

Revisions to inflorescence branch terms & axis terms:

Structures commonly described as branches are most often called axes in the botanical literature and much of the PO, and the use of both inflorescence branch (PO:0009081) and inflorescence axis (PO:0020122) in the PO is confusing and an unnecessary hurdle to the construction of inflorescence-related terms and definitions. Additionally, a side-effect of using inflorescence branch for axes produced past the first order is that inflorescence branch orders in the PO are one order lower than is typically used by plant anatomists to refer a given axis (e.g. currently in the PO, a third order inflorescence branch is equal to what is most commonly referred to in the literature as a fourth order inflorescence axis).

We propose that inflorescence branch (PO:0009081) be renamed higher order inflorescence axis, and that each order of inflorescence branch be renamed using its corresponding inflorescence axis exact synonym; for example, third order inflorescence branch would be renamed its current synonym, fourth order inflorescence axis.

Please refer to annotated images below to visualize the proposed changes on inflorescences of monopodial and sympodial ground plans.

These changes will improve the readability and interpretability of definitions where they are referenced, better encompass inflorescences with a sympodial ground plan, and maximize the parallel nature of the PO.

Link to history of these terms on GitHub:

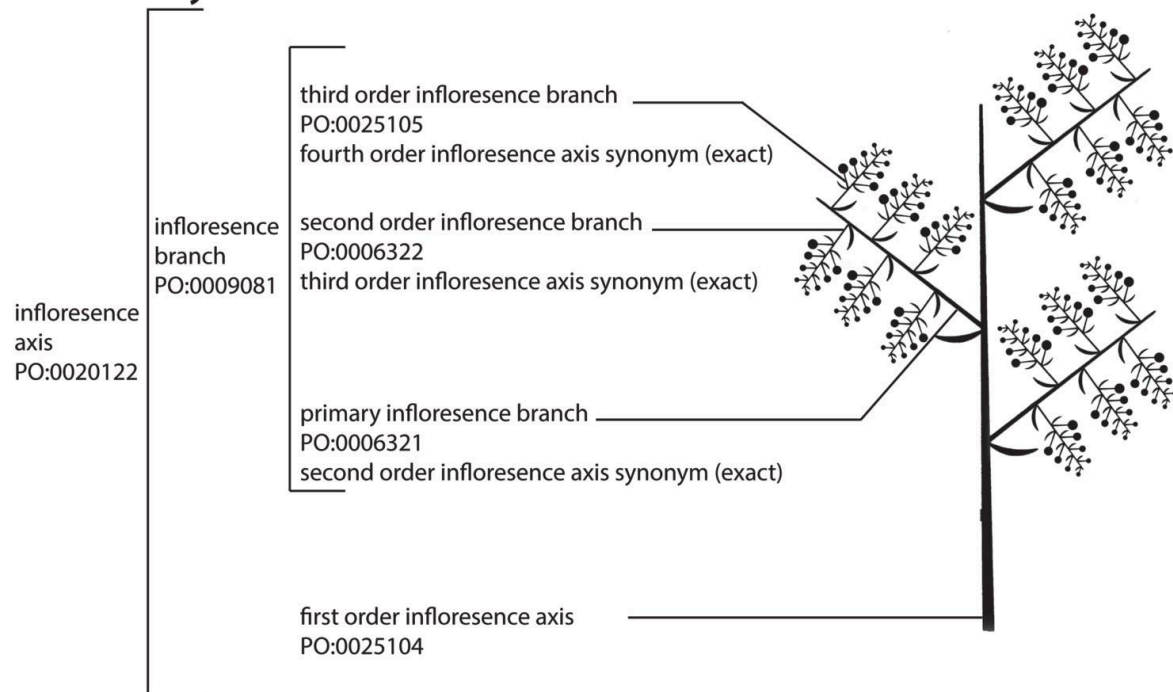
<https://github.com/Planteome/plant-ontology/issues/264>

Link to NEW issue tracker for these revisions:

