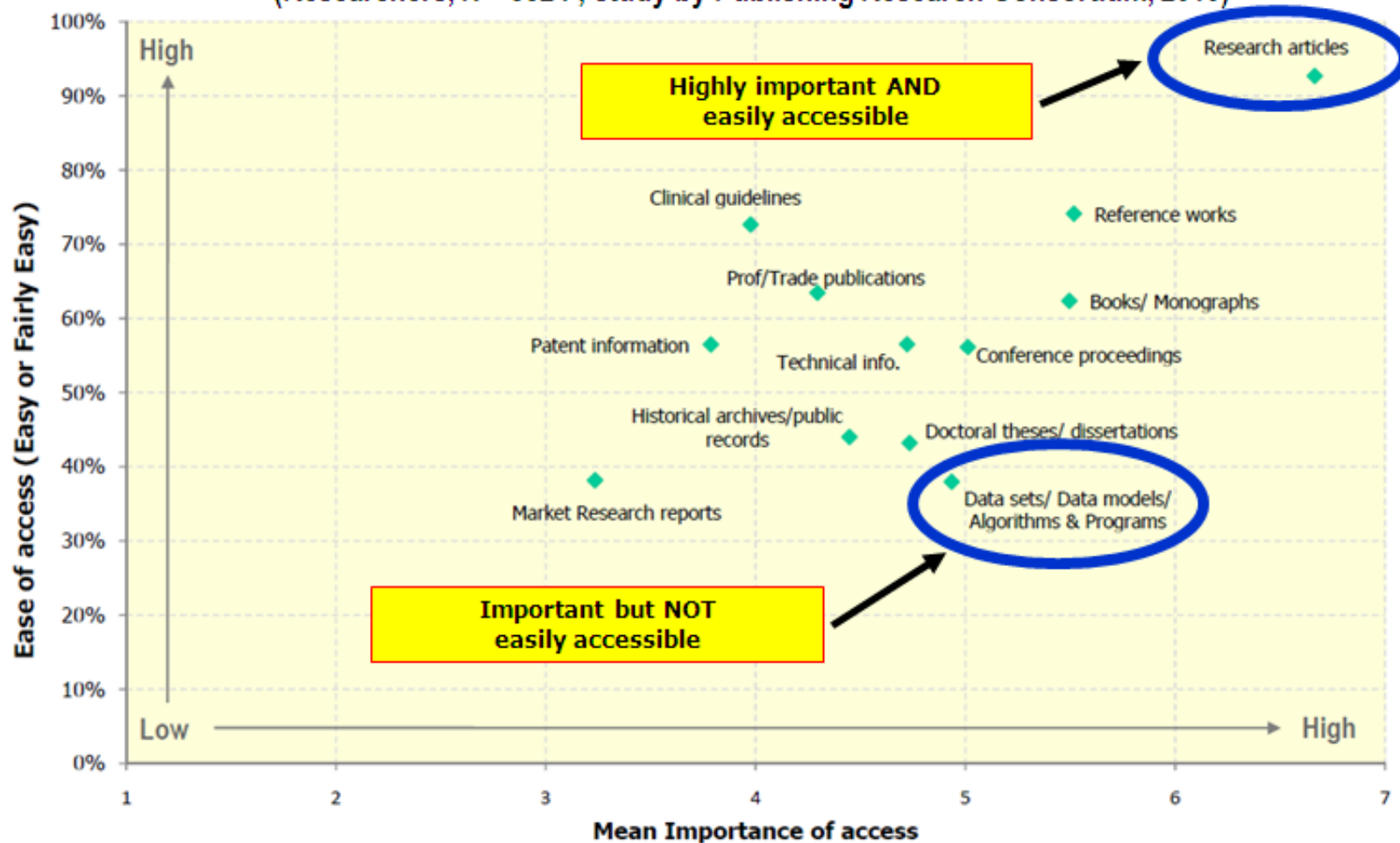


Connecting to data sets through SciVerse Applications

IJsbrand Jan Aalbersberg
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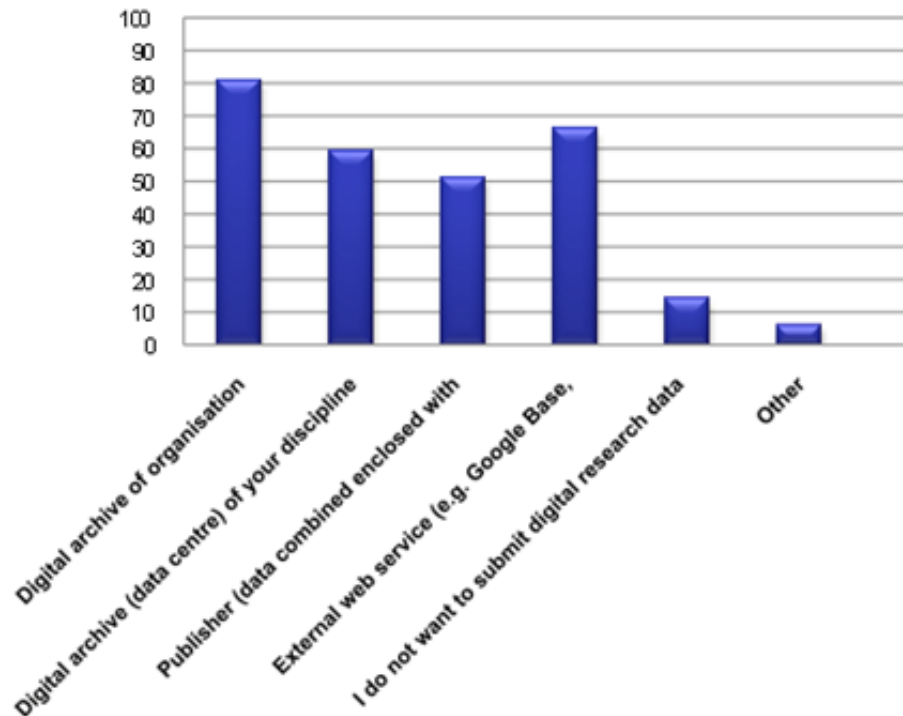
Access vs. Importance

(Researchers, N = 3824 ; study by Publishing Research Consortium, 2010)

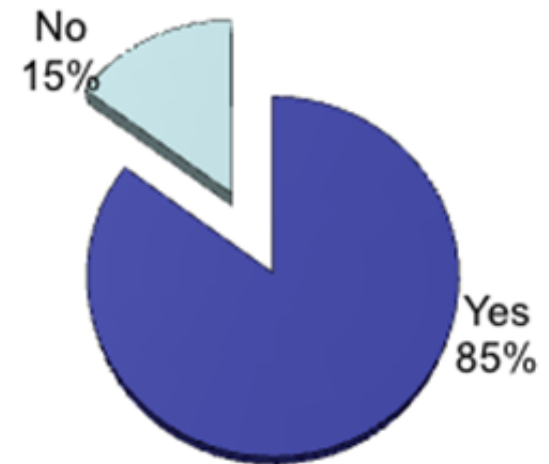


Location and Linking

Where would you be willing to submit your research data?



Do you think it is useful to link underlying research data with formal literature?



(Researchers, N=1202; study by EU PARSE.Insight, 2009)

STM / ALPSP Position on Data Sets

“... believe that, as a general principle, **data sets, raw data outputs of research**, and sets or subsets of that data **should** wherever possible be **made freely accessible** to other scholars ...”

(Statement from STM & ALPSP, June 2006)

“... **Raw research data should be made freely available to all researchers.** Publishers encourage the public posting of the raw data outputs of research. ...”

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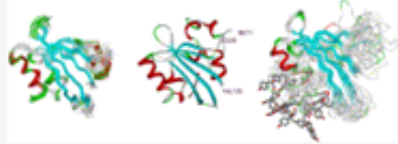
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Linking from an entity

Upon irradiation at 446 nm, the chromophore switches to the cis form, [33] and [34] (Fig. 1). In the dark, the trans folded state is regained in sec ARTICLE ig d
experimental conditions.³⁶ Several studies have shown that the N-terminal acetyl (residues 1–25) o
PYP undergoes an almost complete unfolding upon irradiation, exposing a hydrophobic patch on the
protein.^{[36], [37], [38], [39] and [40]} The N-terminally truncated protein ($\Delta 1-25$) is still fully functional, albe
with a slower photocycle.³³



Full-size image (72K)
High-quality image (755K)

Fig. 1.
Structures of PYP under various conditions. (a) NMR solution structure of dark-adapted $\Delta 25$ PYP (PDB code 1XFN).³³ (b) X-ray crystal structure of dark-adapted full-length wild-type PYP (the N-terminal ca. 25 residues are missing) (PDB code 1NWZ).³² (c) NMR solution structure of light-adapted $\Delta 25$ PYP (PDB code 1XFQ).³³

