

## Regular Paper

**Wild mushroom food custom in the insular area of southwest Japan**

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Nara 631-8505, Japan**Abstract**

A cause of the insular area in southwest Japan, the Tottori, Okayama, and Hiroshima Prefectures, about wild mushroom food custom was analyzed by using a correlation model previously proposed in relation with the natural vegetation of the Chugoku District. In a scatter diagram representing the counts of two factors, number of species used and counts by subtracting the number of species that are dried from those that are salted for preservation, two clusters were separately depicted by areas located in evergreen broad-leaved forest zone and areas in summergreen broad-leaved forest zone. There were significant differences between the two areas both in the counts of number of species used and preservation processing methods. This result indicated that the cause of the insular area in southwest Japan would be attributable to similar food custom as that of northeast Japan which exhibited by some areas in summergreen forest zone distributing in the Chugoku Mts. Additionally, it should be noted that the bordering of the two typical food customs appearing in the northeastern and the southwestern regions of Japan corresponds to local vegetation of a given area rather than its location, insofar as local wild mushroom use.

**Introduction**

In Japan, the summergreen broad-leaved forest (deciduous forest) dominates the northeastern region, while warm temperate evergreen broad-leaved forest dominates the southwestern region. It is generally believed that people in northeast Japan gather various wild mushrooms<sup>1,2)</sup>, while people in southwest Japan gather fewer varieties of wild mushrooms<sup>3,5)</sup>. People in northeastern Japan often salt as winter-stock a variety of wild mushrooms<sup>1,2)</sup>, in contrast, people in southwest Japan do not preserve their harvests or may sometimes dry a few varieties but rarely salt them<sup>3,6,7)</sup>. Recently, Tanesaka and Yoshida<sup>8)</sup> statistically reaccessed the above trend using the wild mushroom information obtained by ethnologists. They demonstrated a correlation representing the two counts, the number of species used and counts by

subtracting the number of species that are dried from those that are salted for preservation, providing two separate clusters for the northeastern and the southwestern regions bordered by natural vegetation zones<sup>9)</sup>. Additionally, it was pointed out as an "insular area" in the southwestern region, the Tottori, Okayama, and Hiroshima Prefecture, was distributed in the cluster formed by the northeastern region<sup>9)</sup>. In this report, cause of the insular area was analyzed by using the above model combining the two factors in relation with natural vegetation.

**Methods**

To analyze wild mushroom food customs focusing on the Chugoku District, methodical field works previously carried out by ethnologists of which descriptions entitled "*Nihon no Shokusei-*

*katu Zenshu*", The Complete Works of Dietary Life of Japan (1984-1993) were used. In relation to the food custom and vegetation in a given area, potential natural vegetation and actual vegetation of this region were overlapped according to the description of Miyawaki et al.<sup>9)</sup> The food custom between the areas in the summergreen forest zone and in the evergreen forest zone were compared by using the previously proposed correlation model representing two counts, the number of species used and counts by subtracting the number of species that are dried from those that are salted for preservation<sup>8)</sup>. For statistical analysis, correlation analysis and the Mann-Whitney *U*-test were conducted according to the description of Sokal and Rohlf<sup>10)</sup>.

## Results and discussion

Fig. 1 shows potential natural vegetation<sup>9)</sup> in the Chugoku District including the insular area, the Tottori, Okayama, and Hiroshima Prefectures, with wild mushroom descriptions obtained by ethnologists<sup>11-15)</sup>. Most areas in this region had been dominated by warm temperate evergreen broad-leaved forest, *Quercion myrsinaefolia-acutae* in the inner area and *Maeso-Castanopsis sieboldii* in the coastal area as primary natural vegetation<sup>9)</sup>. At present, however, Japanese red pine forest, *Pinus densiflora* Sieb. et Zucc., dominates as actual vegetation. On the other hand, summergreen broad-leaved forest, *Saso-Fagion crenatae*, has concentrated in the Chugoku Mts. having over 1,000 m

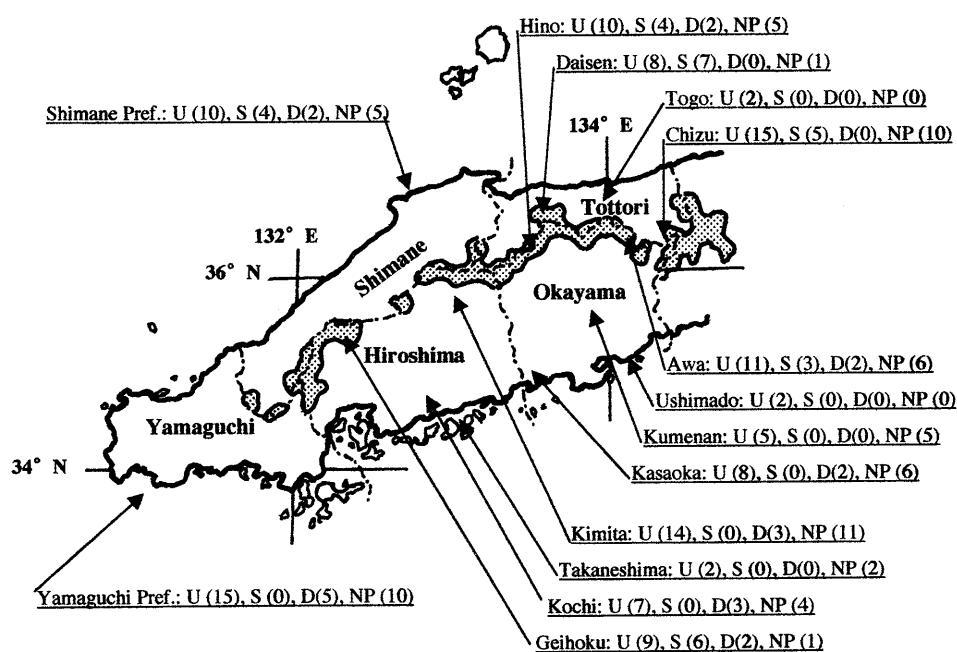




Fig. 1 Natural vegetation map in the Chugoku District in the southwestern region of Japan<sup>9)</sup>, with a description of the wild mushroom use<sup>11-15)</sup>.

