Evaluating Biological Variation Among Coastal and Inland Jōmon Sites in Japan

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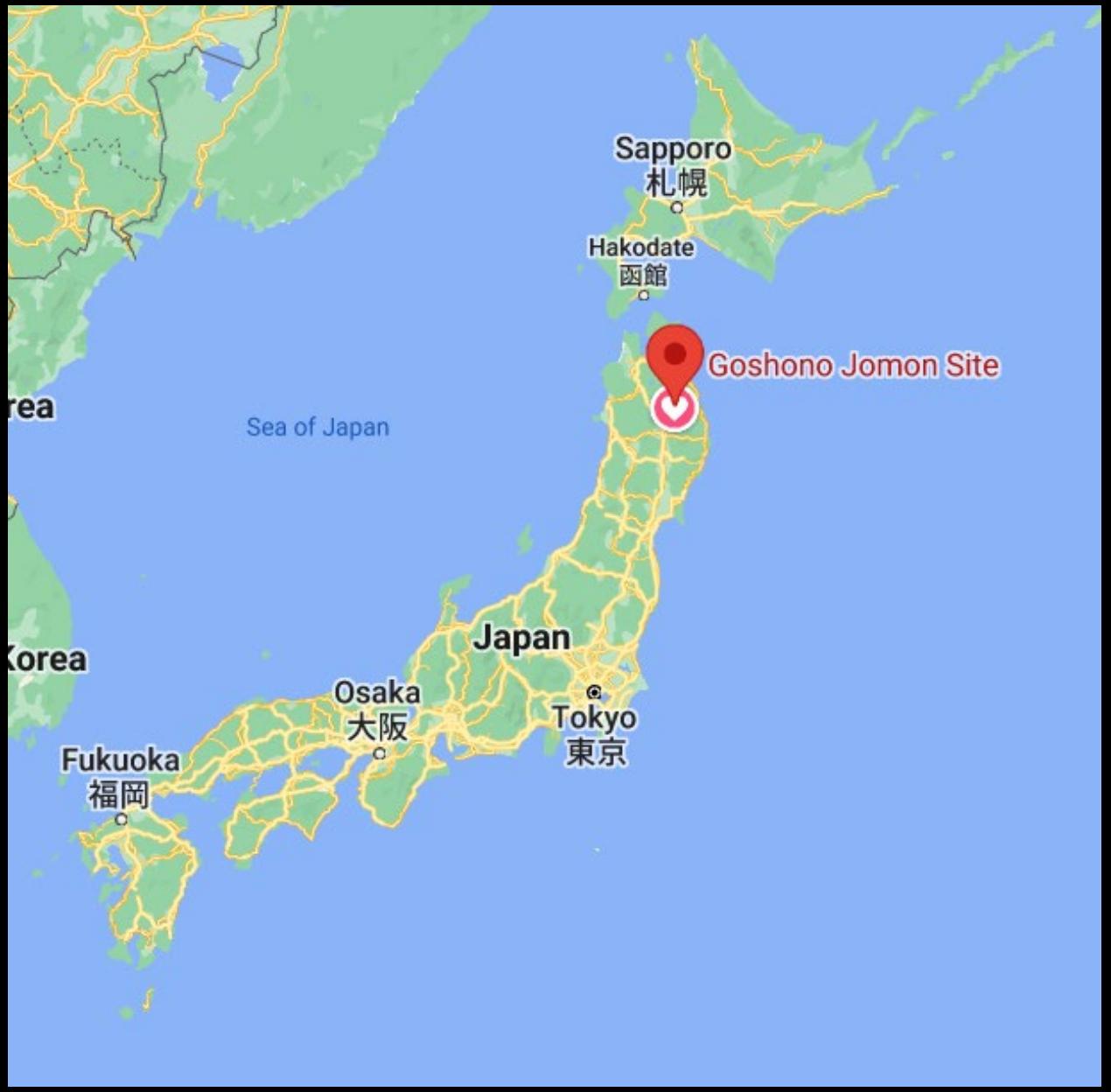
Sapporo
札幌
Hakodate
函館
Goshono Jomon Site
Sea of Japan
Japan
Osaka
大阪
Tokyo
東京
Fukuoka
福岡

Jōmon Sedentarism

- “Jōmon” refers to the cord pattern present on their pottery
- Jōmon have the oldest pottery tradition in the world dating to circa 8000 cal BP
- Permanent settlements
- Foraging and hunting subsistence strategies
- Japan in prehistoric times had an abundance of natural resources

Image 1: Middle Jōmon pottery from the Tama Hills at the Tokyo Metropolitan Archaeological Center

Image 2: Middle Jōmon pottery from the Goshono Archaeological Site

Jōmon Subsistence

- Adzuki and soybeans in western Japan
- Legume cultivation was prevalent in the east
- Inland sites primarily relied on plant-based proteins
- Jōmon cultivated plants, but were NOT an agricultural society
- Coastal sites primarily rely on marine resources
  - Presence of shell middens
- Coastal and inland sites also exploited seasonally available resources such as wild bear, boar, and mollusks

Image 3: Horse chestnut trees, which the Jōmon gathered chestnuts from at the Goshono site

Image 4: Obsidian lithics and reconstruction of Middle Jōmon tool kit

Research Purpose

1) Establish if biological variation among hunter-gatherers located at coastal and inland sites is conspicuous in the skeletal data

2) Explore whether general health factors and specific characteristics, such as stature, vary between coastal and inland sites

