USDA FOREST SERVICE
INTERNATIONAL ACTIVITY REPORT

SUBMITTED TO: USDA Forest Service – Forest Health Protection, International Activities Team

PARTICIPANT/TRAVELER: Mee-Sook Kim, USDA Forest Service-RMRS, 1221 S. Main St., Moscow, ID 83843, e-mail: mkim@fs.fed.us, ph: 208-883-2362, fax: 208-883-2318

ACTIVITY TITLE: *Armillaria* and white pine blister collection trip to Korea and Japan

ITINERARY/SCHEDULE:
Dates: From 8/28/06 to 9/10/06
Location: Seoul, Suwon, and Yangyang
Country: Republic of Korea
Official activity host: Drs. Seung Kyu Lee and Kwan-Soo Woo
Mycology and Forest Pathology Laboratory
Korea Forest Research Institute
207, Cheongyangni-2 dong Dondaemun-gu
Seoul, 130-712, Korea
Tel: +82-2-961-2625, E-mail: leesk77@foa.go.kr

Activity: Collaborative research and collections of *Armillaria* species and *Cronartium ribicola* from alternate hosts

- 8/28/06 – 9/2/06: Visited hosting laboratory (Dr. Lee) in Seoul, and conducted *Armillaria* collection trips, a total of 13 isolates were collected from the following field sites (**Fig. 1**).
  - First field collection site: *Pinus koraiensis* stands, Hongcheon, Korea
  - Second field collection site: *Pinus koraiensis* stands, Choncheon, Korea
- 9/3/06 – 9/10/06: Visited hosting laboratory (Dr. Woo) in Suwon, and conducted *Cronartium ribicola* collection trip, *C. ribicola* infected (uredinial and telial stages) *Pedicularis resupinapa* leaves were collected on first field site (**Fig. 2**).
  - First field collection site: *Pinus koraiensis* stands (elevation 1,000 m), Jinbu, Korea
  - Second field collection site: *Pinus pumila* stand (elevation 1,800 m), Mt. Seorak, Yangyang, Kora

Dates: From 9/11/06 to 9/17/06
Location: Tsukuba, Nagano, and Takayama
Country: Japan
Official activity host: Dr. Yuko Ota
Microbial Ecology Lab.
Forestry and Forest Products Research Institute
Tsukuba, Ibaraki 305-8687, Japan
Tel: +81-29-873-3211 ex 405
E-mail: yuota@ffpri.affrc.go.jp

Activity: Collaborative research and collections of *Cronartium ribicola* from alternate hosts

- 9/11/06 – 9/16/06: Visited hosting laboratory in Tsukuba and conducted *Cronartium ribicola* collection trips, *C. ribicola* infected (mainly telial stages) *Pedicularis yezoensis* and *P. japonica* leaves were collected on both field sites.
  - First field collection site: *Pinus pumila* stands (elevation 2,600 – 3,000 m), Mt. Kiso-gomakatake, Nagano, Japan (**Fig. 3**)
  - Second filed collection site: *Pinus pumila* stand, Mt. Norikura (elevation 2,600 – 3,000 m), Takayama, Japan (**Fig. 4**)

Fig. 1. Different collection types of *Armillaria* were sampled in *Pinus koraiensis* stands (Hongcheon, Korea) (A) *Armillaria* fruiting bodies, (B) rhizomorphs, (C) and (D) bark fans.