Potential natural vegetation: , summergreen broad-leaved forest zone; , evergreen broad-leaved forest zone. The numerals in parentheses with capital letters indicated the number of species used (U), number of species that are salted (S) and dried (D) for preservation, and not preserved (NP), respectively.

altitude<sup>9</sup>.

Overall, people in many areas used small numbers of species and sometimes dried a few of them for preservation. People mainly gathered some fungi which be found in Japanese red pine forest, such as *Suillus bovinus* (L.: Fr.) Kunze, *Lactarius hatsudake* Tanaka, *Ramaria botrytis* (Pers.) Ricken, and *Boletopsis leucomelas* (Pers.) Fayod, involving major object and commercial fungi, *Tricholoma matsutake* (S. Ito & Imai) Sing., as similar to typical food custom in other parts of southwest Japan<sup>8</sup>. In contrast, people in some areas in summergreen forest zone distributing in the Chugoku Mts. are appeared to use varies types of mushrooms and often preserve them as similar to typical food custom of northeast Japan.

Fig. 2 shows a scatter diagram regarding wild mushroom focusing on the twelve areas in the insular area shown in Fig. 1. Although the significant positive correlation was provided between the two factors when accessed all over Japan<sup>8</sup>, no significant correlation was provided in the twelve areas ( $r=0.164$ ,  $P>0.05$ ). While the two clusters,

which to be formed by five areas located in summergreen forest zone and the other seven areas in evergreen forest zone, were separately depicted in the upper right and lower position in broad along the horizontal axis, respectively. Significant differences were detected between the two distinct areas both in the number of species used ( $U=29.5$ ,  $P<0.05$ ) and the processing methods for preservation ( $U=34.5$ ,  $P<0.01$ ). It is clear that these areas in deciduous forest zone contribute large counts of both factors to the total counts of the respective prefectures. These results indicated that the cause of the insular area in southwest Japan would be attributable to the areas in summergreen forest zone distributing in the Chugoku Mts., additionally, the correlation model used in this study would be effective to analyze the differences of the food customs among adjacent areas. It should be noted that the bordering of the two typical food customs appearing in the northeastern and southwestern regions of Japan corresponds to local vegetation of a given area rather than its location, northeast or southwest, insofar

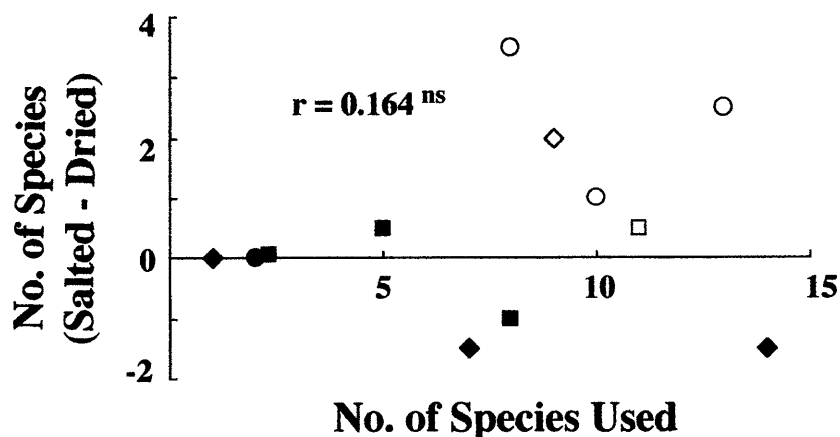


Fig. 2 Food customs scatter diagram of the twelve areas in the insular area, the Tottori, Okayama, and Hiroshima Prefecture, regarding wild mushrooms. Open and closed symbols represent areas in deciduous forest zone and areas in evergreen forest zone, respectively. Symbols of circle, square, and lozenge assigned the Tottori, Okayama, and Hiroshima Prefecture, respectively.

as local wild mushroom use. This patchy distribution of different food customs bordered by local vegetation revealed in this study would appreciate the two cultural regions of Japan so called *Bunatai Bunka* and *Shouyoujyurin Bunka*.

## 和文摘要

### 西南日本の島状地域における野生きのこ食習慣

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西南日本の野生きのこ食習慣における島状地域、鳥取県、岡山県、広島県の起因について、以前に提示した相関モデルを用いて中国地方の自然植生との関連において分析した。2つの要因、利用種数および保存のために塩蔵される種数と乾燥される種数との差、を用いた散布図において常緑広葉樹林帯にある地域と夏緑広葉樹林帯にある地域は異なるクラスターを形成した。利用種数と保存の方法は両地域間で有意に異なった。この結果は西南日本における島状地域の起因が、中国山地に分布する夏緑広葉樹林帯の地域がもつ東北日本と類似した食習慣にあることを示す。さらに、地方的な野生きのこ利用に関する限り、東北日本と西南日本にみられる2つの典型的な食習慣の境界は、地域の所在位置よりもむしろその地域の植生に対応している事は注目すべきである。

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