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(54) **Polygonum avicular extracts**

(57) Compositions for topical application contain extracts of the plant *Polygonum aviculare*. The extracts are aqueous ones, or extracts in oily substances or in physiologically acceptable organic solvents. The preparations are of value in the treatment of eczemas, acne, chipped skin, bleeding gums, and afflictions of the mucosa.

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## SPECIFICATION

**Compositions for treating external tissues and mucuous membranes**

5 The invention relates to novel compositions for topical application for the treatment and alleviation of symptoms of various disorders of the skin and mucous membranes. The preparations are in the form of

10 ointments, lotions, solutions, dental preparations and the like, suited for topical applications to the skin, mucosa and other tissues. For dental use, they can be in the form of a toothpaste. The novel compositions are effective, amongst others, in the treatment of

15 eczemas, chipped skin, itching of the skin, afflictions of the mucosa. The compositions are of value in the treatment of acne.

*Background of the invention:*

20 The novel compositions of the present invention are based on extracts of *Polygonum aviculare* also known as *Polygonum arenastrum*, which is known as knot-grass, also as cosmopolitan weed, crawl grass, door-weed, and horse balm. This plant has been

25 known for many years as medical herb. It has been used in the form of extracts in water, in wine, etc. It was included in the Pharmacopeia Austriaca (1906) as Herba Polygoni avicularis. Its main uses were against entero-colitis, diarrhea and against kidney stones. It

30 seems that hiterto all applications were by oral ingestion.

*Summary of the invention:*

35 The invention relates to novel compositions of matter for topical applications for the alleviation and treatment of various disorders of the skin, of mucous membranes and other tissues. The compositions are or comprise extracts of polygonum aviculare, hereinafter polygonum, in suitable physiologically acceptable

40 media.

As such there may be mentioned various natural oils, mineral oils, alcoholic and aqueous extracts, extracts in non-oily carriers such as polyalkylenes, glycerol, mucilages or gums, and the like which impart to the

45 preparation the desired degree of fluidity.

They may be used in toothpaste bases of conventional compositions.

They can be mixed with suitable carriers.

50 The compositions are applied to the afflicted area of the skin or to the mucosa. For dental use, they can be used as toothpaste, mouth lotions or the like.

The plant used for the preparation of the extracts and of the compositions of the present invention is generally designated as *Polygonum aviculare*, as

55 *polygonum arenastrum*, as knotgrass, crawl grass, door weed or horse balm. It is an annual plant which grows mainly in the summer and spreads out on the ground. It has a large variety of sub-species. For preparing the extracts of the invention there may be used various

60 parts of the plant. According to a preferred embodiment, leaves are dried and ground, and extracted. Branches may be dried and comminuted, and extracted. Extracts can be prepared from shredded roots of the plant. The plant parts chosen are advantageously

65 extracted by boiling in an oily solvent, such as

vegetable oil or a mineral oil. The plant parts may be extracted with an alcoholic or similar solvent at atmospheric or at increased pressure. Good results were obtained with extracts in olive oil, in almond oil, in petroleum jelly, in alcohol, in glycols and also in aqueous alcoholic solutions. After extraction the extract is separated from the residue of the plant parts by filtration or by any other conventional separation process. The extract can be used as such, or in case of

70 alcoholic extracts, same may be diluted with water or added to another carrier. Extracts can be mixed with other acceptable carriers. For the treatment of eczemas, extracts of branches of the plant and of the roots have given good results. Alcoholic extracts in the form of mouthwashes are effective against aphteous ulcers. The extracts are generally prepared from about 1 part by weight of the plant to from 5 to 50 parts of a suitable extractant or carrier, the preferred range being 1:5 to 1:25.

80 The following Examples illustrate the invention, and these are to be construed in a non-limitative sense.

*Example 1:*

85 Roots of polygonum were dried and finely ground.

90 A quantity of 10 grams of dry roots was extracted with 200 grams of petroleum jelly at elevated temperature during 3-5 minutes, cooled and filtered off under pressure. The resulting ointment was used for the treatment of itching skin.

95 *Example 2:*

Roots, stems and leaves of polygonum were dried and comminuted. A quantity of 20 grams of this mixture was extracted under reflux with 150 grams of vaseline and filtered off while hot.

This extract was cooled and was ready for use.

*Example 3:*

100 Roots, stems and leaves of polygonum were dried and ground. There were extracted (10 grams with 50 grams of olive oil) during 8 minutes at elevated temperatures and the plant residues were removed. The resulting liquid ointment was ready for use.

*Example 4:*

105 Leaves of polygonum were dried and comminuted. 20 grams were extracted under reflux with 80 ml ethanol and the extract was filtered off. The solution was brought to a concentration of 45% alcohol by addition of water and this was ready for use for the treatment of aphteous ulcers. Good results were obtained after a few days of application. 3 times daily.

*Example 5:*

120 Leaves and stems of polygonum were dried and finely ground. 10 grams were extracted at elevated temperature during 3 minutes with 70 ml almond oil and the plant residues were removed. The ointment was ready for use.

*Example 6:*

125 A toothpaste was prepared comprising 50 parts powdered chalk, 6 parts powdered soap, 34 parts glycerine, 0.25 g saccharine, 1 part oil of peppermint and 15 parts of a lotion according to Example 4. This

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proved to be effective for the treatment of aphteous ulcers, and for the treatment of bleeding gums.

*Example 7:*

5 In this example, parts are parts by weight.  
A quantity of 10 parts Polygonum aviculare and 65 parts water was heated and an aqueous extract was obtained. Isopropyl myristate 3.8 parts, Lanetta was 11 parts, and lanolin 1.5 parts were mixed with the above  
10 extract. A mixture was prepared from propylene glycol 1.5 parts, Nipagin 0.4 parts and Nipasol 0.4 parts and this was added to the above mixture after cooling same. To this was added, with stirring in the cold, 4 parts glycerol and 4.5 parts sulfur. The thus obtained  
15 ointment was used for the treatment of acne, of eczemas, and for treating damaged skin, especially of the lower part of the foot. Good results were obtained after a number of applications.

The various ointments were tested and found to be  
20 effective for the treatment and alleviation of symptoms of eczemas, chipped skin, itching of the skin, and the like, when used as topical application to the afflicted area of the skin.

## 25 CLAIMS

1. A composition of topical application to the skin or to mucous membranes, or to other tissues, comprising as active ingredient an extract of plant parts of  
30 Polygonum aviculare.
2. A composition according to claim 1, wherein the extract is one of roots, branches and/or leaves of the plant.
3. A composition according to claim 1 or 2, wherein  
35 the extract is one in an oily substance, in an organic solvent or in water.
4. A composition according to claim 1, wherein the extract is in a vegetable oil, in a mineral oil or in an edible fat.
- 40 5. A composition according to any of claims 1 to 4, wherein the carrier is a non-oily ointment base.
6. A composition according to any of claims 1 to 5, prepared from 5 to 50 parts of carrier or extractant per part of plant constituents by weight.
- 45 7. A toothpaste comprising a tooth-paste base and an extract defined in any claims 1 to 6.
8. Compositions based on extracts of Polygonum aviculare for topical application, substantially as hereinbefore described and with reference to any of  
50 the Examples.