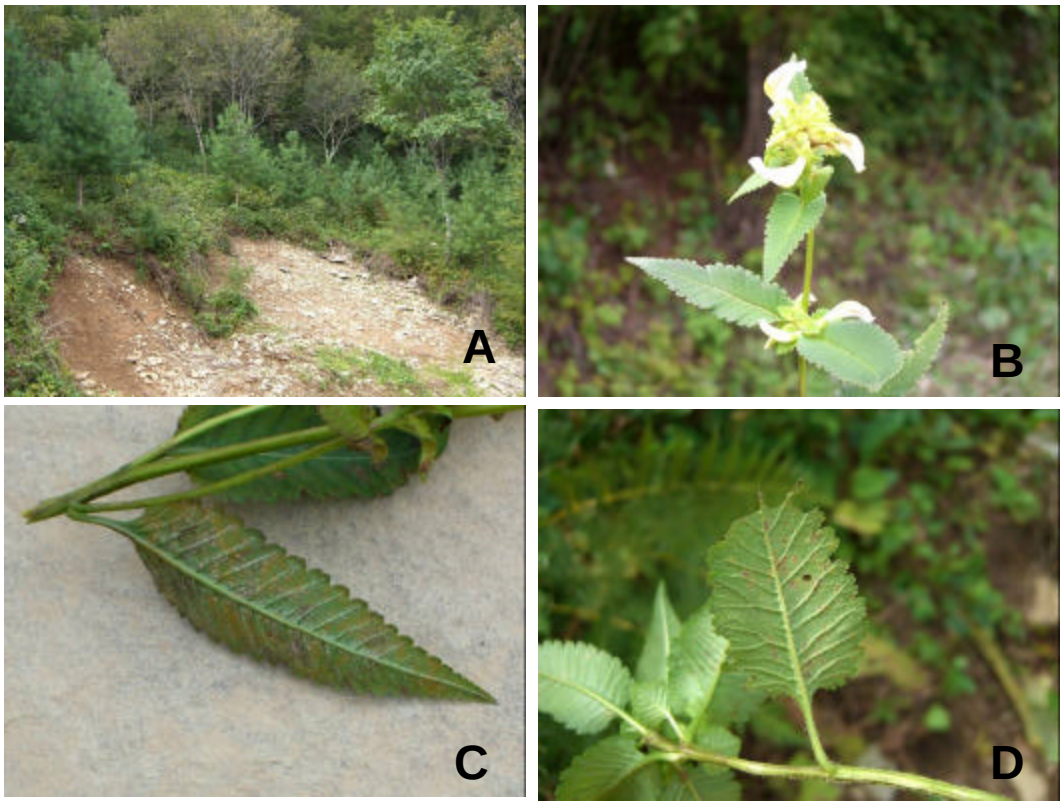

Fig. 2. (A) *Cronartium ribicola* collection site - *Pinus koraiensis* stand (Jinbu, Korea), (B) Alternate host of *C. ribicola*: *Pedicularis resupinata*, (C) and (D) *C. ribicola* infected *P. resupinata*

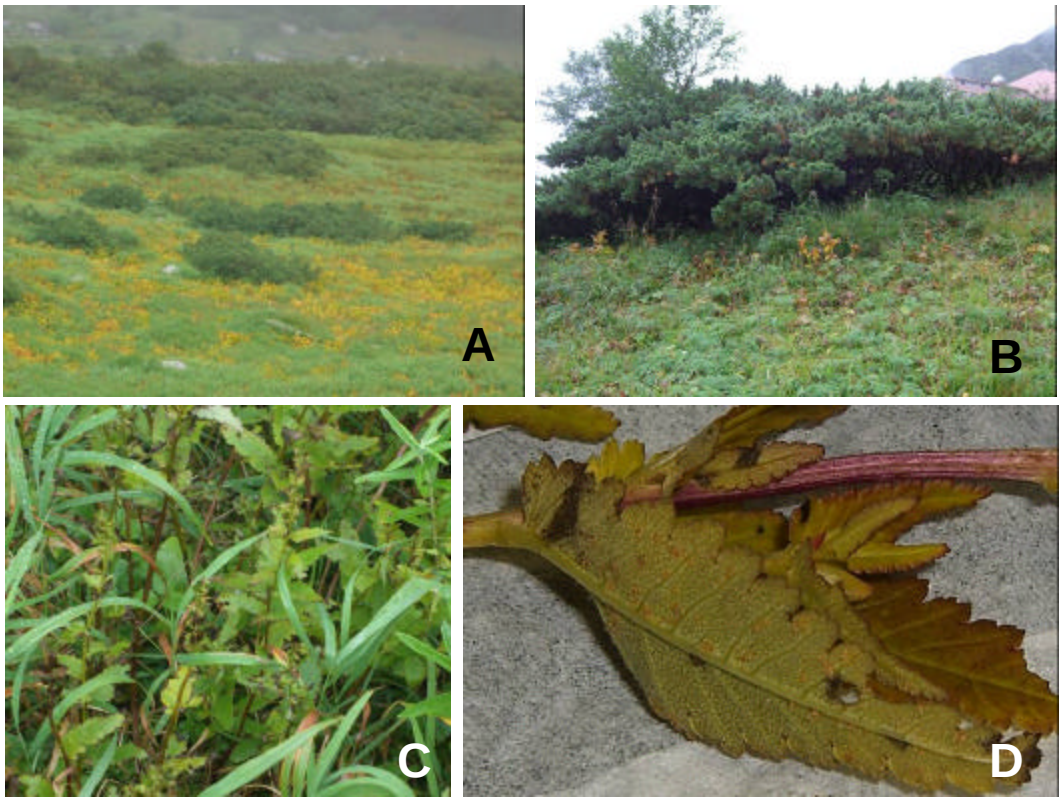

Fig. 3. (A) *Cronartium ribicola* collection site - *Pinus pumila* stand (Mt. Kiso-gomagatake, Nagano, Japan), (B) *P. pumila*, (C) Alternate host of *C. ribicola*: *Pedicularis yezoensis*, and (D) *C. ribicola* infected *P. yezoensis*.

Fig. 4. (A) *Cronartium ribicola* collection site - *Pinus pumila* stand (Mt. Norikura, Takayama, Japan), (B) *P. pumila*, (C) Alternate host of *C. ribicola*: *Pedicularis japonica*, and (D) *C. ribicola* infected *P. japonica*.