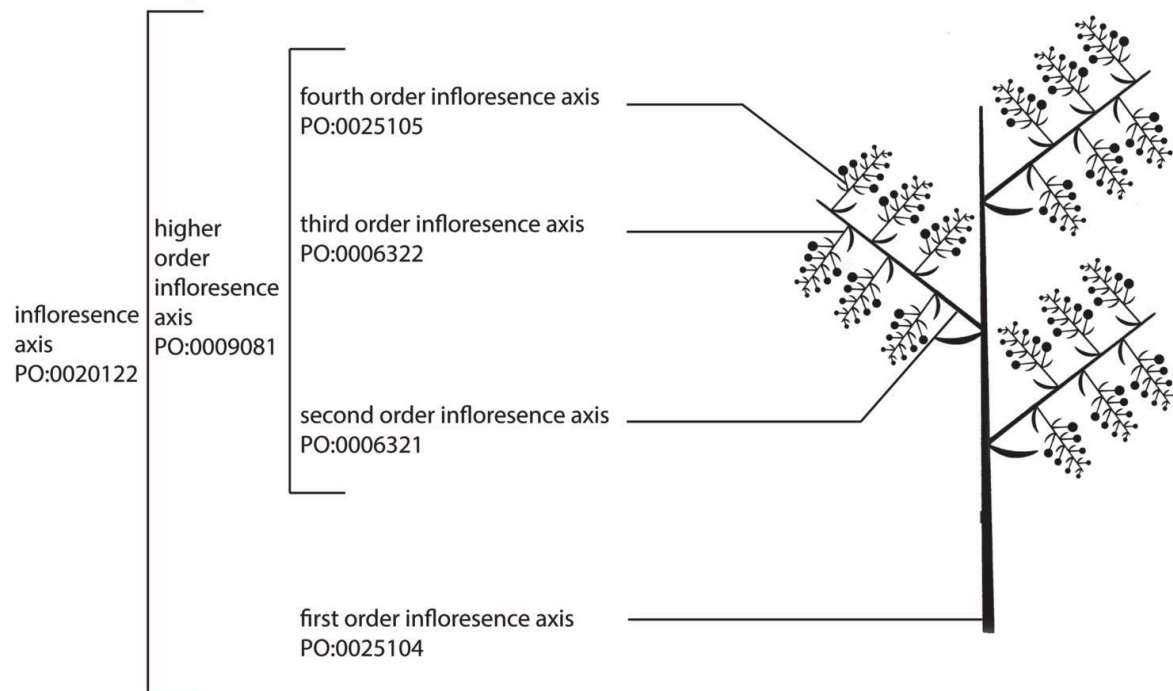
<https://github.com/Planteome/plant-ontology/issues/667>