Our approach to using PYP as a photoswitch aims to use the folded state of PYP to sterically prevent interaction, which is then allowed to occur in the flexible light-adapted form. It has been suggested that such a mechanism may explain how PYP interacts with its putative partner protein *in vivo*.³⁶ We wish to explore the possibility of designing a genetically encoded photoswitchable DNA binding protein by fusing PYP to the prototypical leucine-zipper-type DNA binding protein GCN4-bZIP. The bZIP domain i

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Linking from an article

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yl; NHC ligand

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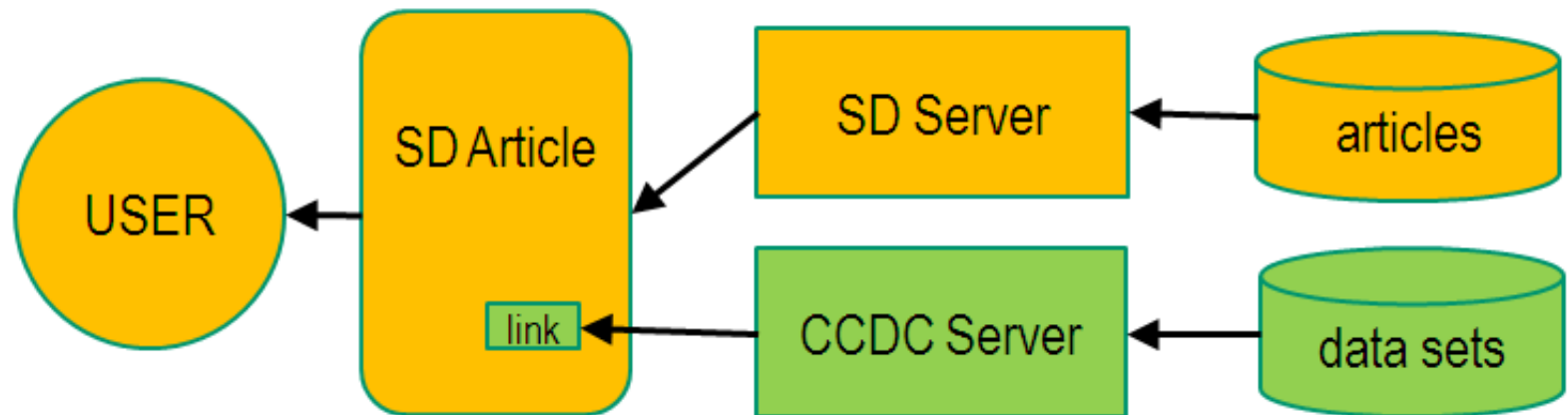
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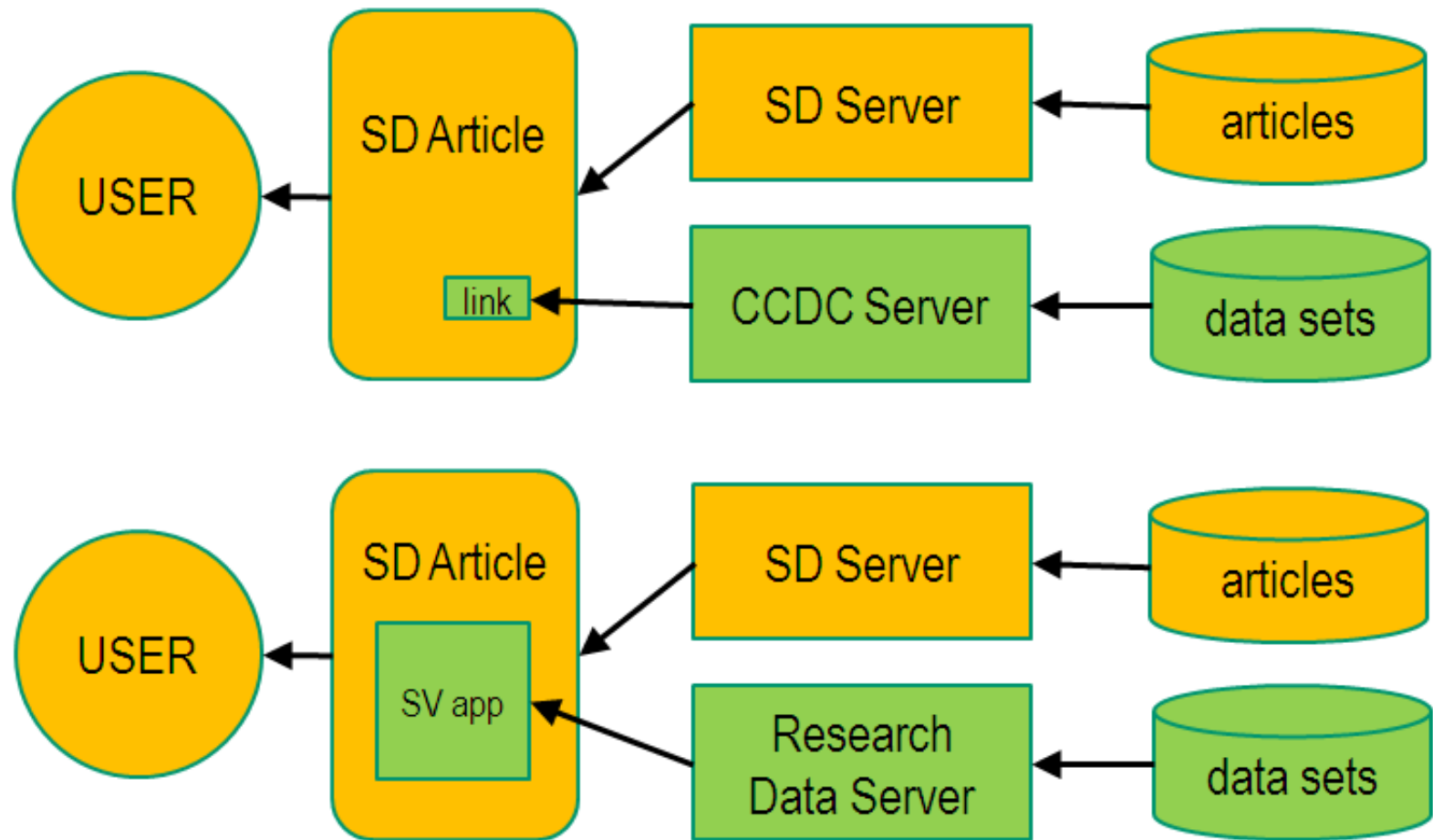
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Dataset linking: how does it work?



