



Anacyclus clavatus (Desf.) Pers.,
Anacyclus monanthos (L.) Thell.,
Anacyclus monanthos (L.) Thell. subsp.
cyrtolepidioides (Pomel) Humphries,
Anacyclus pyrethrum (L.) Lag.,
Anacyclus radiatus Loisel.,
Anacyclus × *valentinus* L. –
ASTERACEAE

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Synonyms

Anacyclus clavatus (Desf.) Pers.: *Achillea biaristata* Spreng.; *Anacyclus aristulatus* Link ex Nyman; *Anacyclus candolii* Nyman; *Anacyclus capillifolius* Maire; *Anacyclus clavatus* (Desf.) Pers. subsp. *clavatus*; *Anacyclus clavatus* (Desf.) Pers. var. *clavatus*; *Anacyclus divaricatus* Cav. ex Steud.; *Anacyclus mucronulatus* Steud.; *Anacyclus pubescens* (Willd.) Rchb.; *Anacyclus pubescens* Brot. ex Link; *Anacyclus tomentosus* DC.; *Anacyclus tomentosus* f. *glabrus* Huter et al. ex Fiori; *Anacyclus*

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tomentosus f. *tomentosus*; *Anacyclus tomentosus* var. *marginatus* Guss.; *Anacyclus tomentosus* var. *tomentosus*; (WFO 2023a).

***Anacyclus monanthos* (L.) Thell.:** *Cyrtolepis monantha* (L.) Less.; *Tanacetum monanthos* L.; *Anacyclus alexandrinus* Willd.; *Anacyclus alexandrinus* Willd. subsp. *alexandrinus*; *Anacyclus alexandrinus* Willd. var. *alexandrinus*; *Anthemis arabica* Velen. (WFO 2023b).

***Anacyclus monanthos* (L.) Thell. subsp. *cyrtolepidioides* (Pomel) Humphries:** *Anacyclus alexandrinus* Willd. var. *cyrtolepidioides* (Pomel) Durand & Baratte; *Anacyclus alexandrinus* Willd. var. *mauritanicus* (Pomel) Batt.; *Anacyclus cyrtolepidioides* Pomel; *Anacyclus cyrtolepidioides* Pomel var. *cyrtolepidioides*; *Anacyclus cyrtolepidioides* Pomel var. *mauritanicus* (Pomel) Batt. ex Jahand. & Maire; *Anacyclus mauritanicus* Pomel (WFO 2023c).

***Anacyclus pyrethrum* (L.) Lag.:** *Anacyclus depressus* Ball; *Anacyclus freynii* Porta & Rigo ex Willk.; *Anacyclus officinarum* Hayne; *Anacyclus pseudo-pyrethrum* Asch.; *Anacyclus pulcher* Besser ex DC.; *Anacyclus pyrethrum* (L.) Link; *Anacyclus pyrethrum* (L.) Link var. *depressus* (Ball) Maire; *Anacyclus pyrethrum* (L.) Link var. *microcephalus* Maire; *Anacyclus pyrethrum* (L.) Link var. *pyrethrum*; *Anacyclus pyrethrum* (L.) Link var. *subdepressus* Doumergue; *Anthemis pyrethrum* L. (WFO 2023d).

***Anacyclus radiatus* Loisel.:** *Anacyclus aureus* L. var. *radiatus* Pers.; *Anacyclus radiatus* Pers. var. *radiatus*; *Anacyclus radiatus* Pers. var. *sulphureus* Braun-Blanq. & Maire; *Anacyclus valentinus* L. var. *bicolor* Pers.; *Anacyclus valentinus* L. var. *purpurascens* Pers. (WFO 2023e).

***Anacyclus* × *valentinus* L.:** *Anacyclus alboranensis* Esteve & Varo; *Anacyclus dissimilis* Pomel; *Anacyclus dissimilis* var. *dissimilis*; *Anacyclus hirsutus* Lam.; *Anacyclus lanuginosus* Moench; *Anacyclus prostratus* Pomel; *Anacyclus valentinus* subsp. *dissimilis* (Pomel) Jahand. & Maire; *Anacyclus valentinus* subsp. *prostratus* (Pomel) Batt.; *Anacyclus valentinus* subsp. *prostratus* (Pomel) Jahand. & Maire; *Anacyclus valentinus* subsp. *valentinus*; *Anacyclus valentinus* var. *eriolepis* Maire; *Anacyclus valentinus* var. *eudissimilis* Maire; *Anacyclus valentinus* var. *ligulata* Sennen (WFO 2023f).

Local Names

***Anacyclus clavatus* (Desf.) Pers.:** **Morocco** – barkoukas izgar (بَرْكُوكَسْ إِيْزْغَر), krâ'gorâb (كْرَاغْرَاب), kobîza (كُوبِيْزَا), krâ'djaja (كْرَاغْ نْجَاغ), Alkhowane (الْخُوَان), Jaada (جَادَة) (Alami et al. 2021; Fakchich and Elachouri 2021); **Algeria** – bâbûnj (بَابُونْج) (Baziz et al. 2020), bašna بَشْن (Adli et al. 2021). **Tunisia** – Kraa djeja (كْرَاغْ نْجَاغ) (Ben Ismail 2013).