monopodial inflorescence illustration

current system

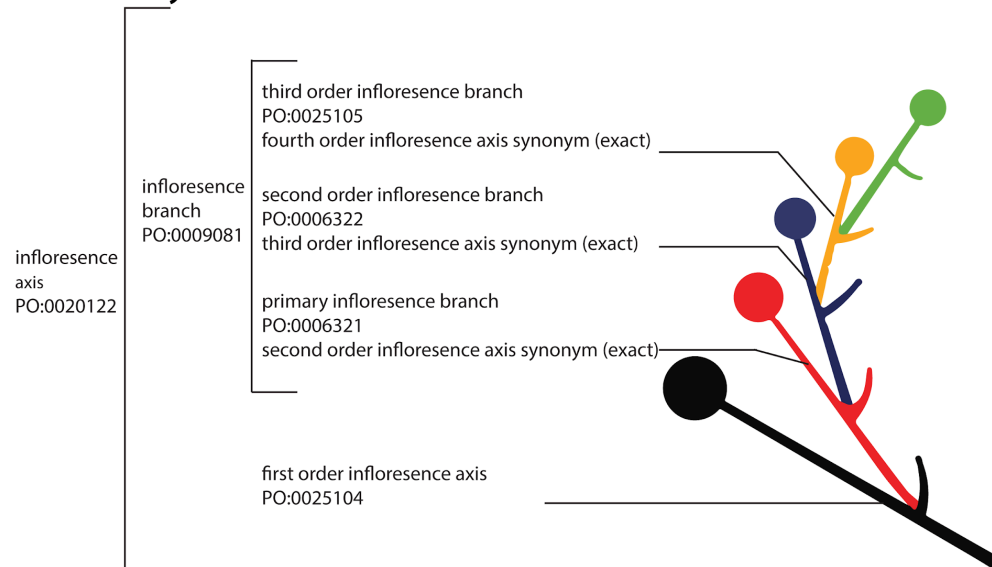


revised system

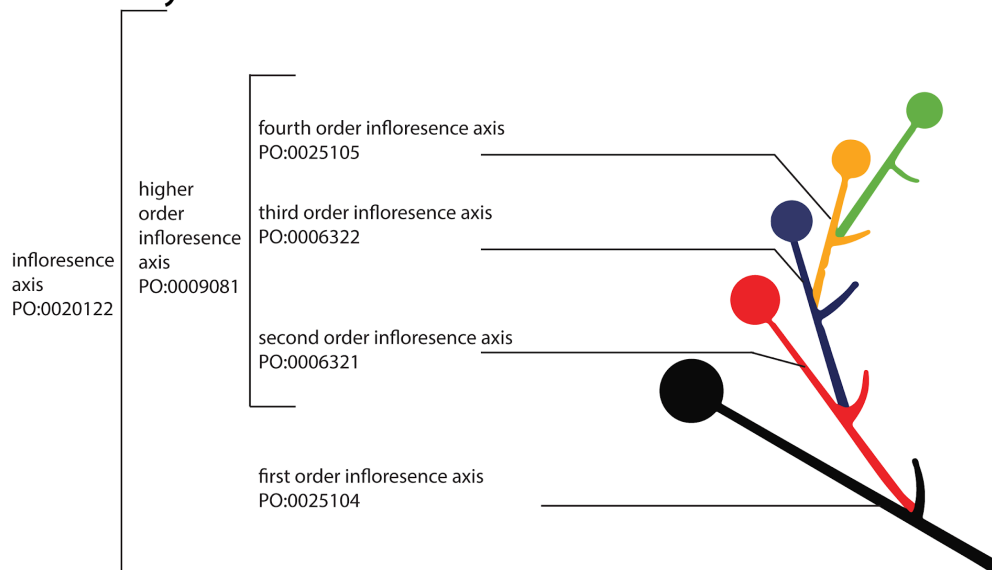


sympodial inflorescence illustration

current system

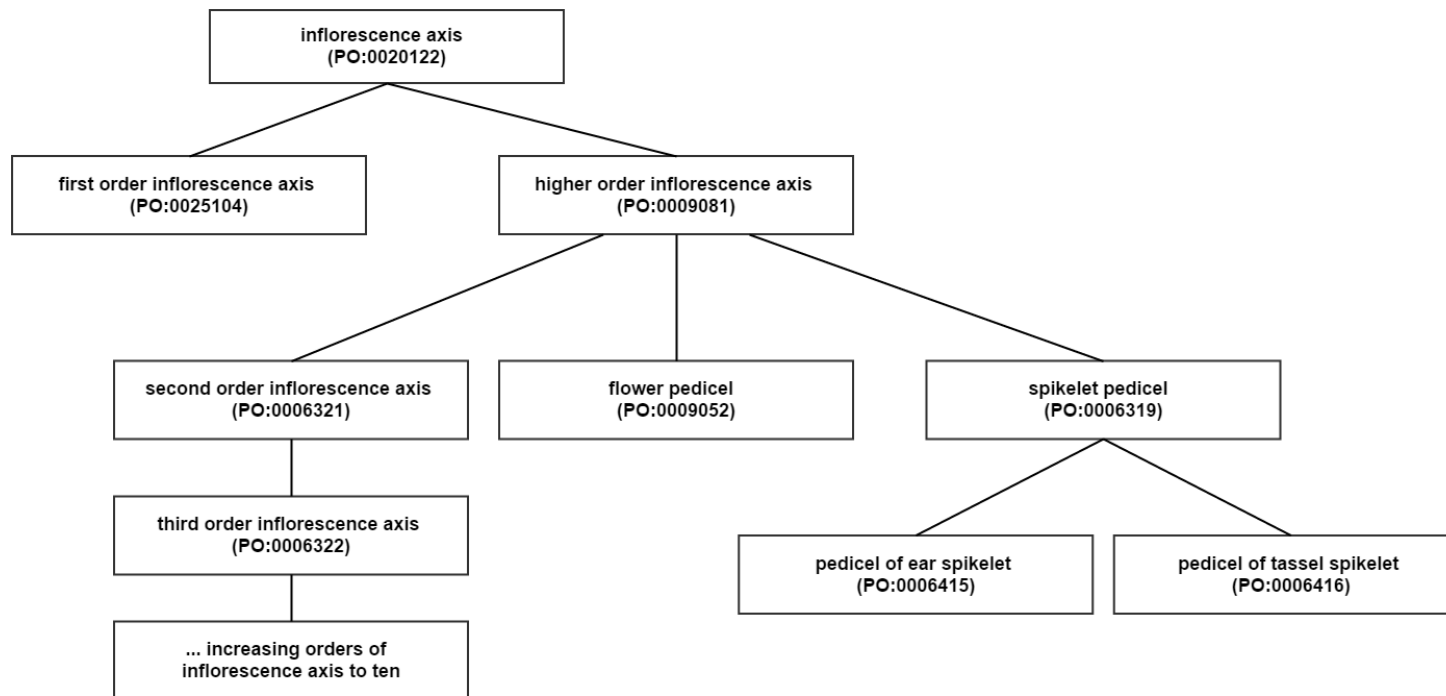


revised system



Sympodial inflorescence

Revised System



inflorescence axis (PO:0020122)

Current def'n: A shoot axis (PO:0025029) that is part of an inflorescence (PO:0009049).

Revised def'n: No revisions.

Current comment: None.

Revised comment:

An inflorescence axis (PO:0020122) has either a determinate apex, which terminates in a flower meristem (PO:0000229), or has an indeterminate apex, which terminates in an inflorescence apical meristem (PO:0009108). An inflorescence pedicel (PO:0009052) is the simplest example of a determinate inflorescence axis.

Current synonyms: eje de la inflorescencia (Spanish, exact), 花序軸 (Japanese, exact), first order inflorescence branch (related), inflorescence rachis (related)

Revised synonyms: eje de la inflorescencia (Spanish, exact), 花序軸 (Japanese, related), inflorescence branch (related), inflorescence rachis (related)

Changes made to the PO; BTS, 16 March 2017

first order inflorescence axis (PO:0025104)

Current def'n: An inflorescence axis (PO:0020122) that is the primary or main axis of an inflorescence (PO:0009049).

Revised def'n: No revisions.

Current comment: A first order inflorescence axis consists of either a peduncle alone or a peduncle plus its continuation, depending on the form of the inflorescence.