- Based on image-based linking
- SD article asks for a “data set image” from CCDC
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Dataset integration: how does it work?



SciVerse Applications: What is it?

- Integrates data and articles
- Puts data in the proper context
- Discovers remote data
- Open development platform
- For partners and developers
- Can be customized per customer

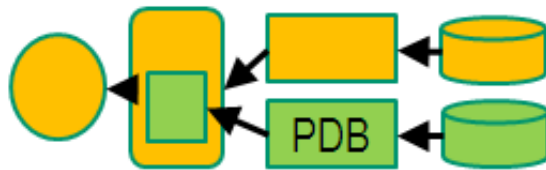


SciVerse Applications: What is it?

- Integrates data and articles
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Pulling data in from Protein Data Bank



- Author-tagged
- Data from PDB
- 3D Visualisation
 - Select
 - Zoom
 - Rotate
- All inside article

the metal ions of the catalytic center. This is in contrast to a proposal for *Desulfovibrio* sp. hydrogenases that show a di-oxo species in this position for the Ni-A state. The additional metal site located in the large subunit appears to be a Mg^{2+} ion. Three iron-sulfur clusters (the electron transfer chain connecting the catalytic site with the molecular oxygen reductase) are located in the large subunit. This altered site indicates a distorted proximal iron-sulfur cluster in part of the crystals. This altered site is exchange coupled to the Ni²⁺ ion and the medial [Fe₂S₂]⁺ cluster that are both a modified proximal cluster in the [NiFe] hydrogenase might explain the observation of split EPR signals that are occasionally detected in the oxidized state of membrane-bound [NiFe] hydrogenases as from *A. vinosum*.

ARTICLE

Protein Viewer

Keywords: [NiFe] hydrogenase; *Allochroaetium vinosum*; photosynthetic purple-sulfur bacterium; iron-sulfur cluster; Ni-A state

Abbreviations: EPR, electron paramagnetic resonance; FTIR, Fourier transform infrared; ICP-OES, inductively coupled plasma with optical atomic emission spectrometry; MAD, multiwavelength anomalous dispersion; D. vulgaris H, *Desulfovibrio vulgaris* Hildenborough; D. vulgaris MF, *Desulfovibrio vulgaris* Mizuzaki F; PDB, Protein Data Bank

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Related reference work

- Photosystem I: FX, FA, and FB
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- Hydrogen Activation
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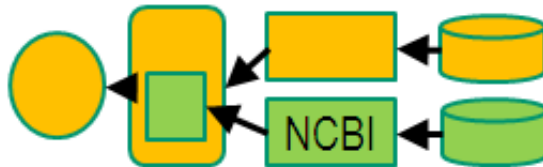
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Pulling data in from Gene Data Bank



- Author-tagged
- NCBI gene viewer
- Functionality to drill down deeply into gene information
- All inside article

homologues deposited in GenBank, which share 30–80% identity to their counterparts in T7-like phages. **ARTICLE** ing CoreGenes, phylogenetic tree of RNA polymerase and led that bacteriophage MmP1 should be assigned as a new relatively distant member of this family. This is the first rely parasitizes in *M. organii*, and this will advance our understanding of biodiversity and adaptive evolution of T7-like phages.