***Anacyclus monanthos* (L.) Thell.:** **Egypt** – Rigl elghoraab (ريجل الغراب) (Eissa et al. 2014)

***Anacyclus monanthos* subsp. *cyrtolepidioides* (Pomel) Humphries:** **Algeria** – tiganṭaṣt (تِكَنْطَسْت) (Yamina et al. 2016), rebiann (رَبِيَّان) (Djahafi et al. 2021).

Anacyclus pyrethrum (L.) Link: Morocco – tigdnt (تِكْنَنْتْ), tignast (تِكْنَسْتْ), tikandûst (تِكْنَدُوشْتْ), ‘aqar qarḥa (عَقْرُ قَرْحِ), ġînâş (غِينَاصْ), tigandast (تِكْنَنْسْتْ), tigantast (تِكْنَنْسْتْ), igandas (اِكْنَدَسْ), ‘arqşlûḥ (عَرْقَشْلُوْح), tigantîst (تِكْنَتِيْسْتْ), ‘ûjdam (عُوجْدَمْ), ‘ûd ikandas (اِكْنَدَسْ عُودْ), ‘ûd lqarḥ (عُودُ الْقَرْحِ), ‘ûd l-farḥa (عُودُ الْفَرْحِ), tigantişt (تِكْنَتِيْشْتْ), tikandîz (تِكْنَدِيْزْ), ġantûs (كَنْطُوسْ), ‘ûd alaṭâş عُودُ الْأَطَاصِ (Chaachouay et al. 2022; Fakchich and Elachouri 2021; Hachi et al. 2016; EL Hamsas EL Youbi et al. 2016), Akirkarha (اِكِيْرِكَاْرهَا), tigantîst (تِكْنَطِيْسْتْ), tikandîzt (تِكْنَدِيْزْتْ) (Belhaj et al. 2020; Belhaj et al. 2021; Chaachouay et al. 2022; El Haouari et al. 2018; Fakchich and Elachouri 2021), ġînâş (غِينَاصْ) (Chaachouay et al. 2022; Fakchich and Elachouri 2021). **Algeria** – tigantâş (تِكْنَنْطَاْسْ) (Rachid et al. 2012), tigantast (تِكْنَنْسْتْ) (Baziz et al. 2020), bâbûnj (بَابُوْنَجْ) (Taïbi et al. 2021), agargaġa (اَكْرَكْغْ) (Baziz et al. 2020).

Anacyclus radiatus Loisel.: Morocco – Barkokch (بَرْكُوْكشْ), Izghar (اِزْغَارْ) (Nassiri et al. 2016), krâ' gorâb (كْرَاْ عُرَابْ), kobîza (كُوْبِيْزَا), hallâla (هَلَّلَا) (Fakchich and Elachouri 2021), Far dahabya (فَار دِهَابِيَا) (Chaachouay et al. 2020, 2022).

Anacyclus valentinus L.: Algeria – garṭûf (كَرْطُوفْ) (Cheriti et al. 1995).

Endemism

According to El Oualidi, most plants of this genus are not endemic to North Africa. However, *Anacyclus monanthos* subsp. *cyrtolepidioides* (Pomel) Humphries is an endemic plant in Morocco, Algeria, Tunisia, and Libya (EL Oualidi et al. 2012).

Botany and Ecology

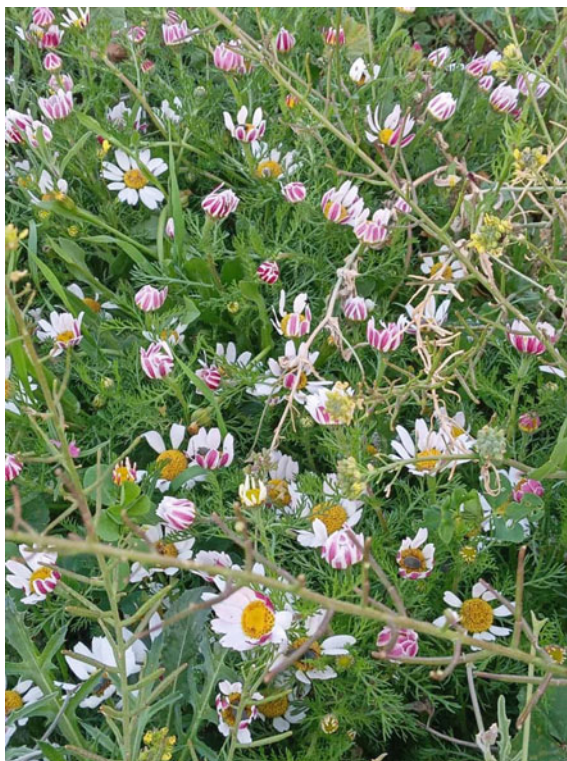
Anacyclus clavatus (Desf.) Pers.: Annual herb, up to 50 cm tall, villous. Leaves oblong or oblanceolate, lobes linear. Heads 15–20 mm in diameter, bracts lanceolate to ovate-lanceolate, acute/acuminate, greenish, white or purplish margin. Ligules 7–14 mm long, white. Achenes broadly winged, pappus absent.