Revised comment: Monopodial inflorescences, such as a raceme, have a centrally-located main axis; this axis is a first order inflorescence axis. In contrast, sympodial inflorescences, such as the rhipidium, do not have a centrally-located main axis. The basal-most portion of a first order inflorescence axis is referred to as a peduncle (PO:0009053).

Current synonyms: inflorescence rachis (exact), inflorescence rhachis (exact), primary inflorescence axis (exact), primer orden del eje de la inflorescencia (Spanish, exact), 第一花序軸 (Japanese, exact), ray (broad)

Revised synonyms: inflorescence rachis (exact), inflorescence rhachis (exact), primary inflorescence axis (exact), primer orden del eje de la inflorescencia (Spanish, exact), 第一花序軸 (Japanese, related)

Changes made to the PO; BTS, 15 March 2017

higher order inflorescence axis (PO:0009081)

Renaming of: inflorescence branch (PO:0009081)

Current def'n: An inflorescence axis (PO:0020122) that is a branch (PO:0009081) arising from a first order inflorescence axis (PO:0025104) or from a higher order inflorescence branch.

Revised def'n: An inflorescence axis (PO:0020122) that develops from an inflorescence axillary meristem (PO:0009105) of an inflorescence axis (PO:0020122).

Current comment: None.

Revised comment: A higher order inflorescence axis is any inflorescence axis (PO:0020122) that develops from another inflorescence axis (PO:0020122), and is named according to its position in an inflorescence (PO:0009049). Tenth order inflorescence axis (PO:0025111) is the greatest specific inflorescence axis order in the PO; when mapping annotations to inflorescence axes which are of an order greater than ten, or when order is ambiguous or unknown, annotate directly to higher order inflorescence axis.