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Genes

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gp04	MmP1_gp23 ACF42023.1	MmP1_gp36 ACF42036.1	MmP1_gp41 ACF42041.1	
01	MmP1_gp12 ACF42012.1	MmP1_gp31 ACF42031.1	MmP1_gp39 ACF42039.1	MmP1_gp44 ACF42044.1
gp03	MmP1_gp19 ACF42019.1	MmP1_gp34 ACF42034.1	MmP1_gp42 ACF42042.1	MmP1_gp46 ACF42046.1
02	MmP1_gp16 ACF42016.1	MmP1_gp35 ACF42035.1	MmP1_gp47 ACF42047.1	MmP1_gp48 ACF42048.1
_gp06	MmP1_gp21 ACF42021.1	MmP1_gp30 ACF42030.1	MmP1_gp38 ACF42038.1	MmP1_gp45 ACF42045.1
_gp05	MmP1_gp20 ACF42020.1	MmP1_gp28 ACF42028.1	MmP1_gp41 ACF42041.1	MmP1_gp45 ACF42045.1

Keywords: Bacteriophage; T7-like phages; T7 group; Podoviridae; Genome sequence; Genome annotation; Structural proteins; RNA polymerase

Article Outline

- Introduction
- Materials and methods
 - Bacteriophage propagation, purification and observation
 - DNA sequencing and assembly

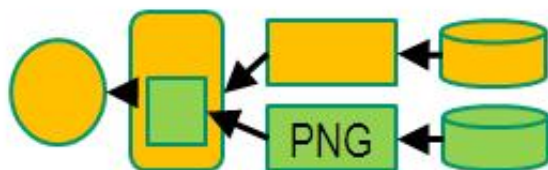
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Carbon concentration variability of 10 Chinese temperate

Juan Wang, Xingchang Wang

East Forestry University, 26 Hexin

revised 2 May 2009; Accepted 8

concentration ([C]) of 50% in dry
tion of biomass to C stock. However,
available for the Chinese temperate
-specific variations of [C] in biom
northeastern China. The species
larch (*Larix gmelinii* Rupr.), Mong
platyphylla Suk.), Amur cork-tre
mandshurica Maxim.), Manch
lawiana Dode), Mono maple (*A
he mean tissue [C] across the spe
ean stem [C] of the 10 species wa
stration (WMCC) for the species ra
orean pine (53.2%) > Manchurian
(47.6%) > Dahurian larch (46.9%
(.7%). The WMCC of the dominar
of biomass (MAI), suggesting that
ation and reforestation practices
ror of -6.7% to +7.2% in estimat
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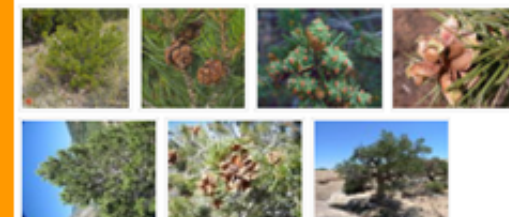
Pinus edulis Engelm.

Other names

source: Encyclopedia of Life

Two-needle pinyon pine, pinyon, two-leaf pinyon, two-needle pinyon, twoneedle pinyon.

Images



Description

Pinyon, common pinyon, New Mexico pinyon, Colorado pinyon, mesa pinyon, two-leaf pinyon, nut pine, twoneedle pinyon. Spanish spellings are pifion and pifón.

Conservation Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status, such as, state noxious status and wetland indicator values.

Description

General: Pine Family (**Pinaceae**). Native shrubs or trees growing 5-12(21) meters tall, with a strongly tapering trunk, single-stemmed and tallest at higher elevations, multi-stemmed, bushy and sprawling on lower sites, the crown usually compact, rounded and spreading. Bark is reddish-brown, shallowly and irregularly furrowed. Needles are evergreen, 2 per bundle, less commonly 4 or 2-4 on long, woody, yellow-green.

Summary (1)

1. Elsevier supports **freely accessible data sets**
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3. SciVerse Applications **enable data sets to be further exposed, and be put into the context** of the article, further increasing value of article and data sets
4. Elsevier invites data repositories to collaborate!

Summary (2)

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Time's Up!



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