Forestry Canada, Northwest Region, Northern Forestry Centre: 176-181. [15519]

34. Campbell, Robert B., Jr. 1999. Ecology and management of pinyon-juniper communities within the Interior West: overview of the "ecological restoration" session of the symposium. In: Monsen, Stephen B.; Stevens, Richard, compilers. Sustaining and restoring a diverse ecosystem: Proceedings: ecology and management of pinyon-juniper communities within the Interior West; 1997 September 15-18; Provo, UT. Proc. RMRS-P-9. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station: 271-277. [30564]
35. Chambers, Jeanne C.; Schupp, Eugene W.; Vander Wall, Stephen B. 1999. Seed dispersal and seedling establishment of piñon and juniper species within the piñon-juniper woodland. In: Monsen, Stephen B.; Stevens, Richard, compilers. Sustaining and restoring a diverse ecosystem: Proceedings: ecology and management of pinyon-juniper communities within the Interior West; 1997 September 15-18; Provo, UT. Proc. RMRS-P-9. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station: 29-34. [30487]
36. Chojnacky, David C. 1986. Pinyon-juniper site quality and volume growth equations for Nevada. Research Paper INT-372. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station. 7 p. [620]
37. Chojnacky, David C. 1987. Estimating singleleaf pinyon and Utah juniper volumes for several utilization standards. Western Journal of Applied Forestry. 2(2): 51-55. [621]
39. Clary, Warren P. 1987. Herbage production and livestock grazing on pinyon-juniper woodlands. In: Everett, Richard L., compiler. Proceedings--pinyon-juniper conference; 1986 January 13-16; Reno, NV. Gen. Tech. Rep. INT-215. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station: 440-447. [29494]
40. Clary, Warren P. 1989. Test of RPA production coefficients and local assumptions for the pinyon-juniper ecosystem in central Utah. Res. Pap. INT-403. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station. 11 p. [9292]
46. des Lauriers, James; Ikeda, Mark. 1986. An apparent case of introgression between pinyon pines of the New York Mountains, eastern Mojave Desert. Madrono. 33(1): 55-62. [34939]
48. Dobrowolski, James P.; Lanner, Ron; Malechek, J. C.; West, Neil. 1995. Opinions, options clash on pinyon-juniper woodlands. Utah Science. 56(1): 14-21. [29826]
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