Current synonyms: conflorescencia (Spanish, exact), paraclade (exact), paraclado (Spanish, exact), 花序枝 (Japanese, exact), coflorescence (related)

Revised Synonyms: conflorescencia (Spanish, broad), 花序枝 (Japanese, related), inflorescence branch (exact), paraclade (broad), paraclado (Spanish, broad), coflorescence (related)

Changes made to the PO; BTS, 15 March 2017

second order inflorescence axis (PO:0006321)

Renaming of: primary inflorescence branch (PO:0006321)

Current def'n: An inflorescence branch (PO:0009081) arising from a first order inflorescence axis (PO:0025104).

Revised def'n: A higher order inflorescence axis (PO:0009081) that develops from an inflorescence axillary meristem (PO:0009105) of a first order inflorescence axis (PO:0025104).

Comment: None.

Revised comment: No revisions.

Current synonyms: first order inflorescence branch (exact), first order paraclade (exact), rama de la inflorescencia principal (Spanish, exact), second order inflorescence axis (exact), 第一(主)花序分枝 (Japanese, exact)

Revised synonyms: primary inflorescence branch (exact), first order inflorescence branch (exact), eje de segundo orden de la inflorescencia (Spanish, exact), 第一(主)花序分枝 (Japanese, related)

Changes made to the PO; BTS, 15 March 2017

third order inflorescence axis (PO:0006322)

Renaming of: second order inflorescence branch (PO:0006322)

Current def'n: An inflorescence branch (PO:0009081) arising from a second order inflorescence branch (PO:0006322).

Revised def'n: A higher order inflorescence axis (PO:0009081) that develops from an inflorescence axillary meristem (PO:0009105) of a second order inflorescence axis (PO:0006322).

Comment: None.

Revised comment: No revisions.

Current synonyms: rama de segundo orden de la inflorescencia (Spanish, exact), second order paraclade (exact), secondary inflorescence branch (exact), third order inflorescence axis (exact), 第二花序分枝 (Japanese, exact)

Revised synonyms: second order inflorescence branch (exact), eje de tercero orden de la inflorescencia (Spanish, exact), secondary inflorescence branch (exact), 第二花序分枝 (Japanese, related)

Changes made to the PO; BTS, 15 March 2017

fourth order inflorescence axis (PO:0025105)

Renaming of: third order inflorescence branch (PO:0025105)

Current def'n: An inflorescence branch (PO:0009081) arising from a third order inflorescence branch (PO:0025105).

Revised def'n: A higher order inflorescence axis (PO:0009081) that develops from an inflorescence axillary meristem (PO:0009105) of a third order inflorescence axis (PO:0025105).

Comment: None.

Revised comment: No revisions.

Current synonyms: fourth order inflorescence axis (exact), rama de tercer orden de la inflorescencia (Spanish, exact), tertiary inflorescence branch (exact), third order paraclade (exact), 第三花序分枝 (Japanese, exact)

Revised synonyms: third order inflorescence branch (exact), eje de cuarto orden de la inflorescencia (Spanish, exact), tertiary inflorescence branch (exact), 第三花序分枝 (Japanese, related)

Changes made to the PO; BTS, 15 March 2017

fifth order inflorescence axis (PO:0025106)

Renaming of: fourth order inflorescence branch (PO:0025106)

Current def'n: An inflorescence branch (PO:0009081) arising from a fourth order inflorescence branch (PO:0025106).

Revised def'n: A higher order inflorescence axis (PO:0009081) that develops from an inflorescence axillary meristem (PO:0009105) of a fourth order inflorescence axis (PO:0025106).

Comment: None.

Revised comment: No revisions.

Current synonyms: fifth order inflorescence axis (exact), rama de cuarto orden de la inflorescencia (Spanish, exact), 第四花序分枝 (Japanese, exact)

Revised synonyms: fourth order inflorescence branch (exact), eje de quinto orden de la inflorescencia (Spanish, exact), 第四花序分枝 (Japanese, related)

Changes made to the PO; BTS, 15 March 2017

sixth order inflorescence axis (PO:0025107)

Renaming of: fifth order inflorescence branch (PO:0025107)

Current def'n: An inflorescence branch (PO:0009081) arising from a fifth order inflorescence branch (PO:0025107).

