

= Thelephora palmata =

Thelephora palmata (commonly known as the stinking earthfan or the fetid false coral) is a species of clavarioid fungus in the family Thelephoraceae . The fruit bodies are leathery and coral @-@ like , with branches that are narrow at the base before widening out like a fan and splitting into numerous flattened prongs . The wedge @-@ like tips are whitish when young , but darken as the fungus matures . The common names of the fungus refers to its pungent odor , likened to fetid garlic . A widely distributed but uncommon species , it is found in Asia , Australia , Europe , North America , and South America , where it fruits on the ground in both coniferous and mixed forest .

= = Taxonomy = =

The species was first described in 1772 by Italian naturalist Giovanni Antonio Scopoli , as *Clavaria palmata* . Elias Fries transferred it to the genus *Thelephora* in 1821 . The species has several synonyms , resulting from several generic transfers in its taxonomic history , including *Ramaria* by Johan Theodor Holmskjöld in 1790 , *Merisma* by Christian Hendrik Persoon in 1822 , and *Phylacteria* by Narcisse Théophile Patouillard in 1887 . Other historical synonyms are *Merisma foetidum* , published by Christian Hendrik Persoon in 1797 , and Pier Andrea Saccardo 's 1888 *Clavaria schaefferi* . Persoon also published a species with the name *Thelephora palmata* in 1822 , but because the name was already in use , it is an illegitimate homonym ; this species is now known as *Thelephora anthocephala* .

Despite its coral @-@ like appearance , *Thelephora palmata* is closely related to some fungi with a distinctly bracket @-@ like appearance , such as *T. terrestris* and *T. caryophyllea* . The specific epithet *palmata* is derived from Latin , and means " having the shape of a hand " . It is known by the common names " stinking earthfan " and " fetid false coral " . Samuel Frederick Gray called it the " stinking branch @-@ ear " in his 1821 work *A Natural Arrangement of British Plants* .

= = Description = =

The fruit body of *T. palmata* is a coral @-@ like tuft that is repeatedly branched from a central stalk , reaching dimensions of 3 @. 5 ? 6 @. 5 cm (1 @. 4 ? 2 @. 6 in) tall . The branches of the fruit body end in spoon- to fan @-@ shaped tips that are frequently fringed or grooved . The branches of the fruit body are initially whitish in color , but gradually turn gray to lilac @-@ brown in maturity ; the tips , however , remain whitish , or paler than the lower parts . The flesh is tough and leathery . The hymenium (fertile , spore @-@ bearing tissue) is amphigenous , that is , it occurs on all surfaces of the fruit body .

The odor of the fruit body is quite unpleasant , resembling fetid garlic , " old cabbage water " , or " overripe cheese " . It has been called " a candidate for stinkiest fungus in the forest " . The unpleasant odor intensifies after drying . Fruit bodies are not edible .

In deposit , the spores are purple @-@ brown to brown . Viewed with a microscopic , the spores appear purple , angular with lobes , and warty , with fine spines measuring 0 @. 5 ? 1 @. 5 µm long ; the overall dimensions of the elliptic spores are 8 ? 12 by 7 ? 9 µm . They contain one or two oil drops . The basidia (spore @-@ bearing cells) measure 70 ? 100 by 9 ? 12 µm , and have sterigmata that are 2 ? 4 µm thick by 7 ? 12 µm long . The flesh stains deep blue when a drop of potassium hydroxide solution is applied . The fungus contains the pigment thelephoric acid .

Thelephora anthocephala is somewhat similar in appearance , but can be distinguished by branches that taper upward , branch tips that are flattened (instead of spoon @-@ like) , and the lack of a fetid odor . The North American species *T. vialis* has smaller spores and a more variable color . Darker *Ramaria* species are distinguished by their non @-@ leathery flesh texture and pointy branch tips .

= = Habitat and distribution = =

Thelephora palmata is an ectomycorrhizal species , forming mutualistic associations with conifers . Fruit bodies grow singly , scattered , or in groups on the ground in both coniferous and mixed forest and grassy fields . A preference has been noted for moist ground , and locations along woodland paths . An uncommon species , fruit bodies can be difficult to see because they blend well into their surroundings .

The species is found in Asia (including China , Iran , Japan , Siberia Turkey , and Vietnam) , Europe , North America , and South America (Brazil and Colombia) . It has also been recorded from Australia and Fiji . Fruit bodies are consumed by the springtail species *Ceratophysella denisana* .

= = Uses = =

Fruit bodies of *Thelephora palmata* can be used for mushroom dyeing . Depending on the mordant used , colors ranging from blackish @-@ brown to dark grayish @-@ green to greenish @-@ brown can be obtained from the dyeing process ; without a mordant , a light brown color is produced .