Anacyclus pyrethrum (L.) Lag.: Perennial herb, prostrate, 2 to 5 cm tall. Leaves in rosette, grey-green, bipinnate, up to 10 cm long. Ligular flowers white, purple-striped on underside, tubular flowers yellow. Achenes strongly compressed, flowering May to August (Fig. 1).

Local Medicinal Uses

Anacyclus clavatus (Desf.) Pers.: Morocco – The flowers' infusion is used for skin problems and nervous system and digestive problems (Alami et al. 2021; Fakchich and Elachouri 2021); also, the flowers are used for reproductive problems and renal diseases (Fatiha et al. 2019). **Algeria** – The aerial parts' decoction and infusion are used for cancer, fever (Baziz et al. 2020), nervous system, renal diseases, and digestive problems (Adli et al. 2021). Also, the plant is used for skin problems

Fig. 1 *Anacyclus pyrethrum*.
(Photograph by M. Elachouri)



(Miara et al. 2013); **Tunisia** – The stem salad is used for digestive problems (Ben Ismail 2013). The leaves and flower decoction is used for digestive problems, renal diseases, and respiratory problems (Barhoumi and Abderraba 2019).

***Anacyclus pyrethrum* (L.) Link: Morocco** – The aerial parts' decoction is used to treat digestive problems (Belhaj and Zidane 2021). The roots' infusion is used for rheumatism (Chaachouay et al. 2022). The roots' decoction is used orally for cancer and respiratory problems (EL Hamsas EL Youbi et al. 2016). The roots infusion and powder are used for diabetes (Hachi et al. 2016); the roots powder is used for renal diseases, skin problems, reproductive problems, allergy, and toothache (El Haouari et al. 2018). The leaves' decoction is used for respiratory problems and cold (Belhaj et al. 2021). The whole plant's decoction and infusion are used for toothache (Belhaj et al. 2020). Furthermore, the roots, leaves, and whole plant as powder and decoction are used for nervous system, toothache, reproductive problems, rheumatism, digestive problems, skin problems, infections, allergies, and diabetes (Alami et al. 2021), and the infusion of the plant is used orally respiratory problems (Chaachouay et al. 2022). **Algeria** – The aerial parts' infusion is used for diabetes (Allali et al. 2008). The underground parts' decoction is used for diabetes (Rachid et al. 2012), reproductive problems (Benarba 2016; Baziz et al. 2020), oral problems, and toothache

(Baziz et al. 2020). Also, the decoction, infusion, and powder are used for respiratory problems and circulatory problems (Djahafi et al. 2021). The decoction and powder are used for reproductive problems, nervous system, respiratory problems, cold, and rheumatism (Zatout et al. 2021). Furthermore, the plant is widely used for cancer (Yamina et al. 2016). **Palestine** – The wood is used as an activator (Jaradat 2005).

Anacyclus radiatus Loisel.: Morocco – The leafy stem is cooked in water vapor and is used for nutritional problems. The whole plant infusion is used for headache (Chaachouay et al. 2020). In addition, the plant is used for digestive problems, reproductive problems, nervous system, infections, toothache, respiratory problems, and renal diseases (Daoudi et al. 2016; Nassiri et al. 2016).

Anacyclus monanthos subsp. cyrtolepidioides (Pomel) Humphries: Algeria – The aerial parts' decoction is used for digestive problems (Adli et al. 2021). The underground parts' decoction is used for toothache, spasms, nervous system, nutritional problems, and infections (Yamina et al. 2016).

Anacyclus valentinus L.: Algeria – The aerial parts' infusion and powder are used for digestive problems (Cheriti et al. 1995).

Anacyclus monanthos (L.) Thell.: Egypt – The roots' decoction is used for nutritional problems and rheumatism (Eissa et al. 2014).

Anacyclus clavatus (Desf.) Pers.: Tunisia – The stem salad is used for digestive problems (Ben Ismail 2013). The leaves and flowers' decoction is used for digestive problems, renal diseases, and respiratory problems.

Local Medicinal Uses in Other Regions

Anacyclus pyrethrum: It is used to treat sore throat, as eye wash, and for toothache (ur-Rahman et al. 2019; Wali et al. 2019; Sher et al. 2021).

Local Handicrafts and Other Uses in Other Regions

Anacyclus pyrethrum: It is used as forage (Wali et al. 2019; Sher et al. 2021).

Toxicity

The genus contains pyrethrin, which can cause allergic reactions in some individuals (Elazzouzi et al. 2014, 2022; Hodoşan et al. 2023; Sujith et al. 2012).

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