Revised def'n: A higher order inflorescence axis (PO:0009081) that develops from an inflorescence axillary meristem (PO:0009105) of a fifth order inflorescence axis (PO:0025107).

Comment: None.

Revised comment: No revisions.

Current synonyms: rama de quinto orden de la inflorescencia (Spanish, exact), sixth order inflorescence axis (exact), 第五花序分枝 (Japanese, exact)

Revised synonyms: fifth order inflorescence branch (exact), eje de sexto orden de la inflorescencia (Spanish, exact), 第五花序分枝 (Japanese, related)

Changes made to the PO; BTS, 15 March 2017

seventh order inflorescence axis (PO:0025108)

Renaming of sixth order inflorescence branch (PO:0025108)

Current def'n: An inflorescence branch (PO:0009081) arising from a sixth order inflorescence branch (PO:0025108).

Revised def'n: A higher order inflorescence axis (PO:0009081) that develops from an inflorescence axillary meristem (PO:0009105) of a sixth order inflorescence axis (PO:0025108).

Comment: None.

Revised comment: No revisions.

Current synonyms: rama de sexto orden de la inflorescencia (Spanish, exact), seventh order inflorescence axis (exact), 第六花序分枝 (Japanese, exact)

Revised synonyms: sixth order inflorescence branch (exact), eje de séptimo orden de la inflorescencia (Spanish, exact), 第六花序分枝 (Japanese, related)

Changes made to the PO; BTS, 15 March 2017

eighth order inflorescence axis (PO:0025109)

Renaming of: seventh order inflorescence branch (PO:0025109)

Current def'n: An inflorescence branch (PO:0009081) arising from an seventh order inflorescence branch (PO:0025109).

Revised def'n: A higher order inflorescence axis (PO:0009081) that develops from an inflorescence axillary meristem (PO:0009105) of a seventh order inflorescence axis (PO:0025109).

Current comment: None.

Revised comment: No revisions.

Current synonyms: eighth order inflorescence axis (exact), rama de séptimo orden de la inflorescencia (Spanish, exact), 第七花序分枝 (Japanese, exact)

Revised synonyms: seventh order inflorescence branch (exact), eje de octavo orden de la inflorescencia (Spanish, exact), 第七花序分枝 (Japanese, related)

Changes made to the PO; BTS, 15 March 2017

ninth order inflorescence axis (PO:0025110)

Renaming of: eighth order inflorescence branch (PO:0025110)

Current def'n: An inflorescence branch (PO:0009081) arising from a eighth order inflorescence branch (PO:0025110) or higher.

Revised def'n: A higher order inflorescence axis (PO:0009081) that develops from an inflorescence axillary meristem (PO:0009105) of a eighth order inflorescence axis (PO:0025110).

Current comment: None.

Revised comment: No revisions.

Current synonyms: ninth order inflorescence axis (exact), rama de octavo orden de la inflorescencia (Spanish, exact), 第八花序分枝 (Japanese, exact)

Revised synonyms: eighth order inflorescence branch (exact), eje de noveno orden de la inflorescencia (Spanish, exact), 第八花序分枝 (Japanese, related)

Changes made to the PO; BTS, 15 March 2017

tenth order inflorescence axis (PO:0025111)

Renaming of: ninth or higher order inflorescence branch (PO:0025111)

Current def'n: An inflorescence branch (PO:0009081) arising from a eighth order inflorescence branch (PO:0025110) or higher.

Revised def'n: A higher order inflorescence axis (PO:0009081) that develops from an inflorescence axillary meristem (PO:0009105) of a ninth order inflorescence axis (PO:0025110).

Current comment: None.

Revised comment: Tenth order inflorescence axis (PO:0025111) is the **highest specific inflorescence axis order** in the PO; when mapping annotations to inflorescence axes which are of an order greater than ten, or when order is ambiguous or unknown, annotate directly to higher order inflorescence axis (PO:0009081).

Current synonyms: noveno orden o superior rama de la inflorescencia (Spanish, exact), tenth or higher order inflorescence axis (exact), 第九花序分枝 (Japanese, exact)

Revised synonyms: ninth order inflorescence branch (exact), eje de décimo orden de la inflorescencia (Spanish, exact), 第九花序分枝 (Japanese, related)

Changes made to the PO; BTS, 15 March 2017