3)Are these variations predictable within these populations

Image 5: Center of the Goshono Archaeological Site where the Jōmon are believed to have buried their dead in a communal cemetery

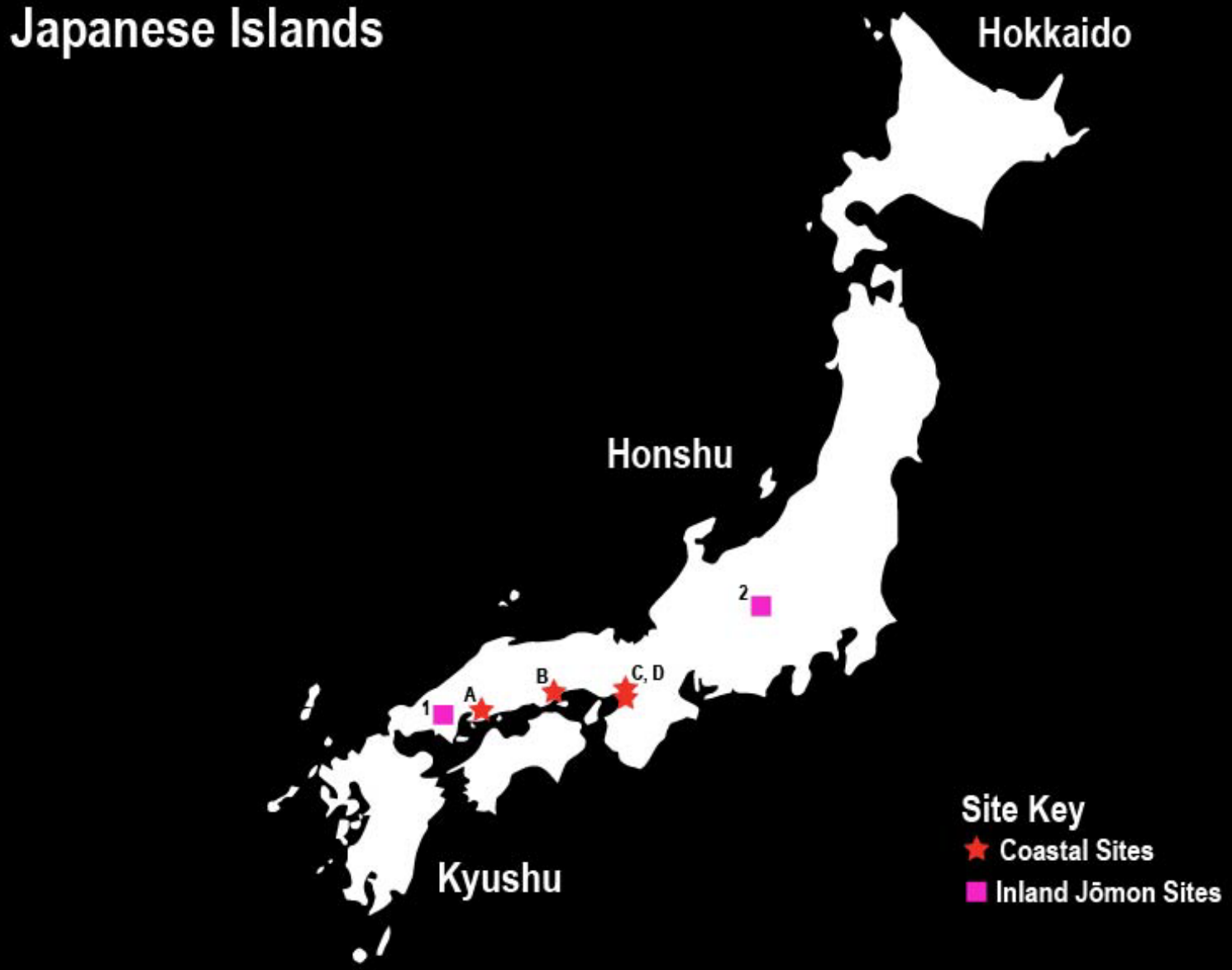

Figure 1: Map of sites yielding skeletal data from the Japanese archipelago that will be used in my Honors in the Major Thesis (Temple 2007a; Shibutani et al 2022); Costal Sites 1) Yosekura 2) Kitamura; Inland Sites A) Tsukumo B) Ota C) Yoshigo D) Inariyama

Table 1: Site Overview for Jōmon Skeletal Data				
Site	Prefecture	Location	Period	Dates (B.P)
Inariyama	Tokai	Coastal	Late-Final Jōmon	3000-2300
Nakazuma	Kanto	Coastal	Late Jōmon	4000-3300
Yoshigo	Tokai	Coastal	Late-Final Jōmon	3400-2400
Kitamura	Chubu	Inland	Middle-Late Jōmon	4000-3000
Ota	Chugoku	Coastal	Middle Jōmon	5000-4000
Tsukumo	Chugoku	Coastal	Late-Final Jōmon	3000-2300
Yosekura	Chugoku	Inland	Late Jōmon	4000-3000

Temple 2007a

Image 6: Reconstruction of a Middle Jōmon period house at Goshono Archaeological Site

Hypotheses

- Cooling event occurred around 4400 cal B.P affecting vegetation
- Non-dental metrics should reveal greater evidence of systemic stress and decline of general health of inland peoples
- Primarily plant-based foragers such as inland Jōmon peoples should reflect a smaller stature and limb proportions than coastal peoples

Acknowledgements

Image 7: Late-Final Jōmon Period Bent Nose Mask found in Aomori Prefecture